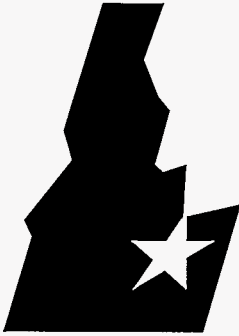


February 1998



**Idaho
National
Engineering
Laboratory**

ICPP Tank Farm Closure Study

Volume III

**Cost Estimates, Planning Schedules,
Yearly Cost Flowcharts, and Life-
Cycle Cost Estimates**



This volume contains information on cost estimates, planning schedules, yearly cost flowcharts, and life-cycle costs for the six options described in Volume 1, Section 2:

- Option 1 Total Removal Clean Closure; No subsequent use
- Option 2 Risk-Based Clean Closure; LLW fill
- Option 3 Risk-Based Clean Closure; CERCLA fill
- Option 4 Close to RCRA Landfill Standards; LLW fill
- Option 5 Close to RCRA Landfill Standards; CERCLA fill
- Option 6 Close to RCRA Landfill Standards; Clean fill.

This volume is divided into two portions. The first portion contains the cost and planning schedule estimates while the second portion contains life-cycle costs and yearly cash flow information for each option.

NOTE: Additional information was added to the original Option 1 cost estimate. A letter was written identifying this information and is provided at the front of Option 1.


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**Cost and Schedule
Estimates**

Lockheed Martin Idaho Technologies Company**INTERDEPARTMENTAL COMMUNICATION**

Date: November 6, 1997

To: B. C. Spaulding MS 3765 6-8633

From: F. P. Hanson MS 3655 6-0548

Subject: TANK FARM RCRA CLOSURE-TOTAL REMOVAL CLEAN CLOSURE - FPH-32-97

Reference: F. P. Hanson Letter to B. C. Spaulding, FPH-29-97, Same Subject, October 21, 1997

Cost Estimating has revised the referenced Planning Cost Estimates for the subject project based on additional scope clarification and comments received following a review of the original estimates. The first 11 estimates reflect the major activities shown on the draft process flow chart which was provided with the request; the work scope for each activity is as described in the respective estimate. In addition to the process flow chart activities, estimates have been prepared for a Debris Cleaning Facility and for a Low Level Waste Disposal Site.

The general scope of work covered by the estimates includes removal of the heels from the waste tanks, construction of protective enclosures and equipment, demolition and removal of the waste tanks and vaults, removal of enclosures and equipment, and backfill and restoration of the excavated site. This work will be accomplished under RCRA guidance. The Total Project Cost (TPC) for this scope of work is \$3,172,900,000.

Additional work to be accomplished under CERCLA guidance includes excavation and treatment, as required, of the Tank Farm soil; the TPC for this scope of work is \$2,158,556,000, for a grand total TPC of \$5,331,456,000. Costs for this scope of work are taken from Planning Cost Estimate "WAG 3 FS Cost Estimates, Group 1 Tank Farm Soils - Alternative 3". The breakdown of costs for the two scopes of work is shown in the attached Cost Estimate Grand Summary sheet.

Costs include relevant ED&I and management costs, construction costs, and G&A, Performance Incentive Fee (PIF), procurement fees, escalation, and contingency.

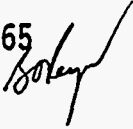
Assumptions which form the bases of the estimates and any concerns that may affect the costs are shown in the attached Support Data Recapitulation Sheets. Cost Estimate Summary and Detail Sheets, Contingency Analysis Sheets, and G&A/PIF Adder Calculation Sheets for each estimate are also attached for your information. These describe in detail the scope of work and unit costs upon which the estimates are based.

FPH-32-97
November 6, 1997
Page 2

In addition to the supporting documents noted, a matrix has been prepared showing the relationship of shared costs between the RCRA and CERCLA scopes of work, as well as a schedule and breakdown of costs for yearly cash flow. If you have further comments or questions regarding the estimates, please feel free to call.

ckk


Attachment

cc: M. M. Dahlmeir, MS 3765
Estimate File #2407 
F. P. Hanson File

Lockheed Martin Idaho Technologies Company**INTERDEPARTMENTAL COMMUNICATION**

Date: January 28, 1998

To: B. C. Spaulding MS 3765 6-8633

From: F. P. Hanson  MS 3655 6-0548

Subject: TANK FARM RCRA CLOSURE-TOTAL REMOVAL CLEAN CLOSURE - FPH-04-98

References: (a) F. P. Hanson Letter to B. C. Spaulding, FPH-32-97, Same Subject, November 6, 1997


(b) F. P. Hanson Letter to B. C. Spaulding, FPH-03-98, Same Subject, January 22, 1998

The Planning Cost Estimate for the subject project which was previously issued as "Process Development", estimate number 2407-2, is herewith retitled and reissued as "Design", together with a revised Cost Estimate Shared Cost Matrix showing the new title. All other provisions of the estimate, as well as Total Project Cost (TPC) remain unchanged.

In addition, Cost Estimate Summary and Contingency Analysis Sheets showing unescalated costs for all cost estimates are attached. If you have any comments or questions regarding the estimates, please feel free to call.

fph

Attachment

cc: Estimate File #2407 
F. P. Hanson File

Lockheed Martin Idaho Technologies Company

INTERDEPARTMENTAL COMMUNICATION

Date: January 26, 1998
 To: B. C. Spaulding MS 3765 6-8633
 From: R. D. Adams *RDA* MS 3655 6-2963
 Subject: TANK FARM RCRA - RDA-2-98

Cost Estimating has prepared Planning Cost Estimates for the subject project. These estimates were based on information received from you, your design team and reviewers from July 29, 1997 through January 23, 1998.

The Total Project Costs (TPC) are:	<u>Unescalated</u>	<u>Escalated</u>
Risk Based Clean Closure; LLW Fill -	\$132,700,000	\$183,900,000
Risk Based Clean Closure; CERCLA Fill -	\$143,000,000	\$210,800,000
Close To RCRA Landfill Standards; LLW Fill -	\$120,000,000	\$165,400,000
Close To RCRA Landfill Standards; CERCLA Fill -	\$131,100,000	\$194,900,000
Close To RCRA Landfill Standards; Clean Fill -	\$ 90,700,000	\$121,700,000

The actual estimates were generated in several parts to match the divisions on your process chart. The totals from these estimates make up the TPC and are shown on the Cost Estimate Summary sheet. These costs include permitting costs, direct and indirect construction costs, G&A, Performance Incentive Fee (PIF), procurement fee, Engineering costs, Inspection costs, Project Management costs, Construction Management costs, escalation and contingency. The estimated costs have been escalated to the midpoint of the anticipated schedule. For more detailed information, please refer to the Cost Estimate Support Data Recapitulation forms.

Attached for your review are the Summary Estimate sheets, the Cost Estimate Support Data Recapitulation form, detailed estimate sheets, Contingency Analysis sheets G&A/PIF Adder Calculation Sheets.

Also attached are the schedules.

If you have any questions regarding this estimate, please contact me at 526-2963.

RDA

Attachments:

cc: Estimate File #2406
 R. D. Adams File

Option 1

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: Tank Farm RCRA Closure
Total Removal Clean Closure

Estimator: F. P. Hanson
Date: 11-6-97

Type of Estimate: Planning
File No: 2407

Approved By: 

I. SCOPE OF WORK: *Brief description of the proposed project.*

This project will provide clean closure for the ICPP Tank Farm Area. Tank heels will be removed from the 11 waste storage tanks, WM-180 to -190, and tank interiors will be sprayed to remove solid contamination. Soil will be removed to a depth of 50 feet, and yard utilities will be removed. Eight existing concrete tank vaults, CPP-780 to CPP-786 and CPP-713, and the waste tanks will be demolished and removed. The entire area will be backfilled and compacted following demolition and removal.

II. BASIS OF THE ESTIMATE: *Drawings, Design Report, Engineers notes, and/or other documentation upon which the estimate is originated.*

- a. ICF Kaiser Engineers, Inc. cost estimate, "High Level Waste Tank Farm Replacement Project, RCRA Closure Study", Job No. 91203-220-01, 2-10-94, for heel removal costs.
- b. LMITCO Planning Cost Estimate, "WAG 3 FS Cost Estimates, Group 1 Tank Farm Soils - Alternative 3", Estimate File No. 2951, 6-23-97, for soil removal costs.
- c. LMITCO Planning Cost Estimates, "WBS for TRU Pits and Trenches, Characterization/Retrieval Statement of Work", Estimate File No. 5951, 8-13-97, "Planning Basis for 7-10 RD/RA Contingency Work Scope of Work", Estimate File No. 5951-A1, 9-29-97, and "Tank Farm RCRA Closure, Permitting for Clean Grout in Tanks", Estimate File 2406-2A, 9-4-97, for permitting costs.
- d. LMITCO Title II Cost Estimate, "Waste Characterization Facility", Estimate File No. 5090-Y4, 6-23-97, for cost basis for the Debris Cleaning Facility.
- e. LMITCO Planning Cost Estimate, "WAG 3 FS Cost Estimates, Soils Strategy - Soils Repository, Case No. 5", Estimate File No. 2951, 6-24-97, for cost basis for the LLW Disposal Site.
- f. LMITCO Planning Cost Estimate, "ICPP Cathodic Protection System Upgrade", Estimate File No. 2355-1, 1-20-97, for cost basis for cathodic protection system repairs.

(Continued)

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2407

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II. BASIS OF THE ESTIMATE: (CONTINUED)

- g. Draft Take-Off Values for Clean Closure, 9-22-97, provided by the requester.
- h. Tank Farm Clean Closure Assumptions, 9-16-97, provided by the requester.
- i. "INEEL RAD Contaminated Surplus Facilities Cost Model - D&D Cost", for D&D and waste disposal costs.
- j. Various EDFs, which are noted in the body of the estimates.
- k. Verbal and printed guidance from the requester.

III. ASSUMPTIONS: *Condition statements accepted or supposed true without proof or demonstration. An assumption has a direct impact on total estimated cost.*

1. Since the scope of work and requirements for related activities are extremely ill defined at this time, costs for facilities and processes are typically taken from the referenced cost estimates, which reflect projects assumed to be similar in nature and scope. It is assumed that the references and cost allowances noted in the estimates provide reasonable bases upon which to develop the estimates, and that the resulting costs are appropriate to the order of magnitude intended.
2. It is assumed that all demolition, soil removal, and related operations will be accomplished by LMITCO Force Account or operations personnel, and that all clean backfill, new construction work and soil grouting will be competitively bid and performed by a general contractor as the prime subcontractor, with specialty lower tier subcontractors as appropriate. It is also assumed that non-working supervision will be required.
3. Construction related costs for the heel removal effort are taken from Reference a., and are assumed to include all costs necessary to accomplish the work including, but not necessarily limited to, site preparation, installation and removal of all supporting equipment and utilities, packaging and removal of waste products, decontamination and cleanup, mobilization and demobilization, and cost of supporting organizations.

(Continued)

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2407

Page 3 of 7

III. **ASSUMPTIONS:** (Continued)

4. The labor hours shown in Reference a. have been incorporated; however, current Force Account rates have been used, which generally differ from the rates shown in the reference, and it has further been assumed that current labor burden adders equate to, and account for, the SCOHP & ODC costs included in the estimate.
5. Reference b. addresses the removal of the soil from the TFA; it is assumed that all work listed in Reference b. will take place under CERCLA provisions, while all work addressed in this estimate will take place under RCRA provisions. It is further assumed that the enclosures and teleoperated cranes listed herein will accommodate the CERCLA activities and will supersede those items shown in the reference.
6. Reference b. includes costs for the following activities. Where costs for these activities have been shown, they have been assumed to be required over and above those shown in the reference:
 - FFA/CO management and oversight, and RA/RD documentation; additional costs assumed.
 - Treatability studies. The reference includes studies for stabilization grout mixture and the assay system. This estimate includes assumed costs for the foundation wall grout and paraffin-based grout matrix stabilization.
 - Initial Phased Remedies (IPRs). As required by the FS; include Phase I, Surface Water Drainage Modifications; Phase II, Weatherproof Enclosure; Phase III, Vertical Barriers (Slurry Wall). Costs not included herein.
 - Site characterization. Additional site characterization costs are included as shown:
 - Treatment Enclosure and utilities. The reference includes costs for facility utilities and for a 179,000 sf primary containment enclosure and a 240,000 sf secondary containment enclosure. This estimate changes those enclosures to a 40,000 sf primary and 52,900 sf secondary enclosure and retains the utilities and supporting facilities. An additional 125,000 sf engineered metal weather enclosure is also included; costs for the weather enclosure are based on historical costs for the TSA Retrieval Enclosure (TSA-RE).

(Continued)

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2407

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III. ASSUMPTIONS: (Continued)

- Excavation. The reference includes all costs relating to excavation, treatment, packaging, and shipment of soils, including equipment, labor, and utilities. This work is assumed to be accomplished under CERCLA provisions, and no additional costs are included herein.
 - Decontamination facilities. The reference includes a 14' x 70' personnel decon trailer and a 40' x 75' portable equipment decon structure. Costs for an additional portable decon station are included herein.
 - Interim Storage and Loading Facilities. A 50' x 100' Interim Storage Facility and 50' x 80' Loading Facility are included. Costs allowances have been included in the estimate entitled "D&D Activities" for modifications to the Loading Facility to accommodate shipping casks required by the RCRA scope
 - Shipping Support Facility. An 80' x 100' Shipping Support Facility is included.
 - Analytical Laboratory Facility. The reference assumes that an Analytical Laboratory Facility will be required. No additional costs have been included.
 - Tank Farm soils disposal pit and cap. Cost for these items have not been included.
 - Operations and maintenance labor and material, utilities, waste transportation and acceptance, and D&D costs are included in the reference for soil removal. Additional costs have been included herein for post-excavation activities.
 - The reference includes costs for surveillance and monitoring which have not been included in this estimate. Additional costs have been included herein for post-excavation activities.
7. Engineering, design, inspection, construction management, and project management will be performed in-house.
8. Costs for ED&I, project management, and construction management have typically been applied as a percentage of construction costs, based on historical experience at the INEEL, and may vary depending upon the assumed scope and complexity of the work. Costs are assumed to be reasonably accurate for the purposes of the estimate.

(Continued)

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2407

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III. ASSUMPTIONS: (Continued)

9. It is assumed that minimal site preparation will be required. An allowance has been included for additional service and access roads as appropriate.
10. Separate permitting costs have been included for the Tank Farm Area work and for the proposed Debris Cleaning Facility and LLW Disposal Site, and are assumed to encompass those activities required.
11. Reference i. reflects historical cost experience associated with D&D work at the INEEL. Costs are complete costs and include project and construction management; characterization; documentation; work permits; supervision, labor, equipment, and material; mob and demob; supporting organizations; and packaging and disposal costs. Costs are typically derived from demolition of buildings and structures and incorporate rating factors which account for the hazardous and radiological environment anticipated; an additional, productivity factor has been applied to reflect remote working conditions.
12. The D&D model calculates waste stream volumes which have been typically experienced. Unless otherwise given in the references, these volumes have been assumed to be appropriate. Assumed waste classifications are as provided in EDF-TFC-015.
13. It is recognized that the specific jobsite conditions may vary somewhat from the historical conditions upon which the D&D model is based, but it is felt that the model provides sufficiently accurate data for the purposes of the estimate. Copies of the D&D model are included as attachments to the appropriate activity cost estimates.
14. It is assumed that any imported soils will come from within the confines of the INEEL, that no soils will need to be imported from off site, and that source pit restoration will be required.
15. The number of casks for transporting waste on-site is assumed to be five.
16. The estimate assumes the need for a new Debris Cleaning Facility and a new Low Level Waste Disposal Site. The proposed facilities are assumed to be similar in scope to the facilities costed in the references shown; however, the LLW Disposal Site is assumed to be approximately 60% of the scope of the referenced facility, and the resultant costs are assumed to be appropriate. It is further assumed that the facilities will be located on the INEEL.

(Continued)

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2407

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III. ASSUMPTIONS: (Continued)

17. The documentation costs shown for the LLW Disposal Site are taken from Reference e. and, per that reference, are assumed to represent all activities required for a RCRA Subtitle-D compliant facility.
18. The proposed schedule calls for heel removal to take place 2013 through 2025, and excavation and D&D work from 2025 through 2035. Based on this schedule, the following activity mid-points have been established for purposes of calculating escalation.
 - Permitting and Oversight: 2016, mid-point between now and 2035.
 - Process Development: 2005, three years prior Treatability Studies.
 - Institutional Controls: 2016, mid-point between now and 2035.
 - Treatability Studies: 2008, one year prior to heel removal design.
 - Site Prep/Subcontract: 2011, two years prior to heel removal.
 - Heel Removal: 2019, mid-point of activity.
 - Site Prep/LMITCO: 2026, following heel removal.
 - Soil Stabilization: 2026, following heel removal.
 - D&D Activities: 2026, for completion prior to start of D&D.
 - Waste Disposal: 2026, for completion prior to start of D&D.
 - Post Excavation Activities: 2035, following D&D.
 - Debris Cleaning Facility: 2016, mid-point between now and 2035.
 - LLW Disposal Site: 2016, mid-point between now and 2035.
19. It is assumed that TFA perimeter shoring will be placed for excavation purposes, left in place, and removed during backfill operations.
20. See Reference h. for general project assumptions which may be relevant to the cost estimate.

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2407

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IV. CONTINGENCY GUIDELINE IMPLEMENTATION: *The percentage used for contingency as determined by the contingency allowance guidelines can be altered to reflect the type of construction and conditions that may impact the total estimated cost.*

Time constraints and lack of definitive design and project requirements have been taken into consideration in generating the costs and attendant rates of contingency shown in the estimate. Very little is known at this time regarding specific facility and process requirements, and there is a very real potential for encountering radiological conditions beyond those anticipated, resulting in increased labor and equipment costs. This, together with the unknowns associated with subsurface work, with the inherent possibility of encountering differing conditions as existing work is opened up, create a high potential for increased costs. Much of the equipment may not be standard and will require development, and the closure schedule extends over many years. For these reasons, the rate of contingency typically exceeds the guidelines for a planning estimate and extends into the range for special conditions, as defined by DOE/FM 50, Cost Estimating Guide, Vol. 6, and the INEEL Cost Estimating Guide.

Because of the magnitude of costs involved, Total Project costs in excess of \$100,000,000 have, in some cases, been rounded to the next higher \$500,000 which may result in a slight, but insignificant, increase in the contingency rate.

V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE:

In accordance with current charging practices, a Procurement Fee of 3% of construction and GFE, G&A at 23%, and a Performance Incentive Fee (PIF) of 5.5% have been applied. The fees are applied as adders to material, equipment, and subcontract costs only; Force Account labors rates include these fees. G&A/PIF Adder Calculation Sheets, showing the method of calculating these fees, are attached to the appropriate estimates.

Certain activities or facilities will be common to both the RCRA and CERCLA scopes of work and costs will, therefore be shared by the two. A matrix showing the breakdown of these shared costs has been prepared as part of the estimate supporting documents.

COST ESTIMATE SHARED COST MATRIX

TANK FARM RCRA CLOSURE TOTAL REMOVAL CLEAN CLOSURE	PLANNING ESTIMATE		ESTIMATE NO. 2407	CHECKED: _____	
REQUESTOR: B. C. SPAULDING	PREPARED BY: F. P. HANSON		DATE: 22 JAN 98	APPROVED: _____	
ACTIVITY	RCRA COSTS	CERCLA COSTS	SHARED COSTS*		TOTAL REMOVAL COSTS
			RCRA	CERCLA	
PERMITTING AND OVERSIGHT	\$10,100,000	None Included			\$10,100,000
DESIGN	\$15,700,000	None Included			\$15,700,000
INSTITUTIONAL CONTROLS	\$7,400,000	\$16,966,000			\$24,366,000
TREATABILITY STUDIES	\$6,100,000	\$31,533,000			\$37,633,000
INITIAL PHASED REMEDIES		\$36,495,000 (a)			\$36,495,000
SITE PREP - SUBCONTRACT	\$45,221,000			\$11,779,000 (b)	\$57,000,000
HEEL REMOVAL	\$517,000,000				\$517,000,000
SITE PREP - LMITCO	\$22,200,000	\$65,147,700	\$145,300 (c)		\$87,493,000
SOIL STABILIZATION	\$411,500,000				\$411,500,000
SOIL REMOVAL AND D&D ACTIVITIES	\$1,423,000,000	\$1,252,940,000	\$322,639,000 (d)		\$2,998,579,000
WASTE DISPOSAL	\$289,400,000	\$139,228,000			\$428,628,000
POST EXCAVATION ACTIVITIES	\$115,935,700	\$293,462,000		\$22,064,300 (e)	\$431,462,000
DEBRIS CLEANING FACILITY	\$224,500,000				\$224,500,000
LLW DISPOSAL SITE	\$51,000,000				\$51,000,000
TOTAL PROJECT COST	\$3,139,056,700	\$1,835,771,700	\$322,784,300	\$33,843,300	\$5,331,456,000

* See Page 2 For Explanation of Shared Costs. Costs Have Been Rounded.

COST ESTIMATE SHARED COST MATRIX

TANK FARM RCRA CLOSURE TOTAL REMOVAL CLEAN CLOSURE	PLANNING ESTIMATE	ESTIMATE NO. 2407	NOTES
<p>PERMITTING AND OVERSIGHT: Costs are for permitting and other costs specific to the RCRA scope. Such costs are not included in the CERCLA estimate and are assumed to not apply.</p> <p>DESIGN: Costs are conceptual design and process development costs specific to the RCRA scope. Such costs are not included in the CERCLA estimate.</p> <p>INSTITUTIONAL CONTROLS: Costs are specific to each scope. RCRA costs are for institutional controls assumed to be required in addition to CERCLA costs and are not shared.</p> <p>TREATABILITY STUDIES: Costs are specific to each scope. RCRA costs are for studies assumed to be required in addition to CERCLA costs and are not shared costs.</p> <p>INITIAL PHASED REMEDIES: CERCLA costs are for the construction of the IPRs and do not apply to the RCRA scope.</p> <p style="padding-left: 40px;">a) The WAG 3 FS estimate includes \$11,779,000 for construction of the weather enclosure, which is shown as a shared cost under Site Prep - Subcontract</p> <p>SITE PREP - SUBCONTRACT: This task encompasses construction of the weather enclosure by subcontract.</p> <p style="padding-left: 40px;">b) The WAG 3 FS estimate includes \$11,779,000 for construction of the weather enclosure. Since the Clean Closure estimate does not include the IPRs, the cost for the weather enclosure is included here as a cost shared by the CERCLA scope, which reduces RCRA costs by that amount.</p> <p>HEEL REMOVAL: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p> <p>SITE PREP - LMITCO: This task encompasses D&D of surface structures by LMITCO forces.</p> <p style="padding-left: 40px;">c) The WAG 3 FS estimate includes \$65,293,000 for initial and ongoing characterization and sampling and analysis. The Clean Closure estimate includes \$145,300 for initial site characterization, which is included here as a cost shared by the RCRA scope and reduces CERCLA costs by that amount. Ongoing characterization costs for the RCRA scope are included in the D&D model and are reflected in the "D&D Activities" cost estimate and are separate and apart from CERCLA costs.</p> <p>SOIL STABILIZATION: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p> <p>SOIL REMOVAL AND D&D ACTIVITIES: This task encompasses erection of double containments, equipment, and utilities; removal and treatment of soil; and D&D of vaults and tanks.</p> <p style="padding-left: 40px;">d) See Page 3 for breakdown of shared costs.</p> <p>WASTE DISPOSAL: Costs are specific to each scope. RCRA costs are for on-site disposal, while CERCLA costs are for off-site disposal, and costs are assumed not shared.</p> <p>POST EXCAVATION ACTIVITIES: This task encompasses removal of enclosures, equipment, and utilities; backfill of excavated site; and repair of cathodic protection system.</p> <p style="padding-left: 40px;">e) See Page 4 for breakdown of shared costs.</p> <p>DEBRIS CLEANING FACILITY: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p> <p>LLW DISPOSAL SITE: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p>			

COST ESTIMATE SHARED COST MATRIX

TANK FARM RCRA CLOSURE TOTAL REMOVAL CLEAN CLOSURE	PLANNING ESTIMATE	ESTIMATE NO. 2407	NOTES
<p>PERMITTING AND OVERSIGHT: Costs are for permitting and other costs specific to the RCRA scope. Such costs are not included in the CERCLA estimate and are assumed to not apply.</p> <p>PROCESS DEVELOPMENT: Costs are conceptual design and process development costs specific to the RCRA scope. Such costs are not included in the CERCLA estimate.</p> <p>INSTITUTIONAL CONTROLS: Costs are specific to each scope. RCRA costs are for institutional controls assumed to be required in addition to CERCLA costs and are not shared.</p> <p>TREATABILITY STUDIES: Costs are specific to each scope. RCRA costs are for studies assumed to be required in addition to CERCLA costs and are not shared costs.</p> <p>INITIAL PHASED REMEDIES: CERCLA costs are for the construction of the IPRs and do not apply to the RCRA scope.</p> <p style="padding-left: 40px;">a) The WAG 3 FS estimate includes \$11,779,000 for construction of the weather enclosure, which is shown as a shared cost under Site Prep - Subcontract</p> <p>SITE PREP - SUBCONTRACT: This task encompasses construction of the weather enclosure by subcontract.</p> <p style="padding-left: 40px;">b) The WAG 3 FS estimate includes \$11,779,000 for construction of the weather enclosure. Since the Clean Closure estimate does not include the IPRs, the cost for the weather enclosure is included here as a cost shared by the CERCLA scope, which reduces RCRA costs by that amount.</p> <p>HEEL REMOVAL: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p> <p>SITE PREP - LMITCO: This task encompasses D&D of surface structures by LMITCO forces.</p> <p style="padding-left: 40px;">c) The WAG 3 FS estimate includes \$65,293,000 for initial and ongoing characterization and sampling and analysis. The Clean Closure estimate includes \$145,300 for initial site characterization, which is included here as a cost shared by the RCRA scope and reduces CERCLA costs by that amount. Ongoing characterization costs for the RCRA scope are included in the D&D model and are reflected in the "D&D Activities" cost estimate and are separate and apart from CERCLA costs.</p> <p>SOIL STABILIZATION: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p> <p>SOIL REMOVAL AND D&D ACTIVITIES: This task encompasses erection of double containments, equipment, and utilities; removal and treatment of soil; and D&D of vaults and tanks.</p> <p style="padding-left: 40px;">d) See Page 3 for breakdown of shared costs.</p> <p>WASTE DISPOSAL: Costs are specific to each scope. RCRA costs are for on-site disposal, while CERCLA costs are for off-site disposal, and costs are assumed not shared.</p> <p>POST EXCAVATION ACTIVITIES: This task encompasses removal of enclosures, equipment, and utilities; backfill of excavated site; and repair of cathodic protection system.</p> <p style="padding-left: 40px;">e) See Page 4 for breakdown of shared costs.</p> <p>DEBRIS CLEANING FACILITY: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p> <p>LLW DISPOSAL SITE: Activities are assumed to be outside of the CERCLA scope and are not shared costs.</p>			

COST ESTIMATE SHARED COST MATRIX

TANK FARM RCRA CLOSURE TOTAL REMOVAL CLEAN CLOSURE	PLANNING ESTIMATE	ESTIMATE NO. 2407	COST BREAKDOWN SOIL REMOVAL AND D&D ACTIVITIES	
<u>SOIL REMOVAL AND D&D ACTIVITIES</u>			<u>RCRA</u>	<u>CERCLA</u>
DOUBLE ENCLOSURES and SERVICES The CERCLA estimate includes \$163,144,000; RCRA costs include \$56,016,100 to be shared. CERCLA costs are reduced accordingly.			\$56,016,100	
CRANES and ACCESSORIES RCRA costs include \$54,647,700 for teleoperated gantry cranes; CERCLA costs include \$6,303,362 for a 50 ton crane, cost to be shared by CERCLA. RCRA costs are reduced accordingly.				\$6,303,362
CONTROL TRAILER and EQUIPMENT CERCLA costs include \$1,650,283 for a control trailer, equipment, and software; RCRA costs are not included and will share this cost. CERCLA costs are reduced accordingly.			\$1,650,283	
PROCESS UTILITIES CERCLA costs include \$43,471,129 for facility utilities; RCRA costs are not included and will share this cost. CERCLA costs are reduced accordingly.			\$43,471,129	
MANAGEMENT, ENGINEERING, and ADMINISTRATION CERCLA costs include \$21,492,108 for facility management, engineering, and administration; RCRA costs are not included and will share this cost. CERCLA costs are reduced accordingly.			\$21,492,108	
FACILITY MAINTENANCE CERCLA costs include \$72,501,858 for facility maintenance; RCRA costs are not included and will share this cost. CERCLA costs are reduced accordingly.			\$72,501,858	
DECONTAMINATION FACILITY CERCLA costs include \$3,071,043 for a Decon Facility; RCRA costs are not included and will share this cost. CERCLA costs are reduced accordingly.			\$3,071,043	
ANALYTICAL LABORATORY FACILITY CERCLA costs include \$130,739,857 for an ALF; RCRA costs are not included and will share this cost. CERCLA costs are reduced accordingly.			\$130,739,857	
SUBTOTAL			\$ 328,942,378	\$ 6,303,362
			\$ (6,303,362)	
TOTAL			\$ 322,639,016	

COST ESTIMATE SHARED COST MATRIX

TANK FARM RCRA CLOSURE TOTAL REMOVAL CLEAN CLOSURE	PLANNING ESTIMATE ESTIMATE NO. 2407	COST BREAKDOWN POST EXCAVATION ACTIVITIES	
<u>POST EXCAVATION ACTIVITIES</u>		<u>RCRA</u>	<u>CERCLA</u>
D&D Facilities and Services CERCLA costs include \$221,070,604 for removal of enclosures and all utilities; RCRA costs include \$11,195,500 for removal of enclosures, cost to be shared by RCRA.		\$11,195,500	
Repair Cathodic Protection RCRA costs include \$26,674,200 for repair of the cathodic protection system; CERCLA costs are not included and will share this cost.			\$26,674,200
Remove and Dispose of Shoring RCRA costs include \$6,585,600 for removal and disposal of the TFA perimeter shoring installed under CERCLA for excavation. This will need to remain in place during backfill operations, and costs shared by CERCLA.			\$6,585,600
SUBTOTAL		\$ 11,195,500	\$ 33,259,800 \$ (11,195,500)
TOTAL			\$ 22,064,300

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING**
 PERMITTING AND OVERSIGHT PROJECT NO: 2407-1
 LOCATION 1: INEEL - ICPP PREPARED BY: F. P. HANSON
 REQUESTOR: B. C. SPAULDING REPORT NAME: Cost Estimate Summary

DATE: 30-Oct-1997
 TIME: 13:57:46
 CHECKED BY: ROA
 APPR'D BY: _____

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>PRELIMINARY AND MISCELLANEOUS ACTIVITIES</u>			>> <u>\$6,660,066</u>
1.1.1	PERMITTING	884,625	601,545	1,486,170
1.1.2	MISCELLANEOUS ACTIVITIES	3,079,700	2,094,196	5,173,896
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$994,560</u>
1.2.1	PROJECT MANAGEMENT	592,000	402,560	994,560
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
	SUBTOTAL INCLUDING ESCALATION	4,556,325	3,098,301	>> \$7,654,626
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$2,445,374
	TOTAL ESTIMATED COST			>> \$10,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= *****%**

CONTINGENCY= **31.95%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
PERMITTING AND OVERSIGHT**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-1**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **08:50:29**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>PRELIMINARY AND MISCELLANEOUS ACTIVITIES</u>			>> \$3,964,325
1.1.1	PERMITTING	884,625	0	884,625
1.1.2	MISCELLANEOUS ACTIVITIES	3,079,700	0	3,079,700
1.2	<u>MANAGEMENT COSTS</u>			>> \$592,000
1.2.1	PROJECT MANAGEMENT	592,000	0	592,000
1.5.2	PROCUREMENT FEES	0	0	>> \$0
	SUBTOTAL INCLUDING ESCALATION	4,556,325	0	>> \$4,556,325
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$1,443,675
	TOTAL ESTIMATED COST			>> \$6,000,000

PROJECT COST PARAMETERS
ED I AS A % OF CONST. + GFE= *****.***%**
CONTINGENCY= **31.69%**

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 PERMITTING AND OVERSIGHT
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-1
 PREPARED BY: F. P. HANSON

DATE: 30-Oct-1997
 TIME: 13:58:04
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.1	PROJECT MANAGEMENT Project Management at 15% of Preliminary and Misc Activities	1	LS			0.000					592,000	592,000
	PROJECT MANAGEMENT S/T						0				\$592,000	\$592,000
	PROJECT SUBTOTAL						12,120	\$784,625	\$0	\$0	\$3,771,700	\$4,556,325

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE PERMITTING AND OVERSIGHT** TYPE OF ESTIMATE: **PLANNING**
 LOCATION 1: **INEEL - ICPP** PROJECT NO: **2407-1**
 REQUESTOR: **B. C. SPAULDING** PREPARED BY: **F. P. HANSON**

DATE: **30-Oct-1997**
 TIME: **13:56:46**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	884,625	11.56	0	40	0.00	4.62	4.160%	13.00%	317,842	1,202,467
1.1.2	MISCELLANEOUS ACTIVITIES	3,079,700	40.23	0	40	0.00	16.09	14.484%	45.25%	1,106,522	4,186,222
1.2.1	PROJECT MANAGEMENT	592,000	7.73	0	35	0.00	2.71	2.436%	7.61%	186,115	778,115
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	3,098,301	40.48	0	30	0.00	12.14	10.929%	34.14%	834,895	3,933,196
	SUBTOTAL	7,654,626	100.00					32.009%			
	CALCULATED CONTINGENCY	2,450,178									
	RESULTANT TEC	10,104,804									
	ROUNDED TEC	10,100,000									
	PROJECT CONTINGENCY	2,445,374						31.95%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	2,445,374									
	TOTAL ESTIMATED COST	10,100,000								2,445,374	10,100,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE III/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95
 PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE PERMITTING AND OVERSIGHT**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-1**
 PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
 TIME: **08:46:21**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	884,625	19.42	0	35	0.00	6.80	6.116%	20.25%	292,408	1,177,033
1.1.2	MISCELLANEOUS ACTIVITIES	3,079,700	67.59	0	35	0.00	23.66	21.291%	70.51%	1,017,979	4,097,679
1.2.1	PROJECT MANAGEMENT	592,000	12.99	0	30	0.00	3.90	3.508%	11.62%	167,728	759,728
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(34,440)	(34,440)
SUBTOTAL		4,556,325	100.00					30.915%			
CALCULATED CONTINGENCY		1,408,602									
RESULTANT TEC		5,964,927									
ROUNDED TEC		6,000,000									
PROJECT CONTINGENCY		1,443,675						31.69%			
MANAGEMENT RESERVE		0									
CONTINGENCY		1,443,675									
TOTAL ESTIMATED COST		6,000,000								1,443,675	6,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE
 Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% -- 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% -- 20%
 TITLE II 5% -- 15%
 TITLE II/AFC Market Conditions

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE DESIGN**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-2**
 PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
 TIME: **08:56:27**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$8,635,000</u>
1.1.1	CONCEPTUAL DESIGN	8,635,000	0	8,635,000
1.1.2	TITLE DESIGN	0	0	0
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,300,000</u>
1.2.1	PROJECT MANAGEMENT	1,300,000	0	1,300,000
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
	SUBTOTAL INCLUDING ESCALATION	9,935,000	0	>> <u>\$9,935,000</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$0</u>
	CONTINGENCY			>> <u>\$2,865,000</u>
	TOTAL ESTIMATED COST			>> <u>\$12,800,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= *****.***%**

CONTINGENCY= **28.84%**

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE DESIGN**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-2**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **08:02:42**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$10,448,350
1.1.1	CONCEPTUAL DESIGN	8,635,000	1,813,350	10,448,350
1.1.2	TITLE DESIGN	0	0	0
1.2	MANAGEMENT COSTS			>> \$1,573,000
1.2.1	PROJECT MANAGEMENT	1,300,000	273,000	1,573,000
1.5.2	PROCUREMENT FEES	0	0	>> \$0
	SUBTOTAL INCLUDING ESCALATION	9,935,000	2,086,350	>> \$12,021,350
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$3,678,650
	TOTAL ESTIMATED COST			>> \$15,700,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= *****.***%**

CONTINGENCY= **30.60%**

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE DESIGN

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

LOCATION 1: INEEL - ICPP

PROJECT NO.: 2407-2

TIME: 08:03:01

REQUESTOR: B. C. SPAULDING

PREPARED BY: F. P. HANSON

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	CONCEPTUAL DESIGN											
	Conceptual Design/Procedure Development at 30% of Title Design (\$26,163,280)	1	LS			0.000					7,850,000	7,850,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					785,000	785,000
	CONCEPTUAL DESIGN S/T						0				\$8,635,000	\$8,635,000
1.1.2	TITLE DESIGN											
	Title Design/Proc Development Costs Included in Respective Activity Estimates	1	LS			0.000						
	TITLE DESIGN S/T						0					
1.2.1	PROJECT MANAGEMENT											
	Design Project Management at 15% of Conceptual Design/Procedure Development	1	LS			0.000					1,300,000	1,300,000
	PROJECT MANAGEMENT S/T						0				\$1,300,000	\$1,300,000
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$9,935,000	\$9,935,000

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE DESIGN**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

CONTINGENCY ANALYSIS

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-2**
 PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
 TIME: **08:56:07**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	8,635,000	86.91	0	32	0.00	27.81	25.032%	86.91%	2,490,113	11,125,113
1.1.2	TITLE DESIGN	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.1	PROJECT MANAGEMENT	1,300,000	13.09	0	32	0.00	4.19	3.768%	13.09%	374,887	1,674,887
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		9,935,000	100.00					28.800%			
CALCULATED CONTINGENCY		2,861,280									
RESULTANT TEC		12,796,280									
ROUNDED TEC		12,800,000									
PROJECT CONTINGENCY		2,865,000						28.84%			
MANAGEMENT RESERVE		0									
CONTINGENCY		2,865,000									
TOTAL ESTIMATED COST		12,800,000								2,865,000	12,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% -- 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% -- 20%
 TITLE II 5% -- 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96
 PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE DESIGN**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-2**
 PREPARED BY: **F. P. HANSON**

DATE: **22-Jan-1998**
 TIME: **08:02:17**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	8,635,000	71.83	0	35	0.00	25.14	22.627%	73.65%	2,709,486	11,344,486
1.1.2	TITLE DESIGN	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.1	PROJECT MANAGEMENT	1,300,000	10.81	0	35	0.00	3.78	3.406%	11.09%	407,913	1,707,913
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	2,086,350	17.36	0	30	0.00	5.21	4.686%	15.25%	561,251	2,647,601
	SUBTOTAL	12,021,350	100.00					30.719%			
	CALCULATED CONTINGENCY	3,692,839									
	RESULTANT TEC	15,714,189									
	ROUNDED TEC	15,700,000									
	PROJECT CONTINGENCY	3,678,650						30.60%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	3,678,650									
	TOTAL ESTIMATED COST	15,700,000								3,678,650	15,700,000

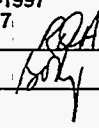
<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% -- 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% -- 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% -- 20% TITLE II 5% -- 15% TITLE III/AFC Market Conditions</p>
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COST ESTIMATE SUMMARY

Rev. 6-95

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE** TYPE OF ESTIMATE: **PLANNING**
 ADDN'L INSTITUTIONAL CONTROLS PROJECT NO: **2407-3**
 LOCATION 1: **INEEL - ICPP** PREPARED BY: **F. P. HANSON**
 REQUESTOR: **B. C. SPAULDING** REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:01:17**
 CHECKED BY: _____
 APPRD BY: _____



WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	MANAGEMENT COSTS			>> \$4,612,339
1.1.1	FAA/CO MANAGEMENT AND OVERSIGHT	2,745,440	1,866,899	4,612,339
1.3	DOCUMENT PREPARATION			>> \$943,740
1.3.1	RA DOCUMENT PREPARATION	295,500	200,940	496,440
1.3.2	RD DOCUMENT PREPARATION	266,250	181,050	447,300
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		3,307,190	2,248,889	>> \$5,556,079
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$1,843,921
TOTAL ESTIMATED COST				>> \$7,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= ****.**%**

CONTINGENCY= **33.19%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
ADDN'L INSTITUTIONAL CONTROLS**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-3**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **09:02:18**
CHECKED BY: *RDA*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>MANAGEMENT COSTS</u>			>> <u>\$2,800,349</u>
1.1.1	FAA/CO MANAGEMENT AND OVERSIGHT	2,745,440	54,909	2,800,349
1.3	<u>DOCUMENT PREPARATION</u>			>> <u>\$561,750</u>
1.3.1	RA DOCUMENT PREPARATION	295,500	0	295,500
1.3.2	RD DOCUMENT PREPARATION	266,250	0	266,250
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
	SUBTOTAL INCLUDING ESCALATION	3,307,190	54,909	>> \$3,362,099
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$1,037,901
	TOTAL ESTIMATED COST			>> \$4,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 499.00%

CONTINGENCY= 30.87%

DETAILED COST ESTIMATE SHEET

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
ADDN'L INSTITUTIONAL CONTROLS**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2407-3**
PREPARED BY: **F. P. HANSON**

DATE: **30-Oct-1997**
TIME: **14:01:35**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	RA DOCUMENT PREPARATION and Containment (1)											
	RD/RA SOW											
	Pre-design Studies/Preliminary Scoping	3	Ea		ER-AEN	80.000	240	18,000				18,000
	Design Criteria	3	Ea		ER-AEN	40.000	120	9,000				9,000
	RD/RA Document Preparation	3	Ea		ER-AEN	80.000	240	18,000				18,000
	Reviews and Comment Resolution	6	Ea		ER-AEN	40.000	240	18,000				18,000
	RA WORKPLAN											
	Preliminary Scoping	3	Ea		ER-AEN	160.000	480	36,000				36,000
	RD/RA Document Preparation	3	Ea		ER-AEN	260.000	780	58,500				58,500
	Reviews and Comment Resolution	3	Ea		ER-AEN	40.000	120	9,000				9,000
	PACKAGING, SHIPPING, & TRANSPORT DOCUMENTATION											
	Sampling and Analysis	1	Ea		ER-AEN	240.000	240	18,000				18,000
	Hazard Classification	1	Ea		ER-AEN	200.000	200	15,000				15,000
	Selection and Procurement of Packaging	1	Ea		ER-AEN	80.000	80	6,000				6,000
	REMEDIAL ACTION REPORT											
	Prepare RA Report	3	Ea		ER-AEN	320.000	960	72,000				72,000
	Reviews and Comment Resolution	3	Ea		ER-AEN	80.000	240	18,000				18,000
	RA DOCUMENT PREPARATION S/T						3,940	\$295,500				\$295,500

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 ADDN'L INSTITUTIONAL CONTROLS
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-3
 PREPARED BY: F. P. HANSON

DATE: 30-Oct-1997
 TIME: 14:01:35
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.2	RD DOCUMENT PREPARATION											
	Note: Assume Documents Req'd For Heel Removal (1), Demolition (1), and Containment (1)											
	SAFETY ANALYSIS DOCUMENTATION											
	Auditable Safety Analysis/Hazards Classification	3	Ea		ER-AEN LMITCO	160.000	480	36,000				36,000
	Unresolved safety Questions	3	Ea		ER-AEN LMITCO	160.000	480	36,000				36,000
	Quality Assurance	3	Ea		ER-AEN LMITCO	30.000	90	6,750				6,750
	SAMPLING AND ANALYSIS PLAN											
	Preliminary Scoping	3	Ea		ER-AEN LMITCO	320.000	960	72,000				72,000
	Field Sampling Plan Preparation	3	Ea		ER-AEN LMITCO	400.000	1,200	90,000				90,000
	Reviews and Comment Resolution	3	Ea		ER-AEN LMITCO	80.000	240	18,000				18,000
	PRE-FINAL INSPECTION REPORT											
	Checklist Preparation	1	Ea		ER-AEN PARS	40.000	40	3,000				3,000
	Reviews and Comment Resolution	1	Ea		ER-AEN PARS	60.000	60	4,500				4,500
	RD DOCUMENT PREPARATION S/T						3,550	\$266,250				\$266,250
	PROJECT SUBTOTAL						46,210	\$3,307,190	\$0	\$0	\$0	\$3,307,190

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING
 ADDN'L INSTITUTIONAL CONTROLS PROJECT NO: 2407-3
 LOCATION 1: INEEL - ICPP PREPARED BY: F. P. HANSON
 REQUESTOR: B. C. SPAULDING

DATE: 30-Oct-1997
 TIME: 14:00:58

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	FAA/CO MANAGEMENT AND OVERSIGHT	2,745,440	49.41	0	40	0.00	19.77	17.789%	54.98%	1,013,725	3,759,165
1.3.1	RA DOCUMENT PREPARATION	295,500	5.32	0	40	0.00	2.13	1.915%	5.92%	109,110	404,610
1.3.2	RD DOCUMENT PREPARATION	266,250	4.79	0	40	0.00	1.92	1.725%	5.33%	98,310	364,560
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	2,248,889	40.48	0	30	0.00	12.14	10.929%	33.77%	622,776	2,871,665
	SUBTOTAL	5,556,079	100.00					32.357%			
	CALCULATED CONTINGENCY	1,797,788									
	RESULTANT TEC	7,353,867									
	ROUNDED TEC	7,400,000									
	PROJECT CONTINGENCY	1,843,921						33.19%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	1,843,921									
	TOTAL ESTIMATED COST	7,400,000								1,843,921	7,400,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% -- 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% -- 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% -- 20% TITLE II 5% -- 15% TITLE III/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
ADDN'L INSTITUTIONAL CONTROLS**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-3**
PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
TIME: **09:02:00**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	FAA/CO MANAGEMENT AND OVERSIGHT	2,745,440	81.66	0	35	0.00	28.58	25.722%	83.01%	861,594	3,607,034
1.3.1	RA DOCUMENT PREPARATION	295,500	8.79	0	35	0.00	3.08	2.769%	8.93%	92,736	388,236
1.3.2	RD DOCUMENT PREPARATION	266,250	7.92	0	35	0.00	2.77	2.495%	8.05%	83,556	349,806
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	54,909	1.63	0	0	0.00	0.00	0.000%	0.00%	15	54,924
	SUBTOTAL	3,362,099	100.00					30.986%			
	CALCULATED CONTINGENCY	1,041,765									
	RESULTANT TEC	4,403,864									
	ROUNDED TEC	4,400,000									
	PROJECT CONTINGENCY	1,037,901						30.87%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	1,037,901									
	TOTAL ESTIMATED COST	4,400,000								1,037,901	4,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE TREATABILITY STUDIES** TYPE OF ESTIMATE: **PLANNING**
 LOCATION 1: **INEEL - ICPP** PROJECT NO: **2407-4**
 REQUESTOR: **B. C. SPAULDING** PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:02:39**
 CHECKED BY: *RA*
 APPRD BY: *BST*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$352,000
1.1.1	DESIGN ENGINEERING	275,000	77,000	352,000
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,379,664
1.2.1	PROJECT/CONSTRUCTION MANAGEMENT	234,000	74,880	308,880
1.2.2	OPERATIONS SUPPORT	811,200	259,584	1,070,784
1.3	<u>CONSTRUCTION</u>			>> \$2,402,400
1.3.1	BENCH SCALE STUDIES	975,000	312,000	1,287,000
1.3.11	EQUIPMENT	845,000	270,400	1,115,400
1.5	<u>G&A/PIF</u>			>> \$311,571
1.5.1	G&A/PIF ADDER	236,039	75,532	311,571
1.5.2	PROCUREMENT FEES	54,600	17,472	\$72,072
	SUBTOTAL INCLUDING ESCALATION	3,430,839	1,086,868	>> \$4,517,707
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$278,604
	CONTINGENCY			>> \$1,303,689
	TOTAL ESTIMATED COST			>> \$6,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 15.00%

CONTINGENCY= 35.02%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
TREATABILITY STUDIES**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-4**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **09:07:39**
CHECKED BY: *RDA*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$275,000</u>
1.1.1	DESIGN ENGINEERING	275,000	0	275,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,045,200</u>
1.2.1	PROJECT/CONSTRUCTION MANAGEMENT	234,000	0	234,000
1.2.2	OPERATIONS SUPPORT	811,200	0	811,200
1.3	<u>CONSTRUCTION</u>			>> <u>\$1,820,000</u>
1.3.1	BENCH SCALE STUDIES	975,000	0	975,000
1.3.11	EQUIPMENT	845,000	0	845,000
1.5	<u>G&A/PIF</u>			>> <u>\$236,039</u>
1.5.1	G&A/PIF ADDER	236,039	0	236,039
1.5.2	PROCUREMENT FEES	54,600	0	>> <u>\$54,600</u>
	SUBTOTAL INCLUDING ESCALATION	3,430,839	0	>> \$3,430,839
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$211,064
	CONTINGENCY			>> \$908,097
	TOTAL ESTIMATED COST			>> \$4,550,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= **15.00%**
CONTINGENCY= **32.62%**

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 TREATABILITY STUDIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-4
 PREPARED BY: F. P. HANSON

DATE: 30-Oct-1997
 TIME: 14:02:57
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	DESIGN ENGINEERING											
	TREATABILITY STUDY - GROUT AND POLYMER MATRIX STABILIZATION											
	Complete Design Package, Allowance	1	LS			0.000					250,000	250,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					25,000	25,000
	DESIGN ENGINEERING S/T						0				\$275,000	\$275,000
1.2.1	PROJECT/CONSTRUCTION MANAGEMENT											
	TREATABILITY STUDY - GROUT AND PARAFFIN-BASED GROUT MATRIX STABILIZATION											
	Project and Construction Management, Allowance at 15% of Operations Support and	1	LS			0.000					234,000	234,000
	Bench Scale Studies											
	PROJECT/CONSTRUCTION MANAGEMENT S/T						0				\$234,000	\$234,000
1.2.2	OPERATIONS SUPPORT											
	Operating Personnel and Support, Assume One Year	6	FTE		OP-COM LIMITCO	2080.00	12,480	811,200				811,200
	OPERATIONS SUPPORT S/T						12,480	\$811,200				\$811,200

Rev 6-96
 PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 TREATABILITY STUDIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-4
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:02:57
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	BENCH SCALE STUDIES											
	Cold Test, Allowance	1	LS			0.000					250,000	250,000
	Hot Test, Allowance	1	LS		SUB	0.000					500,000	500,000
	BENCH SCALE STUDIES S/T						0				\$750,000	\$750,000
1.3.11	EQUIPMENT											
	TREATABILITY STUDY - GROUT AND PARAFFIN-BASED GROUT MATRIX STABILIZATION											
	Jet Pump, Feed Pump, and Accessories	1	LS			0.000					500,000	500,000
	Cement/Grout Mixer and Miscellaneous Equipment	1	LS		SUB	0.000					75,000	75,000
	Non-Destructive Assays and Tests	1	LS		SUB	0.000					75,000	75,000
	EQUIPMENT S/T						0				\$650,000	\$650,000
1.5.1 00701000	G&A/PIF ADDER G&A on Construction	1	LOT			0.000					126,006	126,006
	PIF	1	LOT			0.000					110,033	110,033
	G&A/PIF ADDER S/T						0				\$236,039	\$236,039

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 TREATABILITY STUDIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2407-4
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:02:57
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						12,480	\$811,200	\$0	\$0	\$2,145,039	\$2,956,239

CONTINGENCY ANALYSIS

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE TREATABILITY STUDIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING
 TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2407-4
 PREPARED BY: F. P. HANSON

DATE: 30-Oct-1997
 TIME: 14:02:21

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING	275,000	6.09	0	35	0.00	2.13	1.917%	5.63%	89,122	364,122
1.2.1	PROJECT/CONSTRUCTION MANAGEMENT	234,000	5.18	0	35	0.00	1.81	1.632%	4.79%	75,835	309,835
1.2.2	OPERATIONS SUPPORT	811,200	17.96	0	35	0.00	6.28	5.656%	16.61%	262,893	1,074,093
1.3.1	BENCH SCALE STUDIES	975,000	21.58	0	45	0.00	9.71	8.741%	25.68%	406,257	1,381,257
1.3.11	EQUIPMENT	845,000	18.70	0	45	0.00	8.42	7.575%	22.25%	352,089	1,197,089
1.5.1	G&A/PIF ADDER	236,039	5.22	0	35	0.00	1.83	1.646%	4.83%	76,495	312,534
1.5.2	PROCUREMENT FEES	54,600	1.21	0	35	0.00	0.42	0.381%	1.12%	17,695	72,295
	ESCALATION	1,086,868	24.06	0	30	0.00	7.22	6.496%	19.08%	301,907	1,388,775
SUBTOTAL		4,517,707	100.00					34.043%			
CALCULATED CONTINGENCY		1,537,969									
RESULTANT TEC		6,055,676									
ROUNDED TEC		6,100,000									
PROJECT CONTINGENCY		1,582,293						35.02%			
MANAGEMENT RESERVE		278,604									
CONTINGENCY		1,303,689									
TOTAL ESTIMATED COST		6,100,000								1,582,293	6,100,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <ul style="list-style-type: none"> PLANNING 20% -- 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% -- 25% Experimental/Special Conditions.....Up to 40% TITLE I 10% -- 20% TITLE II 5% -- 15% TITLE III/AFC Market Conditions
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CONTINGENCY ANALYSIS

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
TREATABILITY STUDIES
LOCATION 1: INEEL - ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2407-4
PREPARED BY: F. P. HANSON

DATE: 28-Jan-1998
TIME: 09:07:17

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING	275,000.	8.02	0	32	0.00	2.56	2.308%	7.11%	79,575	354,575
1.2.1	PROJECT/CONSTRUCTION MANAGEMENT	234,000	6.82	0	32	0.00	2.18	1.964%	6.05%	67,711	301,711
1.2.2	OPERATIONS SUPPORT	811,200	23.64	0	32	0.00	7.57	6.810%	20.97%	234,731	1,045,931
1.3.1	BENCH SCALE STUDIES	975,000	28.42	0	40	0.00	11.37	10.231%	31.51%	352,661	1,327,661
1.3.11	EQUIPMENT	845,000	24.63	0	40	0.00	9.85	8.867%	27.31%	305,639	1,150,639
1.5.1	G&A/PIF ADDER	236,039	6.88	0	30	0.00	2.06	1.858%	5.72%	64,032	300,071
1.5.2	PROCUREMENT FEES	54,600	1.59	0	30	0.00	0.48	0.430%	1.32%	14,812	69,412
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	SUBTOTAL	3,430,839	100.00					32.467%			
	CALCULATED CONTINGENCY	1,113,890									
	RESULTANT TEC	4,544,729									
	ROUNDED TEC	4,550,000									
	PROJECT CONTINGENCY	1,119,161						32.62%			
	MANAGEMENT RESERVE	211,064									
	CONTINGENCY	908,097									
	TOTAL ESTIMATED COST	4,550,000								1,119,161	4,550,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE III/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
TREATABILITY STUDIES
ESTIMATE NUMBER: 2407-4

PROCUREMENT FEE @ 3%

CONSTRUCTION	\$1,820,000	x 0.03 =	\$54,600
GFE		x 0.03 =	\$0

TOTAL PROCUREMENT FEE	\$54,600
-----------------------	----------

G&A @ 23%

Note: Ceiling of \$500,000
Imposed

YEAR

1	CONSTRUCTION	\$500,000	x .23 =	\$115,000
	GFE		x .23 =	\$0
	PROCUREMENT FEE	\$47,850	x .23 =	\$11,006
2	CONSTRUCTION		x .23 =	\$0
	GFE		x .23 =	\$0
	PROCUREMENT FEE		x .23 =	\$0
3	CONSTRUCTION		x .23 =	\$0
	GFE		x .23 =	\$0
	PROCUREMENT FEE		x .23 =	\$0

TOTAL G&A	\$126,006
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PIF @ 5.5%

CONSTRUCTION	\$1,820,000
GFE	\$0
PROCUREMENT FEE	\$54,600
G&A	\$126,006

TOTAL PIF	\$2,000,606	x .055 =	\$110,033
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COST ESTIMATE SUMMARY

Rev. 6-96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE** TYPE OF ESTIMATE: **PLANNING**
 SITE PREP/SUBCONTRACT PROJECT NO: **2407-5**
 LOCATION 1: **INEEL - ICPP** PREPARED BY: **F. P. HANSON**
 REQUESTOR: **B. C. SPAULDING** REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:04:24**
 CHECKED BY: _____
 APPRD BY: _____

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$7,024,600</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	1,645,600	5,385,600
1.1.2	TITLE III INSPECTION	1,100,000	539,000	1,639,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$7,450,000</u>
1.2.1	PROJECT MANAGEMENT	2,500,000	1,225,000	3,725,000
1.2.2	CONSTRUCTION MANAGEMENT	2,500,000	1,225,000	3,725,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$21,843,095</u>
1.3.1	GENERAL CONDITIONS	1,638,345	802,789	2,441,134
1.3.2	SITWORK	21,450	10,511	31,961
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	0	0	0
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	13,000,000	6,370,000	19,370,000
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	0	0	0
1.3.16	ELECTRICAL	0	0	0
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$3,561,100</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	2,390,000	1,171,100	3,561,100
1.5	<u>G&A/PIF</u>			>> <u>\$2,347,175</u>
1.5.1	G&A/PIF ADDER	1,575,285	771,890	2,347,175
1.5.2	PROCUREMENT FEES	511,494	250,632	<u>\$762,126</u>
	SUBTOTAL INCLUDING ESCALATION	28,976,574	14,011,522	>> <u>\$42,988,096</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$2,851,350</u>
	CONTINGENCY			>> <u>\$11,160,554</u>
	TOTAL ESTIMATED COST			>> <u>\$57,000,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **28.00%**

CONTINGENCY= **32.59%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
SITE PREP/SUBCONTRACT**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

COST ESTIMATE SUMMARY

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-5**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **09:16:51**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$4,840,000
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	0	3,740,000
1.1.2	TITLE III INSPECTION	1,100,000	0	1,100,000
1.2	<u>MANAGEMENT COSTS</u>			>> \$5,000,000
1.2.1	PROJECT MANAGEMENT	2,500,000	0	2,500,000
1.2.2	CONSTRUCTION MANAGEMENT	2,500,000	0	2,500,000
1.3	<u>CONSTRUCTION</u>			>> \$14,659,795
1.3.1	GENERAL CONDITIONS	1,638,345	0	1,638,345
1.3.2	SITework	21,450	0	21,450
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	0	0	0
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	13,000,000	0	13,000,000
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	0	0	0
1.3.16	ELECTRICAL	0	0	0
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$2,390,000
1.4.1	GOVERNMENT FURNISHED EQUIP.	2,390,000	0	2,390,000
1.5	<u>G&A/PIF</u>			>> \$1,575,285
1.5.1	G&A/PIF ADDER	1,575,285	0	1,575,285
1.5.2	PROCUREMENT FEES	511,494	0	>> \$511,494
	SUBTOTAL INCLUDING ESCALATION	28,976,574	0	>> \$28,976,574
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,913,657
	CONTINGENCY			>> \$7,109,769
	TOTAL ESTIMATED COST			>> \$38,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **28.00%**

CONTINGENCY= **31.14%**

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 SITE PREP/SUBCONTRACT
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-5
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:05:34
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.2	SITWORK Construct Access Road	300	LF			0.000					16,500	16,500
					SUB							
	SITWORK S/T						0				\$16,500	\$16,500
1.3.13	SPECIAL CONSTRUCTION											
	WEATHER ENCLOSURE:											
	Note: Basis of Estimate is TSA-RE, Adjusted for Economy of Scale, and EDF-TFC-021 For Monitoring Equipment Requirements											
	Engineered Metal Structure, 250 x 360 + 180' x 200', Includes Piping, HVAC,	125,000	SF			0.000					*,***,***	10,000,000
	Fire Protection, Electrical, and Life Safety Systems, Complete											
	SPECIAL CONSTRUCTION S/T						0				\$*,***,***	\$10,000,000
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	CAMs, Alpha/Beta, Including Back-up Units	8	Ea			0.000					80,000	80,000
	Area Radiation Monitors (ARM), Including Back-up Units	13	Ea			0.000					130,000	130,000
	Automated Personnel Monitor (APM)	4	Ea			0.000					400,000	400,000
	Shielded APM	1	Ea			0.000					150,000	150,000

Lockheed Martin Idaho Technologies Co.

Rev 6-96

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 SITE PREP/SUBCONTRACT
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-5
 PREPARED BY: F. P. HANSON

PAGE # 4

DATE 30-Oct-1997
 TIME: 14:05:34
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. VOC Monitors, Including Back-up Units	13	Ea			0.000					130,000	130,000
	Project Specific HP Instrumentation During D&D Activities	10	Yrs			0.000					1,500,000	1,500,000
	GOVERNMENT FURNISHED EQUIP. S/T						0				\$2,390,000	\$2,390,000
1.5.1	G&A/PIF ADDER G&A on Construction and GFE, Year One, \$500,000 Limit Imposed	1	LOT			0.000					288,822	288,822
	G&A on Construction and GFE, Year Two, \$500,000 Limit Imposed	1	LOT			0.000					288,822	288,822
	PIF	1	LOT			0.000					997,641	997,641
	G&A/PIF ADDER S/T						0				\$1,575,285	\$1,575,285
	PROJECT SUBTOTAL						6,240	\$235,266	\$0	\$0	\$25,146,785	\$25,382,051

Lockheed Martin Idaho Technologies Co.
PROJECT: TOTAL REMOVAL CLEAN CLOSURE
SITE PREP/SUBCONTRACT
LOCATION: INEEL - ICPP
ESTIMATOR: F. P. HANSON
CLIENT: B. C. SPAULDING

CONTRACTOR MARKUP DISTRIBUTION REPORT

DATE: October 30, 1997
ESTTYPE: PLANNING
PROJECT NO: 2407-5

CONTRACTOR	LABOR HOURS	LABOR	MATERIAL	EQUIPMENT	OTHERS	SUBTOTAL	% MARKUP	% DIRECT COST	% TOTAL COST
PRIME CONTRACTOR		\$0	\$0	\$0	\$1,300,000	\$1,300,000		11.23%	8.87%
TOTAL FOR PRIME CONTRACTOR	0	\$0	\$0	\$0	\$1,300,000	\$1,300,000			
SUBCONTRACT - SUB		\$235,266	\$0	\$0	\$10,041,500	\$10,276,766		88.77%	70.10%
OVERHEAD AND PROFIT	30.00%	\$70,580	\$0	\$0	\$3,012,450	\$3,083,030	30.00%		
TOTAL FOR SUBCONTRACT - SUB	6,240	\$305,845	\$0	\$0	\$13,053,950	\$13,359,795	30.00%		
TOTAL DIRECT COST	6,240	\$235,266	\$0	\$0	\$11,341,500	\$11,576,766		100.00%	
TOTAL SUBCONTRACTOR MARKUPS		\$70,580	\$0	\$0	\$3,012,450	\$3,083,030			21.03%
TOTAL COST TO PRIME		\$305,845	\$0	\$0	\$14,353,950	\$14,659,795			
PRIME CONTRACTOR MARKUP	0.00%	\$0	\$0	\$0	\$0	\$0			0.00%
TOTAL PROJECT COST		\$305,845	\$0	\$0	\$14,353,950	\$14,659,795			

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING
 SITE PREP/SUBCONTRACT PROJECT NO: 2407-5
 LOCATION 1: INEEL - ICPP PREPARED BY: F. P. HANSON
 REQUESTOR: B. C. SPAULDING -

DATE: 30-Oct-1997
 TIME: 14:03:59

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	8.70	0	35	0.00	3.05	2.741%	8.45%	1,183,723	4,923,723
1.1.2	TITLE III INSPECTION	1,100,000	2.56	0	35	0.00	0.90	0.806%	2.48%	348,154	1,448,154
1.2.1	PROJECT MANAGEMENT	2,500,000	5.82	0	35	0.00	2.04	1.832%	5.65%	791,259	3,291,259
1.2.2	CONSTRUCTION MANAGEMENT	2,500,000	5.82	0	35	0.00	2.04	1.832%	5.65%	791,259	3,291,259
1.3.1	GENERAL CONDITIONS	1,638,345	3.81	0	40	0.00	1.52	1.372%	4.23%	592,620	2,230,965
1.3.2	SITWORK	21,450	0.05	0	0	0.00	0.00	0.000%	0.00%	0	21,450
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	13,000,000	30.24	0	45	0.00	13.61	12.248%	37.75%	5,290,132	18,290,132
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.16	ELECTRICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.4.1	GOVERNMENT FURNISHED EQUIP.	2,390,000	5.56	0	30	0.00	1.67	1.501%	4.63%	648,380	3,038,380
1.5.1	G&A/PIF ADDER	1,575,285	3.66	0	30	0.00	1.10	0.989%	3.05%	427,357	2,002,642
1.5.2	PROCUREMENT FEES	511,494	1.19	0	30	0.00	0.36	0.321%	0.99%	138,763	650,257
	ESCALATION	14,011,522	32.59	0	30	0.00	9.78	8.800%	27.13%	3,800,257	17,811,779
SUBTOTAL		42,988,096	100.00					32.442%			
CALCULATED CONTINGENCY		13,946,245									
RESULTANT TEC		56,934,341									
ROUNDED TEC		57,000,000									
PROJECT CONTINGENCY		14,011,904						32.59%			
MANAGEMENT RESERVE		2,851,350									
CONTINGENCY		11,160,554									
TOTAL ESTIMATED COST		57,000,000								14,011,904	57,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% -- 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% -- 20%
 TITLE II 5% -- 15%
 TITLE III/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
SITE PREP/SUBCONTRACT**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-5**
PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
TIME: **09:16:23**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	12.91	0	30	0.00	3.87	3.485%	11.24%	1,014,570	4,754,570
1.1.2	TITLE III INSPECTION	1,100,000	3.80	0	30	0.00	1.14	1.025%	3.31%	298,403	1,398,403
1.2.1	PROJECT MANAGEMENT	2,500,000	8.63	0	30	0.00	2.59	2.329%	7.52%	678,189	3,178,189
1.2.2	CONSTRUCTION MANAGEMENT	2,500,000	8.63	0	30	0.00	2.59	2.329%	7.52%	678,189	3,178,189
1.3.1	GENERAL CONDITIONS	1,638,345	5.65	0	35	0.00	1.98	1.781%	5.75%	518,517	2,156,862
1.3.2	SITWORK	21,450	0.07	0	0	0.00	0.00	0.000%	0.00%	0	21,450
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	13,000,000	44.86	0	40	0.00	17.95	16.151%	52.11%	4,702,109	17,702,109
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.16	ELECTRICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.4.1	GOVERNMENT FURNISHED EQUIP.	2,390,000	8.25	0	28	0.00	2.31	2.079%	6.71%	605,125	2,995,125
1.5.1	G&A/PIF ADDER	1,575,285	5.44	0	28	0.00	1.52	1.370%	4.42%	398,847	1,974,132
1.5.2	PROCUREMENT FEES	511,494	1.77	0	28	0.00	0.49	0.445%	1.44%	129,505	640,999
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(28)	(28)
SUBTOTAL		28,976,574	100.00					30.994%			
CALCULATED CONTINGENCY		8,981,027									
RESULTANT TEC		37,957,601									
ROUNDED TEC		38,000,000									
PROJECT CONTINGENCY		9,023,426						31.14%			
MANAGEMENT RESERVE		1,913,657									
CONTINGENCY		7,109,769									
TOTAL ESTIMATED COST		38,000,000								9,023,426	38,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions..... Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions..... Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 SITE PREPARATION - SUBCONTRACT
 ESTIMATE NUMBER: 2407- 5

PROCUREMENT FEE @ 3%

CONSTRUCTION	\$14,659,795	x 0.03 =	\$439,794
GFE	\$2,390,000	x 0.03 =	\$71,700

TOTAL PROCUREMENT FEE			\$511,494
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G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

CONSTRUCTION *	\$1,000,000	x .23 =	\$230,000
GFE *	\$1,000,000	x .23 =	\$230,000
PROCUREMENT FEE	\$511,494	x .23 =	\$117,644

TOTAL G&A			\$577,644
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PIF @ 5.5%

CONSTRUCTION	\$14,659,795
GFE	\$2,390,000
PROCUREMENT FEE	\$511,494
G&A	\$577,644

TOTAL PIF	\$18,138,932	x.055 =	\$997,641
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* Assumes \$500,000 limit imposed each year for 2 years.

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
HEEL REMOVAL**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-6**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **31-Oct-1997**
TIME: **09:49:24**
CHECKED BY: _____
APPRD BY: _____

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING AND DESIGN</u>			>> <u>\$3,647,556</u>
1.1.1	DESIGN ENGINEERING	343,200	284,856	628,056
1.1.2	TITLE III INSPECTION	1,650,000	1,369,500	3,019,500
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$18,300,000</u>
1.2.1	PROJECT MANAGEMENT	5,000,000	4,150,000	9,150,000
1.2.2	CONSTRUCTION MANAGEMENT	5,000,000	4,150,000	9,150,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$45,861,867</u>
1.3.1	HEEL REMOVAL	23,417,237	19,436,306	42,853,543
1.3.2	TANK ISOLATION AND RCRA CLEANUP	1,528,948	1,269,027	2,797,975
1.3.3	VERIFICATION OF CLEANUP	114,320	96,029	210,349
1.4	<u>GOVERNMENT FURNISHED SERVICES</u>			>> <u>\$305,796,796</u>
1.4.1	TREATMENT OF LIQUID WASTE	166,193,911	139,602,885	305,796,796
1.5	<u>G&A/PIF</u>			>> <u>\$5,341,492</u>
1.5.1	G&A/PIF ADDER	2,918,848	2,422,644	5,341,492
1.5.2	PROCUREMENT FEES	573,763	481,213	>> <u>\$1,054,976</u>
	SUBTOTAL INCLUDING ESCALATION	206,740,227	173,262,460	>> <u>\$380,002,687</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$35,805,513</u>
	CONTINGENCY			>> <u>\$101,191,800</u>
	TOTAL ESTIMATED COST			>> <u>\$517,000,000</u>

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 0.00%
CONTINGENCY= 36.05%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
HEEL REMOVAL**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

COST ESTIMATE SUMMARY

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-6**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **09:25:34**

CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING AND DESIGN</u>			>> <u>\$1,993,200</u>
1.1.1	DESIGN ENGINEERING	343,200	0	343,200
1.1.2	TITLE III INSPECTION	1,650,000	0	1,650,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$10,000,000</u>
1.2.1	PROJECT MANAGEMENT	5,000,000	0	5,000,000
1.2.2	CONSTRUCTION MANAGEMENT	5,000,000	0	5,000,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$25,060,505</u>
1.3.1	HEEL REMOVAL	23,417,237	0	23,417,237
1.3.2	TANK ISOLATION AND RCRA CLEANUP	1,528,948	0	1,528,948
1.3.3	VERIFICATION OF CLEANUP	114,320	0	114,320
1.4	<u>GOVERNMENT FURNISHED SERVICES</u>			>> <u>\$166,193,911</u>
1.4.1	TREATMENT OF LIQUID WASTE	166,193,911	0	166,193,911
1.5	<u>G&A/PIF</u>			>> <u>\$2,918,848</u>
1.5.1	G&A/PIF ADDER	2,918,848	0	2,918,848
1.5.2	PROCUREMENT FEES	573,763	0	>> <u>\$573,763</u>
	SUBTOTAL INCLUDING ESCALATION	206,740,227	0	>> \$206,740,227
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$19,474,703
	CONTINGENCY			>> \$53,785,070
	TOTAL ESTIMATED COST			>> \$280,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **0.00%**

CONTINGENCY= **35.44%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE

LOCATION 1: HEEL REMOVAL

REQUESTOR: INEEL - ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2407-6

PREPARED BY: F. P. HANSON

PAGE # 2

DATE 31-Oct-1997

TIME: 09:49:48

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.2	CONSTRUCTION MANAGEMENT Construction Management, Field Engrg, and Admin Support @ 20% of Construction	1	LS		LMITCO	0.000					5,000,000	5,000,000
	CONSTRUCTION MANAGEMENT S/T						0				\$5,000,000	\$5,000,000
1.3.1	HEEL REMOVAL											
	Heel Removal	1	LS	925,860.00	ZF-OE LMITCO	89210.0	89,210	4,618,402	663,355	925,860		6,207,617
	Engineered Equipment	1	LS		LMITCO	0.000					4,590,605	4,590,605
	Maintenance During Heel Removal	1	LS		ZF-OE LMITCO	19490.0	19,490	1,008,997				1,008,997
	Additional Mixing Pumps	40	Ea	400.00	ZF-PF LMITCO	140.000	5,600	337,512	58,507	16,000		412,019
	Engineered Equipment	1	LS		LMITCO	0.000					8,000,000	8,000,000
	Additional Transfer Pumps	20	Ea	520.00	ZF-PF LMITCO	140.000	2,800	168,756	29,250	10,400		208,406
	Engineered Equipment	1	LS		LMITCO	0.000					2,000,000	2,000,000
	Cut Up and Box Mixing and Transfer Pumps For Disposal	60	Ea		ZF-LB LMITCO	60.000	3,600	159,228	16,056			175,284
	Package, Seal, and Monitor Contaminated Waste	16	Boxes		ZF-LB LMITCO	3.000	48	2,123	167			2,290
	Disposal of Packaged Mixed Waste, Includes Cost of Containers - Subcontract	1,400	CF			0.000					420,000	420,000
	Additional Health and Safety and Radiological Support For Work Duration	200	Days		Z-1341 LMITCO	24.000	4,800	292,032				292,032

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2407-6

PREPARED BY: F. P. HANSON

DATE 31-Oct-1997

TIME: 09:49:48

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	HEEL REMOVAL Add 10% to Material for DOE/RW/0333P Quality Standards	1	LS	95,225.00		0.000				95,225		95,225
	HEEL REMOVAL S/T						125,548	\$6,587,050	\$767,335	\$1,047,485	\$*,***,***	\$23,412,475
1.3.2	TANK ISOLATION AND RCRA CLEANUP											
	Mobilization and Demobilization, Complete	1	LS		LIMITCO	0.000					15,000	15,000
	Install Sumps, Flush Pipe Lines, Trenches, and Sumps	1	LS	1,260.00	ZF-LB LIMITCO	2882.00	2,882	127,471		1,260	320	129,051
	Flush Valve Boxes, Lower Portion of Vault, Condenser, and Cooling Coils	1	LS		ZF-LB LIMITCO	872.000	872	38,569			3,328	41,897
	Disposal of Coolant Fluid and Flushing Fluid, Complete	10,000	Gals			0.000					55,000	55,000
	Remove Boxes With Collected Liquid	280	Ea		ZF-LB LIMITCO	1.000	280	12,384	389			12,774
	Initial and Final Valve Box Decon, Allowance	55	Ea	210.00	ZF-LB LIMITCO	48.000	2,640	116,767	3,660	11,550		131,977
	Package, Seal, and Monitor Contaminated Waste	11	Boxes		ZF-LB LIMITCO	3.000	33	1,460	115			1,575
	On- Site Disposal of Packaged Radioactive Waste	11	Boxes		LIMITCO	0.000					33,000	33,000
	Cut, Cap, and Remove Piping and Accessories	1	LS	104,121.00	ZF-PF LIMITCO	8218.00	8,218	495,299		104,121		599,420
	Additional Health and Safety and Radiological Support For Work Duration	300	Days		Z-1341 LIMITCO	24.000	7,200	438,048				438,048

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
HEEL REMOVAL

LOCATION 1: INEEL - ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2407-6

PREPARED BY: F. P. HANSON

PAGE # 4

DATE 31-Oct-1997

TIME: 09:49:48

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.2	TANK ISOLATION AND RCRA CLEANUP Security, Site Orientation, OSHA	1	LS		ZF-LB LMITCC	1200.00	1,200	53,076				53,076
	Add 10% to Material for DOE/RW/0333P Quality Standards	1	LS	11,700.00		0.000				11,700		11,700
	TANK ISOLATION AND RCRA CLEANUP S/T						23,325	\$1,283,073	\$4,164	\$128,631	\$106,648	\$1,522,517
1.3.3	VERIFICATION OF CLEANUP											
	Laboratory Wipe Samples (RCRA Metals)	250	Ea			0.000					80,000	80,000
	Laboratory Rinsate Samples	40	Ea			0.000					12,800	12,800
	Laboratory Ph Samples	11	Ea			0.000					3,520	3,520
	Sampling Time and Review of Laboratory Results	300	MH			0.000					18,000	18,000
	VERIFICATION OF CLEANUP S/T						0				\$114,320	\$114,320
1.4.1	TREATMENT OF LIQUID WASTE											
	Treatment of Concentrated Liquid Wastes in Calciner	204,600	Gals			0.000					*,**,*	102,300,000
	Treatment of Low Level Liquid Waste	135,240	Gals			0.000					1,487,640	1,487,640
	Treatment of High Level Liquid Waste, Calciner	124,100	Gals			0.000					*,**,*	62,150,521

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2407-6

PREPARED BY: F. P. HANSON

DATE 31-Oct-1997

TIME: 09:49:48

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	TREATMENT OF LIQUID WASTE Treatment of High Level Liquid Waste, Evap Reduction	1,023,000	Gals			0.000					255,750	255,750
	TREATMENT OF LIQUID WASTE-S/T						0				\$*, ***, ***	\$166,193,911
1.5.1	G&A/PIF ADDER											
	G&A, \$500,000 Limit Imposed Each Year For 15 Years.	1	LS			0.000					1,843,614	1,843,614
	PIF	1	LS			0.000					1,075,234	1,075,234
	G&A/PIF ADDER S/T						0				\$2,918,848	\$2,918,848
	PROJECT SUBTOTAL						<u>148.873</u>	\$7,870,124	\$771,500	\$1,176,116	\$196,337,532	===== \$206,155,271 =====

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
HEEL REMOVAL**
LOCATION 1: **INEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-6**
PREPARED BY: **F. P. HANSON**

DATE: **31-Oct-1997**
TIME: **09:45:58**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING	343,200	0.09	0	35	0.00	0.03	0.028%	0.08%	108,068	451,268
1.1.2	TITLE III INSPECTION	1,650,000	0.43	0	0	0.00	0.00	0.000%	0.00%	0	1,650,000
1.2.1	PROJECT MANAGEMENT	5,000,000	1.32	0	35	0.00	0.46	0.414%	1.15%	1,574,418	6,574,418
1.2.2	CONSTRUCTION MANAGEMENT	5,000,000	1.32	0	35	0.00	0.46	0.414%	1.15%	1,574,418	6,574,418
1.3.1	HEEL REMOVAL	23,417,237	6.16	0	50	0.00	3.08	2.773%	7.69%	10,533,862	33,951,099
1.3.2	TANK ISOLATION AND RCRA CLEANUP	1,528,948	0.40	0	50	0.00	0.20	0.181%	0.50%	687,772	2,216,720
1.3.3	VERIFICATION OF CLEANUP	114,320	0.03	0	50	0.00	0.02	0.014%	0.04%	51,425	165,745
1.4.1	TREATMENT OF LIQUID WASTE	166,193,911	43.73	0	50	0.00	21.87	19.681%	54.57%	74,759,617	240,953,528
1.5.1	G&A/PIF ADDER	2,918,848	0.77	0	30	0.00	0.23	0.207%	0.58%	787,798	3,706,646
1.5.2	PROCUREMENT FEES	573,763	0.15	0	30	0.00	0.05	0.041%	0.11%	154,859	728,622
	ESCALATION	173,262,460	45.60	0	30	0.00	13.68	12.311%	34.13%	46,765,076	220,027,536
SUBTOTAL		380,002,687	100.00					36.065%			
CALCULATED CONTINGENCY		137,046,464									
RESULTANT TEC		517,049,151									
ROUNDED TEC		517,000,000									
PROJECT CONTINGENCY		136,997,313						36.05%			
MANAGEMENT RESERVE		35,805,513									
CONTINGENCY		101,191,800									
TOTAL ESTIMATED COST		517,000,000								136,997,313	517,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% -- 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% -- 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% -- 20%
- TITLE II 5% -- 15%
- TITLE III/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 HEEL REMOVAL
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2407-6
 PREPARED BY: F. P. HANSON

DATE: 28-Jan-1998
 TIME: 09:25:13

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING	343,200	0.17	0	30	0.00	0.05	0.045%	0.13%	93,726	436,926
1.1.2	TITLE III INSPECTION	1,650,000	0.80	0	0	0.00	0.00	0.000%	0.00%	0	1,650,000
1.2.1	PROJECT MANAGEMENT	5,000,000	2.42	0	30	0.00	0.73	0.653%	1.86%	1,365,478	6,365,478
1.2.2	CONSTRUCTION MANAGEMENT	5,000,000	2.42	0	30	0.00	0.73	0.653%	1.86%	1,365,478	6,365,478
1.3.1	HEEL REMOVAL	23,417,237	11.33	0	40	0.00	4.53	4.078%	11.64%	8,526,858	31,944,095
1.3.2	TANK ISOLATION AND RCRA CLEANUP	1,528,948	0.74	0	40	0.00	0.30	0.266%	0.76%	556,732	2,085,680
1.3.3	VERIFICATION OF CLEANUP	114,320	0.06	0	40	0.00	0.02	0.020%	0.06%	41,627	155,947
1.4.1	TREATMENT OF LIQUID WASTE	166,193,911	80.39	0	40	0.00	32.16	28.940%	82.60%	60,515,756	226,709,667
1.5.1	G&A/PIF ADDER	2,918,848	1.41	0	25	0.00	0.35	0.318%	0.91%	664,270	3,583,118
1.5.2	PROCUREMENT FEES	573,763	0.28	0	25	0.00	0.07	0.062%	0.18%	130,577	704,340
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(729)	(729)
SUBTOTAL		206,740,227	100.00					35.034%			
CALCULATED CONTINGENCY		72,430,091									
RESULTANT TEC		279,170,318									
ROUNDED TEC		280,000,000									
PROJECT CONTINGENCY		73,259,773						35.44%			
MANAGEMENT RESERVE		19,474,703									
CONTINGENCY		53,785,070									
TOTAL ESTIMATED COST		280,000,000								73,259,773	280,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% -- 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% -- 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% -- 20%
TITLE II	5% -- 15%
TITLE III/AFC	Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 HEEL REMOVAL
 ESTIMATE NUMBER: 2407-6

PROCUREMENT FEE @ 3%

CONSTRUCTION *	\$17,190,381	x 0.03 =	\$515,711
GFE		x 0.03 =	\$0

TOTAL PROCUREMENT FEE	\$515,711
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G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

CONSTRUCTION **	\$7,500,000	x .23 =	\$1,725,000
GFE		x .23 =	\$0
PROCUREMENT FEE	\$515,711	x .23 =	\$118,614

TOTAL G&A	\$1,843,614
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PIF @ 5.5%

CONSTRUCTION	\$17,190,381	
GFE	\$0	
PROCUREMENT FEE	\$515,711	
G&A	\$1,843,614	

TOTAL PIF	\$19,549,706	x.055 =	\$1,075,234
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* Construction costs include equipment, material, and subcontracts only.
 Force Account rates used, and costs for calciner treatment include G&A and PIF.

** Assumes \$500,000 limit imposed each year for 15 years.

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE** TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-7**
 LOCATION 1: **SITE PREP/LIMITCO** PREPARED BY: **F. P. HANSON**
 REQUESTOR: **B. C. SPAULDING** REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:11:14**
 CHECKED BY: *ROA*
 APPRD BY: *SPJ*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$257,639
1.1.1	DESIGN ENGINEERING	80,080	95,295	175,375
1.1.2	TITLE III INSPECTION	36,400	45,864	82,264
1.2	<u>MANAGEMENT COSTS</u>			>> \$0
1.2.1	PROJECT MANAGEMENT	0	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0	0
1.3	<u>CONSTRUCTION</u>			>> \$16,455,977
1.3.1	GENERAL CONDITIONS	48,422	61,012	109,434
1.3.2	SITework	7,232,984	9,113,559	16,346,543
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	0	0	0
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0	0
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	0	0	0
1.3.16	ELECTRICAL	0	0	0
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0	0
1.5	<u>G&A/PIF</u>			>> \$0
1.5.1	G&A/PIF ADDER	0	0	0
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		7,397,886	9,315,730	>> \$16,713,616
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,645,598
CONTINGENCY				>> \$3,840,786
TOTAL ESTIMATED COST				>> \$22,200,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **2.00%**

CONTINGENCY= **32.83%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
SITE PREP/LMITCO**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-7**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **09:33:08**
CHECKED BY: **RJA**
APPR'D BY: **[Signature]**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$116,480
1.1.1	DESIGN ENGINEERING	80,080	0	80,080
1.1.2	TITLE III INSPECTION	36,400	0	36,400
1.2	<u>MANAGEMENT COSTS</u>			>> \$0
1.2.1	PROJECT MANAGEMENT	0	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0	0
1.3	<u>CONSTRUCTION</u>			>> \$7,281,406
1.3.1	GENERAL CONDITIONS	48,422	0	48,422
1.3.2	SITWORK	7,232,984	0	7,232,984
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	0	0	0
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0	0
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	0	0	0
1.3.16	ELECTRICAL	0	0	0
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0	0
1.5	<u>G&A/PIF</u>			>> \$0
1.5.1	G&A/PIF ADDER	0	0	0
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		7,397,886	0	>> \$7,397,886
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$728,141
CONTINGENCY				>> \$1,573,973
TOTAL ESTIMATED COST				>> \$9,700,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **2.00%**

CONTINGENCY= **31.12%**

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE**
SITE PREP/LMITCO
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO.: **2407-7**
 PREPARED BY: **F. P. HANSON**

DATE **30-Oct-1997**
 TIME: **14:12:45**
 REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	DESIGN ENGINEERING											
	D&D Design at 1% of Characterization and D&D (Less 3.5 Remote Eff Factor)	1	LS			0.000					72,800	72,800
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					7,280	7,280
	DESIGN ENGINEERING S/T						0				\$80,080	\$80,080
1.1.2	TITLE III INSPECTION											
	Inspection and Quality Assurance Costs Are Included in D&D Model Costs	1	LS			0.000						
	Add For DOE/RW/0333P Quality Standards, Allowance	1	LS			0.000					36,400	36,400
	Note: QA Assumed at 5% of D&D and Characterization Costs of \$7.28M = \$364,000											
	Adder Assumed at 10% = \$36,400											
	TITLE III INSPECTION S/T						0				\$36,400	\$36,400
1.2.1	PROJECT MANAGEMENT											
	Project Management Costs Are Included in D&D Model Costs	1	LS			0.000						
	PROJECT MANAGEMENT S/T						0					

Lockheed Martin Idaho Technologies Co.

Rev 6-96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
SITE PREP/LMITCO**

LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2407-7**
PREPARED BY: **F. P. HANSON**

PAGE # 2

DATE **30-Oct-1997**
TIME: **14:12:45**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.2	CONSTRUCTION MANAGEMENT											
	Construction Management Costs Are Included in D&D Model Costs	1	LS			0.000						
	CONSTRUCTION MANAGEMENT S/T						0					
1.3.1	GENERAL CONDITIONS											
	Characterization Equipment Setup and Takedown	3	Days		LMITCO	0.000					9,000	9,000
	Initial Site Characterization, Geophysical, Chem, Radiological, and Heavy Metals*	11	Days		LMITCO	0.000					33,000	33,000
	Radtech Support During Setup and Initial Characterization	1	FTE		Z-1342 LMITCO	130.000	130	6,422				6,422
	GENERAL CONDITIONS S/T						130	\$6,422			\$42,000	\$48,422
1.3.2	SITWORK											
	D&D Buildings - Costs From INEEL Cost Model	11	Ea		LMITCO	0.000					3,738,064	3,738,064
	D&D Condenser Pit - Costs From INEEL Cost Model	7	Ea		LMITCO	0.000					2,973,460	2,973,460

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 SITE PREP/LMITCO
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-7
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:12:45
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.2	SITWORK D&D Tank Risers - Costs From INEEL Cost Model	71	Pics		LMITCO	0.000					521,460	521,460
	SITWORK S/T						0				\$7,232,984	\$7,232,984
	PROJECT SUBTOTAL						130	\$6,422	\$0	\$0	\$7,391,464	\$7,397,886

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING
 SITE PREP/LMITCO PROJECT NO: 2407-7
 LOCATION 1: INEEL - ICPP PREPARED BY: F. P. HANSON
 REQUESTOR: B. C. SPAULDING

DATE: 30-Oct-1997
 TIME: 14:10:55

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING	80,080	0.48	0	35	0.00	0.17	0.151%	0.46%	25,221	105,301
1.1.2	TITLE III INSPECTION	36,400	0.22	0	0	0.00	0.00	0.000%	0.00%	0	36,400
1.2.1	PROJECT MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.1	GENERAL CONDITIONS	48,422	0.29	0	40	0.00	0.12	0.104%	0.32%	17,429	65,851
1.3.2	SITWORK	7,232,984	43.28	0	45	0.00	19.47	17.527%	53.38%	2,928,898	10,161,882
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.16	ELECTRICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.5.1	G&A/PIF ADDER	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	9,315,730	55.74	0	30	0.00	16.72	15.049%	45.84%	2,514,836	11,830,566
SUBTOTAL		16,713,616	100.00					32.831%			
CALCULATED CONTINGENCY		5,487,263									
RESULTANT TEC		22,200,879									
ROUNDED TEC		22,200,000									
PROJECT CONTINGENCY		5,486,384						32.83%			
MANAGEMENT RESERVE		1,645,598									
CONTINGENCY		3,840,786									
TOTAL ESTIMATED COST		22,200,000								5,486,384	22,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% -- 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% -- 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% -- 20%
- TITLE II 5% -- 15%
- TITLE III/AFC Market Conditions

CONTINGENCY ANALYSIS

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
SITE PREP/LMITCO
LOCATION 1: INEL - ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2407-7
PREPARED BY: F. P. HANSON

DATE: 28-Jan-1998
TIME: 09:32:48

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING	80,080	1.08	0	30	0.00	0.32	0.292%	0.93%	21,519	101,599
1.1.2	TITLE III INSPECTION	36,400	0.49	0	0	0.00	0.00	0.000%	0.00%	0	36,400
1.2.1	PROJECT MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.1	GENERAL CONDITIONS	48,422	0.65	0	30	0.00	0.20	0.177%	0.57%	13,012	61,434
1.3.2	SITWORK	7,232,984	97.77	0	35	0.00	34.22	30.798%	98.50%	2,267,572	9,500,556
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.16	ELECTRICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.5.1	G&A/PIF ADDER	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	11	11
SUBTOTAL		7,397,886	100.00					31.267%			
CALCULATED CONTINGENCY		2,313,085									
RESULTANT TEC		9,710,971									
ROUNDED TEC		9,700,000									
PROJECT CONTINGENCY		2,302,114						31.12%			
MANAGEMENT RESERVE		728,141									
CONTINGENCY		1,573,973									
TOTAL ESTIMATED COST		9,700,000								2,302,114	9,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING
Experimental/Special Conditions.....Up to 50%
Conceptual
Experimental/Special Conditions.....Up to 40%
TITLE I
TITLE II
TITLE III/AFC
10% -- 20%
5% -- 15%
Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 HEEL REMOVAL
 ESTIMATE NUMBER: 2407-6

PROCUREMENT FEE @ 3%

CONSTRUCTION *	\$17,190,381	x 0.03 =	\$515,711
GFE		x 0.03 =	\$0

TOTAL PROCUREMENT FEE	\$515,711
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G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

CONSTRUCTION **	\$7,500,000	x .23 =	\$1,725,000
GFE		x .23 =	\$0
PROCUREMENT FEE	\$515,711	x .23 =	\$118,614

TOTAL G&A	\$1,843,614
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PIF @ 5.5%

CONSTRUCTION	\$17,190,381	
GFE	\$0	
PROCUREMENT FEE	\$515,711	
G&A	\$1,843,614	

TOTAL PIF	\$19,549,706	x 0.055 =	\$1,075,234
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* Construction costs include equipment, material, and subcontracts only.
 Force Account rates used, and costs for calciner treatment include G&A and PIF.

** Assumes \$500,000 limit imposed each year for 15 years.

INEEL RAD Contaminated Surplus Facilities Cost Model === D&D Cost

Total Removal Clean Closure For EIS

Project No.: 2407
Prepared by: F. P. Hanson 20 Oct 97

Qty (ea.)	ID Number	Facility Description	Total Equivalent Area (Sq Ft)	Bldg Lvs	Tank Gallons	Facility Rating						D&D ROM Unit Cost	D&D ROM Total Cost	Total Volume (Cu Ft)
						ACM	HAZ	RAD	SYS	Bldg	CHRTZ			
		Listed RCRA Waste & Radiological Contamination											0	0
	See Note 1													
3	See Note 2	Buildings Located in Tank Farm CPP-618, 619, and -634	250	1		H	H	H	H	CB	H	339,824	1,019,472	6,473
3		Bldgs CPP-628, -635, and -712	250	1		H	H	H	H	CB	H	339,824	1,019,472	6,473
5		Additional Buildings Per Comments	250	1		H	H	H	H	CB	H	339,824	1,699,120	10,788
1		Condenser Pit CPP-738	250	1		H	H	H	H	C	H	424,780	424,780	2,158
6		Additional Condenser Pits Per Comments	250	1		H	H	H	H	C	H	424,780	2,548,679	12,946
71		Tank Risers	25	1		L	A	A	A	C	A	7,345	521,462	14,210
33		DVB Diversion Valve Boxes	25	1		L	H	H	A	C	A	10,645	351,293	3,206
1		Process, Service, and Utility Piping	280,000	95,000	1	L	H	H	A	Y	H	47	13,180,167	170,000
1		Concrete Encasements	2,000	6,000	1	L	A	A	L	Y	H	205	410,231	34,310
1		Ductbanks	2,850	8,550	1	L	A	A	L	Y	A	197	562,096	48,892
7		Tank Vaults CPP-780 to -786	4,825	1		L	A	A	L	C	A	730,535	5,113,746	193,138
1		Tank Vault CPP-713	17,733	1		L	A	A	L	C	A	2,119,648	2,119,648	101,404
11	See Note 3	Waste Tanks WM-180-190		1	300,000	L	H	H	H	C	H	934,267	10,276,933	3,000
310		Structural Piles	25	1		L	A	A	L	Y	A	2,885	894,459	44,317
1		Sub-surface Walls	8,770	41,400	1	L	A	A	L	Y	A	310	2,721,727	236,741
1		Parralin-based Grout Matrix	131,000	618,500	1	L	A	A	L	Y	A	310	40,661,543	3,536,816
1	See Note 4	Other Support Utilities		2,000	1	L	A	A	L	Y	A	166,547	166,547	11,437
1	See Note 5	Rubber Membrane		123,300	1	L	L	A	L	Y	A		87,500	700
1	See Note 5	Perimeter Shoring		22,500	1	L	L	A	L	Y	A		600,000	2,000
	See Note 6	Waste Disposal											85,072,075	
		Tools and Consumables	3.00%	2.95%									5,000,000	
		Average	Actual			Low	High							
		Add For Remote Operation Inefficiencies	3.50			3	4						292,919,809	
		Subtotal Tank Farm Removals		941,133	300,000								\$ 467,370,758	4,439,008

NOTES:

- 1 - Assumed that all facilities will have "High" levels of RCRA Listed constituents and "High" radiological contamination.
- 2 - Number and square footage of buildings is assumed.
- 3 - Assumes roofs have been previously removed. "High" Systems rating applied to account for internal cooling piping.
- 4 - Allowance for miscellaneous removals
- 5 - Removal is costed in estimate detail sheets.
- 6 - Costs for waste disposal included with this estimate for funding purposes.
- 7 - Assume the following Waste Disposal Unit Costs:

New Formulas

0
0

06-Aug-98

Industrial Landfill	1.08 \$/cf	Hazardous Waste Repository	200.00 \$/cf
LLW Repository and Incinerable Rad Waste	125.00 \$/cf	Mixed Waste Repository	300.00 \$/cf
LLW Waste Minimization Factor	15.00% for concrete & steel		
	85.00% for compactable & combustible		

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING**
SOIL STABILIZATION
 LOCATION 1: **INEEL - ICPP** PROJECT NO: **2407-8**
 REQUESTOR: **B. C. SPAULDING** PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:14:03**
 CHECKED BY:
 APPRD BY:

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$13,588,300
1.1.1	DESIGN ENGINEERING TITLE I & II	1,210,000	1,439,900	2,649,900
1.1.2	TITLE III INSPECTION	4,840,000	6,098,400	10,938,400
1.2	<u>MANAGEMENT COSTS</u>			>> \$24,860,000
1.2.1	PROJECT MANAGEMENT	5,500,000	6,930,000	12,430,000
1.2.2	CONSTRUCTION MANAGEMENT	5,500,000	6,930,000	12,430,000
1.3	<u>CONSTRUCTION</u>			>> \$248,017,740
1.3.1	GENERAL CONDITIONS	1,100,000	1,386,000	2,486,000
1.3.2	SITWORK	108,642,363	136,889,377	245,531,740
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	0	0	0
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0	0
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	0	0	0
1.3.16	ELECTRICAL	0	0	0
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0	0
1.5	<u>G&A/PIF</u>			>> \$16,678,233
1.5.1	G&A/PIF ADDER	7,379,749	9,298,484	16,678,233
1.5.2	PROCUREMENT FEES	3,182,529	4,009,986	\$7,192,515
SUBTOTAL INCLUDING ESCALATION		137,354,641	172,982,147	>> \$310,336,788
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$27,188,849
CONTINGENCY				>> \$73,974,363
TOTAL ESTIMATED COST				>> \$411,500,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 32.60%

COST ESTIMATE SUMMARY

Rev. 6/95
 PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
 SOIL STABILIZATION**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-8**
 PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
 TIME: **09:48:21**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$6,050,000
1.1.1	DESIGN ENGINEERING TITLE I & II	1,210,000	0	1,210,000
1.1.2	TITLE III INSPECTION	4,840,000	0	4,840,000
1.2	<u>MANAGEMENT COSTS</u>			>> \$11,000,000
1.2.1	PROJECT MANAGEMENT	5,500,000	0	5,500,000
1.2.2	CONSTRUCTION MANAGEMENT	5,500,000	0	5,500,000
1.3	<u>CONSTRUCTION</u>			>> \$109,742,363
1.3.1	GENERAL CONDITIONS	1,100,000	0	1,100,000
1.3.2	SITWORK	108,642,363	0	108,642,363
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	0	0	0
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0	0
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	0	0	0
1.3.16	ELECTRICAL	0	0	0
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0	0
1.5	<u>G&A/PIF</u>			>> \$7,379,749
1.5.1	G&A/PIF ADDER	7,379,749	0	7,379,749
1.5.2	PROCUREMENT FEES	3,182,529	0	>> \$3,182,529
	SUBTOTAL INCLUDING ESCALATION	137,354,641	0	>> \$137,354,641
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$12,030,464
	CONTINGENCY			>> \$31,864,895
	TOTAL ESTIMATED COST			>> \$181,250,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 6.00%
 CONTINGENCY= 31.96%

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 SOIL STABILIZATION
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-8
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:15:15
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
<u>1.3.2.2</u>	<u>SOIL STABILIZATION</u> Training, Decontamination, All Associated Operational Costs, O'hd, and Profit											
	SOIL STABILIZATION S/T						0			\$606,060	\$*,***,***	\$108,612,060
<u>1.5.1</u> 00701000	<u>G&A/PIF ADDER</u> G&A on Construction	1	LS			0.000					1,102,222	1,102,222
	PIF	1	LS			0.000					6,277,527	6,277,527
	G&A/PIF ADDER S/T						0				\$7,379,749	\$7,379,749
	PROJECT SUBTOTAL						0	\$0	\$0	\$606,060	\$133,535,749	\$134,141,809

Lockheed Martin Idaho Technologies Co.
PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 SOIL STABILIZATION
LOCATION: INEEL - ICPP
ESTIMATOR: F. P. HANSON
CLIENT: B. C. SPAULDING

CONTRACTOR MARKUP DISTRIBUTION REPORT

DATE: October 30, 1997
ESTTYPE: PLANNING
PROJECT NO: 2407-8

CONTRACTOR	LABOR HOURS	LABOR	MATERIAL	EQUIPMENT	OTHERS	SUBTOTAL	% MARKUP	% DIRECT COST	% TOTAL COST
PRIME CONTRACTOR		\$0	\$0	\$0	\$1,100,000	\$1,100,000		1.00%	1.00%
TOTAL FOR PRIME CONTRACTOR	0	\$0	\$0	\$0	\$1,100,000	\$1,100,000			
SUBCONTRACT - SUB OVERHEAD AND PROFIT	0.00%	\$0 \$0	\$636,363 \$0	\$0 \$0	\$108,006,000 \$0	\$108,642,363 \$0	0.00%	99.00%	99.00%
TOTAL FOR SUBCONTRACT - SUB	0	\$0	\$636,363	\$0	\$108,006,000	\$108,642,363			
TOTAL DIRECT COST	0	\$0	\$636,363	\$0	\$109,106,000	\$109,742,363		100.00%	
TOTAL SUBCONTRACTOR MARKUPS		\$0	\$0	\$0	\$0	\$0			0.00%
TOTAL COST TO PRIME		\$0	\$636,363	\$0	\$109,106,000	\$109,742,363			
PRIME CONTRACTOR MARKUP	0.00%	\$0	\$0	\$0	\$0	\$0			0.00%
TOTAL PROJECT COST		\$0	\$636,363	\$0	\$109,106,000	\$109,742,363			

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 SOIL STABILIZATION
 ESTIMATE NUMBER: 2407-8

PROCUREMENT FEE @ 3%

CONSTRUCTION	\$ 109,742,363	x 0.03 =	\$3,292,271	
GFE		x 0.03 =	\$ -	

TOTAL PROCUREMENT FEE \$3,292,271

G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

YEAR

1	CONSTRUCTION	\$ 500,000	x .23 =	\$ 115,000	
	GFE		x .23 =	\$ -	
	PROCUREMENT FEE	\$ 1,097,423	x .23 =	\$ 252,407	
2	CONSTRUCTION	\$ 500,000	x .23 =	\$ 115,000	
	GFE		x .23 =	\$ -	
	PROCUREMENT FEE	\$ 1,097,423	x .23 =	\$ 252,407	
3	CONSTRUCTION	\$ 500,000	x .23 =	\$ 115,000	
	GFE		x .23 =	\$ -	
	PROCUREMENT FEE	\$ 1,097,424	x .23 =	\$ 252,408	

TOTAL G&A \$1,102,222

PIF @ 5.5%

CONSTRUCTION	\$109,742,363	
GFE	\$0	
PROCUREMENT FEE	\$3,292,271	
G&A	\$1,102,222	

TOTAL PIF \$114,136,856 x.055 = \$6,277,527

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING
 SOIL STABILIZATION PROJECT NO: 2407-8
 LOCATION 1: INEEL - ICPP PREPARED BY: F. P. HANSON
 REQUESTOR: B. C. SPAULDING

DATE: 30-Oct-1997
 TIME: 14:13:41

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	1,210,000	0.39	0	30	0.00	0.12	0.105%	0.32%	327,301	1,537,301
1.1.2	TITLE III INSPECTION	4,840,000	1.56	0	30	0.00	0.47	0.421%	1.29%	1,309,205	6,149,205
1.2.1	PROJECT MANAGEMENT	5,500,000	1.77	0	35	0.00	0.62	0.558%	1.72%	1,735,688	7,235,688
1.2.2	CONSTRUCTION MANAGEMENT	5,500,000	1.77	0	35	0.00	0.62	0.558%	1.72%	1,735,688	7,235,688
1.3.1	GENERAL CONDITIONS	1,100,000	0.35	0	35	0.00	0.12	0.112%	0.34%	347,138	1,447,138
1.3.2	SITWORK	108,642,363	35.01	0	45	0.00	15.75	14.178%	43.57%	44,081,130	152,723,493
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.16	ELECTRICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.5.1	G&A/PIF ADDER	7,379,749	2.38	0	30	0.00	0.71	0.642%	1.97%	1,996,199	9,375,948
1.5.2	PROCUREMENT FEES	3,182,529	1.03	0	99	0.00	1.02	0.914%	2.81%	2,840,852	6,023,381
	ESCALATION	172,982,147	55.74	0	30	0.00	16.72	15.050%	46.25%	46,790,011	219,772,158
	SUBTOTAL	310,336,788	100.00					32.538%			
	CALCULATED CONTINGENCY	100,978,502									
	RESULTANT TEC	411,315,290									
	ROUNDED TEC	411,500,000									
	PROJECT CONTINGENCY	101,163,212						32.60%			
	MANAGEMENT RESERVE	27,188,849									
	CONTINGENCY	73,974,363									
	TOTAL ESTIMATED COST	411,500,000								101,163,212	411,500,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% -- 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% -- 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% -- 20% TITLE II 5% -- 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
SOIL STABILIZATION**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

CONTINGENCY ANALYSIS

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-8**
PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
TIME: **09:47:16**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	1,210,000	0.88	0	25	0.00	0.22	0.198%	0.62%	272,230	1,482,230
1.1.2	TITLE III INSPECTION	4,840,000	3.52	0	25	0.00	0.88	0.793%	2.48%	1,088,921	5,928,921
1.2.1	PROJECT MANAGEMENT	5,500,000	4.00	0	30	0.00	1.20	1.081%	3.38%	1,484,892	6,984,892
1.2.2	CONSTRUCTION MANAGEMENT	5,500,000	4.00	0	30	0.00	1.20	1.081%	3.38%	1,484,892	6,984,892
1.3.1	GENERAL CONDITIONS	1,100,000	0.80	0	30	0.00	0.24	0.216%	0.68%	296,978	1,396,978
1.3.2	SITWORK	108,642,363	79.10	0	37	0.00	29.27	26.339%	82.41%	36,175,283	144,817,646
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.16	ELECTRICAL	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.4.1	GOVERNMENT FURNISHED EQUIP.	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.5.1	G&A/PIF ADDER	7,379,749	5.37	0	25	0.00	1.34	1.209%	3.78%	1,660,323	9,040,072
1.5.2	PROCUREMENT FEES	3,182,529	2.32	0	50	0.00	1.16	1.043%	3.26%	1,432,034	4,614,563
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(194)	(194)
SUBTOTAL		137,354,641	100.00					31.960%			
CALCULATED CONTINGENCY		43,898,738									
RESULTANT TEC		181,253,379									
ROUNDED TEC		181,250,000									
PROJECT CONTINGENCY		43,895,359						31.96%			
MANAGEMENT RESERVE		12,030,464									
CONTINGENCY		31,864,895									
TOTAL ESTIMATED COST		181,250,000								43,895,359	181,250,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
 D&D ACTIVITIES**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-9**
 PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **31-Oct-1997**
 TIME: **12:19:58**
 CHECKED BY: *REA*
 APPR'D BY: *hoy*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$17,091,470</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	5,500,000	8,085,000	13,585,000
1.1.2	TITLE III INSPECTION	1,380,500	2,125,970	3,506,470
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$32,512,000</u>
1.2.1	PROJECT MANAGEMENT	9,600,000	14,784,000	24,384,000
1.2.2	CONSTRUCTION MANAGEMENT	3,200,000	4,928,000	8,128,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$1,004,564,747</u>
1.3.1	GENERAL CONDITIONS	2,676,000	4,121,040	6,797,040
1.3.2	SITework	372,066,522	572,982,444	945,048,966
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	9,815,000	15,115,100	24,930,100
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	6,474,910	9,971,361	16,446,271
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	3,412,500	5,255,250	8,667,750
1.3.16	ELECTRICAL	1,053,000	1,621,620	2,674,620
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$4,163,060</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,639,000	2,524,060	4,163,060
1.5	<u>G&A/PIF</u>			>> <u>\$4,954,755</u>
1.5.1	G&A/PIF ADDER	1,950,691	3,004,064	4,954,755
1.5.2	PROCUREMENT FEES	794,274	1,223,182	>> <u>\$2,017,456</u>
SUBTOTAL INCLUDING ESCALATION		419,562,397	645,741,091	>> <u>\$1,065,303,488</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$101,570,002</u>
CONTINGENCY				>> <u>\$256,126,510</u>
TOTAL ESTIMATED COST				>> <u>\$1,423,000,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 2.00%
 CONTINGENCY= 33.58%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 D&D ACTIVITIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2407-9
 PREPARED BY: F. P. HANSON
 REPORT NAME: Cost Estimate Summary

DATE: 28-Jan-1998
 TIME: 10:00:57
 CHECKED BY: *ROA*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$6,880,500
1.1.1	DESIGN ENGINEERING TITLE I & II	5,500,000	0	5,500,000
1.1.2	TITLE III INSPECTION	1,380,500	0	1,380,500
1.2	MANAGEMENT COSTS			>> \$12,800,000
1.2.1	PROJECT MANAGEMENT	9,600,000	0	9,600,000
1.2.2	CONSTRUCTION MANAGEMENT	3,200,000	0	3,200,000
1.3	CONSTRUCTION			>> \$395,497,932
1.3.1	GENERAL CONDITIONS	2,676,000	0	2,676,000
1.3.2	SITWORK	372,066,522	0	372,066,522
1.3.3	CONCRETE	0	0	0
1.3.4	MASONRY	0	0	0
1.3.5	METALS	0	0	0
1.3.6	WOOD & PLASTICS	0	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0	0
1.3.8	DOORS & WINDOWS	0	0	0
1.3.9	FINISHES	0	0	0
1.3.10	SPECIALTIES	0	0	0
1.3.11	EQUIPMENT	9,815,000	0	9,815,000
1.3.12	FURNISHINGS	0	0	0
1.3.13	SPECIAL CONSTRUCTION	6,474,910	0	6,474,910
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	3,412,500	0	3,412,500
1.3.16	ELECTRICAL	1,053,000	0	1,053,000
1.4	GOVERNMENT FURNISHED EQUIP.			>> \$1,639,000
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,639,000	0	1,639,000
1.5	G&A/PIF			>> \$1,950,691
1.5.1	G&A/PIF ADDER	1,950,691	0	1,950,691
1.5.2	PROCUREMENT FEES	794,274	0	>> \$794,274
SUBTOTAL INCLUDING ESCALATION		419,562,397	0	>> \$419,562,397
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$39,988,190
CONTINGENCY				>> \$97,449,413
TOTAL ESTIMATED COST				>> \$557,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 2.00%

CONTINGENCY= 32.76%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE**

D&D ACTIVITIES

LOCATION 1: **INEEL - ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2407-9**

PREPARED BY: **F. P. HANSON**

PAGE # **1**

DATE **31-Oct-1997**

TIME: **12:21:18**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	DESIGN ENGINEERING TITLE I & II											
	Title II Design at 20% of Construction and GFE (Less D&D and Characterization)	1	LS			0.000					4,200,000	4,200,000
	D&D Design at Approx 1% of D&D Less Disposal, Tools & Consum, and Eff Factor	1	LS			0.000					800,000	800,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					500,000	500,000
	DESIGN ENGINEERING TITLE I & II S/T						0				\$5,500,000	\$5,500,000
1.1.2	TITLE III INSPECTION											
	Inspection and Quality Assurance Costs Are Included In D&D Model Costs	1	LS			0.000						
	Inspection and Quality Assurance at 6% of Constr and GFE (Less D&D and Char)	1	LS			0.000					1,255,000	1,255,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					125,500	125,500
	TITLE III INSPECTION S/T						0				\$1,380,500	\$1,380,500
1.2.1	PROJECT MANAGEMENT											
	D&D Project Management Costs Are Included In D&D Model Costs	1	LS			0.000						

Rev. 6/96
 PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 D&D ACTIVITIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-9
 PREPARED BY: F. P. HANSON

DATE: 31-Oct-1997
 TIME: 12:21:18
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.1	PROJECT MANAGEMENT Construction PM at 15% of Construction, Characterization and GFE (Less D&D)	1	LS			0.000					3,200,000	3,200,000
	Additional For CERCLA/RCRA Coordination at 30% of Construction and GFE, Less D&D	1	LS			0.000					6,400,000	6,400,000
	PROJECT MANAGEMENT S/T						0				\$9,600,000	\$9,600,000
1.2.2	CONSTRUCTION MANAGEMENT											
	D&D Construction Management Costs Are Included in D&D Model Costs	1	LS			0.000						
	New Construction Construction Mgmt at 15% of Construction and GFE (Less D&D)	1	LS			0.000					3,200,000	3,200,000
	CONSTRUCTION MANAGEMENT S/T						0				\$3,200,000	\$3,200,000
1.3.1	GENERAL CONDITIONS											
	Characterization Equipment Setup, 16 Times at Two Days Ea	32	Days		LIMITCO	0.000					96,000	96,000
	Remove Characterization Equipment, 16 Times at One Day Ea	16	Days		LIMITCO	0.000					48,000	48,000
	Characterization Following Riser and Membrane Removal, One Time	9	Days		LIMITCO	0.000					27,000	27,000
	Ongoing Characterization at Three Foot Intervals, 15 times at Nine days Each	135	Days		LIMITCO	0.000					405,000	405,000

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE**

D&D ACTIVITIES

LOCATION 1: **INEEL - ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2407-9**

PREPARED BY: **F. P. HANSON**

PAGE # **3**

DATE **31-Oct-1997**

TIME **12:21:18**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS (Rad, Chemical, and Heavy Metals)	0										
	DOE/RW/0333P Qual Stds at 10% of Constr and GFE Less D&D and Characterization	1	LS			0.000					2,100,000	2,100,000
	GENERAL CONDITIONS S/T						0				\$2,676,000	\$2,676,000
1.3.2	SITWORK											
	SITWORK_S/T						0					
1.3.2.1	DEMOLITION											
	Remove and Package Rubber Membrane	123,300	SF	0.03	ZF-LB LMITCO	0.006	740	32,721	9,864	3,699		46,284
	D&D DVB Diversion Boxes	33	Ea		LMITCO	0.000					351,293	351,293
	D&D Process, Service, and Utility Piping	280,000	LF		LMITCO	0.000					*,**,*	13,179,600
	D&D Concrete Encasements	2,000	LF		LMITCO	0.000					410,240	410,240
	D&D Ductbanks	2,850	LF		LMITCO	0.000					562,106	562,106
	D&D Tank Vaults CPP-780 to -786	7	Ea		LMITCO	0.000					5,113,745	5,113,745
	D&D Tank Vault CPP-713	1	Ea		LMITCO	0.000					2,119,648	2,119,648
	D&D Waste Tanks WM-180 to -190	11	Ea		LMITCO	0.000					*,**,*	10,276,937
	D&D Structural Pillings	310	Ea		LMITCO	0.000					894,459	894,459
	D&D Paraffin-based Grout Matrix	131,000	CY		LMITCO	0.000					*,**,*	40,661,090
	D&D Miscellaneous Support Facilities	1	LS		LMITCO	0.000					166,547	166,547

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 D&D ACTIVITIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-9
 PREPARED BY: F. P. HANSON

PAGE # 7

DATE 31-Oct-1997
 TIME: 12:21:18
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	<u>GOVERNMENT FURNISHED EQUIP.</u> Contamination Control Unit, Allowance	1	Ea			0.000					75,000	75,000
	<u>GOVERNMENT FURNISHED EQUIP. S/T</u>						0				\$155,000	\$155,000
1.4.1.1	<u>GOVT FURNISHED MATERIAL</u> Dust Suppressant Material, Costed at \$84/SY, 13,000 SY Per Application	140	Applicns			0.000					1,484,000	1,484,000
	Note: Assume One Mile of Access Road Treated Once Each Month for 10 Years,	0										
	and 1/2 of Exposed Weather Enclosure Floor Treated Twice a Year	0										
	<u>GOVT FURNISHED MATERIAL S/T</u>						0				\$1,484,000	\$1,484,000
1.5.1 00701000	<u>G&A/PIF ADDER</u> G&A	1	LOT			0.000					646,491	646,491
	PIF	1	LOT			0.000					1,304,200	1,304,200
	<u>G&A/PIF ADDER S/T</u>						0				\$1,950,691	\$1,950,691
	PROJECT SUBTOTAL						4.740	\$239,801	\$167,364	\$3,699	\$413,567,364	\$413,978,228

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
D&D ACTIVITIES**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-9**
PREPARED BY: **F. P. HANSON**

DATE: **31-Oct-1997**
TIME: **12:19:31**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	5,500,000	0.52	0	35	0.00	0.18	0.163%	0.48%	1,731,827	7,231,827
1.1.2	TITLE III INSPECTION	1,380,500	0.13	0	35	0.00	0.05	0.041%	0.12%	434,689	1,815,189
1.2.1	PROJECT MANAGEMENT	9,600,000	0.90	0	35	0.00	0.32	0.284%	0.85%	3,022,826	12,622,826
1.2.2	CONSTRUCTION MANAGEMENT	3,200,000	0.30	0	35	0.00	0.11	0.095%	0.28%	1,007,609	4,207,609
1.3.1	GENERAL CONDITIONS	2,676,000	0.25	0	40	0.00	0.10	0.090%	0.27%	962,986	3,638,986
1.3.2	SITWORK	372,066,522	34.93	0	50	0.00	17.46	15.717%	46.79%	167,364,930	539,431,452
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	9,815,000	0.92	0	45	0.00	0.41	0.373%	1.11%	3,973,532	13,788,532
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	6,474,910	0.61	0	40	0.00	0.24	0.219%	0.65%	2,330,063	8,804,973
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	3,412,500	0.32	0	40	0.00	0.13	0.115%	0.34%	1,228,023	4,640,523
1.3.16	ELECTRICAL	1,053,000	0.10	0	40	0.00	0.04	0.036%	0.11%	378,933	1,431,933
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,639,000	0.15	0	30	0.00	0.05	0.042%	0.12%	442,358	2,081,358
1.5.1	G&A/PIF ADDER	1,950,691	0.18	0	30	0.00	0.05	0.049%	0.15%	526,482	2,477,173
1.5.2	PROCUREMENT FEES	794,274	0.07	50	10	0.04	0.01	0.003%	0.01%	31,759	826,033
	ESCALATION	645,741,091	60.62	0	30	0.00	18.18	16.366%	48.72%	174,260,495	820,001,586
	SUBTOTAL	1,065,303,488	100.00					33.592%			
	CALCULATED CONTINGENCY	357,857,357									
	RESULTANT TEC	1,423,160,845									
	ROUNDED TEC	1,423,000,000									
	PROJECT CONTINGENCY	357,696,512						33.58%			
	MANAGEMENT RESERVE	101,570,002									
	CONTINGENCY	256,126,510									
	TOTAL ESTIMATED COST	1,423,000,000								357,696,512	1,423,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% -- 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% -- 20%
TITLE II 5% -- 15%
TITLE III/AFC Market Conditions

Rev. 6/96
 PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 D&D ACTIVITIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2407-9
 PREPARED BY: F. P. HANSON

DATE: 28-Jan-1998
 TIME: 10:00:36

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	5,500,000	1.31	0	30	0.00	0.39	0.354%	1.08%	1,480,587	6,980,587
1.1.2	TITLE III INSPECTION	1,380,500	0.33	0	30	0.00	0.10	0.089%	0.27%	371,627	1,752,127
1.2.1	PROJECT MANAGEMENT	9,600,000	2.29	0	30	0.00	0.69	0.618%	1.88%	2,584,298	12,184,298
1.2.2	CONSTRUCTION MANAGEMENT	3,200,000	0.76	0	30	0.00	0.23	0.206%	0.63%	861,433	4,061,433
1.3.1	GENERAL CONDITIONS	2,676,000	0.64	0	35	0.00	0.22	0.201%	0.61%	840,435	3,516,435
1.3.2	SITWORK	372,066,522	88.68	0	37	0.00	32.81	29.530%	89.88%	123,529,980	495,596,502
1.3.3	CONCRETE	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.6	WOOD & PLASTICS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.7	THERMAL & MOISTURE PROTECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.8	DOORS & WINDOWS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.9	FINISHES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.10	SPECIALTIES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.11	EQUIPMENT	9,815,000	2.34	0	40	0.00	0.94	0.842%	2.56%	3,522,900	13,337,900
1.3.12	FURNISHINGS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.13	SPECIAL CONSTRUCTION	6,474,910	1.54	0	35	0.00	0.54	0.486%	1.48%	2,033,536	8,508,446
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	3,412,500	0.81	0	35	0.00	0.28	0.256%	0.78%	1,071,743	4,484,243
1.3.16	ELECTRICAL	1,053,000	0.25	0	35	0.00	0.09	0.079%	0.24%	330,709	1,383,709
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,639,000	0.39	0	25	0.00	0.10	0.088%	0.27%	367,679	2,006,679
1.5.1	G&A/PIF ADDER	1,950,691	0.46	0	25	0.00	0.12	0.105%	0.32%	437,601	2,388,292
1.5.2	PROCUREMENT FEES	794,274	0.19	40	5	0.08	0.01	0.001%	0.00%	3,960	798,234
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	1,115	1,115
SUBTOTAL		419,562,397	100.00					32.855%			
CALCULATED CONTINGENCY		137,846,108									
RESULTANT TEC		557,408,505									
ROUNDED TEC		557,000,000									
PROJECT CONTINGENCY		137,437,603						32.76%			
MANAGEMENT RESERVE		39,988,190									
CONTINGENCY		97,449,413									
TOTAL ESTIMATED COST		557,000,000								137,437,603	557,000,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.
PROJECT: TOTAL REMOVAL CLEAN CLOSURE
D&D ACTIVITIES
LOCATION: INEEL - ICPP
ESTIMATOR: F. P. HANSON
CLIENT: B. C. SPAULDING

CONTRACTOR MARKUP DISTRIBUTION REPORT

DATE: October 31, 1997
ESTTYPE: PLANNING

CONTRACTOR	LABOR HOURS	LABOR	MATERIAL	EQUIPMENT	OTHERS	SUBTOTAL	% MARKUP	% DIRECT COST	% TOTAL COST
PRIME CONTRACTOR		\$0	\$0	\$0	\$2,100,000	\$2,100,000		0.54%	0.53%
TOTAL FOR PRIME CONTRACTOR	0	\$0	\$0	\$0	\$2,100,000	\$2,100,000			
LMITCO - LMITCO	%	\$239,801	\$3,884	\$167,364	\$372,231,473	\$372,642,522		95.38%	94.22%
		\$0	\$0	\$0	\$0	\$0	0.00%		
TOTAL FOR LMITCO - LMITCO	4,740	\$239,801	\$3,884	\$167,364	\$372,231,473	\$372,642,522			
SUBCONTRACT - SUB OVERHEAD AND PROFIT	30.00%	\$0	\$0	\$0	\$15,965,700	\$15,965,700		4.09%	4.04%
		\$0	\$0	\$0	\$4,789,710	\$4,789,710	30.00%		
TOTAL FOR SUBCONTRACT - SUB	0	\$0	\$0	\$0	\$20,755,410	\$20,755,410	30.00%		
TOTAL DIRECT COST	4,740	\$239,801	\$3,884	\$167,364	\$390,297,173	\$390,708,222		100.00%	
TOTAL SUBCONTRACTOR MARKUPS		\$0	\$0	\$0	\$4,789,710	\$4,789,710			1.21%
TOTAL COST TO PRIME		\$239,801	\$3,884	\$167,364	\$395,086,883	\$395,497,932			
PRIME CONTRACTOR MARKUP	0.00%	\$0	\$0	\$0	\$0	\$0			0.00%
TOTAL PROJECT COST		\$239,801	\$3,884	\$167,364	\$395,086,883	\$395,497,932			

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 D&D ACTIVITIES
 ESTIMATE NUMBER: 2407-9

PROCUREMENT FEE @ 3%

CONSTRUCTION *	\$ 20,755,410	x 0.03 =	\$ 622,662
GFE	\$155,000	x 0.03 =	\$ 4,650
GFM **	\$1,484,000	x 0.03 =	\$ 44,520

TOTAL PROCUREMENT FEE \$ 671,832

G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

CONSTRUCTION	\$ 500,000	x .23 =	\$ 115,000
GFE	\$155,000	x .23 =	\$ 35,650
GFM **	\$1,484,000	x .23 =	\$ 341,320
PROCUREMENT FEE	\$ 671,832	x .23 =	\$ 154,521

TOTAL G&A \$ 646,491

PIF @ 5.5%

CONSTRUCTION	\$20,755,410
GFE	\$155,000
GFM	\$1,484,000
PROCUREMENT FEE	\$671,832
G&A	\$646,491

TOTAL PIF \$23,712,734 x.055 = \$1,304,200

* Constr incl subcontract costs only. Characterization and demolition is by LMITCO and includes G&A and PIF.

** Assumes \$74,200 GF dust suppressant material each year for 20 years.

INEEL RAD Contaminated Surplus Facilities Cost Model === D&D Cost

Total Removal Clean Closure For EIS

Project No.: 2407

Prepared by: F. P. Hanson 20 Oct 97

Qty (ea.)	ID Number	Facility Description	Total Equivalent Area (Sq Ft)	Bldg Lvs	Tank Gallons	Facility Rating						D&D ROM Unit Cost	D&D ROM Total Cost	Total Volume (Cu Ft)	
						ACM	HAZ	RAD	SYS	Bldg	CHRTZ				
Listed RCRA Waste & Radiological Contamination													0	0	
	See Note 1														
3	See Note 2	Buildings Located in Tank Farm CPP-618, 619, and -634		250	1		H	H	H	H	CB	H	339,824	1,019,472	6,473
3		Bldgs CPP-628, -635, and -712		250	1		H	H	H	H	CB	H	339,824	1,019,472	6,473
5		Additional Buildings Per Comments		250	1		H	H	H	H	CB	H	339,824	1,699,120	10,788
1		Condenser Pit CPP-738		250	1		H	H	H	H	C	H	424,780	424,780	2,158
6		Additional Condenser Pits Per Comments		250	1		H	H	H	H	C	H	424,780	2,548,679	12,946
71		Tank Risers		25	1		L	A	A	A	C	A	7,345	521,462	14,210
33		DVB Diversion Valve Boxes		25	1		L	H	H	A	C	A	10,645	351,293	3,206
1		Process, Service, and Utility Piping	280,000	95,000	1		L	H	H	A	Y	H	47	13,160,167	170,000
1		Concrete Encasements	2,000	6,000	1		L	A	A	L	Y	H	205	410,231	34,310
1		Ducbanks	2,850	8,550	1		L	A	A	L	Y	A	197	562,098	48,892
7		Tank Vaults CPP-780 to -788		4,825	1		L	A	A	L	C	A	730,535	5,113,748	193,138
1		Tank Vault CPP-713		17,733	1		L	A	A	L	C	A	2,119,648	2,119,648	101,404
11	See Note 3	Waste Tanks WM-180-190			1	300,000	L	H	H	H	C	H	834,267	10,278,933	3,000
310		Structural Piles		25	1		L	A	A	L	Y	A	2,885	894,459	44,317
1		Sub-surface Walls	8,770	41,400	1		L	A	A	L	Y	A	310	2,721,727	236,741
1		Paraffin-based Grout Matrix	131,000	618,500	1		L	A	A	L	Y	A	310	40,661,543	3,536,816
1	See Note 4	Other Support Utilities		2,000	1		L	A	A	L	Y	A	168,547	168,547	11,437
1	See Note 5	Rubber Membrane		123,300	1		L	L	A	L	Y	A		87,500	700
1	See Note 5	Perimeter Shoring		22,500	1		L	L	A	L	Y	A		800,000	2,000
	See Note 6	Waste Disposal												85,072,075	
		Tools and Consumables	3.00%	2.95%										5,000,000	
		Average		Actual			Low	High							
		Add For Remote Operation Inefficiencies	3.50				3	4						292,919,809	
		Subtotal Tank Farm Removals		941,133		300,000								\$ 467,370,758	4,439,008

NOTES:

- 1 - Assumed that all facilities will have "High" levels of RCRA Listed constituents and "High" radiological contamination.
- 2 - Number and square footage of buildings is assumed.
- 3 - Assumes heels have been previously removed. "High" Systems rating applied to account for internal cooling piping.
- 4 - Allowance for miscellaneous removals
- 5 - Removal is costed in estimate detail sheets.
- 6 - Costs for waste disposal included with this estimate for funding purposes.
- 7 - Assume the following Waste Disposal Unit Costs:

Industrial Landfill	1.08 \$/cf	Hazardous Waste Repository	200.00 \$/cf
LLW Repository and Incinerable Rad Waste	125.00 \$/cf	Mixed Waste Repository	300.00 \$/cf
LLW Waste Minimization Factor	15.00% for concrete & steel		
	85.00% for compactable & combustible		

How Formulas

	0
	0

08-Aug 98

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
WASTE DISPOSAL**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

COST ESTIMATE SUMMARY

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-10**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **31-Oct-1997**
TIME: **09:06:59**
CHECKED BY: _____
APPR'D BY: _____

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$0
1.1.2	TITLE III INSPECTION	0	0	0
1.2	<u>MANAGEMENT COSTS</u>			>> \$0
1.2.1	PROJECT MANAGEMENT	0	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0	0
1.3	<u>WASTE DISPOSAL</u>			>> \$216,083,071
1.3.1	WASTE DISPOSAL	85,072,075	131,010,996	216,083,071
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$4,953,000
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,950,000	3,003,000	4,953,000
1.5	<u>G&A/PIF</u>			>> \$624,810
1.5.1	G&A/PIF ADDER	245,988	378,822	624,810
1.5.2	PROCUREMENT FEES	87,022	134,014	>> \$221,036
	SUBTOTAL INCLUDING ESCALATION	87,355,085	134,526,832	>> \$221,881,917
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$22,188,192
	CONTINGENCY			>> \$45,329,891
	TOTAL ESTIMATED COST			>> \$289,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **0.00%**

CONTINGENCY= **30.43%**

Lockheed Martin Idaho Technologies Co.**COST ESTIMATE SUMMARY**

Rev. 6/96
 PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
 WASTE DISPOSAL**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-10**
 PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
 TIME: **10:12:09**
 CHECKED BY: **RJA**
 APPRD BY: **[Signature]**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$0
1.1.2	TITLE III INSPECTION	0	0	0
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> \$0
1.2.1	PROJECT MANAGEMENT	0	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0	0
<u>1.3</u>	<u>WASTE DISPOSAL</u>			>> \$85,072,075
1.3.1	WASTE DISPOSAL	85,072,075	0	85,072,075
<u>1.4</u>	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$1,950,000
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,950,000	0	1,950,000
<u>1.5</u>	<u>G&A/PIF</u>			>> \$245,988
1.5.1	G&A/PIF ADDER	245,988	0	245,988
1.5.2	PROCUREMENT FEES	87,022	0	>> \$87,022
	SUBTOTAL INCLUDING ESCALATION	87,355,085	0	>> \$87,355,085
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$8,735,509
	CONTINGENCY			>> \$16,909,406
	TOTAL ESTIMATED COST			>> \$113,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 0.00%

CONTINGENCY= 29.36%

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 WASTE DISPOSAL
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-10
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:19:08
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	WASTE DISPOSAL Sampling, Packaging, On-Site Transportation, and All Related Documentation and											
	Operational Costs, and Supporting Organization Costs											
	WASTE DISPOSAL S/T						0				\$*,***,***	\$85,072,075
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	Additional Transport Casks, Allowance	5	Ea			0.000					1,750,000	1,750,000
	Additional Transport and Trailer, Allowance	1	Ea			0.000					200,000	200,000
	GOVERNMENT FURNISHED EQUIP. S/T						0				\$1,950,000	\$1,950,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					128,455	128,455
	PIF	1	LOT			0.000					117,533	117,533
	G&A/PIF ADDER S/T						0				\$245,988	\$245,988
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$87,268,063	\$87,268,063

INEEL RAD Contaminated Surplus Facilities Cost Model === D&D Cost

Total Removal Clean Closure For EIS

Project No.: 2407

Prepared by: F. P. Hanson 20 Oct 97

Qty (ea.)	ID Number	Facility Description	Total Equivalent Area (Sq Ft)	Bldg Lvl	Tank Gallons	Facility Rating						D&D ROM Unit Cost	D&D ROM Total Cost	Total Volume (Cu Ft)	
						ACM	HAZ	RAD	SYS	Bldg	CHRTZ				
Listed RCRA Waste & Radiological Contamination															
	See Note 1													0	
	See Note 2	Buildings Located in Tank Farm CPP-618, -619, and -634	250	1		H	H	H	H	CB	H	339,824	1,019,472	6,473	
3		Bldgs CPP-628, -635, and -712	250	1		H	H	H	H	CB	H	339,824	1,019,472	6,473	
5		Additional Buildings Per Comments	250	1		H	H	H	H	CB	H	339,824	1,699,120	10,788	
1		Condenser Pit CPP-738	250	1		H	H	H	H	C	H	424,780	424,780	2,158	
6		Additional Condenser Pits Per Comments	250	1		H	H	H	H	C	H	424,780	2,548,679	12,946	
71		Tank Risers	25	1		L	A	A	A	C	A	7,345	521,462	14,210	
33		DVB Diversion Valve Boxes	25	1		L	H	H	A	C	A	10,645	351,293	3,206	
1		Process, Service, and Utility Piping	280,000	95,000	1	L	H	H	A	Y	H	47	13,180,187	170,000	
1		Concrete Encasements	2,000	8,000	1	L	A	A	A	L	Y	205	410,231	34,310	
1		Ductbanks	2,850	8,550	1	L	A	A	A	L	Y	197	562,096	48,892	
7		Tank Vaults CPP-780 to -786	4,825	1		L	A	A	A	L	C	A	730,535	5,113,746	193,138
1		Tank Vault CPP-713	17,733	1		L	A	A	A	L	C	A	2,119,648	2,119,648	101,404
11	See Note 3	Waste Tanks WM-180-180		1	300,000	L	H	H	H	C	H	934,267	10,278,933	3,000	
310		Structural Piles		25	1	L	A	A	A	L	Y	A	2,885	894,459	44,317
1		Sub-surface Walls	8,770	41,400	1	L	A	A	A	L	Y	A	310	2,721,727	236,741
1		Parralin-based Grout Matrix	131,000	618,500	1	L	A	A	A	L	Y	A	310	40,661,543	3,538,818
1	See Note 4	Other Support Utilities		2,000	1	L	A	A	A	L	Y	A	166,547	166,547	11,437
1	See Note 5	Rubber Membrane		123,300	1	L	L	A	A	L	Y	A		87,500	700
1	See Note 5	Perimeter Shoring		22,500	1	L	L	A	A	L	Y	A		600,000	2,000
	See Note 6	Waste Disposal												85,072,075	
		Tools and Consumables	3.00%	2.95%										5,000,000	
		Average		Actual		Low	High								
		Add For Remote Operation Inefficiencies	3.5D			3	4							292,919,809	
		Subtotal Tank Farm Removals		941,133										\$ 467,370,758	4,439,008

NOTES:

- 1 - Assumed that all facilities will have "High" levels of RCRA Listed constituents and "High" radiological contamination.
- 2 - Number and square footage of buildings is assumed.
- 3 - Assumes heels have been previously removed. "High" Systems rating applied to account for internal cooling piping.
- 4 - Allowance for miscellaneous removals
- 5 - Removal is costed in estimate detail sheets.
- 6 - Costs for waste disposal included with this estimate for funding purposes.
- 7 - Assume the following Waste Disposal Unit Costs:

Industrial Landfill	1.08 \$/cf	Hazardous Waste Repository	200.00 \$/cf
LLW Repository and Incinerable Rad Waste	125.00 \$/cf	Mixed Waste Repository	300.00 \$/cf
LLW Waste Minimization Factor	15.00% for concrete & steel		
	85.00% for compactable & combustible		

New Formulas

0
0

06-Aug-98

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 WASTE DISPOSAL
 ESTIMATE NUMBER: 2407-10

PROCUREMENT FEE @ 3%

CONSTRUCTION *		x 0.03 =	\$	-
GFE	\$1,950,000	x 0.03 =	\$	58,500

TOTAL PROCUREMENT FEE \$ 58,500

G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

YEAR

1	CONSTRUCTION		x .23 =	\$	-
	GFE	\$500,000	x .23 =	\$	115,000
	PROCUREMENT FEE	\$58,500	x .23 =	\$	13,455
2	CONSTRUCTION		x .23 =	\$	-
	GFE		x .23 =	\$	-
	PROCUREMENT FEE		x .23 =	\$	-
3	CONSTRUCTION		x .23 =	\$	-
	GFE		x .23 =	\$	-
	PROCUREMENT FEE		x .23 =	\$	-

TOTAL G&A \$ 128,455

PIF @ 5.5%

CONSTRUCTION	\$0
GFE	\$1,950,000
PROCUREMENT FEE	\$58,500
G&A	\$128,455

TOTAL PIF \$2,136,955 x.055 = \$117,533

Waste disposal costs are in D&D Model and include G&A and PIF.

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
WASTE DISPOSAL**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-10**
PREPARED BY: **F. P. HANSON**

DATE: **31-Oct-1997**
TIME: **09:06:38**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.1	PROJECT MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.1	WASTE DISPOSAL	85,072,075	38.34	0	40	0.00	15.34	13.803%	45.34%	30,610,593	115,682,668
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,950,000	0.88	0	30	0.00	0.26	0.237%	0.78%	526,236	2,476,236
1.5.1	G&A/PIF ADDER	245,988	0.11	0	35	0.00	0.04	0.035%	0.11%	77,447	323,435
1.5.2	PROCUREMENT FEES	87,022	0.04	50	5	0.02	0.00	0.000%	0.00%	(435)	86,587
	ESCALATION	134,526,832	60.63	0	30	0.00	18.19	16.370%	53.77%	36,304,242	170,831,074
SUBTOTAL		221,881,917	100.00					30.445%			
CALCULATED CONTINGENCY		67,551,743									
RESULTANT TEC		289,433,660									
ROUNDED TEC		289,400,000									
PROJECT CONTINGENCY		67,518,083						30.43%			
MANAGEMENT RESERVE		22,188,192									
CONTINGENCY		45,329,891									
TOTAL ESTIMATED COST		289,400,000								67,518,083	289,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% -- 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% -- 20%
 TITLE II 5% -- 15%
 TITLE II/AFC Market Conditions

CONTINGENCY ANALYSIS

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE

TYPE OF ESTIMATE: PLANNING

DATE: 28-Jan-1998

WASTE DISPOSAL

PROJECT NO: 2407-10

TIME: 10:11:47

LOCATION 1: INEEL - ICPP

PREPARED BY: F. P. HANSON

REQUESTOR: B. C. SPAULDING

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.1	PROJECT MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.2.2	CONSTRUCTION MANAGEMENT	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.1	WASTE DISPOSAL	85,072,075	97.39	0	33	0.00	32.14	28.924%	98.05%	25,144,010	110,216,085
1.4.1	GOVERNMENT FURNISHED EQUIP.	1,950,000	2.23	0	25	0.00	0.56	0.502%	1.70%	436,625	2,386,625
1.5.1	G&A/PIF ADDER	245,988	0.28	0	30	0.00	0.08	0.076%	0.26%	66,095	312,083
1.5.2	PROCUREMENT FEES	87,022	0.10	50	5	0.05	0.00	0.000%	0.00%	(433)	86,589
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(1,382)	(1,382)
SUBTOTAL		87,355,085	100.00					29.502%			
CALCULATED CONTINGENCY		25,771,138									
RESULTANT TEC		113,126,223									
ROUNDED TEC		113,000,000									
PROJECT CONTINGENCY		25,644,915						29.36%			
MANAGEMENT RESERVE		8,735,509									
CONTINGENCY		16,909,406									
TOTAL ESTIMATED COST		113,000,000								25,644,915	113,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE POST EXCAVATION ACTIVITIES** TYPE OF ESTIMATE: **PLANNING**
 LOCATION 1: **INEEL - ICPP** PROJECT NO: **2407-11**
 REQUESTOR: **B. C. SPAULDING** PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:20:05**
 CHECKED BY: ROA
 APPRD BY: bol

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$14,363,250</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	6,956,400	10,696,400
1.1.2	TITLE III INSPECTION	1,243,000	2,423,850	3,666,850
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$20,481,378</u>
1.2.1	PROJECT MANAGEMENT	3,542,840	6,908,538	10,451,378
1.2.2	CONSTRUCTION MANAGEMENT	3,400,000	6,630,000	10,030,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$66,793,416</u>
1.3.1	GENERAL CONDITIONS	167,887	327,379	495,266
1.3.2	SITWORK	18,053,949	35,205,201	53,259,150
1.3.16	ELECTRICAL	4,420,000	8,619,000	13,039,000
1.5	<u>G&A/PIF</u>			>> <u>\$2,923,238</u>
1.5.1	G&A/PIF ADDER	990,928	1,932,310	2,923,238
1.5.2	PROCUREMENT FEES	566,046	1,103,789	<u>\$1,669,835</u>
SUBTOTAL INCLUDING ESCALATION		36,124,650	70,106,467	>> <u>\$106,231,117</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$7,138,649</u>
CONTINGENCY				>> <u>\$24,630,234</u>
TOTAL ESTIMATED COST				>> <u>\$138,000,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **22.00%**

CONTINGENCY= **29.91%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
POST EXCAVATION ACTIVITIES**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-11**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
TIME: **10:17:16**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$4,983,000</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	0	3,740,000
1.1.2	TITLE III INSPECTION	1,243,000	0	1,243,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$6,942,840</u>
1.2.1	PROJECT MANAGEMENT	3,542,840	0	3,542,840
1.2.2	CONSTRUCTION MANAGEMENT	3,400,000	0	3,400,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$22,641,836</u>
1.3.1	GENERAL CONDITIONS	167,887	0	167,887
1.3.2	SITWORK	18,053,949	0	18,053,949
1.3.16	ELECTRICAL	4,420,000	0	4,420,000
1.5	<u>G&A/PIF</u>			>> <u>\$990,928</u>
1.5.1	G&A/PIF ADDER	990,928	0	990,928
1.5.2	PROCUREMENT FEES	566,046	0	>> <u>\$566,046</u>
	SUBTOTAL INCLUDING ESCALATION	36,124,650	0	>> \$36,124,650
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$2,419,881
	CONTINGENCY			>> \$7,955,469
	TOTAL ESTIMATED COST			>> \$46,500,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **22.00%**

CONTINGENCY= **28.72%**

Lockheed Martin Idaho Technologies Co.

Rev 6-96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
POST EXCAVATION ACTIVITIES**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2407-11**
PREPARED BY: **F. P. HANSON**

PAGE # 1

DATE: **30-Oct-1997**
TIME: **14:20:21**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	DESIGN ENGINEERING TITLE I & II											
	Title II Design at 15% of Construction and Demolition	1	LS			0.000					3,400,000	3,400,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					340,000	340,000
	DESIGN ENGINEERING TITLE I & II S/T						0				\$3,740,000	\$3,740,000
1.1.2	TITLE III INSPECTION											
	Inspection and Quality Assurance at 5% of Construction and Demolition	1	LS			0.000					1,130,000	1,130,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					113,000	113,000
	TITLE III INSPECTION S/T						0				\$1,243,000	\$1,243,000
1.2.1	PROJECT MANAGEMENT											
	PROJECT MANAGEMENT											
	Project Management and Support at 15% of Construction and Demolition	1	LS			0.000					3,400,000	3,400,000
	DOCUMENTATION											
	Cleanup Verification:											
	Laboratory Soil Samples	22	Ea			0.000					7,040	7,040

Rev 6-98
 PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 POST EXCAVATION ACTIVITIES
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2407-11
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:20:21
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.1	PROJECT MANAGEMENT											
	Review of Sampling Results	1	LS			0.000					2,400	2,400
	Risk Assessment:											
	In-House Certification	1	LS			0.000					19,200	19,200
	Certification By Independent Engineer	1	LS			0.000					19,200	19,200
	Risk Assessment - Chemicals of Concern	1	LS			0.000					50,000	50,000
	Risk Assessment - Cleanup Levels	1	LS			0.000					15,000	15,000
	Risk Assessment - Ecological Field Survey	1	LS			0.000					15,000	15,000
	Risk Assessment - Ecological Cleanup Levels	1	LS			0.000					15,000	15,000
	PROJECT MANAGEMENT S/T						0				\$3,542,840	\$3,542,840
1.2.2	CONSTRUCTION MANAGEMENT											
	Construction Management and Support at 15% of Construction and Demolition	1	LS			0.000					3,400,000	3,400,000
	CONSTRUCTION MANAGEMENT S/T						0				\$3,400,000	\$3,400,000
1.3.1	GENERAL CONDITIONS											
	Full-time Non-working Supervision	6	Mos		SUPT	173.330	1,040	41,599				41,599
	Mobilization and Demobilization	1	LS		SUB	0.000					10,000	10,000
	Training, 30 Persons at 64 Hours Each	30	Pers		SKWK	64.000	1,920	63,571				63,571
					SUB							

DETAILED COST ESTIMATE SHEET

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
POST EXCAVATION ACTIVITIES**

TYPE OF ESTIMATE: **PLANNING**

DATE **30-Oct-1997**

LOCATION 1: **INEEL - ICPP**

PROJECT NO.: **2407-11**

TIME: **14:20:21**

REQUESTOR: **B. C. SPAULDING**

PREPARED BY: **F. P. HANSON**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
	Construction Surveys	1	LS		SKWK SUB	120.000	120	3,973				3,973
	Construction Aids, Barricades, and Safety Devices, Allowance	1	LS		SUB	0.000					5,000	5,000
	Punchlist, Project Closeout, Allowance	1	LS		SUB	0.000					5,000	5,000
	GENERAL CONDITIONS S/T						3,080	\$109,144			\$20,000	\$129,144
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	DEMOLITION											
	Decon and Remove Gantry Cranes, Rails, and Associated Equipment	2	LS		ZF-OE LMITCO	2300.00	4,600	238,142				238,142
	Decon and Remove Secondary Containment "Sprung" Structure	52,900	SF		ZF-OE LMITCO	0.410	21,689	1,122,840				1,122,840
	Decon and Remove Primary Containment "Sprung" Structure	40,000	SF		ZF-OE LMITCO	0.410	16,400	849,028				849,028
	Decon and Remove Weather Enclosure and Equipment	125,000	SF		ZF-OE LMITCO	0.928	116,000	6,005,320				6,005,320
	D&D Sub-Surface Walls	8,770	CY		LMITCO	0.000					2,721,770	2,721,770
	Note: See "Waste Disposal" Estimate for Disposal Costs											
	DEMOLITION S/T						158,689	\$8,215,330			\$2,721,770	\$10,937,099

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
POST EXCAVATION ACTIVITIES**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO.: **2407-11**
 PREPARED BY: **F. P. HANSON**

DATE: **30-Oct-1997**
 TIME: **14:20:21**
 REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.2.2	EARTHWORK Extract, Decon, and Salvage TFA Perimeter Shoring	90,000	SF		SUB	0.000					900,000	900,000
	Note: Assume 25% to be Decontaminated and Disposed of as Mixed Waste.											
	See "Waste Disposal" Estimate for Waste Disposal Costs											
	Construct Access Ramp	10,000	CY		SUB	0.000					150,000	150,000
	Import and Place Backfill	263,000	CY		SUB	0.000					3,945,000	3,945,000
	Final Surface Treatment, Allowance	13,700	SY		SUB	0.000					479,500	479,500
	EARTHWORK S/T						0				\$5,474,500	\$5,474,500
1.3.16	ELECTRICAL											
	Repair Cathodic Protection System, Design and Build Subcontract, Allowance	1	LS		SUB	0.000					3,400,000	3,400,000
	ELECTRICAL S/T						0				\$3,400,000	\$3,400,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					310,763	310,763
	PIF	1	LOT			0.000					680,165	680,165
	G&A/PIF ADDER S/T						0				\$990,928	\$990,928

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 POST EXCAVATION ACTIVITIES
 LOCATION #: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-11
 PREPARED BY: F. P. HANSON

DATE 30-Oct-1997
 TIME: 14:20:21
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						161.769	\$8,324,473	\$0	\$0	\$24,533,038	\$32,857,511

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING**
POST EXCAVATION ACTIVITIES PROJECT NO: **2407-11**
 LOCATION 1: **INEL - ICPP** PREPARED BY: **F. P. HANSON**
 REQUESTOR: **B. C. SPAULDING**

DATE: **30-Oct-1997**
 TIME: **14:25:56**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	3.52	0	30	0.00	1.06	0.951%	3.19%	1,012,252	4,752,252
1.1.2	TITLE III INSPECTION	1,243,000	1.17	0	30	0.00	0.35	0.316%	1.06%	336,425	1,579,425
1.2.1	PROJECT MANAGEMENT	3,542,840	3.34	0	35	0.00	1.17	1.051%	3.52%	1,118,704	4,661,544
1.2.2	CONSTRUCTION MANAGEMENT	3,400,000	3.20	0	30	0.00	0.96	0.864%	2.90%	920,229	4,320,229
1.3.1	GENERAL CONDITIONS	167,887	0.16	0	40	0.00	0.06	0.057%	0.19%	60,586	228,473
1.3.2	SITWORK	18,053,949	16.99	0	45	0.00	7.65	6.883%	23.07%	7,329,604	25,383,553
1.3.16	ELECTRICAL	4,420,000	4.16	0	40	0.00	1.66	1.498%	5.02%	1,595,064	6,015,064
1.5.1	G&A/PIF ADDER	990,928	0.93	0	30	0.00	0.28	0.252%	0.84%	268,200	1,259,128
1.5.2	PROCUREMENT FEES	566,046	0.53	0	30	0.00	0.16	0.144%	0.48%	153,204	719,250
	ESCALATION	70,106,467	65.99	0	30	0.00	19.80	17.818%	59.73%	18,974,615	89,081,082
	SUBTOTAL	106,231,117	100.00					29.833%			
	CALCULATED CONTINGENCY	31,692,022									
	RESULTANT TEC	137,923,139									
	ROUNDED TEC	138,000,000									
	PROJECT CONTINGENCY	31,768,883						29.91%			
	MANAGEMENT RESERVE	7,138,649									
	CONTINGENCY	24,630,234									
	TOTAL ESTIMATED COST	138,000,000								31,768,883	138,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% -- 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% -- 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% -- 20%
TITLE II	5% -- 15%
TITLE III/AFC	Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 POST EXCAVATION ACTIVITIES
 ESTIMATE NUMBER: 2407-11

PROCUREMENT FEE @ 3%

CONSTRUCTION *	\$ 11,704,737	x 0.03 =	\$ 351,142	
GFE		x 0.03 =	\$ -	

TOTAL PROCUREMENT FEE \$ 351,142

G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

YEAR

1	CONSTRUCTION	\$ 500,000	x .23 =	\$ 115,000	
	GFE		x .23 =	\$ -	
	PROCUREMENT FEE	175,571	x .23 =	\$ 40,381	
2	CONSTRUCTION	\$ 500,000	x .23 =	\$ 115,000	
	GFE		x .23 =	\$ -	
	PROCUREMENT FEE	175,571	x .23 =	\$ 40,381	
3	CONSTRUCTION		x .23 =	\$ -	
	GFE		x .23 =	\$ -	
	PROCUREMENT FEE		x .23 =	\$ -	

TOTAL G&A \$ 310,763

PIF @ 5.5%

CONSTRUCTION	\$11,704,737	
GFE	\$0	
PROCUREMENT FEE	\$351,142	
G&A	\$310,763	

TOTAL PIF \$12,366,642 x.055 = \$680,165

* Construction includes subcontract costs only. Demolition is by LMITCO and includes G&A and PIF.

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
POST EXCAVATION ACTIVITIES**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-11**
PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
TIME: **10:16:59**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	3,740,000	10.35	0	25	0.00	2.59	2.329%	8.15%	845,651	4,585,651
1.1.2	TITLE III INSPECTION	1,243,000	3.44	0	25	0.00	0.86	0.774%	2.71%	281,054	1,524,054
1.2.1	PROJECT MANAGEMENT	3,542,840	9.81	0	30	0.00	2.94	2.648%	9.27%	961,285	4,504,125
1.2.2	CONSTRUCTION MANAGEMENT	3,400,000	9.41	0	25	0.00	2.35	2.118%	7.41%	768,773	4,168,773
1.3.1	GENERAL CONDITIONS	167,887	0.46	0	35	0.00	0.16	0.146%	0.51%	53,145	221,032
1.3.2	SITWORK	18,053,949	49.98	0	35	0.00	17.49	15.743%	55.08%	5,715,045	23,768,994
1.3.16	ELECTRICAL	4,420,000	12.24	0	35	0.00	4.28	3.854%	13.49%	1,399,167	5,819,167
1.5.1	G&A/PIF ADDER	990,928	2.74	0	25	0.00	0.69	0.617%	2.16%	224,059	1,214,987
1.5.2	PROCUREMENT FEES	566,046	1.57	0	25	0.00	0.39	0.353%	1.23%	127,989	694,035
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(818)	(818)
SUBTOTAL		36,124,650	100.00					28.582%			
CALCULATED CONTINGENCY		10,325,239									
RESULTANT TEC		46,449,889									
ROUNDED TEC		46,500,000									
PROJECT CONTINGENCY		10,375,350						28.72%			
MANAGEMENT RESERVE		2,419,881									
CONTINGENCY		7,955,469									
TOTAL ESTIMATED COST		46,500,000								10,375,350	46,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6-96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE FOR DEBRIS CLEANING FACILITY**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-12**
 PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **30-Oct-1997**
 TIME: **14:21:20**
 CHECKED BY: ROA
 APPRD BY: [Signature]

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$26,209,700</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	9,130,000	10,864,700	19,994,700
1.1.2	TITLE III INSPECTION	2,750,000	3,465,000	6,215,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$41,795,084</u>
1.2.1	PROJECT MANAGEMENT	12,243,400	15,426,684	27,670,084
1.2.2	CONSTRUCTION MANAGEMENT	6,250,000	7,875,000	14,125,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$70,032,654</u>
1.3.1	GENERAL CONDITIONS	4,659,000	5,870,340	10,529,340
1.3.2	SITWORK	854,100	1,076,166	1,930,266
1.3.3	CONCRETE	2,600,000	3,276,000	5,876,000
1.3.4	MASONRY	0	0	0
1.3.5	METALS	1,517,100	1,911,546	3,428,646
1.3.6	WOOD & PLASTICS	53,300	67,158	120,458
1.3.7	THERMAL & MOISTURE PROTECTION	1,136,200	1,431,612	2,567,812
1.3.8	DOORS & WINDOWS	349,700	440,622	790,322
1.3.9	FINISHES	495,300	624,078	1,119,378
1.3.10	SPECIALTIES	211,900	266,994	478,894
1.3.11	EQUIPMENT	2,470,000	3,112,200	5,582,200
1.3.12	FURNISHINGS	7,800	9,828	17,628
1.3.13	SPECIAL CONSTRUCTION	58,500	73,710	132,210
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	11,050,000	13,923,000	24,973,000
1.3.16	ELECTRICAL	5,525,000	6,961,500	12,486,500
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$24,182,000</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	10,700,000	13,482,000	24,182,000
1.5	<u>G&A/PIF</u>			>> <u>\$6,845,680</u>
1.5.1	G&A/PIF ADDER	3,029,062	3,816,618	6,845,680
1.5.2	PROCUREMENT FEES	1,250,637	1,575,803	\$2,826,440
SUBTOTAL INCLUDING ESCALATION		76,340,999	95,550,559	>> \$171,891,558
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$10,388,677
CONTINGENCY				>> \$42,219,765
TOTAL ESTIMATED COST				>> \$224,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **28.00%**
 CONTINGENCY= **30.61%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE FOR DEBRIS CLEANING FACILITY**
 LOCATION 1: **INEEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-12**
 PREPARED BY: **F. P. HANSON**
 REPORT NAME: **Cost Estimate Summary**

DATE: **28-Jan-1998**
 TIME: **10:23:14**
 CHECKED BY: *LOH*
 APPRD BY: _____

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$11,880,000</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	9,130,000	0	9,130,000
1.1.2	TITLE III INSPECTION	2,750,000	0	2,750,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$18,493,400</u>
1.2.1	PROJECT MANAGEMENT	12,243,400	0	12,243,400
1.2.2	CONSTRUCTION MANAGEMENT	6,250,000	0	6,250,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$30,987,900</u>
1.3.1	GENERAL CONDITIONS	4,659,000	0	4,659,000
1.3.2	SITWORK	854,100	0	854,100
1.3.3	CONCRETE	2,600,000	0	2,600,000
1.3.4	MASONRY	0	0	0
1.3.5	METALS	1,517,100	0	1,517,100
1.3.6	WOOD & PLASTICS	53,300	0	53,300
1.3.7	THERMAL & MOISTURE PROTECTION	1,136,200	0	1,136,200
1.3.8	DOORS & WINDOWS	349,700	0	349,700
1.3.9	FINISHES	495,300	0	495,300
1.3.10	SPECIALTIES	211,900	0	211,900
1.3.11	EQUIPMENT	2,470,000	0	2,470,000
1.3.12	FURNISHINGS	7,800	0	7,800
1.3.13	SPECIAL CONSTRUCTION	58,500	0	58,500
1.3.14	CONVEYING SYSTEMS	0	0	0
1.3.15	MECHANICAL	11,050,000	0	11,050,000
1.3.16	ELECTRICAL	5,525,000	0	5,525,000
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$10,700,000</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	10,700,000	0	10,700,000
1.5	<u>G&A/PIF</u>			>> <u>\$3,029,062</u>
1.5.1	G&A/PIF ADDER	3,029,062	0	3,029,062
1.5.2	PROCUREMENT FEES	1,250,637	0	>> <u>\$1,250,637</u>
	SUBTOTAL INCLUDING ESCALATION	76,340,999	0	>> \$76,340,999
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$4,596,760
	CONTINGENCY			>> \$18,762,241
	TOTAL ESTIMATED COST			>> \$99,700,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **28.00%**

CONTINGENCY= **30.60%**

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE FOR
DEBRIS CLEANING FACILITY**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2407-12**
PREPARED BY: **F. P. HANSON**

DATE **30-Oct-1997**
TIME: **14:22:05**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	DESIGN ENGINEERING TITLE I & II											
	Title II Design at 20% of Construction and GFE	1	LS			0.000					8,300,000	8,300,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					830,000	830,000
	DESIGN ENGINEERING TITLE I & II S/T						0				\$9,130,000	\$9,130,000
1.1.2	TITLE III INSPECTION											
	Inspection and Quality Assurance at 6% of Construction and GFE	1	LS			0.000					2,500,000	2,500,000
	Add 10% For DOE/RW/0333P Quality Standards	1	LS			0.000					250,000	250,000
	TITLE III INSPECTION S/T						0				\$2,750,000	\$2,750,000
1.2.1	PROJECT MANAGEMENT											
	PROJECT MANAGEMENT											
	Project Management and Support at 15% of Construction and GFE	1	LS			0.000					6,250,000	6,250,000
	PERMITTING AND DOCUMENTATION											
	Air Emissions Plan	1	LS			0.000					60,000	60,000
	Environmental Monitoring Plan	1	LS			0.000					46,000	46,000

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE FOR DEBRIS CLEANING FACILITY

LOCATION 1: INEEL - ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2407-12

PREPARED BY: F. P. HANSON

DATE 30-Oct-1997

TIME: 14:22:05

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.1	PROJECT MANAGEMENT											
	Storm Water Management Plan	1	LS			0.000					16,000	16,000
	Waste Management/Minimization Plan	1	LS			0.000					34,000	34,000
	Waste Management/Minimization Oversight	1	LS			0.000					158,000	158,000
	RA Workplan	1	LS			0.000					162,000	162,000
	RD Workplan	1	LS			0.000					59,500	59,500
	Pre-Final Inspection Checklist	1	LS			0.000					30,000	30,000
	O&M Plan	1	LS			0.000					126,000	126,000
	Pre-Final Inspection Report	1	LS			0.000					9,000	9,000
	RA Report	1	LS			0.000					180,000	180,000
	O&M Report	1	LS			0.000					60,000	60,000
	Preliminary Hazards Assessment (PHA) & Auditable Safety Analysis (ASA)	1	LS			0.000					49,000	49,000
	Safety Analysis Report (PSAR and FSAR)	1	LS			0.000					599,000	599,000
	Technical Safety Requirements (TSR)	1	LS			0.000					97,500	97,500
	Unresolved Safety Questions (USQ)	1	LS			0.000					76,000	76,000
	Fire Hazards Analysis	1	LS			0.000					80,500	80,500
	Emergency Preparedness Hazards Assessment	1	LS			0.000					78,000	78,000
	Nuclear Criticality Safety Program	1	LS			0.000					70,000	70,000
	Radiation Protection Program	1	LS			0.000					611,000	611,000

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE FOR
 DEBRIS CLEANING FACILITY
 LOCATION 1: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-12
 PREPARED BY: F. P. HANSON

DATE: 30-Oct-1997
 TIME: 14:22:05
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15	MECHANICAL Mechanical Systems	1	LS			0.000					8,500,000	8,500,000
					SUB							
	MECHANICAL S/T						0				\$8,500,000	\$8,500,000
1.3.16	ELECTRICAL Electrical and Life Safety Systems	1	LS			0.000					4,250,000	4,250,000
					SUB							
	ELECTRICAL S/T						0				\$4,250,000	\$4,250,000
1.4.1	GOVERNMENT FURNISHED EQUIP. Specialized Process Equipment	1	LS			0.000					*,***,***	10,700,000
					LIMITCO							
	GOVERNMENT FURNISHED EQUIP. S/T						0				\$*,***,***	\$10,700,000
1.5.1	G&A/PIF ADDER G&A on Construction, Year One, \$500,000 Limit Imposed	1	LS			0.000					410,773	410,773
	G&A on Construction, Year Two, \$500,000 Limit Imposed	1	LS			0.000					221,874	221,874
	PIF	1	LS			0.000					2,396,415	2,396,415
	G&A/PIF ADDER S/T						0				\$3,029,062	\$3,029,062

DETAILED COST ESTIMATE SHEET

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE FOR

DEBRIS CLEANING FACILITY

TYPE OF ESTIMATE: PLANNING

DATE 30-Oct-1997

LOCATION 1: INEEL - ICPP

PROJECT NO.: 2407-12

TIME: 14:22:05

REQUESTOR: B. C. SPAULDING

PREPARED BY: F. P. HANSON

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$68,585,462	\$68,585,462

Lockheed Martin Idaho Technologies Co.

CONTRACTOR MARKUP DISTRIBUTION REPORT

PROJECT: TOTAL REMOVAL CLEAN CLOSURE FOR
DEBRIS CLEANING FACILITY
LOCATION: INEEL - ICPP
ESTIMATOR: F. P. HANSON
CLIENT: B. C. SPAULDING

DATE: October 30, 1997
ESTTYPE: PLANNING
PROJECT NO: 2407-12

CONTRACTOR	LABOR HOURS	LABOR	MATERIAL	EQUIPMENT	OTHERS	SUBTOTAL	% MARKUP	% DIRECT COST	% TOTAL COST
PRIME CONTRACTOR		\$0	\$0	\$0	\$2,800,000	\$2,800,000		11.44%	9.04%
TOTAL FOR PRIME CONTRACTOR	0	\$0	\$0	\$0	\$2,800,000	\$2,800,000			
COMPLETE CONSTR CONTRACT - SUB OVERHEAD AND PROFIT	30.00%	\$0 \$0	\$0 \$0	\$0 \$0	\$21,683,000 \$6,504,900	\$21,683,000 \$6,504,900	30.00%	88.56%	69.97%
TOTAL FOR COMPLETE CONSTR CONTRACT - SUB	0	\$0	\$0	\$0	\$28,187,900	\$28,187,900	30.00%		
TOTAL DIRECT COST	0	\$0	\$0	\$0	\$24,483,000	\$24,483,000		100.00%	
TOTAL SUBCONTRACTOR MARKUPS		\$0	\$0	\$0	\$6,504,900	\$6,504,900			20.99%
TOTAL COST TO PRIME		\$0	\$0	\$0	\$30,987,900	\$30,987,900			
PRIME CONTRACTOR MARKUP	0.00%	\$0	\$0	\$0	\$0	\$0			0.00%
TOTAL PROJECT COST		\$0	\$0	\$0	\$30,987,900	\$30,987,900			

CONTINGENCY ANALYSIS

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE TYPE OF ESTIMATE: PLANNING
 FOR DEBRIS CLEANING FACILITY PROJECT NO: 2407-12
 LOCATION 1: INEEL - ICPP PREPARED BY: F. P. HANSON
 REQUESTOR: B. C. SPAULDING

DATE: 30-Oct-1997
 TIME: 14:21:03

REPORT NAME: Contingency Analysis

WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. - From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	9,130,000	5.31	0	35	0.00	1.86	1.673%	5.47%	2,877,699	12,007,699
1.1.2	TITLE III INSPECTION	2,750,000	1.60	0	35	0.00	0.56	0.504%	1.65%	866,777	3,616,777
1.2.1	PROJECT MANAGEMENT	12,243,400	7.12	0	35	0.00	2.49	2.244%	7.34%	3,859,016	16,102,416
1.2.2	CONSTRUCTION MANAGEMENT	6,250,000	3.64	0	35	0.00	1.27	1.145%	3.74%	1,969,947	8,219,947
1.3.1	GENERAL CONDITIONS	4,659,000	2.71	0	35	0.00	0.95	0.854%	2.79%	1,468,477	6,127,477
1.3.2	SITWORK	854,100	0.50	0	40	0.00	0.20	0.179%	0.58%	307,663	1,161,763
1.3.3	CONCRETE	2,600,000	1.51	0	40	0.00	0.61	0.545%	1.78%	936,569	3,536,569
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	1,517,100	0.88	0	35	0.00	0.31	0.278%	0.91%	478,177	1,995,277
1.3.6	WOOD & PLASTICS	53,300	0.03	0	35	0.00	0.01	0.010%	0.03%	16,800	70,100
1.3.7	THERMAL & MOISTURE PROTECTION	1,136,200	0.66	0	35	0.00	0.23	0.208%	0.68%	358,121	1,494,321
1.3.8	DOORS & WINDOWS	349,700	0.20	0	35	0.00	0.07	0.064%	0.21%	110,222	459,922
1.3.9	FINISHES	495,300	0.29	0	35	0.00	0.10	0.091%	0.30%	156,114	651,414
1.3.10	SPECIALTIES	211,900	0.12	0	40	0.00	0.05	0.044%	0.15%	76,330	288,230
1.3.11	EQUIPMENT	2,470,000	1.44	0	40	0.00	0.57	0.517%	1.69%	889,741	3,359,741
1.3.12	FURNISHINGS	7,800	0.00	0	35	0.00	0.00	0.001%	0.00%	2,458	10,258
1.3.13	SPECIAL CONSTRUCTION	58,500	0.03	0	35	0.00	0.01	0.011%	0.04%	18,439	76,939
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	11,050,000	6.43	0	45	0.00	2.89	2.604%	8.51%	4,477,971	15,527,971
1.3.16	ELECTRICAL	5,525,000	3.21	0	45	0.00	1.45	1.302%	4.26%	2,238,986	7,763,986
1.4.1	GOVERNMENT FURNISHED EQUIP.	10,700,000	6.22	0	45	0.00	2.80	2.521%	8.24%	4,336,135	15,036,135
1.5.1	G&A/PIF ADDER	3,029,062	1.76	0	35	0.00	0.62	0.555%	1.81%	954,735	3,983,797
1.5.2	PROCUREMENT FEES	1,250,637	0.73	0	35	0.00	0.25	0.229%	0.75%	394,190	1,644,827
	ESCALATION	95,550,559	55.59	0	30	0.00	16.68	15.009%	49.07%	25,813,875	121,364,434
SUBTOTAL		171,891,558	100.00					30.587%			
CALCULATED CONTINGENCY		52,576,936									
RESULTANT TEC		224,468,494									
ROUNDED TEC		224,500,000									
PROJECT CONTINGENCY		52,608,442						30.61%			
MANAGEMENT RESERVE		10,388,677									
CONTINGENCY		42,219,765									
TOTAL ESTIMATED COST		224,500,000								52,608,442	224,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:
 The Lockheed Martin Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE
 Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% -- 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% -- 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% -- 20%
- TITLE II 5% -- 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE FOR DEBRIS CLEANING FACILITY**
 LOCATION 1: **INEL - ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2407-12**
 PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
 TIME: **10:22:54**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	9,130,000	11.96	0	30	0.00	3.59	3.229%	10.56%	2,466,812	11,596,812
1.1.2	TITLE III INSPECTION	2,750,000	3.60	0	30	0.00	1.08	0.973%	3.18%	743,016	3,493,016
1.2.1	PROJECT MANAGEMENT	12,243,400	16.04	0	30	0.00	4.81	4.330%	14.16%	3,308,014	15,551,414
1.2.2	CONSTRUCTION MANAGEMENT	6,250,000	8.19	0	30	0.00	2.46	2.210%	7.23%	1,688,672	7,938,672
1.3.1	GENERAL CONDITIONS	4,659,000	6.10	0	30	0.00	1.83	1.648%	5.39%	1,258,804	5,917,804
1.3.2	SITWORK	854,100	1.12	0	35	0.00	0.39	0.352%	1.15%	269,228	1,123,328
1.3.3	CONCRETE	2,600,000	3.41	0	35	0.00	1.19	1.073%	3.51%	819,569	3,419,569
1.3.4	MASONRY	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.5	METALS	1,517,100	1.99	0	30	0.00	0.60	0.537%	1.75%	409,902	1,927,002
1.3.6	WOOD & PLASTICS	53,300	0.07	0	30	0.00	0.02	0.019%	0.06%	14,401	67,701
1.3.7	THERMAL & MOISTURE PROTECTION	1,136,200	1.49	0	30	0.00	0.45	0.402%	1.31%	306,987	1,443,187
1.3.8	DOORS & WINDOWS	349,700	0.46	0	30	0.00	0.14	0.124%	0.40%	94,485	444,185
1.3.9	FINISHES	495,300	0.65	0	30	0.00	0.19	0.175%	0.57%	133,824	629,124
1.3.10	SPECIALTIES	211,900	0.28	0	35	0.00	0.10	0.087%	0.29%	66,795	278,695
1.3.11	EQUIPMENT	2,470,000	3.24	0	35	0.00	1.13	1.019%	3.33%	778,590	3,248,590
1.3.12	FURNISHINGS	7,800	0.01	0	30	0.00	0.00	0.003%	0.01%	2,107	9,907
1.3.13	SPECIAL CONSTRUCTION	58,500	0.08	0	30	0.00	0.02	0.021%	0.07%	15,806	74,306
1.3.14	CONVEYING SYSTEMS	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
1.3.15	MECHANICAL	11,050,000	14.47	0	40	0.00	5.79	5.211%	17.04%	3,980,763	15,030,763
1.3.16	ELECTRICAL	5,525,000	7.24	0	40	0.00	2.89	2.605%	8.52%	1,990,382	7,515,382
1.4.1	GOVERNMENT FURNISHED EQUIP.	10,700,000	14.02	0	40	0.00	5.61	5.046%	16.50%	3,854,676	14,554,676
1.5.1	G&A/PIF ADDER	3,029,062	3.97	0	30	0.00	1.19	1.071%	3.50%	818,415	3,847,477
1.5.2	PROCUREMENT FEES	1,250,637	1.64	0	30	0.00	0.49	0.442%	1.45%	337,907	1,588,544
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	(154)	(154)
SUBTOTAL		76,340,999	100.00					30.577%			
CALCULATED CONTINGENCY		23,342,940									
RESULTANT TEC		99,683,939									
ROUNDED TEC		99,700,000									
PROJECT CONTINGENCY		23,359,001						30.60%			
MANAGEMENT RESERVE		4,596,760									
CONTINGENCY		18,762,241									
TOTAL ESTIMATED COST		99,700,000								23,359,001	99,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

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CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 DEBRIS CLEANING FACILITY
 ESTIMATE NUMBER: 2407-12

<u>PROCUREMENT FEE @ 3%</u>			
	CONSTRUCTION	\$30,987,900 x 0.03 =	\$929,637
	GFE	\$10,700,000 x 0.03 =	\$321,000
<hr/>			
TOTAL PROCUREMENT FEE			\$1,250,637

<u>G&A @ 23%</u>		<u>YEAR</u>			
Note: Ceiling of \$500,000 Imposed		1	CONSTRUCTION	\$500,000 x .23 =	\$115,000
			GFE	\$500,000 x .23 =	\$115,000
			PROCUREMENT FEE	\$785,969 x .23 =	\$180,773
		2	CONSTRUCTION	\$500,000 x .23 =	\$115,000
			GFE	x .23 =	\$0
			PROCUREMENT FEE	\$464,668 x .23 =	\$106,874
		3	CONSTRUCTION	x .23 =	\$0
			GFE	x .23 =	\$0
			PROCUREMENT FEE	x .23 =	\$0

TOTAL G&A \$632,647

<u>PIF @ 5.5%</u>			
	CONSTRUCTION	\$30,987,900	
	GFE	\$10,700,000	
	PROCUREMENT FEE	\$1,250,637	
	G&A	\$632,647	

TOTAL PIF \$43,571,184 x 0.055 = \$2,396,415

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

COST ESTIMATE SUMMARY

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-13**
PREPARED BY: **F. P. HANSON**
REPORT NAME: **Cost Estimate Summary**

DATE: **04-Nov-1997**
TIME: **09:48:45**
CHECKED BY: *[Signature]*
APPR'D BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$4,571,886</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	2,145,000	1,351,350	3,496,350
1.1.2	TITLE III INSPECTION	640,200	435,336	1,075,536
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$16,101,540</u>
1.2.1	PROJECT MANAGEMENT	8,129,250	5,527,890	13,657,140
1.2.2	CONSTRUCTION MANAGEMENT	1,455,000	989,400	2,444,400
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$16,242,463</u>
1.3.1	GENERAL CONDITIONS	1,333,800	906,984	2,240,784
1.3.2	SITWORK	8,334,333	5,667,346	14,001,679
<u>1.4</u>	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$57,120</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	34,000	23,120	57,120
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$1,259,711</u>
1.5.1	G&A/PIF ADDER	749,828	509,883	1,259,711
1.5.2	PROCUREMENT FEES	291,064	197,924	>> <u>\$488,988</u>
	SUBTOTAL INCLUDING ESCALATION	23,112,475	15,609,233	>> \$38,721,708
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,804,828
	CONTINGENCY			>> \$10,473,464
	TOTAL ESTIMATED COST			>> \$51,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **28.00%**

CONTINGENCY= **31.71%**

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE
LOCATION 1: INEEL - ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2407-13
PREPARED BY: F. P. HANSON
REPORT NAME: Cost Estimate Summary

DATE: 28-Jan-1998
TIME: 10:28:12
CHECKED BY: *ROM*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$2,785,200</u>
1.1.1	DESIGN ENGINEERING TITLE I & II	2,145,000	0	2,145,000
1.1.2	TITLE III INSPECTION	640,200	0	640,200
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$9,584,250</u>
1.2.1	PROJECT MANAGEMENT	8,129,250	0	8,129,250
1.2.2	CONSTRUCTION MANAGEMENT	1,455,000	0	1,455,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$9,668,133</u>
1.3.1	GENERAL CONDITIONS	1,333,800	0	1,333,800
1.3.2	SITWORK	8,334,333	0	8,334,333
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$34,000</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	34,000	0	34,000
1.5	<u>G&A/PIF</u>			>> <u>\$749,828</u>
1.5.1	G&A/PIF ADDER	749,828	0	749,828
1.5.2	PROCUREMENT FEES	291,064	0	>> <u>\$291,064</u>
	SUBTOTAL INCLUDING ESCALATION	23,112,475	0	>> \$23,112,475
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,074,302
	CONTINGENCY			>> \$5,913,223
	TOTAL ESTIMATED COST			>> \$30,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 29.00%

CONTINGENCY= 30.23%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
- PROJECT NO.: **2407-13**
PREPARED BY: **F. P. HANSON**

PAGE # 1

DATE **03-Nov-1997**
TIME: **09:14:17**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	DESIGN ENGINEERING TITLE I & II											
	Title II Design at 20% of Construction and GFE	1	LS			0.000					1,950,000	1,950,000
	Add 10% for DOE/RW/0333P Quality Standards	1	LS			0.000					195,000	195,000
	DESIGN ENGINEERING TITLE I & II S/T						0				\$2,145,000	\$2,145,000
1.1.2	TITLE III INSPECTION											
	Inspection and Quality Assurance at 6% of Construction and GFE	1	LS			0.000					582,000	582,000
	Add 10% for DOE/RW/0333P Quality Standards	1	LS			0.000					58,200	58,200
	TITLE III INSPECTION S/T						0				\$640,200	\$640,200
1.2.1	PROJECT MANAGEMENT											
	PROJECT MANAGEMENT	0										
	Project Management and Support at 15% of Construction and GFE	1	LS			0.000					1,455,000	1,455,000
		0										
	DOCUMENTATION	0										
	RA Documentation:	0										
	RD/RA SOW	1	LS			0.000					30,000	30,000

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2407-13

PREPARED BY: F. P. HANSON

DATE 03-Nov-1997

TIME: 09:14:17

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY.	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.1	PROJECT MANAGEMENT											
	RA Workplan	1	LS			0.000					34,500	34,500
	Packaging, Shipping, Transportation Documentation	1	LS			0.000					39,000	39,000
	Remedial Action Report	1	LS			0.000					30,000	30,000
	WAG-Wide RA Each Five Year Review	23	Ea			0.000					3,243,000	3,243,000
	RD Documentation:	0										
	Safety Analysis Documentation	1	LS			0.000					50,250	50,250
	Pre-Final Inspection Report	1	LS			0.000					7,500	7,500
	Added Institutional Controls - Five Year Review Over 100 Years	20	Ea			0.000					1,640,000	1,640,000
	Treatability Studies	1	LS			0.000					1,600,000	1,600,000
	PROJECT MANAGEMENT S/T						0				\$8,129,250	\$8,129,250
1.2.2	CONSTRUCTION MANAGEMENT											
	Construction Management and Support at 15% of Construction and GFE	1	LS			0.000					1,455,000	1,455,000
	CONSTRUCTION MANAGEMENT S/T						0				\$1,455,000	\$1,455,000
1.3.1	GENERAL CONDITIONS											
	Subcontractor Management and Other Genl Conditions at 6% of Construction Directs"	1	LS		SUB	0.000					385,000	385,000

DETAILED COST ESTIMATE SHEET

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2407-13**
PREPARED BY: **F. P. HANSON**

DATE: **03-Nov-1997**
TIME: **09:14:17**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS Add for DOE/RW/0333P Quality Standards at 10% of Construction Directs	1	LS		SUB	0.000					641,000	641,000
	GENERAL CONDITIONS S/T						0				\$1,026,000	\$1,026,000
1.3.2	SITWORK											
	CONSTRUCT REPOSITORY	0										
	Clear and Grub Repository Site, Size Assumed	10	Acres		SUB	0.000					10,400	10,400
	Excavate and Dispose of Soil	142,000	CY		SUB	0.000					994,000	994,000
	Cut and Compact Pit Slopes	26,500	CY		SUB	0.000					278,250	278,250
	Import and Place Clay Soil Liner and Bentonite, Compact and Scarify	30,500	CY		SUB	0.000					1,012,600	1,012,600
	Graded Filter Sand	3,250	CY		SUB	0.000					89,375	89,375
	HDPE Liner at Bottom, on Slopes, and Over Graded Sand	270,000	SF		SUB	0.000					270,000	270,000
	Geonet Fabric on Side Walls	51,000	SF		SUB	0.000					31,620	31,620
	Off-Loading/Dumping Stations	1	LS		SUB	0.000					20,000	20,000
	Ramp and Ramp Liner	1	LS		SUB	0.000					18,000	18,000
	Gatehouse	1	LS		SUB	0.000					5,000	5,000
	Decon Station	1	LS		SUB	0.000					7,000	7,000
	Equipment Storage	1	LS		SUB	0.000					12,000	12,000
	Fuelling and Maintenance Facility	1	LS		SUB	0.000					20,000	20,000

Lockheed Martin Idaho Technologies Co.
 Rev. 6/96
 PROJECT NAME: TOTAL REMOVAL CLEAN CLOSURE
 LOCATION #: INEEL - ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2407-13
 PREPARED BY: F. P. HANSON

DATE: 03-Nov-1997
 TIME: 09:14:17
 REPORT NAME: Detail Cost Estimate Sheet

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MATL	S/C (OTHER 1)	TOTAL COST
1.3.2	SITEWORK	0									
		0									
	SITEWORK S/T					0				\$6,411,025	\$6,411,025
1.4.1	GOVERNMENT FURNISHED EQUIP.										
	Air and Personnel Monitoring Stations	1	LS			0.000				34,000	34,000
	GOVERNMENT FURNISHED EQUIP. S/T					0				\$34,000	\$34,000
1.5.1	G&A/PIF ADDER	1	LOT			0.000				189,765	189,765
	G&A	1	LOT			0.000				189,765	189,765
	PIF	1	LOT			0.000				560,063	560,063
	G&A/PIF ADDER S/T					0				\$749,828	\$749,828
	PROJECT SUBTOTAL					0			\$0	\$20,590,303	\$20,590,303

Lockheed Martin Idaho Technologies Co.
PROJECT: TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE
LOCATION: INEEL - ICPP
ESTIMATOR: F. P. HANSON
CLIENT: B. C. SPAULDING

CONTRACTOR MARKUP DISTRIBUTION REPORT

DATE: November 3, 1997
ESTTYPE: PLANNING

CONTRACTOR	LABOR HOURS	LABOR	MATERIAL	EQUIPMENT	OTHERS	SUBTOTAL	% MARKUP	% DIRECT COST	% TOTAL COST
PRIME CONTRACTOR		\$0	\$0	\$0	\$0	\$0		0.00%	0.00%
TOTAL FOR PRIME CONTRACTOR	0	\$0	\$0	\$0	\$0	\$0	***.***%		
COMPLETE CONSTR CONTRACT - SUB OVERHEAD AND PROFIT	30.00%	\$0	\$0	\$0	\$7,437,025	\$7,437,025		100.00%	76.92%
		\$0	\$0	\$0	\$2,231,108	\$2,231,108	30.00%		
TOTAL FOR COMPLETE CONSTR CONTRACT - SUB	0	\$0	\$0	\$0	\$9,668,133	\$9,668,133	30.00%		
TOTAL DIRECT COST	0	\$0	\$0	\$0	\$7,437,025	\$7,437,025		100.00%	
TOTAL SUBCONTRACTOR MARKUPS		\$0	\$0	\$0	\$2,231,108	\$2,231,108			23.08%
TOTAL COST TO PRIME		\$0	\$0	\$0	\$9,668,133	\$9,668,133			
PRIME CONTRACTOR MARKUP	***.***%	\$0	\$0	\$0	\$0	\$0			0.00%
TOTAL PROJECT COST		\$0	\$0	\$0	\$9,668,133	\$9,668,133			

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

CONTINGENCY ANALYSIS

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-13**
PREPARED BY: **F. P. HANSON**

DATE: **03-Nov-1997**
TIME: **09:17:11**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	2,145,000	5.54	0	35	0.00	1.94	1.745%	5.52%	677,578	2,822,578
1.1.2	TITLE III INSPECTION	640,200	1.65	0	35	0.00	0.58	0.521%	1.65%	202,231	842,431
1.2.1	PROJECT MANAGEMENT	8,129,250	20.99	0	35	0.00	7.35	6.613%	20.91%	2,567,927	10,697,177
1.2.2	CONSTRUCTION MANAGEMENT	1,455,000	3.76	0	35	0.00	1.32	1.184%	3.74%	459,616	1,914,616
1.3.1	GENERAL CONDITIONS	1,333,800	3.44	0	35	0.00	1.21	1.085%	3.43%	421,330	1,755,130
1.3.2	SITWORK	8,334,333	21.52	0	45	0.00	9.69	8.717%	27.57%	3,384,913	11,719,246
1.4.1	GOVERNMENT FURNISHED EQUIP.	34,000	0.09	0	30	0.00	0.03	0.024%	0.07%	9,206	43,206
1.5.1	G&A/PIF ADDER	749,828	1.94	0	35	0.00	0.68	0.610%	1.93%	236,861	986,689
1.5.2	PROCUREMENT FEES	291,064	0.75	0	35	0.00	0.26	0.237%	0.75%	91,943	383,007
	ESCALATION	15,609,233	40.31	0	30	0.00	12.09	10.884%	34.42%	4,226,687	19,835,920
SUBTOTAL		38,721,708	100.00					31.619%			
CALCULATED CONTINGENCY		12,243,483									
RESULTANT TEC		50,965,191									
ROUNDED TEC		51,000,000									
PROJECT CONTINGENCY		12,278,292						31.71%			
MANAGEMENT RESERVE		1,804,828									
CONTINGENCY		10,473,464									
TOTAL ESTIMATED COST		51,000,000								12,278,292	51,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% -- 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% -- 20%
TITLE II 5% -- 15%
TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROJECT: TOTAL REMOVAL CLEAN CLOSURE
 LLW DISPOSAL SITE
 ESTIMATE NUMBER: 2407-13

PROCUREMENT FEE @ 3%

CONSTRUCTION	\$9,668,133	x 0.03 =	\$290,044
GFE	\$34,000	x 0.03 =	\$1,020

TOTAL PROCUREMENT FEE \$291,064

G&A @ 23%

Note: Ceiling of \$500,000
 Imposed

	YEAR			
	1	CONSTRUCTION	\$500,000	x .23 =
		GFE	\$34,000	x .23 =
		PROCUREMENT FEE	\$291,064	x .23 =
	2	CONSTRUCTION		x .23 =
		GFE		x .23 =
		PROCUREMENT FEE		x .23 =
	3	CONSTRUCTION		x .23 =
		GFE		x .23 =
		PROCUREMENT FEE		x .23 =

TOTAL G&A \$189,765

PIF @ 5.5%

CONSTRUCTION	\$9,668,133
GFE	\$34,000
PROCUREMENT FEE	\$291,064
G&A	\$189,765

TOTAL PIF \$10,182,962 x.055 = \$560,063

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **TOTAL REMOVAL CLEAN CLOSURE
LLW DISPOSAL SITE**
LOCATION 1: **INEEL - ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2407-13**
PREPARED BY: **F. P. HANSON**

DATE: **28-Jan-1998**
TIME: **10:27:52**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	DESIGN ENGINEERING TITLE I & II	2,145,000	9.28	0	30	0.00	2.78	2.506%	8.29%	579,029	2,724,029
1.1.2	TITLE III INSPECTION	640,200	2.77	0	30	0.00	0.83	0.748%	2.47%	172,818	813,018
1.2.1	PROJECT MANAGEMENT	8,129,250	35.17	0	30	0.00	10.55	9.497%	31.41%	2,194,440	10,323,690
1.2.2	CONSTRUCTION MANAGEMENT	1,455,000	6.30	0	30	0.00	1.89	1.700%	5.62%	392,768	1,847,768
1.3.1	GENERAL CONDITIONS	1,333,800	5.77	0	30	0.00	1.73	1.558%	5.15%	360,051	1,693,851
1.3.2	SITWORK	8,334,333	36.06	0	40	0.00	14.42	12.982%	42.93%	2,999,735	11,334,068
1.4.1	GOVERNMENT FURNISHED EQUIP.	34,000	0.15	0	25	0.00	0.04	0.033%	0.11%	7,648	41,648
1.5.1	G&A/PIF ADDER	749,828	3.24	0	30	0.00	0.97	0.876%	2.90%	202,411	952,239
1.5.2	PROCUREMENT FEES	291,064	1.26	0	30	0.00	0.38	0.340%	1.12%	78,571	369,635
	ESCALATION	0	0.00	0	0	0.00	0.00	0.000%	0.00%	54	54
SUBTOTAL		23,112,475	100.00					30.239%			
CALCULATED CONTINGENCY		6,988,928									
RESULTANT TEC		30,101,403									
ROUNDED TEC		30,100,000									
PROJECT CONTINGENCY		6,987,525						30.23%			
MANAGEMENT RESERVE		1,074,302									
CONTINGENCY		5,913,223									
TOTAL ESTIMATED COST		30,100,000								6,987,525	30,100,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

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CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

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PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

TOTAL CLEAN

ID	Task Name	1998	2000	2002	2004	2006	2008	2010
1	TOTAL REMOVAL CLEAN CLOSURE							
2	PERMITTING AND OVERSIGHT							
3	RCRA CLOSURE PLAN						6/2	12/3
4	AIR FLOW MODELING						3/1	5/28
5	AIR PERMITTING						6/1	12/3
6	PERMIT COMPLIANCE						10/1	9/30
7	REGULATORY AFFAIRS						9/30	
8	PROCESS DEVELOPMENT							
9	CONCEPTUAL DESIGN				9/30		10/1	
10	INSTITUTIONAL CONTROLS							
11	RD DOCUMENTATION PREPARATION				9/30		10/1	
12	RA DOCUMENTATION PREPARATION					10/2		10/1
13	PM, HEEL REMOVAL							
14	PM, DEMOLITION & REMOVAL							
15	RA REPORT							
16	TREATABILITY STUDIES							
17	TREATABILITY STUDIES						10/1	10/1
18	SITE PREP/SUBCONTRACT							
19	TITLE DESIGN						10/1	10/1
20	CONSTRUCTION							10/5
21	HEEL REMOVAL							
22	DESIGN							10/1
23	HEEL REMOVAL							
24	ISOLATION & CLEANUP							
25	TREATMENT OF LIQUID WASTE							
26	VERIFICATION OF CLEANUP							
27	SITE PREP/LIMITCO							
28	D&D SURFACE STRUCTURES							
29	SOIL STABILIZATION							
30	DESIGN							
31	SOIL STABILIZATION							
32	D&D ACTIVITIES							
33	DESIGN							
34	CONTAINMENT ENCLOSURES & EQUIPMENT							
35	CHARACTERIZATION							

Project: 2407.MPP
Date: Mon 11/3/97

Task



Milestone



Rolled Up Task



Progress



Summary



Rolled Up Milestone



**TOTAL
CLEANUP**

ID	Task Name	1998	2000	2002	2004	2006	2008	2010
36	DEMOLITION (LMITCO)							
37	WASTE DISPOSAL							
38	CASK PROCUREMENT							
39	WASTE DISPOSAL							
40	POST EXCAVATION ACTIVITIES							
41	DESIGN							
42	REMOVE ENCLOSURES & EQUIPMENT							
43	EARTHWORK							
44	REPAIR CATHODIC SYSTEM							
45	DEBRIS CLEANING FACILITY							
46	DESIGN							
47	PERMITTING							
48	GFE PROCUREMENT							
49	CONSTRUCTION							
50	LLW DISPOSAL SITE							
51	DESIGN							
52	PERMITTING							
53	CONSTRUCTION							

Project: 2407.MPP
Date: Mon 11/3/97

Task



Milestone



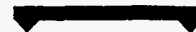
Rolled Up Task



Progress



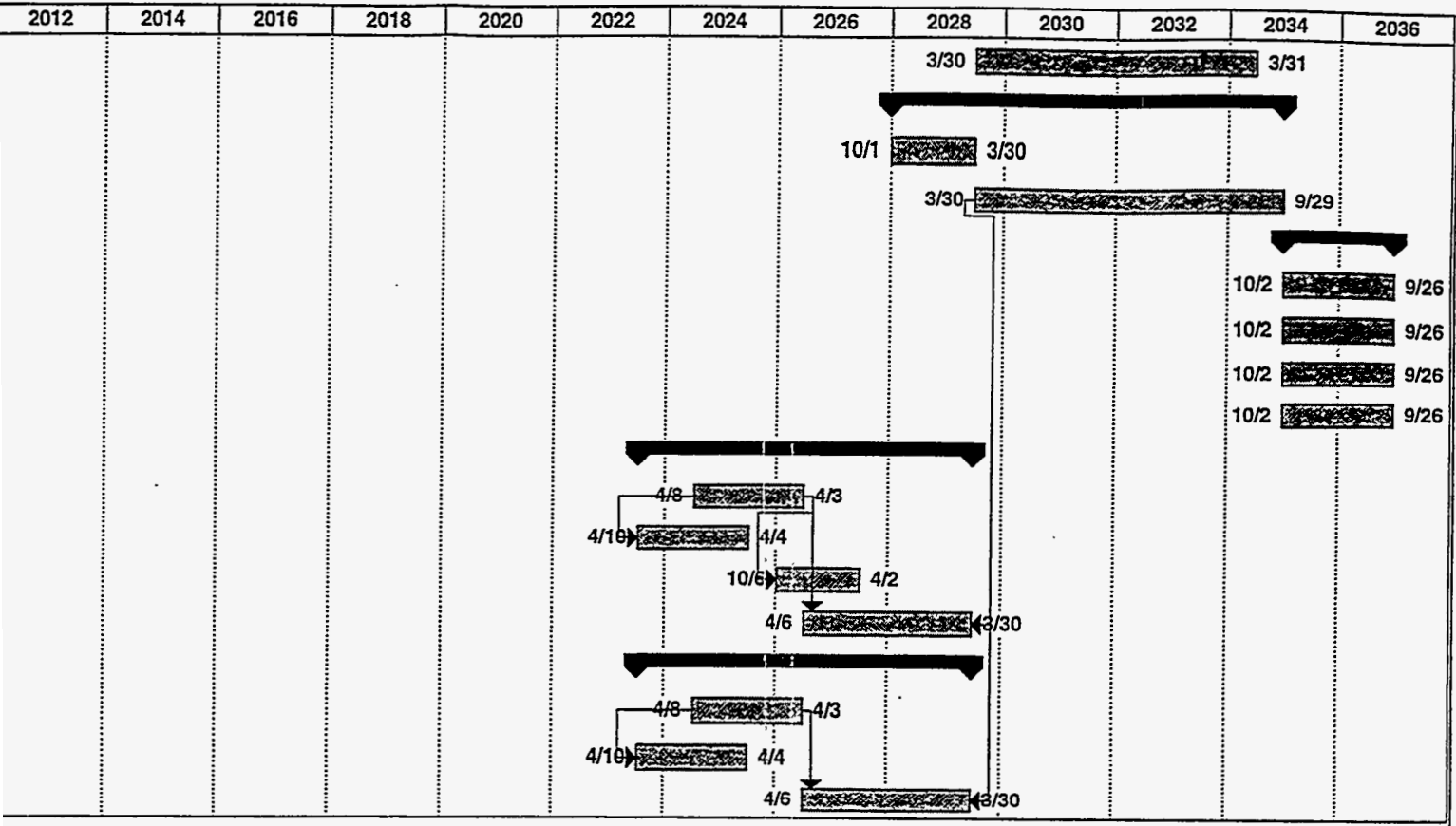
Summary



Rolled Up Milestone



REMOVAL CLOSURE



 Rolled Up Progress 

	1998	1999	2000	2001	20
TOTAL REMOVAL CLEAN CLOSURE					
PERMITTING AND OVERSIGHT					
RCRA CLOSURE PLAN					
AIR FLOW MODELING					
AIR PERMITTING					
PERMIT COMPLIANCE					
REGULATORY AFFAIRS					
PROCESS DEVELOPMENT					
CONCEPTUAL DESIGN					
INSTITUTIONAL CONTROLS					
RD DOCUMENTATION PREPARATION					
RA DOCUMENTATION PREPARATION					
PM, HEEL REMOVAL					
PM, DEMOLITION & REMOVAL					
RA REPORT					
TREATABILITY STUDIES					
TREATABILITY STUDIES					
SITE PREP/SUBCONTRACT					
TITLE DESIGN					
CONSTRUCTION					
HEEL REMOVAL					
DESIGN					
HEEL REMOVAL					
ISOLATION & CLEANUP					
TREATMENT OF LIQUID WASTE					
VERIFICATION OF CLEANUP					
SITE PREP/LMITCO					
D&D SURFACE STRUCTURES					
SOIL STABILIZATION					
DESIGN					
SOIL STABILIZATION					
D&D ACTIVITIES					
DESIGN					
CONTAINMENT ENCLOSURES & EQUIPMENT					
CHARACTERIZATION					
DEMOLITION (LMITCO)					
WASTE DISPOSAL					
CASK PROCUREMENT					
WASTE DISPOSAL					
POST EXCAVATION ACTIVITIES					
DESIGN					
REMOVE ENCLOSURES & EQUIPMENT					
EARTHWORK					
REPAIR CATHODIC SYSTEM					
DEBRIS CLEANING FACILITY					
DESIGN					
PERMITTING					
GFE PROCUREMENT					
CONSTRUCTION					
LLW DISPOSAL SITE					
DESIGN					
PERMITTING					
CONSTRUCTION					
Total					

	2010	2011	2012	2013	20
TOTAL REMOVAL CLEAN CLOSURE					
PERMITTING AND OVERSIGHT					
RCRA CLOSURE PLAN	\$230,554	\$58,301			
AIR FLOW MODELING	\$354,670				
AIR PERMITTING	\$50,666	\$37,999			
PERMIT COMPLIANCE	\$8,544,410				
REGULATORY AFFAIRS	\$79	\$20,649	\$20,570	\$20,649	
PROCESS DEVELOPMENT					
CONCEPTUAL DESIGN					
INSTITUTIONAL CONTROLS					
RD DOCUMENTATION PREPARATION					
RA DOCUMENTATION PREPARATION	\$585				
PM, HEEL REMOVAL				\$257,804	\$2
PM, DEMOLITION & REMOVAL					
RA REPORT					
TREATABILITY STUDIES					
TREATABILITY STUDIES	\$11,641				
SITE PREP/SUBCONTRACT					
TITLE DESIGN	\$7,777,700	\$29,800			
CONSTRUCTION		\$24,501,649	\$24,596,250	\$94,601	
HEEL REMOVAL					
DESIGN		\$477,050	\$475,222	\$1,828	
HEEL REMOVAL				\$8,126,710	\$8,1
ISOLATION & CLEANUP				\$530,601	\$5
TREATMENT OF LIQUID WASTE					\$37,8
VERIFICATION OF CLEANUP					
SITE PREP/LMITCO					
D&D SURFACE STRUCTURES					
SOIL STABILIZATION					
DESIGN					
SOIL STABILIZATION					
D&D ACTIVITIES					
DESIGN					
CONTAINMENT ENCLOSURES & EQUIPMENT					
CHARACTERIZATION					
DEMOLITION (LMITCO)					
WASTE DISPOSAL					
CASK PROCUREMENT					
WASTE DISPOSAL					
POST EXCAVATION ACTIVITIES					
DESIGN					
REMOVE ENCLOSURES & EQUIPMENT					
EARTHWORK					
REPAIR CATHODIC SYSTEM					
DEBRIS CLEANING FACILITY					
DESIGN					
PERMITTING					
GFE PROCUREMENT					
CONSTRUCTION					
LLW DISPOSAL SITE					
DESIGN					
PERMITTING					
CONSTRUCTION					
Total	\$16,970,306	\$25,125,448	\$25,092,042	\$9,032,194	\$46,75

	2022	2023	2024	2025	2026
TOTAL REMOVAL CLEAN CLOSURE					
PERMITTING AND OVERSIGHT					
RCRA CLOSURE PLAN					
AIR FLOW MODELING					
AIR PERMITTING					
PERMIT COMPLIANCE					
REGULATORY AFFAIRS	\$20,649	\$20,570	\$20,649	\$20,649	
PROCESS DEVELOPMENT					
CONCEPTUAL DESIGN					
INSTITUTIONAL CONTROLS					
RD DOCUMENTATION PREPARATION					
RA DOCUMENTATION PREPARATION					
PM, HEEL REMOVAL	\$257,804	\$256,816	\$257,804	\$257,804	
PM, DEMOLITION & REMOVAL				\$1,070	\$2,000
RA REPORT					
TREATABILITY STUDIES					
TREATABILITY STUDIES					
SITE PREP/SUBCONTRACT					
TITLE DESIGN					
CONSTRUCTION					
HEEL REMOVAL					
DESIGN					
HEEL REMOVAL	\$8,126,710	\$8,095,574	\$4,078,924		
ISOLATION & CLEANUP	\$530,601	\$528,569	\$266,317		
TREATMENT OF LIQUID WASTE	\$37,822,246	\$37,677,333	\$37,822,246	\$144,913	
VERIFICATION OF CLEANUP	\$45,870	\$45,694	\$45,870	\$176	
SITE PREP/LIMITCO					
D&D SURFACE STRUCTURES				\$22,115,267	\$2,000
SOIL STABILIZATION					
DESIGN			\$1,212,683	\$2,453,567	
SOIL STABILIZATION				\$522,864	\$136,400
D&D ACTIVITIES					
DESIGN					
CONTAINMENT ENCLOSURES & EQUIPMENT					
CHARACTERIZATION					
DEMOLITION (LIMITCO)					
WASTE DISPOSAL					
CASK PROCUREMENT					
WASTE DISPOSAL					
POST EXCAVATION ACTIVITIES					
DESIGN					
REMOVE ENCLOSURES & EQUIPMENT					
EARTHWORK					
REPAIR CATHODIC SYSTEM					
DEBRIS CLEANING FACILITY					
DESIGN			\$6,879,067	\$14,249,496	\$7,200,000
PERMITTING		\$4,252,692	\$8,879,622	\$4,558,886	
GFE PROCUREMENT					\$22,900,000
CONSTRUCTION					\$23,500,000
LLW DISPOSAL SITE					
DESIGN			\$1,189,416	\$2,463,790	\$1,200,000
PERMITTING		\$3,550,072	\$7,412,551	\$3,805,677	
CONSTRUCTION					\$5,100,000
Total	\$46,803,880	\$54,427,320	\$68,065,147	\$50,594,159	\$197,000,000

	2034	2035	2036	Total
TOTAL REMOVAL CLEAN CLOSURE				
PERMITTING AND OVERSIGHT				
RCRA CLOSURE PLAN				\$596,260
AIR FLOW MODELING				\$354,670
AIR PERMITTING				\$88,665
PERMIT COMPLIANCE				\$8,544,410
REGULATORY AFFAIRS	\$20,570	\$20,570		\$515,995
PROCESS DEVELOPMENT				
CONCEPTUAL DESIGN				\$15,700,000
INSTITUTIONAL CONTROLS				
RD DOCUMENTATION PREPARATION				\$595,775
RA DOCUMENTATION PREPARATION				\$458,875
PM, HEEL REMOVAL				\$3,351,450
PM, DEMOLITION & REMOVAL	\$278,180	\$278,180	\$1,070	\$2,792,500
RA REPORT	\$101,469	\$99,931		\$201,400
TREATABILITY STUDIES				
TREATABILITY STUDIES				\$6,100,000
SITE PREP/SUBCONTRACT				
TITLE DESIGN				\$7,807,500
CONSTRUCTION				\$49,192,500
HEEL REMOVAL				
DESIGN				\$954,100
HEEL REMOVAL				\$93,441,600
ISOLATION & CLEANUP				\$6,100,900
TREATMENT OF LIQUID WASTE				\$416,044,700
VERIFICATION OF CLEANUP				\$458,700
SITE PREP/LMITCO				
D&D SURFACE STRUCTURES				\$22,200,000
SOIL STABILIZATION				
DESIGN				\$3,666,250
SOIL STABILIZATION				\$407,833,750
D&D ACTIVITIES				
DESIGN				\$18,566,600
CONTAINMENT ENCLOSURES & EQUIPMENT				\$126,264,300
CHARACTERIZATION	\$903,779			\$9,079,500
DEMOLITION (LMITCO)	\$126,325,917			\$1,269,089,600
WASTE DISPOSAL				
CASK PROCUREMENT				\$7,562,850
WASTE DISPOSAL	\$51,029,010			\$281,837,150
POST EXCAVATION ACTIVITIES				
DESIGN		\$7,662,450	\$7,662,450	\$15,324,900
REMOVE ENCLOSURES & EQUIPMENT		\$28,189,650	\$28,189,650	\$56,379,300
EARTHWORK		\$20,630,400	\$20,630,400	\$41,260,800
REPAIR CATHODIC SYSTEM		\$12,517,500	\$12,517,500	\$25,035,000
DEBRIS CLEANING FACILITY				
DESIGN				\$28,389,800
PERMITTING				\$17,691,200
GFE PROCUREMENT				\$34,679,600
CONSTRUCTION				\$143,739,400
LLW DISPOSAL SITE				
DESIGN				\$4,908,700
PERMITTING				\$14,768,300
CONSTRUCTION				\$31,323,000
Total	\$178,658,925	\$69,398,682	\$69,001,070	\$3,172,900,000

Y CASH FLOW
L REMOVAL
N CLOSURE

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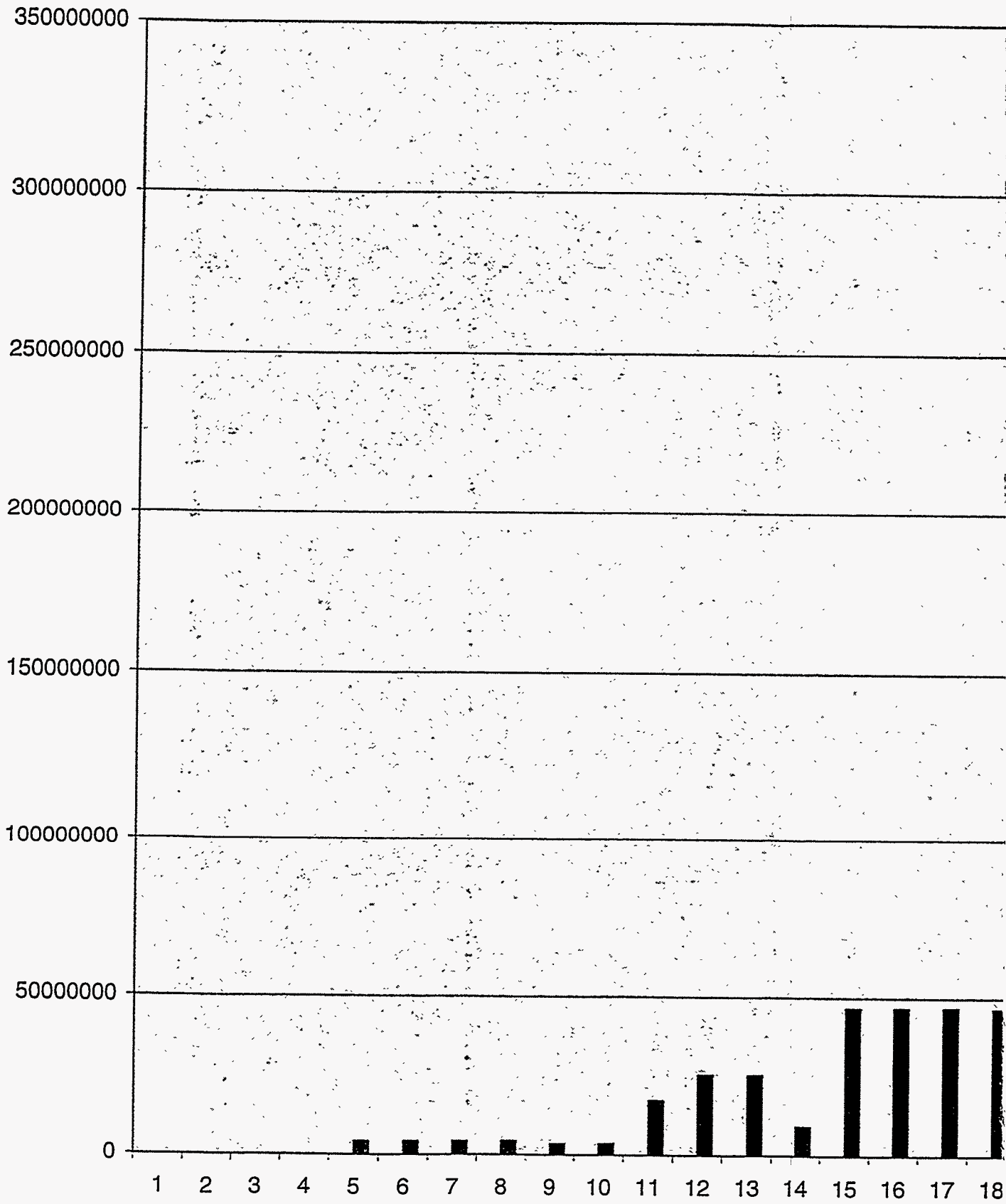
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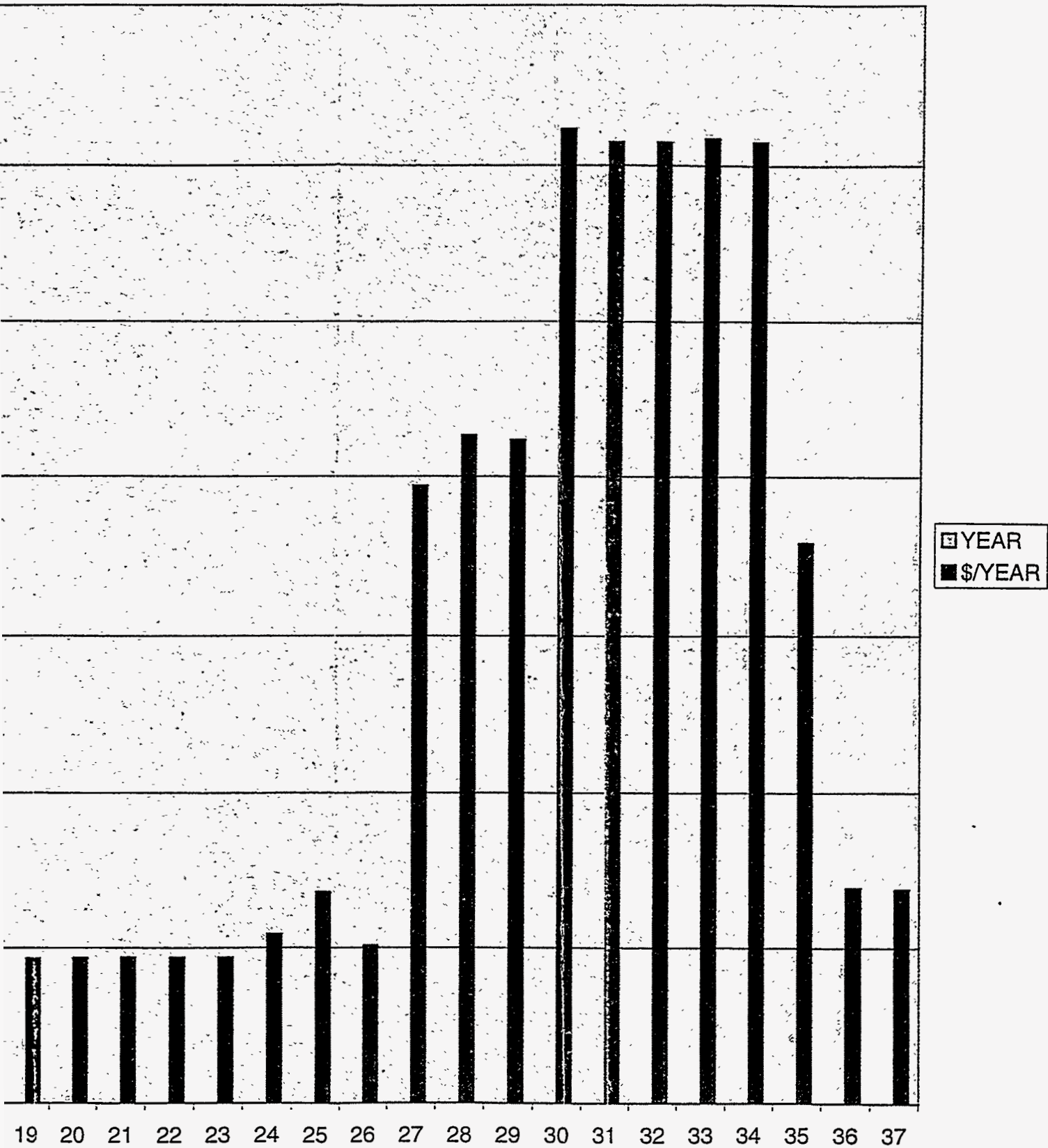
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TOTAL REMOVAL
CLEAN CLOSURE

YEAR



CASH FLOW



COST ESTIMATE SUMMARY

TANK FARM RCRA CLOSURE RISK BASED CLEAN CLOSURE LLW FILL REQUESTOR: B. C. SPAULDING	PLANNING ESTIMATE ESTIMATE # 2406-6 PREPARED BY: R. D. ADAMS	January 21, 1998 CHECKED BY: <i>[Signature]</i> APPROVED BY: <i>[Signature]</i>
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	UNESCALATED COSTS	ESCALATED COSTS
REGULATORY COMPLIANCE	\$12,000,000	\$16,100,000
DESIGN	\$18,400,000	\$20,900,000
PROOF OF PROCESS/ORR	\$5,800,000	\$6,800,000
SITE PREPARATION	\$9,500,000	\$11,400,000
CHARACTERIZE HEEL	\$3,600,000	\$5,000,000
TANK ISOLATION	\$7,700,000	\$11,000,000
WASH INTERIOR TANK WALLS	\$24,000,000	\$32,500,000
SOLIDIFY REMAINING HEEL	\$9,200,000	\$12,000,000
CLEAN VAULTS	\$14,000,000	\$21,400,000
FILL VAULT VOIDS WITH CLEAN GROUT	\$8,400,000	\$13,200,000
FILL TANK VOIDS WITH CLASS-C GROUT	\$20,100,000	\$33,600,000
TOTAL	\$132,700,000	\$183,900,000

*See the accompanying individual estimates for details.

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: RISK BASED CLEAN CLOSURE
LLW FILL

Estimator: RDA

Type of Estimate: PLANNING
File No: 2406-6-1

Date: 1/20/98
Approved By: *KLS/BOR*

I. SCOPE OF WORK: *Brief description of the proposed project.*

This project will provide RCRA closure for the eleven waste storage tanks at the ICPP. The tank heels will be flushed and neutralized. Tank internals will be sprayed to remove solid contamination. The remaining heel will be stabilized with grout. The vaults will be filled with clean grout. The tank voids will be filled with Class-C grout. Finally, the tank farm will be turned over to CERCLA to monitor.

II. BASIS OF THE ESTIMATE: *Drawings, Design Report, Engineers notes, and/or other documentation upon which the estimate is originated.*

Information contained in draft copies of the fifty- percent feasibility report and information provided by the requester were used to scope the project.

III. ASSUMPTIONS: *Condition statements accepted or supposed true without proof or demonstration. An assumption has a direct impact on total estimated cost.*

1. All of the fieldwork will be accomplished by Force Account personnel or operations personnel. LMITCO personnel will design, manage and acquire permits.
2. This estimate is intended to cover project costs from project authorization to turnover. No distinction was made for "color of money".
3. The percentages used for Design, Inspection and, to some extent, Construction Management are slightly lower than those regularly used on an effort of this size. Much of the closure involves repetitive work after filling the first tank.
4. Project Management will maintain a fairly high level of involvement throughout the closure period.

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-6-1

Page 2 of 4

III. ASSUMPTIONS: (Continued)

5. The proposed schedule is:

Design -	2000 to 2005
Solidify Heel-	2007 to 2019
Fill Vault Voids with Clean Grout:	
WM-182 - 186-	2010 to 2014
Remaining Tanks-	2015 to 2021
Fill Tank Voids with Class-C Grout:	2011 to 2024
6. Temporary construction facilities cover craft change and lunch areas, offices and warehousing.
7. Permitting assumptions: Others will accomplish the EIS. An EA will not be required in addition to the EIS. Delisting of hazards is by others. Post-closure monitoring is CERCLA's responsibility.
8. All excavated soil can be reused as backfill within the tank farm.
9. Excavation incorporates shoring to minimize exposure to contaminated dirt.
10. Much of the productivity was based on actual costs incurred on the Tank Farm Upgrades Project.
11. The 'Tank Farm Heel Removal Project' conceptual draft estimate, dated 12/19/94, was used as a reference.
12. Heel and vault grout costs are based on the "sand" grout used in the WCF Deactivation Project.
13. Grout drop tubes can be decontaminated and reused as needed.
14. Grout placement unit labor hours include time for set up and cleaning of grout equipment after each pour.
15. Heel characterization costs represent three sets of samples for each tank.

- Continued on Page 3 -

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

III. ASSUMPTIONS: (Continued)

16. Heel flushing and riser equipment removal costs were confirmed with Dave Machovec.
17. Mounting/support frames were assumed for each piece of riser equipment to distribute their weight as well as to provide a mounting base.
18. The tank farm area enclosure is sized to cover all tanks at once with traffic lanes around.
19. Heel transfer lines will require shielding from the tanks to the appropriate valve box tie-in.
20. The clean grout pump will be staged north of tanks 185 & 186.
21. Spare equipment was estimated where needed.
22. All eleven-tank heels will be solidified before Class-C grout pours begin.
23. Shielded grout delivery lines will be run from the Class C grout source to each tank. All lines will remain in place during the entire grout sequence. They will be cleaned between pours.
24. The valve/manifold will be a self-contained unit that will minimize potential radioactive releases and contamination.
25. The required amount of Class C grout to fill all eleven tanks two feet at a time can be produced in the eleven day period discussed in the report.

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-6-1

Page 4 of 4

IV. CONTINGENCY GUIDELINE IMPLEMENTATION: *The percentage used For contingency as determined by the contingency allowance guidelines can be altered to reflect the type of construction and conditions that may impact the total estimated cost.*

At this stage of project development, there are still many unanswered questions as to interferences and working conditions. Most of the work will take place in contaminated areas. Many of the pieces of equipment are not standard and require development. The closure schedule depends on tank turnover from operations over several years. The resultant contingency is in the upper range of the percentage suggested in the INEL Cost Estimating Guide.

V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE:

1. All FY'98 and later projects are to be assessed a Procurement Fee of 3%, a G&A Fee of 23%, and a Performance Incentive Fee (PIF) of 5.5%. See the attached G&A/PIF calculation sheet for the method used to calculate these fees. These fees were applied only to material, equipment and subcontract costs. Labor unit rates used in the estimate already contain these fees.
2. Shielding at or near the tank risers may be a much larger concern than suggested in the draft reports.
3. Comments received from the design review have been incorporated into the estimates. The specific changes include increased QA title III costs, washing arm costs, wet and dry grout placement arm costs, and the removal of redundant work from the "Fill Vault With Clean Grout" estimate. Also, an estimate for Proof of Process/ORR was added.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
REGULATORY COMPLIANCE**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6A**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **08-Dec-1997**
TIME: **15:39:47**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	PERMITTING			>> \$10,146,452
1.1.1	PERMITTING	7,571,979	2,574,473	10,146,452
1.3	MANAGEMENT COSTS			>> \$1,319,096
1.3.1	PROJECT MANAGEMENT	984,400	334,696	1,319,096
1.5	G&A/PIF			>> \$425,605
1.5.1	G&A/PIF ADDER	317,616	107,989	425,605
1.5.2	PROCUREMENT FEES	31,107	10,576	>> \$41,683
SUBTOTAL INCLUDING ESCALATION		8,905,102	3,027,734	>> \$11,932,836
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$4,167,164
TOTAL ESTIMATED COST				>> \$16,100,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 769.00%
CONTINGENCY= 34.92%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
REGULATORY COMPLIANCE - UNESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6A**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **10:10:57**
CHECKED BY: _____
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>PERMITTING</u>			>> <u>\$7,571,979</u>
1.1.1	PERMITTING	7,571,979	0	7,571,979
<u>1.3</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$984,400</u>
1.3.1	PROJECT MANAGEMENT	984,400	0	984,400
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$317,616</u>
1.5.1	G&A/PIF ADDER	317,616	-0	317,616
1.5.2	PROCUREMENT FEES	31,107	0	>> <u>\$31,107</u>
SUBTOTAL INCLUDING ESCALATION		8,905,102	0	>> <u>\$8,905,102</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$0</u>
CONTINGENCY				>> <u>\$3,094,898</u>
TOTAL ESTIMATED COST				>> <u>\$12,000,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 769.00%

CONTINGENCY= 34.75%

Lockheed Martin Idaho Technologies Co.

Rev. 0/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 REGULATORY COMPLIANCE
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6A
 PREPARED BY: R. D. ADAMS

PAGE # 1

DATE 08-Dec-1997
 TIME: 19:59:49
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL. UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	PERMITTING											
	AIR PERMITTING	1	LOT			0.000					30,000	30,000
	AIR MONITORS	6	EA		LMITCO	0.000					720,000	720,000
	AIR MONITORING ACTIVITIES	24	MO		Z-1732	2.000	48	2,096				2,096
	AIR MONITORING LAB FEES	8	EA			0.000					16,000	16,000
	RCRA CLOSURE PLAN	2	FTE		Z-1700	1500.00	3,000	193,980				193,980
	P.E. ACTIVITIES	1	LOT		LMITCO	0.000					60,000	60,000
	CERCLA COORDINATOR	1	FTE		Z-1700	39600.0	39,600	2,560,536				2,560,536
	REGULATORY AFFAIRS OVERSITE	22	YR		LMITCO	150.000	3,300	213,378				213,378
	SURVEY PLAT	1	LOT		LMITCO	0.000					10,000	10,000
	SARR	1	LOT		Z-3170	13500.0	13,500	936,765				936,765
	NRC LANDFILL DISPOSAL REQUIREMENTS	5	YR		Z-1710	9000.00	45,000	2,480,400				2,480,400
	ENV & HAZ. ANALYSIS	2	FTE		Z-1710	1800.00	2,700	148,824				148,824
	SEISMIC TEST BORES (ALLOW)	20	HOLE			0.000					200,000	200,000
	PERMITTING S/T						107,148	\$6,535,979			\$1,036,000	\$7,571,979
1.3.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		984,400				984,400
	Memo: PM @ .13% OF PERMITTING											
	PROJECT MANAGEMENT S/T						0	\$984,400				\$984,400

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
REGULATORY COMPLIANCE

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-6A
PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 08-Dec-1997
TIME: 19:58:49
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					245,428	245,428
	PIF	1	LOT			0.000					72,188	72,188
	G&A/PIF ADDER S/T						0				\$317,616	\$317,616
	PROJECT SUBTOTAL						107.148	\$7,520,379	\$0	\$0	\$1,353,616	\$8,873,995

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 REGULATORY COMPLIANCE
 LOCATION 1: INEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6A
 PREPARED BY: R. D. ADAMS

DATE: 08-Dec-1997
 TIME: 19:59:51

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,571,979	63.45	0	40	0.00	25.38	22.844%	64.79%	2,699,922	10,271,901
1.3.1	PROJECT MANAGEMENT	984,400	8.25	0	30	0.00	2.47	2.227%	6.32%	263,254	1,247,654
1.5.1	G&A/PIF ADDER	317,616	2.66	0	40	0.00	1.06	0.958%	2.72%	113,252	430,868
1.5.2	PROCUREMENT FEES	31,107	0.26	0	40	0.00	0.10	0.094%	0.27%	11,092	42,199
	ESCALATION	3,027,734	25.37	0	40	0.00	10.15	9.134%	25.91%	1,079,644	4,107,378
	SUBTOTAL	11,932,836	100.00					35.258%			
	CALCULATED CONTINGENCY	4,207,225									
	RESULTANT TEC	16,140,061									
	ROUNDED TEC	16,100,000									
	PROJECT CONTINGENCY	4,167,164						34.92%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	4,167,164									
	TOTAL ESTIMATED COST	16,100,000								4,167,164	16,100,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30%</p> <p>Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25%</p> <p>Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20%</p> <p>TITLE II 5% - 15%</p> <p>TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.
Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
REGULATORY COMPLIANCE - UNESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6A**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **10:11:03**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,571,979	85.03	0	40	0.00	34.01	30.611%	87.45%	2,706,383	10,278,362
1.3.1	PROJECT MANAGEMENT	984,400	11.05	0	30	0.00	3.32	2.985%	8.53%	263,884	1,248,284
1.5.1	G&A/PIF ADDER	317,616	3.57	0	40	0.00	1.43	1.284%	3.67%	113,523	431,139
1.5.2	PROCUREMENT FEES	31,107	0.35	0	40	0.00	0.14	0.126%	0.36%	11,118	42,225
	ESCALATION	0	0.00	0	40	0.00	0.00	0.000%	0.00%	(10)	(10)
SUBTOTAL		8,905,102	100.00					35.005%			
CALCULATED CONTINGENCY		3,117,241									
RESULTANT TEC		12,022,343									
ROUNDED TEC		12,000,000									
PROJECT CONTINGENCY		3,094,898						34.75%			
MANAGEMENT RESERVE		0									
CONTINGENCY		3,094,898									
TOTAL ESTIMATED COST		12,000,000								3,094,898	12,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROCUREMENT FEE:

CONSTRUCTION =	\$1,036,000		
GFE =	\$0		
Subtotal	<u>\$1,036,000</u>		
FEE @ 3% =	\$1,036,000 * 0.03 =		\$31,080

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$1,036,000		
GFE =	\$0		
PROCUREMENT FEE =	\$31,080		
Subtotal	<u>\$1,067,080</u>		
FEE @ 23% =	\$1,067,080 * 0.23 =		\$245,428

PIF @ 5.5%

CONSTRUCTION =	\$1,036,000		
GFE =	\$0		
PROCUREMENT FEE =	\$31,080		
G&A =	\$245,428		
Subtotal	<u>\$1,312,508</u>		
FEE @ 5.5% =	\$1,312,508 * 0.055 =		\$72,188

TOTAL PROCUREMENT FEE:			\$31,080
TOTAL G&A FEE:			\$245,428
TOTAL PIF:			\$72,188

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
DESIGN - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6b1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
 TIME: **12:43:20**
 CHECKED BY: *SN*
 APPRD BY: *KRS/BR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN</u>			>> \$11,654,560
1.1.1	CONCEPTUAL DESIGN	2,989,900	269,091	3,258,991
1.1.2	TITLE DESIGN	7,175,700	1,219,869	8,395,569
1.2	<u>MANAGEMENT COSTS</u>			>> \$4,261,936
1.2.1	PROJECT MANAGEMENT	3,805,300	456,636	4,261,936
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		13,970,900	1,945,596	>> \$15,916,496
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$4,983,504
TOTAL ESTIMATED COST				>> \$20,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= *****.***%**

CONTINGENCY= **31.31%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
DESIGN - unescalated**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6b1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
TIME: **07:52:24**
CHECKED BY: _____
APPRD BY: **KLS/BOR**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN			>> \$10,165,600
1.1.1	CONCEPTUAL DESIGN	2,989,900	0	2,989,900
1.1.2	TITLE DESIGN	7,175,700	0	7,175,700
1.2	MANAGEMENT COSTS			>> \$3,805,300
1.2.1	PROJECT MANAGEMENT	3,805,300	0	3,805,300
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		13,970,900	0	>> \$13,970,900
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$4,429,100
TOTAL ESTIMATED COST				>> \$18,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= ***.***%
 CONTINGENCY= 31.70%

DETAILED COST ESTIMATE SHEET

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL

TYPE OF ESTIMATE: PLANNING

DATE 21-Jan-1998

DESIGN

PROJECT NO.: 2406-6b1

TIME: 07:49:49

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	CONCEPTUAL DESIGN											
Memo:	CONCEPTUAL DESIGN/PROCEDURE DEVELOPMENT @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		2,718,100				2,718,100
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		271,800				271,800
	CONCEPTUAL DESIGN S/T						0	\$2,989,900				\$2,989,900
1.1.2	TITLE DESIGN											
Memo:	TITLE DESIGN/PROCEDURE DEVELOPMENT @ 12% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		6,523,400				6,523,400
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		652,300				652,300
	TITLE DESIGN S/T						0	\$7,175,700				\$7,175,700
1.2.1	PROJECT MANAGEMENT											
Memo:	DESIGN PROJECT MANAGEMENT @ 7% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		3,805,300				3,805,300
	PROJECT MANAGEMENT S/T						0	\$3,805,300				\$3,805,300
	PROJECT SUBTOTAL						0	\$13,970,900	\$0	\$0	\$0	\$13,970,900

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL**
DESIGN - unescalated
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2406-6b1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **07:52:28**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,989,900	21.40	0	35	0.00	7.49	6.741%	21.40%	947,868	3,937,768
1.1.2	TITLE DESIGN	7,175,700	51.36	0	35	0.00	17.98	16.179%	51.36%	2,274,864	9,450,564
1.2.1	PROJECT MANAGEMENT	3,895,300	27.24	0	35	0.00	9.53	8.580%	27.24%	1,206,369	5,011,669
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(1)	(1)
SUBTOTAL		13,970,900	100.00					31.500%			
CALCULATED CONTINGENCY		4,400,834									
RESULTANT TEC		18,371,734									
ROUNDED TEC		18,400,000									
PROJECT CONTINGENCY		4,429,100						31.70%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,429,100									
TOTAL ESTIMATED COST		18,400,000								4,429,100	18,400,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
DESIGN - ESCALATED
INEL/ICPP**
LOCATION 1:
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6b1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **12:43:24**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,989,900	18.78	0	35	0.00	6.57	5.917%	18.78%	936,147	3,926,047
1.1.2	TITLE DESIGN	7,175,700	45.08	0	35	0.00	15.78	14.201%	45.08%	2,246,734	9,422,434
1.2.1	PROJECT MANAGEMENT	3,805,300	23.91	0	35	0.00	8.37	7.531%	23.91%	1,191,451	4,996,751
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	1,945,596	12.22	0	35	0.00	4.28	3.850%	12.22%	609,172	2,554,768
SUBTOTAL		15,916,496	100.00					31.500%			
CALCULATED CONTINGENCY		5,013,696									
RESULTANT TEC		20,930,192									
ROUNDED TEC		20,900,000									
PROJECT CONTINGENCY		4,983,504						31.31%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,983,504									
TOTAL ESTIMATED COST		20,900,000								4,983,504	20,900,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
PROOF OF PROCESS/ORR- ESCALATED
INEEL/ICPP
LOCATION 1:
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-GCA
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 20-Jan-1998
TIME: 10:42:43
CHECKED BY: *SMA*
APPRD BY: *KES/BR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$175,500</u>
1.1.2	TITLE III INSPECTION	150,000	25,500	175,500
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$690,300</u>
1.2.1	PROJECT MANAGEMENT	390,000	66,300	456,300
1.2.2	CONSTRUCTION MANAGEMENT	200,000	34,000	234,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$3,510,000</u>
1.3.1	GENERAL	3,000,000	510,000	3,510,000
1.5	<u>G&A/PIF</u>			>> <u>\$508,294</u>
1.5.1	G&A/PIF ADDER	434,439	73,855	508,294
1.5.2	PROCUREMENT FEES	90,000	15,300	105,300
	SUBTOTAL INCLUDING ESCALATION	4,264,439	724,955	>> \$4,989,394
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$412,359
	CONTINGENCY			>> \$1,398,247
	TOTAL ESTIMATED COST			>> \$6,800,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 5.00%
CONTINGENCY= 36.29%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
PROOF OF PROCESS/ORR- UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-GCA**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **10:40:14**
CHECKED BY: _____
APPR'D BY: **KLS/BOR**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$150,000</u>
1.1.2	TITLE III INSPECTION	150,000	0	150,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$590,000</u>
1.2.1	PROJECT MANAGEMENT	390,000	0	390,000
1.2.2	CONSTRUCTION MANAGEMENT	200,000	0	200,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$3,000,000</u>
1.3.1	GENERAL	3,000,000	0	3,000,000
1.5	<u>G&A/PIF</u>			>> <u>\$434,439</u>
1.5.1	G&A/PIF ADDER	434,439	0	434,439
1.5.2	PROCUREMENT FEES	90,000	0	>> <u>\$90,000</u>
	SUBTOTAL INCLUDING ESCALATION	4,264,439	0	>> <u>\$4,264,439</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$352,444</u>
	CONTINGENCY			>> <u>\$1,183,117</u>
	TOTAL ESTIMATED COST			>> <u>\$5,800,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **36.01%**

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR- UNESCALATED

TYPE OF ESTIMATE: PLANNING

DATE: 20-Jan-1998

LOCATION 1: INEEL/ICPP

PROJECT NO.: 2406-6CA

TIME: 10:38:10

REQUESTOR: B. C. SPAULDING

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000 Memo:	TITLE III INSPECTION Inspection and Overview @ 5% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		150,000				150,000
	TITLE III INSPECTION S/T						0	\$150,000				\$150,000
1.2.1 Memo:	PROJECT MANAGEMENT PM @ 13% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		390,000				390,000
	PROJECT MANAGEMENT S/T						0	\$390,000				\$390,000
1.2.2 Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		200,000				200,000
	CONSTRUCTION MANAGEMENT S/T						0	\$200,000				\$200,000
1.3.1	GENERAL MOCKUP AND TESTING	1	LOT			0.000					2,000,000	2,000,000
	ORR & OTHER TEST REPORTS	1	LOT			0.000		1,000,000				1,000,000
	GENERAL S/T						0	\$1,000,000			\$2,000,000	\$3,000,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					250,700	250,700

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/00
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR- UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6CA
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 10:38:10
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					183,739	183,739
	G&A/PIF ADDER S/T						0				\$434,439	\$434,439
	PROJECT SUBTOTAL						0	\$1,740,000	\$0	\$0	\$2,434,439	\$4,174,439

Lockheed Martin Idaho Technologies Co.
Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
PROOF OF PROCESS/ORR- UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6CA**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **10:40:19**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.52	0	40	0.00	1.41	1.266%	35.17%	540,128	690,128
1.2.1	PROJECT MANAGEMENT	390,000	9.15	0	40	0.00	3.66	3.292%	91.45%	1,404,332	1,794,332
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.69	0	40	0.00	1.88	1.688%	46.90%	720,170	920,170
1.3.1	GENERAL	3,000,000	70.35	0	40	0.00	28.14	25.326%	703.49%	10,802,553	13,802,553
1.5.1	G&A/PIF ADDER	434,439	10.19	0	40	0.00	4.07	3.667%	101.87%	1,564,350	1,998,789
1.5.2	PROCUREMENT FEES	90,000	2.11	0	40	0.00	0.84	0.760%	21.10%	324,077	414,077
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(13,820,049)	(13,820,049)
SUBTOTAL		4,264,439	100.00					36.000%			
CALCULATED CONTINGENCY		1,535,198									
RESULTANT TEC		5,799,637									
ROUNDED TEC		5,800,000									
PROJECT CONTINGENCY		1,535,561						36.01%			
MANAGEMENT RESERVE		352,444									
CONTINGENCY		1,183,117									
TOTAL ESTIMATED COST		5,800,000								1,535,561	5,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR- ESCALATED
 INEEL/ICPP**
 LOCATION 1:
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6CA**
 PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
 TIME: **10:42:48**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.01	0	40	0.00	1.20	1.082%	3.06%	55,441	205,441
1.2.1	PROJECT MANAGEMENT	390,000	7.82	0	40	0.00	3.13	2.814%	7.96%	144,146	534,146
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.01	0	40	0.00	1.60	1.443%	4.08%	73,921	273,921
1.3.1	GENERAL	3,000,000	60.13	0	40	0.00	24.05	21.646%	61.24%	1,108,816	4,108,816
1.5.1	G&A/PIF ADDER	434,439	8.71	0	40	0.00	3.48	3.135%	8.87%	160,571	595,010
1.5.2	PROCUREMENT FEES	90,000	1.80	0	40	0.00	0.72	0.649%	1.84%	33,264	123,264
	ESCALATION	724,955	14.53	0	35	0.00	5.09	4.577%	12.95%	234,447	959,402
	SUBTOTAL	4,989,394	100.00					35.346%			
	CALCULATED CONTINGENCY	1,763,559									
	RESULTANT TEC	6,752,953									
	ROUNDED TEC	6,800,000									
	PROJECT CONTINGENCY	1,810,606						36.29%			
	MANAGEMENT RESERVE	412,359									
	CONTINGENCY	1,398,247									
	TOTAL ESTIMATED COST	6,800,000								1,810,606	6,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

2406-CA

PROCUREMENT FEE:

CONSTRUCTION = \$3,000,000

GFE =

Subtotal \$3,000,000

FEE @ 3% = \$3,000,000 * 0.03 = \$90,000

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR
CEILING * 2 YEARS = \$1,000,000

GFE = \$0

PROCUREMENT FEE = \$90,000

Subtotal \$1,090,000

FEE @ 23% = \$1,090,000 * 0.23 = \$250,700

PIF @ 5.5%

CONSTRUCTION = \$3,000,000

GFE = \$0

PROCUREMENT FEE = \$90,000

G&A = \$250,700

Subtotal \$3,340,700

FEE @ 5.5% = \$3,340,700 * 0.055 = \$183,739

TOTAL PROCUREMENT FEE: \$90,000

TOTAL G&A FEE: \$250,700

TOTAL PIF: \$183,739

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
SITE PREPARATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6C1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
TIME: **15:20:59**
CHECKED BY: *SM*
APPRD BY: *KIS/BOR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$311,100</u>
1.1.2	TITLE III INSPECTION	255,000	56,100	311,100
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$1,301,248</u>
1.2.1	PROJECT MANAGEMENT	663,000	125,970	788,970
1.2.2	CONSTRUCTION MANAGEMENT	419,900	92,378	512,278
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$5,122,738</u>
1.3.1	GENERAL CONDITIONS	1,254,809	276,058	1,530,867
1.3.2	SITWORK	118,825	26,141	144,966
1.3.3	CONCRETE	18,433	4,055	22,488
1.3.13	SPECIAL CONSTRUCTION	1,882,914	414,241	2,297,155
1.3.15	MECHANICAL	549,490	120,888	670,378
1.3.16	ELECTRICAL	374,495	82,389	456,884
<u>1.4</u>	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$1,072,071</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	171,171	1,072,071
<u>1.5</u>	<u>G&A/PIE</u>			>> <u>\$643,720</u>
1.5.1	G&A/PIF ADDER	527,639	116,081	643,720
1.5.2	PROCUREMENT FEES	115,257	24,746	<u>\$140,003</u>
SUBTOTAL INCLUDING ESCALATION		7,080,662	1,510,218	>> \$8,590,880
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$697,853
CONTINGENCY				>> \$2,111,267
TOTAL ESTIMATED COST				>> \$11,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **32.70%**

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
SITE PREPARATION - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-6C1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 21-Jan-1998
TIME: 09:29:01

CHECKED BY: _____
APPRD BY: KS/BDR

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$255,000
1.1.2	TITLE III INSPECTION	255,000	0	255,000
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> \$1,082,900
1.2.1	PROJECT MANAGEMENT	663,000	0	663,000
1.2.2	CONSTRUCTION MANAGEMENT	419,900	0	419,900
<u>1.3</u>	<u>CONSTRUCTION</u>			>> \$4,198,966
1.3.1	GENERAL CONDITIONS	1,254,809	0	1,254,809
1.3.2	SITWORK	118,825	0	118,825
1.3.3	CONCRETE	18,433	0	18,433
1.3.13	SPECIAL CONSTRUCTION	1,882,914	0	1,882,914
1.3.15	MECHANICAL	549,490	0	549,490
1.3.16	ELECTRICAL	374,495	0	374,495
<u>1.4</u>	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$900,900
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	0	900,900
<u>1.5</u>	<u>G&A/PIF</u>			>> \$527,639
1.5.1	G&A/PIF ADDER	527,639	0	527,639
1.5.2	PROCUREMENT FEES	115,257	0	>> \$115,257
	SUBTOTAL INCLUDING ESCALATION	7,080,662	0	>> \$7,080,662
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$574,276
	CONTINGENCY			>> \$1,845,062
	TOTAL ESTIMATED COST			>> \$9,500,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 34.17%

Lockheed Martin Idaho Technologies Co.

Rev. 8/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6C1
 PREPARED BY: R. D. ADAMS

PAGE # 1

DATE 21-Jan-1998
 TIME: 09:27:57
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000 Memo:	TITLE III INSPECTION Inspection and Overview @ 5% OF CONSTRUCTION PLUS GEE.	1	LOT			0.000		255,000				255,000
	TITLE III INSPECTION S/T						0	\$255,000				\$255,000
1.2.1 Memo:	PROJECT MANAGEMENT PM @ 13% OF CONSTRUCTION PLUS GEE.	1	LOT			0.000		663,000				663,000
	PROJECT MANAGEMENT S/T						0	\$663,000				\$663,000
1.2.2 Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		419,900				419,900
	CONSTRUCTION MANAGEMENT S/T						0	\$419,900				\$419,900
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	1600.00	1,600	80,800				80,800
	MOB/DEMOB	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	9	FTE		ZF-OE FA	64.000	576	29,820				29,820
	SMALL TOOLS & CONSUMABLES	1	LOT	43,700.00		0.000				43,700		43,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	800.000	800	41,416	50,000			91,416
	RAD TENTS	15	EA	5,000.00		0.000				75,000		75,000

Lockheed Martin Idaho Technologies Co.

Rev. 6/86

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
SITE PREPARATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6C1

PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 21-Jan-1998

TIME: 09:27:57

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
	MISC. EQUIPMENT	1	LOT		EA	0.000			40,400			40,400
	CLEANUP & MATERIAL HANDLING	16,147	MHRS		ZF-LB EA	0.100	1,615	71,418				71,418
	RADCON TECH SUPPORT	2	FTE		Z-1342	1600.00	3,200	158,080				158,080
	TEMPORARY CONSTRUCTION FACILITIES	1	LOT		EA	0.000					500,000	500,000
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	126,053.00		0.000				126,053		126,053
	GENERAL CONDITIONS S/T						8,291	\$407,419	\$90,400	\$244,753	\$500,000	\$1,242,572
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	UTILITY EARTHWORK											
	TRENCH, BACKFILL & STOCKPILE	1,000	CY	1.00	ZF-OE EA	1.850	1,850	95,775	22,000	1,000		118,775
	UTILITY EARTHWORK S/T						1,850	\$95,775	\$22,000	\$1,000		\$118,775
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	PENETRATIONS											
	VALVE BOX PENETRATIONS FOR UTILITIES	5	EA	500.00	ZF-LB EA	50.000	250	11,058	1,250	2,500		14,808

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6C1

PREPARED BY: R. D. ADAMS

DATE 21-Jan-1998

TIME: 09:27:57

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	PENETRATIONS											
	PENETRATIONS S/T						250	\$11,058	\$1,250	\$2,500		\$14,808
1.3.3.2	VOG BLOWER PAD											
	CONCRETE PAD FOR ENCLOSURE	10	CY		FA	0.000					3,500	3,500
	VOG BLOWER PAD S/T						0				\$3,500	\$3,500
1.3.13	SPECIAL CONSTRUCTION											
	CONTAMINATED EQUIPMENT STORAGE BUNKER	600	SF		ZF-CP FA	0.000					60,000	60,000
	DECON/SIZING AREA W/IN ENCLOSURE	1,500	SF		FA	0.000					75,000	75,000
	VOG BLOWER ENCLOSURE	200	SF		FA	0.000					12,000	12,000
	TANK FARM AREA ENCLOSURE ("SPRUNG" STRUCTURE)	55,000	SF		ZF-LB FA	0.000					1,650,000	1,650,000
	TANK FARM AREA ENCLOSURE RELOCATION	3	EA	2,000.00	ZF-LB FA	600.000	1,800	79,614		6,000		85,614
	SPECIAL CONSTRUCTION S/T						1,800	\$79,614		\$6,000	\$1,797,000	\$1,882,614
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	UTILITIES											
	UTILITY PIPING - ALLOW	1,900	LF	13.00	ZF-PF FA	0.500	950	57,257	2,375	24,700		84,332

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 0/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6C1
 PREPARED BY: R. D. ADAMS

DATE 21-Jan-1998
 TIME: 09:27:57
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	<u>UTILITIES</u> TEMPORARY UTILITY HOSES & FITTINGS	1	LOT	2,000.00		0.000				2,000		2,000
					FA							
	UTILITIES S/T						950	\$57,267	\$2,375	\$26,700		\$86,332
1.3.15.2	<u>VOG</u> MOVE & SET UP VOG FILTER SKID	7	EA		ZF-OE	120.000	840	43,487				43,487
					FA							
	1 HP VOG BLOWERS	2	EA	3,100.00	ZF-SM	40.000	80	4,144		6,200		10,344
					FA							
	PIPING MAIN	300	LF	80.00	ZF-PF	1.400	420	25,313	1,050	24,000		50,363
					FA							
	PURCHASE SECONDARY LINE	280	LF	80.00		0.000				22,400		22,400
					FA							
	INSTALL(MOVE) SECONDARY LINE	370	LF		ZF-PF	1.200	444	26,760	1,110			27,870
					FA							
	PURCHASE 2"X4" DBL ENCASED CONDENSATE LINE	80	LF	110.00		0.000				8,800		8,800
					FA							
	INSTALL/MOVE CONDENSATE LINE	80	LF		ZF-PF	2.900	232	13,983	580			14,563
					FA							
	TAP PLA LINES FOR CONDENSATE	7	EA		ZF-PF	80.000	560	33,751	1,400			35,151
					FA							
	PURCHASE TANK-TO-SKID 4"X6" DBL ENCASED LINE	300	LF	160.00		0.000				48,000		48,000
					FA							
	INSTALL/MOVE TANK-TO-SKID DBL ENCASED LINES	830	LF		ZF-PF	3.750	3,113	187,590	7,785			195,376
					FA							
	VOG S/T						5,689	\$335,028	\$11,925	\$109,400		\$456,354
1.3.16	<u>ELECTRICAL</u>											
	ELECTRICAL S/T						0					

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6C1
 PREPARED BY: R. D. ADAMS

DATE: 21-Jan-1998
 TIME: 09:27:57
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	TEMPORARY POWER											
	HOOK UP CONTROL TRAILERS	1	LOT	20,000.00	ZF-EL FA	250.000	250	13,195		20,000		33,195
	MCC'S & MISC ELEC EQUIPMENT	1	LOT	61,000.00	ZF-EL FA	350.000	350	18,473		61,000		79,473
	CABLE & DUCT	7,000	LF	2.70	ZF-EL FA	0.044	308	16,256		18,900		35,156
	REMOVE & RECONNECT POWER TO VOG EQUIPMENT	7	EA		ZF-EL FA	600.000	4,200	221,676				221,676
	TEMPORARY POWER S/T						5,108	\$269,600		\$99,900		\$369,500
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	VOG SKID W/ FILTERS, DEMISTER, ETC.	2	EA	320,000.00		0.000				640,000		640,000
	MCC/CONTROL/CCTV CONTROL & TRAILER	2	EA	70,000.00		0.000				140,000		140,000
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	78,000.00		0.000				78,000		78,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$858,000		\$858,000
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					293,715	293,715
	PIF	1	LOT			0.000					233,924	233,924
	G&A/PIF ADDER S/T						0				\$527,639	\$527,639

Lockheed Martin Idaho Technologies Co.

Rev. 0/00

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
SITE PREPARATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2408-6C1

PREPARED BY: R. D. ADAMS

PAGE # 6

DATE 21-Jan-1998

TIME: 09:27:57

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						23,937	\$2,593,650	\$127,950	\$1,346,253	\$2,828,139	\$6,897,992

Rev. 6/96
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SITE PREPARATION - UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6C1
 PREPARED BY: R. D. ADAMS

DATE: 21-Jan-1998
 TIME: 09:29:05

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	255,000	3.60	0	40	0.00	1.44	1.296%	3.87%	93,645	348,645
1.2.1	PROJECT MANAGEMENT	663,000	9.36	0	40	0.00	3.75	3.371%	10.06%	243,477	906,477
1.2.2	CONSTRUCTION MANAGEMENT	419,900	5.93	0	40	0.00	2.37	2.135%	6.37%	154,202	574,102
1.3.1	GENERAL CONDITIONS	1,254,809	17.72	0	40	0.00	7.09	6.380%	19.05%	460,811	1,715,620
1.3.2	SITWORK	118,825	1.68	0	40	0.00	0.67	0.604%	1.80%	43,637	162,462
1.3.3	CONCRETE	18,433	0.26	0	40	0.00	0.10	0.094%	0.28%	6,769	25,202
1.3.13	SPECIAL CONSTRUCTION	1,882,914	26.59	0	30	0.00	7.98	7.180%	21.44%	518,605	2,401,519
1.3.15	MECHANICAL	549,490	7.76	0	50	0.00	3.88	3.492%	10.43%	252,241	801,731
1.3.16	ELECTRICAL	374,495	5.29	0	35	0.00	1.85	1.666%	4.97%	120,337	494,832
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	12.72	0	35	0.00	4.45	4.008%	11.97%	289,488	1,190,388
1.5.1	G&A/PIF ADDER	527,639	7.45	0	40	0.00	2.98	2.683%	8.01%	193,768	721,407
1.5.2	PROCUREMENT FEES	115,257	1.63	0	40	0.00	0.65	0.586%	1.75%	42,327	157,584
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	31	31
SUBTOTAL		7,080,662	100.00					33.495%			
CALCULATED CONTINGENCY		2,371,637									
RESULTANT TEC		9,452,299									
ROUNDED TEC		9,500,000									
PROJECT CONTINGENCY		2,419,338						34.17%			
MANAGEMENT RESERVE		574,276									
CONTINGENCY		1,845,062									
TOTAL ESTIMATED COST		9,500,000								2,419,338	9,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
SITE PREPARATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6C1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **15:21:04**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	255,000	2.97	0	40	0.00	1.19	1.069%	3.22%	90,567	345,567
1.2.1	PROJECT MANAGEMENT	663,000	7.72	0	40	0.00	3.09	2.778%	8.38%	235,474	898,474
1.2.2	CONSTRUCTION MANAGEMENT	419,900	4.89	0	40	0.00	1.96	1.760%	5.31%	149,134	569,034
1.3.1	GENERAL CONDITIONS	1,254,809	14.61	0	40	0.00	5.84	5.258%	15.86%	445,664	1,700,473
1.3.2	SITWORK	118,825	1.38	0	40	0.00	0.55	0.498%	1.50%	42,202	161,027
1.3.3	CONCRETE	18,433	0.21	0	40	0.00	0.09	0.077%	0.23%	6,547	24,980
1.3.13	SPECIAL CONSTRUCTION	1,882,914	21.92	0	30	0.00	6.58	5.918%	17.85%	501,559	2,384,473
1.3.15	MECHANICAL	549,490	6.40	0	50	0.00	3.20	2.878%	8.68%	243,950	793,440
1.3.16	ELECTRICAL	374,495	4.36	0	35	0.00	1.53	1.373%	4.14%	116,382	490,877
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	10.49	0	35	0.00	3.67	3.303%	9.97%	279,972	1,180,872
1.5.1	G&A/PIF ADDER	527,639	6.14	0	40	0.00	2.46	2.211%	6.67%	187,399	715,038
1.5.2	PROCUREMENT FEES	115,257	1.34	0	40	0.00	0.54	0.483%	1.46%	40,935	156,192
	ESCALATION	1,510,218	17.58	0	35	0.00	6.15	5.537%	16.71%	469,335	1,979,553
	SUBTOTAL	8,590,880	100.00					33.144%			
	CALCULATED CONTINGENCY	2,847,356									
	RESULTANT TEC	11,438,236									
	ROUNDED TEC	11,400,000									
	PROJECT CONTINGENCY	2,809,120						32.70%			
	MANAGEMENT RESERVE	697,853									
	CONTINGENCY	2,111,267									
	TOTAL ESTIMATED COST	11,400,000								2,809,120	11,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE III/AFC Market Conditions

1/21/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6C

PROCUREMENT FEE:

CONSTRUCTION ***=	\$2,943,216		
GFE =	\$900,900		
	<u>Subtotal</u>	\$3,844,116	
FEE @ 3% =	\$3,844,116	* 0.03 =	\$115,323

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 1 YEARS =	\$500,000 *		
GFE =	\$661,700 **		
PROCUREMENT FEE =	\$115,323		
	<u>Subtotal</u>	\$1,277,023	
FEE @ 23% =	\$1,277,023	* 0.23 =	\$293,715

PIF @ 5.5%

CONSTRUCTION =	\$2,943,216		
GFE =	\$900,900		
PROCUREMENT FEE =	\$115,323		
G&A =	\$293,715		
	<u>Subtotal</u>	\$4,253,155	
FEE @ 5.5% =	\$4,253,155	* 0.055 =	\$233,924

TOTAL PROCUREMENT FEE: \$115,323

TOTAL G&A FEE: \$293,715

TOTAL PIF: \$233,924

*The \$500,000 ceiling on construction will be imposed since this activity will need to be completed within one year.

**The \$500,000 ceiling on any one contract will be imposed for the two VOG skids.

***"Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
CHARACTERIZATION - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-6D1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 21-Jan-1998
TIME: 15:24:56
CHECKED BY: *SNW*
APPRD BY: *HR5/BOR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$2,791,800</u>
1.3.1	GENERAL CONDITIONS	1,980,000	811,800	2,791,800
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$855,908</u>
1.5.1	G&A/PIF ADDER	607,027	248,881	855,908
1.5.2	PROCUREMENT FEES	59,400	24,354	>> <u>\$83,754</u>
	SUBTOTAL INCLUDING ESCALATION	2,646,427	1,085,035	>> \$3,731,462
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$1,268,538
	TOTAL ESTIMATED COST			>> \$5,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 0.00%

CONTINGENCY= 34.00%

COST ESTIMATE SUMMARY

Rev. 6/95
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 CHARACTERIZATION - UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6D
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 20-Jan-1998
 TIME: 10:15:23
 CHECKED BY:
 APPROD BY: *KAS/PRR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$1,980,000</u>
1.3.T	GENERAL CONDITIONS	1,980,000	0	1,980,000
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$607,027</u>
1.5.1	G&A/PIF ADDER	607,027	0	607,027
1.5.2	PROCUREMENT FEES	59,400	0	>> <u>\$59,400</u>
SUBTOTAL INCLUDING ESCALATION		2,646,427	0	>> \$2,646,427
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$953,573
TOTAL ESTIMATED COST				>> \$3,600,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 0.00%

CONTINGENCY= 36.03%

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL CHARACTERIZATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6D
 PREPARED BY: R. D. ADAMS

DATE 08-Dec-1997
 TIME: 20:11:22
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
Memo:	HEEL CHARACTERIZATION PULL 6 SAMPLES PER TANK X 11 TANKS.	66	EA			0.000					1,980,000	1,980,000
	GENERAL CONDITIONS S/T						0				\$1,980,000	\$1,980,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					469,062	469,062
	PIF	1	LOT			0.000					137,965	137,965
	G&A/PIF ADDER S/T						0				\$607,027	\$607,027
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$2,587,027	\$2,587,027

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
CHARACTERIZATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6D**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **10:15:28**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	1,980,000	74.82	0	40	0.00	29.93	26.934%	748.18%	7,134,429	9,114,429
1.5.1	G&A/PIF ADDER	607,027	22.94	0	40	0.00	9.18	8.258%	229.38%	2,187,268	2,794,295
1.5.2	PROCUREMENT FEES	59,400	2.24	0	40	0.00	0.90	0.808%	22.45%	214,033	273,433
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(8,582,157)	(8,582,157)
SUBTOTAL		2,646,427	100.00					36.000%			
CALCULATED CONTINGENCY		952,714									
RESULTANT TEC		3,599,141									
ROUNDED TEC		3,600,000									
PROJECT CONTINGENCY		953,573						36.03%			
MANAGEMENT RESERVE		0									
CONTINGENCY		953,573									
TOTAL ESTIMATED COST		3,600,000								953,573	3,600,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% -- 30%</p> <p>Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% -- 25%</p> <p>Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% -- 20%</p> <p>TITLE II 5% -- 15%</p> <p>TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL CHARACTERIZATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6D1**
 PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
 TIME: **15:25:00**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	1,980,000	53.06	0	40	0.00	21.22	19.102%	55.06%	698,514	2,678,514
1.5.1	G&A/PIF ADDER	607,027	16.27	0	40	0.00	6.51	5.856%	16.88%	214,150	821,177
1.5.2	PROCUREMENT FEES	59,400	1.59	0	40	0.00	0.64	0.573%	1.65%	20,955	80,355
	ESCALATION	1,085,035	29.08	0	35	0.00	10.18	9.160%	26.40%	334,919	1,419,954
	SUBTOTAL	3,731,462	100.00					34.691%			
	CALCULATED CONTINGENCY	1,294,500									
	RESULTANT TEC	5,025,962									
	ROUNDED TEC	5,000,000									
	PROJECT CONTINGENCY	1,268,538						34.00%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	1,268,538									
	TOTAL ESTIMATED COST	5,000,000								1,268,538	5,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

12/8/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6D

PROCUREMENT FEE:

CONSTRUCTION*** =	\$1,980,000
GFE =	\$0
Subtotal	<u>\$1,980,000</u>

FEE @ 3% = \$1,980,000 * 0.03 = \$59,400

G&A @ 23% (with a ceiling of \$500,000 imposed per year

CONSTRUCTION OR CEILING * # OF YEARS =	\$1,980,000
GFE =	\$0
PROCUREMENT FEE =	\$59,400
Subtotal	<u>\$2,039,400</u>

FEE @ 23% = \$2,039,400 * 0.23 = \$469,062

PIF @ 5.5%

CONSTRUCTION =	\$1,980,000
GFE =	\$0
PROCUREMENT FEE =	\$59,400
G&A =	\$469,062
Subtotal	<u>\$2,508,462</u>

FEE @ 5.5% = \$2,508,462 * 0.055 = \$137,965

TOTAL PROCUREMENT FEE: \$59,400

TOTAL G&A FEE: \$469,062

TOTAL PIF: \$137,965

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
TANK ISOLATION - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-6E1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 21-Jan-1998
TIME: 15:28:46
CHECKED BY: SMW
APPRD BY: KR/BR

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$307,762
1.1.2	TITLE III INSPECTION	212,250	95,512	307,762
1.2	MANAGEMENT COSTS			>> \$1,415,055
1.2.1	PROJECT MANAGEMENT	551,600	248,220	799,820
1.2.2	CONSTRUCTION MANAGEMENT	424,300	190,935	615,235
1.3	CONSTRUCTION			>> \$6,152,950
1.3.1	GENERAL CONDITIONS	1,544,535	695,041	2,239,576
1.3.2	SITework	225,389	101,425	326,814
1.3.15	MECHANICAL	2,459,556	1,106,800	3,566,356
1.3.16	ELECTRICAL	13,934	6,270	20,204
1.5	G&A/PIF			>> \$252,187
1.5.1	G&A/PIF ADDER	173,922	78,265	252,187
1.5.2	PROCUREMENT FEES	16,974	7,638	\$24,612
SUBTOTAL INCLUDING ESCALATION		5,622,460	2,530,106	>> \$8,152,566
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$642,975
CONTINGENCY				>> \$2,204,459
TOTAL ESTIMATED COST				>> \$11,000,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 5.00%
CONTINGENCY= 34.93%

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
TANK ISOLATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6E**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **10:50:34**
CHECKED BY:
APPRD BY: *KES/BoJ*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$212,250</u>
1.1.2	TITLE III INSPECTION	212,250	0	212,250
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$975,900</u>
1.2.1	PROJECT MANAGEMENT	551,600	0	551,600
1.2.2	CONSTRUCTION MANAGEMENT	424,300	0	424,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,243,414</u>
1.3.1	GENERAL CONDITIONS	1,544,535	0	1,544,535
1.3.2	SITWORK	225,389	0	225,389
1.3.15	MECHANICAL	2,459,556	0	2,459,556
1.3.16	ELECTRICAL	13,934	0	13,934
1.5	<u>G&A/PIF</u>			>> <u>\$173,922</u>
1.5.1	G&A/PIF ADDER	173,922	0	173,922
1.5.2	PROCUREMENT FEES	16,974	0	>> <u>\$16,974</u>
	SUBTOTAL INCLUDING ESCALATION	5,622,460	0	>> <u>\$5,622,460</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$443,431</u>
	CONTINGENCY			>> <u>\$1,634,109</u>
	TOTAL ESTIMATED COST			>> <u>\$7,700,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **36.95%**

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6E
 PREPARED BY: R. D. ADAMS

DATE 08-Dec-1997
 TIME: 20:15:17
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 2% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		84,900				84,900
	TITLE III INSPECTION S/T						0	\$84,900				\$84,900
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		551,600				551,600
	PROJECT MANAGEMENT S/T						0	\$551,600				\$551,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		424,300				424,300
	CONSTRUCTION MANAGEMENT S/T						0	\$424,300				\$424,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV EA	4656.00	4,656	235,128				235,128
	MOB/DEMOB	1	LOT		ZF-OE EA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE EA	186.000	1,860	96,292				96,292
	SMALL TOOLS & CONSUMABLES	1	LOT	127,920.00	EA	0.000				127,920		127,920
	CRANE SUPPORT	1	LOT		ZF-OE EA	2326.00	2,326	120,417	128,000			248,417
	MISC. EQUIPMENT	1	LOT		EA	0.000			117,650			117,650
	CLEANUP & MATERIAL HANDLING	46,561	MHRS		ZF-LB EA	0.100	4,656	205,939				205,939

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/00
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6E
 PREPARED BY: R. D. ADAMS

DATE 08-Dec-1997
 TIME: 20:16:17
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	4656.00	9,312	460,013				460,013
	ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	19,900.00		0.000				19,900		19,900
	GENERAL CONDITIONS S/T						23,310	\$1,143,674	\$245,650	\$147,820		\$1,537,144
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.3	ISOLATE TANK LINES EXCAVATE, SHORING, STOCKPILE, CLEAN FILL, SHORING	740	CY	50.00	ZF-OE FA	4.000	2,960	153,239	33,300	37,000		223,539
	ISOLATE TANK LINES S/T						2,960	\$153,239	\$33,300	\$37,000		\$223,539
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.2	TANK LINE ISOLATION INITIAL PIPE FLUSHING	11	TANK		Z-5210 FA	800.000	8,800	520,608				520,608
	REMOVE VB COVER & PREPARE FOR ENTRY	77	EA		ZF-OE FA	60.000	4,620	239,177				239,177
	SET UP & REMOVE RAD TENTS	77	EA		ZF-LB FA	160.000	12,320	544,914				544,914
	CUT & CAP TANK LINES IN GLOVE BAGS	165	EA	100.00	ZF-PF FA	65.000	10,725	646,396	26,813	16,500		689,708

Rev. 6/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 TANK ISOLATION
 LOCATION 1: JNEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-6E
 PREPARED BY: R. D. ADAMS

DATE 08-Dec-1997
 TIME: 20:15:17
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LINE ISOLATION CUT & CAP COOLING WATER LINES	540	EA	15.00	ZF-PF FA	3.000	1,620	97,637	4,050	8,100		109,787
	CUT & CAP INSTRUMENT LINES	352	EA	3.00	ZF-PF FA	1.000	352	21,215	880	1,056		23,151
	BOX REMOVED PIPE SECTIONS (ALLOW)	3	BOX	500.00	ZF-PF FA	20.000	60	3,616		1,500		5,116
	PROCESS WASTE BOXES	3	EA		FA	0.000					15,000	15,000
	TANK LINE ISOLATION S/T						38,497	\$2,073,583	\$31,743	\$27,156	\$15,000	\$2,147,462
1.3.15.3	VOG SYSTEM CUT,CAP & TIE-IN VOG LINES	22	EA		ZF-PF FA	100.000	2,200	132,594	5,500			138,094
	CUT & CAP TANK VOG LINES	66	EA	100.00	ZF-PF FA	40.000	2,640	159,113	6,600	6,600		172,313
	VOG SYSTEM S/T						4,840	\$291,707	\$12,100	\$6,600		\$310,407
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TANK ELECTRICAL/INSTRUMENTATION ISOLATION CUT & CAP CONDUIT	132	EA		ZF-EL FA	2.000	264	13,934				13,934
	TANK ELECTRICAL/INSTRUMENTATION ISOLATION S/T						264	\$13,934				\$13,934
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					134,393	134,393

Lockheed Martin Idaho Technologies Co.

Rev. 6/06

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL

TANK ISOLATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6E

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 08-Dec-1997

TIME: 20:15:17

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					39,529	39,529
	G&A/PIF ADDER S/T						0				\$173,922	\$173,922
	PROJECT SUBTOTAL						69,871	\$4,736,918	\$322,793	\$218,576	\$188,922	\$5,467,208

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW-FILL
TANK ISOLATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6E**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **10:50:39**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,250	3.78	0	35	0.00	1.32	1.189%	3.20%	66,414	278,664
1.2.1	PROJECT MANAGEMENT	551,600	9.81	0	35	0.00	3.43	3.090%	8.31%	172,599	724,199
1.2.2	CONSTRUCTION MANAGEMENT	424,300	7.55	0	35	0.00	2.64	2.377%	6.39%	132,766	557,066
1.3.1	GENERAL CONDITIONS	1,544,535	27.47	0	40	0.00	10.99	9.889%	26.59%	552,336	2,096,871
1.3.2	SITWORK	225,389	4.01	0	45	0.00	1.80	1.624%	4.36%	90,676	316,065
1.3.15	MECHANICAL	2,459,556	43.75	0	45	0.00	19.69	17.717%	47.63%	989,499	3,449,055
1.3.16	ELECTRICAL	13,934	0.25	0	40	0.00	0.10	0.089%	0.24%	4,983	18,917
1.5.1	G&A/PIF ADDER	173,922	3.09	0	40	0.00	1.24	1.114%	2.99%	62,196	236,118
1.5.2	PROCUREMENT FEES	16,974	0.30	0	40	0.00	0.12	0.109%	0.29%	6,070	23,044
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	1	1
SUBTOTAL		5,622,460	100.00					37.198%			
CALCULATED CONTINGENCY		2,091,441									
RESULTANT TEC		7,713,901									
ROUNDED TEC		7,700,000									
PROJECT CONTINGENCY		2,077,540						36.95%			
MANAGEMENT RESERVE		443,431									
CONTINGENCY		1,634,109									
TOTAL ESTIMATED COST		7,700,000								2,077,540	7,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
TANK ISOLATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6E1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **15:28:50**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,250	2.60	0	35	0.00	0.91	0.820%	2.31%	65,909	278,159
1.2.1	PROJECT MANAGEMENT	551,600	6.77	0	35	0.00	2.37	2.131%	6.02%	171,286	722,886
1.2.2	CONSTRUCTION MANAGEMENT	424,300	5.20	0	35	0.00	1.82	1.639%	4.63%	131,756	556,056
1.3.1	GENERAL CONDITIONS	1,544,535	18.95	0	40	0.00	7.58	6.820%	19.25%	548,136	2,092,671
1.3.2	SITWORK	225,389	2.76	0	45	0.00	1.24	1.120%	3.16%	89,986	315,375
1.3.15	MECHANICAL	2,459,556	30.17	0	45	0.00	13.58	12.218%	34.49%	981,974	3,441,530
1.3.16	ELECTRICAL	13,934	0.17	0	40	0.00	0.07	0.062%	0.17%	4,945	18,879
1.5.1	G&A/PIF ADDER	173,922	2.13	0	40	0.00	0.85	0.768%	2.17%	61,723	235,645
1.5.2	PROCUREMENT FEES	16,974	0.21	0	40	0.00	0.08	0.075%	0.21%	6,024	22,998
	ESCALATION	2,530,106	31.03	0	35	0.00	10.86	9.776%	27.59%	785,695	3,315,801
SUBTOTAL		8,152,566	100.00					35.430%			
CALCULATED CONTINGENCY		2,888,425									
RESULTANT TEC		11,040,991									
ROUNDED TEC		11,000,000									
PROJECT CONTINGENCY		2,847,434						34.93%			
MANAGEMENT RESERVE		642,975									
CONTINGENCY		2,204,459									
TOTAL ESTIMATED COST		11,000,000								2,847,434	11,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% -- 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% -- 20%
 TITLE II 5% -- 15%
 TITLE II/AFC Market Conditions

12/8/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6E

PROCUREMENT FEE:

CONSTRUCTION*** =	\$567,297	
GFE =	\$0	
Subtotal	<u>\$567,297</u>	
FEE @ 3% =	\$567,297 * 0.03 =	\$17,019

G&A @ 23% (with a ceiling of \$500,000 imposed per year

CONSTRUCTION OR CEILING * # OF YEARS =	\$567,297	
GFE =	\$0 **	
PROCUREMENT FEE =	\$17,019	
Subtotal	<u>\$584,316</u>	
FEE @ 23% =	\$584,316 * 0.23 =	\$134,393

PIF @ 5.5%

CONSTRUCTION =	\$567,297	
GFE =	\$0	
PROCUREMENT FEE =	\$17,019	
G&A =	\$134,393	
Subtotal	<u>\$718,709</u>	
FEE @ 5.5% =	\$718,709 * 0.055 =	\$39,529

TOTAL PROCUREMENT FEE: \$17,019

TOTAL G&A FEE: \$134,393

TOTAL PIF: \$39,529

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
WASH INTERIOR TANK WALLS - ESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6F1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
TIME: **15:31:49**
CHECKED BY: *SW*
APPROV BY: *KS/BR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$934,235
1.1.2	TITLE III INSPECTION	644,300	289,935	934,235
1.2	<u>MANAGEMENT COSTS</u>			>> \$3,400,373
1.2.1	PROJECT MANAGEMENT	1,675,300	686,873	2,362,173
1.2.2	CONSTRUCTION MANAGEMENT	716,000	322,200	1,038,200
1.3	<u>CONSTRUCTION</u>			>> \$10,381,941
1.3.1	GENERAL CONDITIONS	2,483,125	1,117,406	3,600,531
1.3.2	SITWORK	134,015	60,307	194,322
1.3.4	HEEL	1,034,023	465,310	1,499,333
1.3.6	SHIELDING	177,285	79,778	257,063
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	498,987	1,607,846
1.3.11	EQUIPMENT	1,190,930	535,919	1,726,849
1.3.15	MECHANICAL	404,696	182,113	586,809
1.3.16	ELECTRICAL	627,026	282,162	909,188
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$6,986,574
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,726,700	1,259,874	6,986,574
1.5	<u>G&A/PIF</u>			>> \$1,886,415
1.5.1	G&A/PIF ADDER	1,300,976	585,439	1,886,415
1.5.2	PROCUREMENT FEES	148,197	51,541	\$199,738
SUBTOTAL INCLUDING ESCALATION		17,371,432	6,417,844	>> \$23,789,276
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,945,467
CONTINGENCY				>> \$6,765,257
TOTAL ESTIMATED COST				>> \$32,500,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 36.62%

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
WASH INTERIOR TANK WALLS - UNESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6F**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **11:24:06**
CHECKED BY: _____
APPRD BY: **KES/BR**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$644,300
1.1.2	TITLE III INSPECTION	644,300	0	644,300
1.2	<u>MANAGEMENT COSTS</u>			>> \$2,391,300
1.2.1	PROJECT MANAGEMENT	1,675,300	0	1,675,300
1.2.2	CONSTRUCTION MANAGEMENT	716,000	0	716,000
1.3	<u>CONSTRUCTION</u>			>> \$7,159,959
1.3.1	GENERAL CONDITIONS	2,483,125	0	2,483,125
1.3.2	SITWORK	134,015	0	134,015
1.3.4	HEEL	1,034,023	0	1,034,023
1.3.6	SHIELDING	177,285	0	177,285
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	0	1,108,859
1.3.11	EQUIPMENT	1,190,930	0	1,190,930
1.3.15	MECHANICAL	404,696	0	404,696
1.3.16	ELECTRICAL	627,026	0	627,026
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$5,726,700
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,726,700	0	5,726,700
1.5	<u>G&A/PIF</u>			>> \$1,300,976
1.5.1	G&A/PIF ADDER	1,300,976	0	1,300,976
1.5.2	PROCUREMENT FEES	148,197	0	>> \$148,197
SUBTOTAL INCLUDING ESCALATION		17,371,432	0	>> \$17,371,432
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,433,583
CONTINGENCY				>> \$5,194,985
TOTAL ESTIMATED COST				>> \$24,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 38.16%

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/CPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6F
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 11:20:29
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		644,300				644,300
	TITLE III INSPECTION S/T						0	\$644,300				\$644,300
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		1,675,300				1,675,300
	PROJECT MANAGEMENT S/T						0	\$1,675,300				\$1,675,300
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		716,000				716,000
	CONSTRUCTION MANAGEMENT S/T						0	\$716,000				\$716,000
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV EA	7570.00	7,570	382,285				382,285
	TRAINING:	10	FTE		ZF-OE EA	291.000	2,910	150,651				150,651
	SMALL TOOLS & CONSUMABLES	1	LOT			0.000			189,300			189,300
	CRANE SUPPORT	1	LOT		ZF-OE EA	3785.00	3,785	195,949	208,200			404,149
	MISC. EQUIPMENT	1	LOT	201,000.00		0.000				201,000		201,000
	CLEANUP & MATERIAL HANDLING	75,713	MHRS		ZF-LB EA	0.100	7,571	334,879				334,879
	RADCON TECH SUPPORT	2	FTE		Z-1342	7570.00	15,140	747,916				747,916

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6F
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 11:20:29
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	59,900.00		0.000				59,900		59,900
	GENERAL CONDITIONS S/T						36,976	\$1,811,680	\$397,500	\$280,900		\$2,470,080
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS TANK RISERS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	440	CY	50.00	ZF-OE FA	4.000	1,760	91,115	19,800	22,000		132,915
	ACCESS TANK RISERS S/T						1,760	\$91,115	\$19,800	\$22,000		\$132,915
1.3.4	HEEL											
	HEEL S/T						0					
1.3.4.1	HEEL FLUSHING FLUSHES + PAPERWORK(11 TANKS X 27 FLUSHES/TANK)	297	EA		Z-5210 LIMITCO	24.000	7,128	421,692				421,692
	HEEL FLUSHING S/T						7,128	\$421,692				\$421,692

Lockheed Martin Idaho Technologies Co.

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PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
WASH INTERIOR TANK WALLS**

LOCATION 1: **INEEL/ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2408-6F**

PREPARED BY: **R. D. ADAMS**

PAGE # **3**

DATE **20-Jan-1998**

TIME: **11:20:29**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.4.2	HEEL MIXING & REMOVAL SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	INSTALL & REMOVE MOUNTING/SUPPORT FRAME	11	EA		ZF-IW FA	160.000	1,760	84,885				84,885
	INSTALL, MIX, REMOVE & DECON PUMP	11	EA		ZF-OE FA	400.000	4,400	227,788				227,788
	HEEL MIXING & REMOVAL S/T						7,040	\$358,230		\$242,000		\$600,230
1.3.6	SHIELDING											
	TANK RISER TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.7	TANK INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM(THREE TIMES PER TANK)	33	EA		ZF-OE FA	500.000	16,500	854,205				854,205
	INSTALL & REMOVE SUPPORT/MOUNTING FRAME	33	EA		ZF-IW FA	160.000	5,280	254,654				254,654
	TANK INTERNAL WASHDOWN S/T						21,780	\$1,108,859				\$1,108,859
1.3.11	EQUIPMENT											
	EQUIPMENT S/T						0					

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6F

PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998

TIME: 11:20:29

REPORT NAME: Detail Cost Estimate Shoot

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.11.1	EQUIPMENT REMOVAL REMOVE JETS, LIFTS, CORROSION COUPONS, ETC.	44	EA		ZF-PF FA	160.000	7,040	424,301				424,301
	SET UP & REMOVE RAD TENT	44	EA		ZF-LB FA	160.000	7,040	311,379				311,379
	CUT & BOX REMOVED EQUIP.	44	EA	500.00	ZF-PF FA	80.000	3,520	212,150		22,000		234,150
	PROCESS WASTE BOXES	44	EA		FA	0.000					220,000	220,000
	EQUIPMENT REMOVAL S/T						17,600	\$947,830		\$22,000	\$220,000	\$1,189,830
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	HEEL TRANSFER LINES VALVE BOX TIE-IN	11	EA		ZF-PF FA	80.000	880	53,038				53,038
	SET UP & REMOVE RAD TENT	11	EA		ZF-LB FA	160.000	1,760	77,845				77,845
	DBL ENCASE TRANSFER LINE - PURCHASE	150	LF	160.00	ZF-PF FA	0.000				24,000		24,000
	DBL ENCASE TRANSFER LINE - INSTALL	1,100	LF		ZF-PF FA	3.750	4,125	248,614				248,614
	HEEL TRANSFER LINES S/T						6,765	\$379,496		\$24,000		\$403,496
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6F
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 11:20:29
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	TEMPORARY POWER S/T						7,920	\$418,018				\$418,018
1.3.16.2	CAMERA & LIGHTING INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL FA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL FA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE MIXING PUMPS & CONTROLS	3	EA	250,000.00		0.000				750,000		750,000
	PURCHASE MOUNTING/SUPPORT FRAME	3	EA	50,000.00		0.000				150,000		150,000
	PURCHASE WASHDOWN ARM, SKID & CONTROLS	2	EA	2,000,000.00		0.000				4,000,000		4,000,000
	PURCHASE SUPPORT/MOUNTING FRAME	3	EA	50,000.00		0.000				150,000		150,000
	PURCHASE VIDEO & LIGHTING EQUIPMENT	1	LOT	50,000.00		0.000				50,000		50,000
	PURCHASE MONITORING SYSTEM	1	LOT	40,000.00		0.000				40,000		40,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 6

Rev. 6/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6F
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1988
 TIME: 11:20:29
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	314,000.00		0.000				314,000		314,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$5,454,000		\$5,454,000
1.6.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					967,040	967,040
	PIF	1	LOT			0.000					333,936	333,936
	G&A/PIF ADDER S/T						0				\$1,300,976	\$1,300,976
	PROJECT SUBTOTAL						112,689	\$8,866,415	\$417,300	\$6,112,900	\$1,520,976	\$16,917,591

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
WASH INTERIOR TANK WALLS - UNESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6F**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **11:24:12**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost.Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	644,300	3.71	0	35	0.00	1.30	1.168%	3.05%	202,096	846,396
1.2.1	PROJECT MANAGEMENT	1,675,300	9.64	0	35	0.00	3.38	3.038%	7.93%	525,487	2,200,787
1.2.2	CONSTRUCTION MANAGEMENT	716,000	4.12	0	35	0.00	1.44	1.298%	3.39%	224,586	940,586
1.3.1	GENERAL CONDITIONS	2,483,125	14.29	0	40	0.00	5.72	5.146%	13.43%	890,143	3,373,268
1.3.2	SITWORK	134,015	0.77	0	45	0.00	0.35	0.312%	0.82%	54,046	188,061
1.3.4	HEEL	1,034,023	5.95	0	40	0.00	2.38	2.143%	5.59%	370,673	1,404,696
1.3.6	SHIELDING	177,285	1.02	0	40	0.00	0.41	0.367%	0.96%	63,553	240,838
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	6.38	0	40	0.00	2.55	2.298%	6.00%	397,500	1,506,359
1.3.11	EQUIPMENT	1,190,930	6.86	0	40	0.00	2.74	2.468%	6.44%	426,921	1,617,851
1.3.15	MECHANICAL	404,696	2.33	0	45	0.00	1.05	0.944%	2.46%	163,208	567,904
1.3.16	ELECTRICAL	627,026	3.61	0	40	0.00	1.44	1.299%	3.39%	224,774	851,800
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,726,700	32.97	0	50	0.00	16.48	14.835%	38.71%	2,566,112	8,292,812
1.5.1	G&A/PIF ADDER	1,300,976	7.49	0	40	0.00	3.00	2.696%	7.04%	466,370	1,767,346
1.5.2	PROCUREMENT FEES	148,197	0.85	0	40	0.00	0.34	0.307%	0.80%	53,125	201,322
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(26)	(26)
SUBTOTAL		17,371,432	100.00					38.320%			
CALCULATED CONTINGENCY		6,656,759									
RESULTANT TEC		24,028,191									
ROUNDED TEC		24,000,000									
PROJECT CONTINGENCY		6,628,568						38.16%			
MANAGEMENT RESERVE		1,433,583									
CONTINGENCY		5,194,985									
TOTAL ESTIMATED COST		24,000,000								6,628,568	24,000,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE III/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

REV. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
WASH INTERIOR TANK WALLS - ESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6F1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **15:31:54**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	644,300	2.71	0	35	0.00	0.95	0.853%	2.34%	203,712	848,012
1.2.1	PROJECT MANAGEMENT	1,675,300	7.04	0	35	0.00	2.46	2.218%	6.08%	529,689	2,204,989
1.2.2	CONSTRUCTION MANAGEMENT	716,000	3.01	0	35	0.00	1.05	0.948%	2.60%	226,382	942,382
1.3.1	GENERAL CONDITIONS	2,483,125	10.44	0	40	0.00	4.18	3.758%	10.30%	897,262	3,380,387
1.3.2	SITework	134,015	0.56	0	45	0.00	0.25	0.228%	0.63%	54,479	188,494
1.3.4	HEEL	1,034,023	4.35	0	40	0.00	1.74	1.565%	4.29%	373,638	1,407,661
1.3.6	SHIELDING	177,285	0.75	0	40	0.00	0.30	0.268%	0.74%	64,061	241,346
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	4.66	0	40	0.00	1.86	1.678%	4.60%	400,679	1,509,538
1.3.11	EQUIPMENT	1,190,930	5.01	0	40	0.00	2.00	1.802%	4.94%	430,335	1,621,265
1.3.15	MECHANICAL	404,696	1.70	0	45	0.00	0.77	0.689%	1.89%	164,514	569,210
1.3.16	ELECTRICAL	627,026	2.64	0	40	0.00	1.05	0.949%	2.60%	226,572	853,598
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,726,700	24.07	0	50	0.00	12.04	10.833%	29.69%	2,586,635	8,313,335
1.5.1	G&A/PIF ADDER	1,300,976	5.47	0	40	0.00	2.19	1.969%	5.40%	470,100	1,771,076
1.5.2	PROCUREMENT FEES	148,197	0.62	0	40	0.00	0.25	0.224%	0.61%	53,550	201,747
	ESCALATION	6,417,844	26.98	0	35	0.00	9.44	8.498%	23.30%	2,029,116	8,446,960
	SUBTOTAL	23,789,276	100.00					36.480%			
	CALCULATED CONTINGENCY	8,678,379									
	RESULTANT TEC	32,467,655									
	ROUNDED TEC	32,500,000									
	PROJECT CONTINGENCY	8,710,724						36.62%			
	MANAGEMENT RESERVE	1,945,467									
	CONTINGENCY	6,765,257									
	TOTAL ESTIMATED COST	32,500,000								8,710,724	32,500,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30%</p> <p>Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25%</p> <p>Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20%</p> <p>TITLE II 5% - 15%</p> <p>TITLE II/AFC Market Conditions</p>
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1/20/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6F

PROCUREMENT FEE:

CONSTRUCTION*** =	\$1,329,145		
GFE =	\$3,626,700		
	<u>Subtotal</u>	\$4,955,845	
FEE @ 3% =	\$4,955,845	* 0.03 =	\$148,675

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$1,329,145		
GFE =	\$2,726,700		
PROCUREMENT FEE =	\$148,675		
	<u>Subtotal</u>	\$4,204,520	
FEE @ 23% =	\$4,204,520	* 0.23 =	\$967,040

PIF @ 5.5%

CONSTRUCTION =	\$1,329,145		
GFE =	\$3,626,700		
PROCUREMENT FEE =	\$148,675		
G&A =	\$967,040		
	<u>Subtotal</u>	\$6,071,560	
FEE @ 5.5% =	\$6,071,560	* 0.055 =	\$333,936

TOTAL PROCUREMENT FEE: \$148,675

TOTAL G&A FEE: \$967,040

TOTAL PIF: \$333,936

****Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-GG1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
TIME: **16:13:50**
CHECKED BY: *SW*
APPRD BY: *KAE/BR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$343,650</u>
1.1.2	TITLE III INSPECTION	229,100	114,550	343,650
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$997,715</u>
1.2.1	PROJECT MANAGEMENT	595,700	268,065	863,765
1.2.2	CONSTRUCTION MANAGEMENT	89,300	44,650	133,950
1.3	<u>CONSTRUCTION</u>			>> <u>\$1,338,994</u>
1.3.1	GENERAL CONDITIONS	282,949	141,475	424,424
1.3.3	CONCRETE	413,015	206,507	619,522
1.3.15	MECHANICAL	80,583	40,291	120,874
1.3.16	ELECTRICAL	116,116	58,058	174,174
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$4,501,306</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	811,711	4,501,306
1.5	<u>G&A/PIF</u>			>> <u>\$1,361,327</u>
1.5.1	G&A/PIF ADDER	907,551	453,776	1,361,327
1.5.2	PROCUREMENT FEES	119,139	32,709	151,848
SUBTOTAL INCLUDING ESCALATION		6,523,048	2,171,792	>> \$8,694,840
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$735,347
CONTINGENCY				>> \$2,569,813
TOTAL ESTIMATED COST				>> \$12,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **6.00%**

CONTINGENCY= **38.01%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
 SOLIDIFY REMAINING HEEL - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6G1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
 TIME: **13:00:45**
 CHECKED BY: _____
 APPRD BY: **HBS/Bar**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$229,100</u>
1.1.2	TITLE III INSPECTION	229,100	0	229,100
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$685,000</u>
1.2.1	PROJECT MANAGEMENT	595,700	0	595,700
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0	89,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$892,663</u>
1.3.1	GENERAL CONDITIONS	282,949	0	282,949
1.3.3	CONCRETE	413,015	0	413,015
1.3.15	MECHANICAL	80,583	0	80,583
1.3.16	ELECTRICAL	116,116	0	116,116
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$3,689,595</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	0	3,689,595
1.5	<u>G&A/PIF</u>			>> <u>\$907,551</u>
1.5.1	G&A/PIF ADDER	907,551	0	907,551
1.5.2	PROCUREMENT FEES	119,139	0	>> <u>\$119,139</u>
SUBTOTAL INCLUDING ESCALATION		6,523,048	0	>> <u>\$6,523,048</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$560,895</u>
CONTINGENCY				>> <u>\$2,116,057</u>
TOTAL ESTIMATED COST				>> <u>\$9,200,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 41.04%

DETAILED COST ESTIMATE SHEET

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6G1
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 12:55:48
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 6% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		229,100				229,100
	TITLE III INSPECTION S/T						0	\$229,100				\$229,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		595,700				595,700
	PROJECT MANAGEMENT S/T						0	\$595,700				\$595,700
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		89,300				89,300
	CONSTRUCTION MANAGEMENT S/T						0	\$89,300				\$89,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	820.000	820	41,410				41,410
	TRAINING:	10	FTE		ZF-OE FA	32.000	320	16,566				16,566
	SMALL TOOLS & CONSUMABLES	1	LOT	20,800.00		0.000				20,800		20,800
	CRANE SUPPORT	1	LOT		ZF-OE FA	410.000	410	21,226	22,550			43,776
	MISC. EQUIPMENT	1	LOT			0.000			20,600			20,600
	CLEANUP & MATERIAL HANDLING	8,238	MHRS		ZF-LB FA	0.100	824	36,437				36,437
	RADCON TECH SUPPORT	2	FTE		Z-1342	820.000	1,640	81,016				81,016

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 0/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6G1
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 12:55:48
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	20,290.00		0.000				20,290		20,290
	GENERAL CONDITIONS S/T						4,014	\$198,655	\$43,150	\$41,090		\$280,895
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.3	HEEL SOLIDIFICATION GROUT ARM MOUNTING FRAMES	2	EA	50,000.00		0.000				100,000		100,000
	INSTALL & REMOVE MOUNTING FRAMES	22	EA		ZF-IW FA	120.000	2,640	127,327				127,327
	INSTALL & REMOVE TEMPORARY SHIELDING AT RISER	22	EA		ZF-LB FA	80.000	1,760	77,845				77,845
	PLACE WET GROUT	800	CY	80.00	ZF-OE FA	0.500	400	20,708		64,000		84,708
	PLACE DRY GROUT (ALLOW)	110	CY	80.00	ZF-OE FA	1.000	110	5,695		8,800		14,495
	HEEL SOLIDIFICATION S/T						4,910	\$231,575		\$172,800		\$404,375
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.5	GROUT DELIVERY PIPING PURCHASE PIPE	350	LF	26.64		0.000				9,324		9,324

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-6G1
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 12:55:48
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.5	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	2,400	LF		ZF-PF FA	0.470	1,128	67,985	2,808			70,793
	GROUT DELIVERY PIPING S/T						1,128	\$67,985	\$2,808	\$9,324		\$80,117
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO WET & DRY GROUT ARMS EQUIPMENT	22	EA		ZF-EL FA	100.000	2,200	116,116				116,116
	TEMPORARY POWER S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE WET GROUT DELIVERY ARM & CONTROLS	2	EA	800,000.00	FA	0.000				1,600,000		1,600,000
	PURCHASE DRY GROUT DELIVERY ARM & CONTROLS	2	EA	750,000.00	FA	0.000				1,500,000		1,500,000
	PURCHASE GROUT PUMP	1	EA	55,000.00	FA	0.000				55,000		55,000
	PURCHASE AIR COMPRESSOR & MISC CLEANING EQUIP.	1	LOT	25,000.00	FA	0.000				25,000		25,000

Lockheed Martin Idaho Technologies Co.

Rev. 0/90

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
SOLIDIFY REMAINING HEEL

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO: 2406-6G1

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 20-Jan-1998

TIME: 12:55:48

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	333,900.00		0.000				333,900		333,900
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$3,513,900		\$3,513,900
1.5.1	Q&A/PIF ADDER											
00701000	Q&A	1	LOT			0.000					647,066	647,066
	PIF	1	LOT			0.000					260,485	260,485
	Q&A/PIF ADDER S/T						0				\$907,551	\$907,551
	PROJECT SUBTOTAL						12,252	\$1,526,430	\$45,958	\$3,737,114	\$907,551	\$6,217,053

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
 SOLIDIFY REMAINING HEEL - UNESCALATED**
 LOCATION 1: **INEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6G1**
 PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
 TIME: **13:00:51**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	3.51	0	35	0.00	1.23	1.106%	2.73%	73,097	302,197
1.2.1	PROJECT MANAGEMENT	595,700	9.13	0	35	0.00	3.20	2.877%	7.10%	190,065	785,765
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.37	0	35	0.00	0.48	0.431%	1.06%	28,492	117,792
1.3.1	GENERAL CONDITIONS	282,949	4.34	0	40	0.00	1.74	1.562%	3.85%	103,175	386,124
1.3.3	CONCRETE	413,015	6.33	0	40	0.00	2.53	2.279%	5.63%	150,602	563,617
1.3.15	MECHANICAL	80,583	1.24	0	45	0.00	0.56	0.500%	1.23%	33,057	113,640
1.3.16	ELECTRICAL	116,116	1.78	0	40	0.00	0.71	0.641%	1.58%	42,341	158,457
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	56.56	0	50	0.00	28.28	25.453%	62.82%	1,681,724	5,371,319
1.5.1	G&A/PIF ADDER	907,551	13.91	0	40	0.00	5.57	5.009%	12.36%	330,931	1,238,482
1.5.2	PROCUREMENT FEES	119,139	1.83	0	40	0.00	0.73	0.658%	1.62%	43,443	162,582
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	25	25
SUBTOTAL		6,523,048	100.00					40.516%			
CALCULATED CONTINGENCY		2,642,853									
RESULTANT TEC		9,165,901.									
ROUNDED TEC		9,200,000									
PROJECT CONTINGENCY		2,676,952						41.04%			
MANAGEMENT RESERVE		560,895									
CONTINGENCY		2,116,057									
TOTAL ESTIMATED COST		9,200,000								2,676,952	9,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide; and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6G1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **16:13:55**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	2.63	0	35	0.00	0.92	0.830%	2.17%	71,693	300,793
1.2.1	PROJECT MANAGEMENT	595,700	6.85	0	35	0.00	2.40	2.158%	5.64%	186,414	782,114
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.03	0	35	0.00	0.36	0.324%	0.85%	27,945	117,245
1.3.1	GENERAL CONDITIONS	282,949	3.25	0	40	0.00	1.30	1.172%	3.06%	101,193	384,142
1.3.3	CONCRETE	413,015	4.75	0	40	0.00	1.90	1.710%	4.47%	147,710	560,725
1.3.15	MECHANICAL	80,583	0.93	0	45	0.00	0.42	0.375%	0.98%	32,422	113,005
1.3.16	ELECTRICAL	116,116	1.34	0	40	0.00	0.53	0.481%	1.26%	41,527	157,643
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	42.43	0	50	0.00	21.22	19.095%	49.90%	1,649,422	5,339,017
1.5.1	G&A/PIF ADDER	907,551	10.44	0	40	0.00	4.18	3.758%	9.82%	324,574	1,232,125
1.5.2	PROCUREMENT FEES	119,139	1.37	0	40	0.00	0.55	0.493%	1.29%	42,609	161,748
	ESCALATION	2,171,792	24.98	0	35	0.00	8.74	7.868%	20.56%	679,651	2,851,443
	SUBTOTAL	8,694,840	100.00					38.264%			
	CALCULATED CONTINGENCY	3,326,967									
	RESULTANT TEC	12,021,807									
	ROUNDED TEC	12,000,000									
	PROJECT CONTINGENCY	3,305,160						38.01%			
	MANAGEMENT RESERVE	735,347									
	CONTINGENCY	2,569,813									
	TOTAL ESTIMATED COST	12,000,000								3,305,160	12,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

1/20/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6G

PROCUREMENT FEE:

CONSTRUCTION*** =	\$280,333		
GFE =	\$3,689,595		
	Subtotal	\$3,969,928	
FEE @ 3% =	\$3,969,928	* 0.03 =	\$119,098

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 2 YEARS =	\$280,333		
GFE =	\$2,413,900		
PROCUREMENT FEE =	\$119,098		
	Subtotal	\$2,813,331	
FEE @ 23% =	\$2,813,331	* 0.23 =	\$647,066

PIF @ 5.5%

CONSTRUCTION =	\$280,333		
GFE =	\$3,689,595		
PROCUREMENT FEE =	\$119,098		
G&A =	\$647,066		
	Subtotal	\$4,736,092	
FEE @ 5.5% =	\$4,736,092	* 0.055 =	\$260,485

TOTAL PROCUREMENT FEE: \$119,098

TOTAL G&A FEE: \$647,066

TOTAL PIF: \$260,485

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
 CLEAN VAULTS - ESCALATED**
 LOCATION 1: **INEEL/CPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO.: **2406-6H1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
 TIME: **15:56:00**
 CHECKED BY: *SN*
 APPRD BY: *KLS/BR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$581,658</u>
1.1.2	TITLE III INSPECTION	377,700	203,958	581,658
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$2,675,904</u>
1.2.1	PROJECT MANAGEMENT	982,100	530,334	1,512,434
1.2.2	CONSTRUCTION MANAGEMENT	755,500	407,970	1,163,470
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$11,634,149</u>
1.3.1	GENERAL CONDITIONS	2,486,927	1,342,941	3,829,868
1.3.2	SITWORK	759,751	410,266	1,170,017
1.3.3	CONCRETE	1,315,167	710,190	2,025,357
1.3.4	VAULT	299,658	161,815	461,473
1.3.5	SHIELDING	177,285	95,734	273,019
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	798,379	2,276,858
1.3.15	MECHANICAL	271,009	146,345	417,354
1.3.16	ELECTRICAL	766,366	413,837	1,180,203
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$961,343</u>
1.5.1	G&A/PIF ADDER	624,249	337,094	961,343
1.5.2	PROCUREMENT FEES	60,437	32,636	>> <u>\$93,073</u>
	SUBTOTAL INCLUDING ESCALATION	10,354,628	5,591,499	>> \$15,946,127
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,268,857
	CONTINGENCY			>> \$4,185,016
	TOTAL ESTIMATED COST			>> \$21,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **34.20%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
CLEAN VAULTS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

COST ESTIMATE SUMMARY

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6H1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **13:51:09**

CHECKED BY: _____
APPR'D BY: *KAS/Bar*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$377,700</u>
1.1.2	TITLE III INSPECTION	377,700	0	377,700
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,737,600</u>
1.2.1	PROJECT MANAGEMENT	982,100	0	982,100
1.2.2	CONSTRUCTION MANAGEMENT	755,500	0	755,500
1.3	<u>CONSTRUCTION</u>			>> <u>\$7,554,642</u>
1.3.1	GENERAL CONDITIONS	2,486,927	0	2,486,927
1.3.2	SITWORK	759,751	0	759,751
1.3.3	CONCRETE	1,315,167	0	1,315,167
1.3.4	VAULT	299,658	0	299,658
1.3.5	SHIELDING	177,285	0	177,285
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	0	1,478,479
1.3.15	MECHANICAL	271,009	0	271,009
1.3.16	ELECTRICAL	766,366	0	766,366
1.5	<u>G&A/PIF</u>			>> <u>\$624,249</u>
1.5.1	G&A/PIF ADDER	624,249	0	624,249
1.5.2	PROCUREMENT FEES	60,437	0	>> <u>\$60,437</u>
SUBTOTAL INCLUDING ESCALATION		10,354,628	0	>> <u>\$10,354,628</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$823,933</u>
CONTINGENCY				>> <u>\$2,821,439</u>
TOTAL ESTIMATED COST				>> <u>\$14,000,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **35.21%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 CLEAN VAULTS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6H1
 PREPARED BY: R. D. ADAMS

PAGE # 1

DATE: 20-Jan-1998
 TIME: 13:47:55
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
	TITLE III/QA	1	LOT			0.000		377,700				377,700
	TITLE III INSPECTION S/T						0	\$377,700				\$377,700
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		982,100				982,100
	PROJECT MANAGEMENT S/T						0	\$982,100				\$982,100
1.2.2	CONSTRUCTION MANAGEMENT											
	CM	1	LOT			0.000		755,500				755,500
	CONSTRUCTION MANAGEMENT S/T						0	\$755,500				\$755,500
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	7390.00	7,390	373,195				373,195
	TRAINING:	10	FTE		ZF-OE FA	284.000	2,840	147,027				147,027
	SMALL TOOLS & CONSUMABLES	1	LOT	187,500.00		0.000				187,500		187,500
	CRANE SUPPORT	1	LOT		ZF-OE FA	3695.00	3,695	191,290	203,200			394,490
	MISC. EQUIPMENT	1	LOT			0.000			184,700			184,700
	CLEANUP & MATERIAL HANDLING	73,892	MHRS		ZF-LB FA	0.100	7,389	326,824				326,824

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 CLEAN VAULTS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-6H1
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 13:47:55
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	7390.00	14,780	730,132				730,132
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	127,318.00	FA	0.000				127,318		127,318
	GENERAL CONDITIONS S/T						36,094	\$1,768,468	\$387,900	\$314,818		\$2,471,186
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS VAULT TOP FOR CORE DRILLS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	2,600	CY	50.00	ZF-OE FA	4.000	10,400	538,408	29,250	130,000		697,658
	PLACE GRAVEL AROUND TANK MONITORS	44	EA	20.00	ZF-OE FA	24.000	1,056	54,669		880		55,549
	ACCESS VAULT TOP FOR CORE DRILLS S/T						11,456	\$593,077	\$29,250	\$130,880		\$753,207
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	TANK VAULT ACCESS HOLES CORE DRILL 18"DIA IN VAULT ROOF	99	EA	1,000.00	ZF-LB FA	100.000	9,900	437,877	148,500	99,000		685,377

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6H1

PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998

TIME: 13:47:55

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	TANK VAULT ACCESS HOLES SHIELDING AROUND VAULT HOLES	99	EA	5,000.00	ZF-LB FA	24.000	2,376	105,090		495,000		600,090
	TANK VAULT ACCESS HOLES S/T						12,276	\$542,967	\$148,500	\$594,000		\$1,285,467
1.3.4	VAULT											
	VAULT S/T						0					
1.3.4.1	VAULT CLEANING SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	VAULT CLEANING S/T						880	\$45,558		\$242,000		\$287,558
1.3.5	SHIELDING											
	VAULT OPENING TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.6	VAULT INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM(THREE TIMES PER TANK)	44	EA		ZF-OE FA	500.000	22,000	1,138,940				1,138,940

Lockheed Martin Idaho Technologies Co.

Rev. 01/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL

CLEAN VAULTS

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2408-6H1

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 20-Jan-1998

TIME: 13:47:55

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.6	VAULT INTERNAL WASHDOWN INSTALL & REMOVE SUPPORT/MOUNTING FRAME	44	EA		ZF-IW FA	160.000	7,040	339,539				339,539
	VAULT INTERNAL WASHDOWN S/T						29,040	\$1,478,479				\$1,478,479
1.3.15	MECHANICAL											
	CONNECT PUMPS TO DISCHARGE PIPING	44	EA	500.00	ZF-PF	60.000	2,640	159,113		22,000		181,113
	CONNECT WASHDOWN EQUIPMENT TO UTILITY PIPING	44	EA	200.00	ZF-PF	30.000	1,320	79,556		8,800		88,356
	MECHANICAL S/T						3,960	\$238,669		\$30,800		\$269,469
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	44	EA		ZF-EL FA	120.000	5,280	278,678				278,678
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	44	EA		ZF-EL FA	120.000	5,280	278,678				278,678
	TEMPORARY POWER S/T						10,560	\$557,357				\$557,357

Lockheed Martin Idaho Technologies Co.

Rev. 8/96

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL

CLEAN VAULTS

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6H1

PREPARED BY: R. D. ADAMS

PAGE # 5

DATE 20-Jan-1998

TIME: 13:47:55

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	CAMERA & LIGHTING INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL EA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL EA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					482,369	482,369
	PIF	1	LOT			0.000					141,880	141,880
	G&A/PIF ADDER S/T						0				\$624,249	\$624,249
	PROJECT SUBTOTAL						109,986	\$7,633,769	\$565,650	\$1,400,498	\$624,249	\$10,224,166

CONTINGENCY ANALYSIS

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
CLEAN VAULTS - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-6H1
PREPARED BY: R. D. ADAMS

DATE: 20-Jan-1998
TIME: 13:51:15

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	377,700	3.65	0	35	0.00	1.28	1.149%	3.23%	117,891	495,591
1.2.1	PROJECT MANAGEMENT	982,100	9.48	0	35	0.00	3.32	2.988%	8.41%	306,542	1,288,642
1.2.2	CONSTRUCTION MANAGEMENT	755,500	7.30	0	35	0.00	2.55	2.298%	6.47%	235,814	991,314
1.3.1	GENERAL CONDITIONS	2,486,927	24.02	0	40	0.00	9.61	8.646%	24.34%	887,135	3,374,062
1.3.2	SITework	759,751	7.34	0	45	0.00	3.30	2.972%	8.36%	304,895	1,064,646
1.3.3	CONCRETE	1,315,167	12.70	0	40	0.00	5.08	4.572%	12.87%	469,146	1,784,313
1.3.4	VAULT	299,658	2.89	0	40	0.00	1.16	1.042%	2.93%	106,894	406,552
1.3.5	SHIELDING	177,285	1.71	0	40	0.00	0.68	0.616%	1.73%	63,241	240,526
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	14.28	0	40	0.00	5.71	5.140%	14.47%	527,402	2,005,881
1.3.15	MECHANICAL	271,009	2.62	0	45	0.00	1.18	1.060%	2.98%	108,758	379,767
1.3.16	ELECTRICAL	766,366	7.40	0	40	0.00	2.96	2.664%	7.50%	273,378	1,039,744
1.5.1	G&A/PIF ADDER	624,249	6.03	0	40	0.00	2.41	2.170%	6.11%	222,682	846,931
1.5.2	PROCUREMENT FEES	60,437	0.58	0	40	0.00	0.23	0.210%	0.59%	21,559	81,996
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	35	35
SUBTOTAL		10,354,628	100.00					35.529%			
CALCULATED CONTINGENCY		3,678,862									
RESULTANT TEC		14,033,490									
ROUNDED TEC		14,000,000									
PROJECT CONTINGENCY		3,645,372						35.21%			
MANAGEMENT RESERVE		823,933									
CONTINGENCY		2,821,439									
TOTAL ESTIMATED COST		14,000,000								3,645,372	14,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
CLEAN VAULTS - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6H1**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **16:56:05**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	377,700	2.37	0	35	0.00	0.83	0.746%	2.19%	119,275	496,975
1.2.1	PROJECT MANAGEMENT	982,100	6.16	0	35	0.00	2.16	1.940%	5.69%	310,140	1,292,240
1.2.2	CONSTRUCTION MANAGEMENT	755,500	4.74	0	35	0.00	1.66	1.492%	4.37%	238,581	994,081
1.3.1	GENERAL CONDITIONS	2,486,927	15.60	0	40	0.00	6.24	5.614%	16.46%	897,547	3,384,474
1.3.2	SITWORK	759,751	4.76	0	45	0.00	2.14	1.930%	5.66%	308,474	1,068,225
1.3.3	CONCRETE	1,315,167	8.25	0	40	0.00	3.30	2.969%	8.70%	474,652	1,789,819
1.3.4	VAULT	299,658	1.88	0	40	0.00	0.75	0.677%	1.98%	108,148	407,806
1.3.5	SHIELDING	177,285	1.11	0	40	0.00	0.44	0.400%	1.17%	63,983	241,268
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	9.27	0	40	0.00	3.71	3.338%	9.78%	533,592	2,012,071
1.3.15	MECHANICAL	271,009	1.70	0	45	0.00	0.76	0.688%	2.02%	110,035	381,044
1.3.16	ELECTRICAL	766,366	4.81	0	40	0.00	1.92	1.730%	5.07%	276,586	1,042,952
1.5.1	G&A/PIF ADDER	624,249	3.91	0	40	0.00	1.57	1.409%	4.13%	225,295	849,544
1.5.2	PROCUREMENT FEES	60,437	0.38	0	40	0.00	0.15	0.136%	0.40%	21,812	82,249
	ESCALATION	5,591,499	35.06	0	35	0.00	12.27	11.045%	32.38%	1,765,753	7,357,252
	SUBTOTAL	15,946,127	100.00					34.116%			
	CALCULATED CONTINGENCY	5,440,184									
	RESULTANT TEC	21,386,311									
	ROUNDED TEC	21,400,000									
	PROJECT CONTINGENCY	5,453,873						34.20%			
	MANAGEMENT RESERVE	1,268,857									
	CONTINGENCY	4,185,016									
	TOTAL ESTIMATED COST	21,400,000								5,453,873	21,400,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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12/8/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6H

PROCUREMENT FEE:

CONSTRUCTION*** =	\$2,036,173		
GFE =	\$0		
Subtotal	\$2,036,173		
FEE @ 3% =	\$2,036,173	* 0.03 =	\$61,085

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$2,036,173		
GFE =	\$0		
PROCUREMENT FEE =	\$61,085		
Subtotal	\$2,097,258		
FEE @ 23% =	\$2,097,258	* 0.23 =	\$482,369

PIF @ 5.5%

CONSTRUCTION =	\$2,036,173		
GFE =	\$0		
PROCUREMENT FEE =	\$61,085		
G&A =	\$482,369		
Subtotal	\$2,579,628		
FEE @ 5.5% =	\$2,579,628	* 0.055 =	\$141,880

TOTAL PROCUREMENT FEE: \$61,085

TOTAL G&A FEE: \$482,369

TOTAL PIF: \$141,880

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
 FILL VAULT WITH CLEAN GROUT - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-611**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
 TIME: **16:58:35**
 CHECKED BY: SNW
 APPRD BY: KRE/BD

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$324,058</u>
1.1.2	TITLE III INSPECTION	205,100	118,958	324,058
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,490,888</u>
1.2.1	PROJECT MANAGEMENT	533,300	309,314	842,614
1.2.2	CONSTRUCTION MANAGEMENT	410,300	237,974	648,274
1.3	<u>CONSTRUCTION</u>			>> <u>\$6,482,202</u>
1.3.1	GENERAL CONDITIONS	820,560	475,925	1,296,485
1.3.3	CONCRETE	2,591,677	1,503,172	4,094,849
1.3.15	MECHANICAL	690,423	400,445	1,090,868
1.5	<u>G&A/PIE</u>			>> <u>\$1,392,585</u>
1.5.1	G&A/PIF ADDER	881,383	511,202	1,392,585
1.5.2	PROCUREMENT FEES	84,515	49,019	133,534
	SUBTOTAL INCLUDING ESCALATION	6,217,258	3,606,009	>> <u>\$9,823,267</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$800,832</u>
	CONTINGENCY			>> <u>\$2,575,901</u>
	TOTAL ESTIMATED COST			>> <u>\$13,200,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **34.37%**

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
FILL VAULT WITH CLEAN GROUT - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-611**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **15:34:48**

CHECKED BY: _____
APPRD BY: *KES/BL*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$205,100</u>
1.1.2	TITLE III INSPECTION	205,100	0	205,100
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$943,600</u>
1.2.1	PROJECT MANAGEMENT	533,300	0	533,300
1.2.2	CONSTRUCTION MANAGEMENT	410,300	0	410,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,102,660</u>
1.3.1	GENERAL CONDITIONS	820,560	0	820,560
1.3.3	CONCRETE	2,591,677	0	2,591,677
1.3.15	MECHANICAL	690,423	0	690,423
1.5	<u>G&A/PIF</u>			>> <u>\$881,383</u>
1.5.1	G&A/PIF ADDER	881,383	0	881,383
1.5.2	PROCUREMENT FEES	84,515	0	>> <u>\$84,515</u>
	SUBTOTAL INCLUDING ESCALATION	6,217,258	0	>> <u>\$6,217,258</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$506,856</u>
	CONTINGENCY			>> <u>\$1,675,886</u>
	TOTAL ESTIMATED COST			>> <u>\$8,400,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 35.11%

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 FILL VAULT WITH CLEAN GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-611
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 15:30:50
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		205,100				205,100
	TITLE III INSPECTION S/T						0	\$205,100				\$205,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		533,300				533,300
	PROJECT MANAGEMENT S/T						0	\$533,300				\$533,300
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		410,300				410,300
	CONSTRUCTION MANAGEMENT S/T						0	\$410,300				\$410,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV EA	1780.00	1,780	89,890				89,890
	TRAINING:	10	FTE		ZF-OE EA	69.000	690	35,721				35,721
	SMALL TOOLS & CONSUMABLES	1	LOT	41,900.00		0.000				41,900		41,900
	CRANE SUPPORT	1	LOT		ZF-OE EA	890.000	890	46,075	48,950			95,025
	MISC. EQUIPMENT	1	LOT			0.000			44,600			44,600
	CLEANUP & MATERIAL HANDLING	17,845	MHRS		ZF-LB EA	0.100	1,785	78,928				78,928
	RADCON TECH SUPPORT	2	FTE		Z-1342	1780.00	3,560	175,864				175,864

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	244,320.00	FA	0.000				244,320		244,320
	GENERAL CONDITIONS S/T						8,705	\$426,479	\$93,550	\$286,220		\$806,249
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.2	VAULT & TANK GROUTING PURCHASE GROUT DROP TUBE & ACCESSORIES	1,200	LF	20.00	FA	0.000				24,000		24,000
	INSTALL & REMOVE DROP TUBES	2,200	LF		ZF-LB FA	0.500	1,100	48,653				48,653
	GROUT PLACEMENT, CLEANUP	21,080	CY	80.00	ZF-LB FA	0.620	13,070	578,068		1,686,400		2,264,468
	FIBROUS GROUT REINFORCEMENT	21,080	CY	5.00	FA	0.000				105,400		105,400
	GROUT OVER TANK MONITOR FEET	44	EA	80.00	ZF-OE FA	24.000	1,056	54,669		3,520		58,189
	VAULT & TANK GROUTING S/T						15,226	\$681,391		\$1,819,320		\$2,500,711
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	700	LF		ZF-PF FA	0.470	329	19,829	819			20,648

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-611

PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998

TIME: 15:30:50

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	GROUT DELIVERY PIPING GROUT MANIFOLDS & CLEANING SYSTEM	1	LOT	12,500.00	ZF-PF FA	750.000	750	45,203		12,500		57,703
	GROUT DELIVERY PIPING S/T						1,079	\$65,031	\$819	\$12,500		\$78,350
1.3.15.2	TANK LEAK MONITORS & VENTILATION TANK LEAK MONITORS	44	EA	10,000.00	ZF-PF FA	32.000	1,408	84,860		440,000		524,860
	HEPA TEMPORARY VAULT BREATHERS	11	EA	5,000.00	ZF-SM FA	12.000	132	6,838		55,000		61,838
	TANK LEAK MONITORS & VENTILATION S/T						1,540	\$91,698		\$495,000		\$586,698
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					681,062	681,062
	PIF	1	LOT			0.000					200,321	200,321
	G&A/PIF ADDER S/T						0				\$881,383	\$881,383
	PROJECT SUBTOTAL						26,549	\$2,413,299	\$94,369	\$2,613,040	\$881,383	\$6,002,091

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
FILL VAULT WITH CLEAN GROUT - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-611**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **15:34:53**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	205,100	3.30	0	35	0.00	1.15	1.039%	2.91%	63,592	268,692
1.2.1	PROJECT MANAGEMENT	533,300	8.58	0	35	0.00	3.00	2.702%	7.58%	165,351	698,651
1.2.2	CONSTRUCTION MANAGEMENT	410,300	6.60	0	35	0.00	2.31	2.079%	5.83%	127,215	537,515
1.3.1	GENERAL CONDITIONS	820,560	13.20	0	40	0.00	5.28	4.751%	13.32%	290,762	1,111,322
1.3.3	CONCRETE	2,591,677	41.69	0	40	0.00	16.67	15.007%	42.07%	918,350	3,510,027
1.3.15	MECHANICAL	690,423	11.10	0	45	0.00	5.00	4.498%	12.61%	275,230	965,653
1.5.1	G&A/PIF ADDER	881,383	14.18	0	40	0.00	5.67	5.104%	14.31%	312,314	1,193,697
1.5.2	PROCUREMENT FEES	84,515	1.36	0	40	0.00	0.54	0.489%	1.37%	29,948	114,463
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(20)	(20)
SUBTOTAL		6,217,258	100.00					35.668%			
CALCULATED CONTINGENCY		2,217,590									
RESULTANT TEC		8,434,848									
ROUNDED TEC		8,400,000									
PROJECT CONTINGENCY		2,182,742						35.11%			
MANAGEMENT RESERVE		506,856									
CONTINGENCY		1,675,886									
TOTAL ESTIMATED COST		8,400,000								2,182,742	8,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
FILL VAULT WITH CLEAN GROUT - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-611**
PREPARED BY: **R. D. ADAMS**

DATE: **21-Jan-1998**
TIME: **16:58:39**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	205,100	2.09	0	35	0.00	0.73	0.658%	1.93%	65,055	270,155
1.2.1	PROJECT MANAGEMENT	533,300	5.43	0	35	0.00	1.90	1.710%	5.01%	169,155	702,455
1.2.2	CONSTRUCTION MANAGEMENT	410,300	4.18	0	35	0.00	1.46	1.316%	3.85%	130,141	540,441
1.3.1	GENERAL CONDITIONS	820,560	8.35	0	40	0.00	3.34	3.007%	8.61%	297,451	1,118,011
1.3.3	CONCRETE	2,591,677	26.38	0	40	0.00	10.55	9.498%	27.82%	939,477	3,531,154
1.3.15	MECHANICAL	690,423	7.03	0	45	0.00	3.16	2.847%	8.34%	281,561	971,984
1.5.1	G&A/PIF ADDER	881,383	8.97	0	40	0.00	3.59	3.230%	9.46%	319,499	1,200,882
1.5.2	PROCUREMENT FEES	84,515	0.86	0	40	0.00	0.34	0.310%	0.91%	30,636	115,151
	ESCALATION	3,606,009	36.71	0	35	0.00	12.85	11.563%	33.87%	1,143,758	4,749,767
	SUBTOTAL	9,823,267	100.00					34.138%			
	CALCULATED CONTINGENCY	3,353,483									
	RESULTANT TEC	13,176,750									
	ROUNDED TEC	13,200,000									
	PROJECT CONTINGENCY	3,376,733						34.37%			
	MANAGEMENT RESERVE	800,832									
	CONTINGENCY	2,575,901									
	TOTAL ESTIMATED COST	13,200,000								3,376,733	13,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

1/20/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6I

PROCUREMENT FEE:

CONSTRUCTION*** =	\$2,838,061	
GFE =	\$0	
Subtotal	\$2,838,061	
 FEE @ 3% =	 \$2,838,061 * 0.03 =	 \$85,142

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$2,838,061	
GFE =	\$0	
PROCUREMENT FEE =	\$85,142	
Subtotal	\$2,923,203	
 FEE @ 23% =	 \$2,923,203 * 0.23 =	 \$672,337

PIF @ 5.5%

CONSTRUCTION =	\$2,838,061	
GFE =	\$0	
PROCUREMENT FEE =	\$85,142	
G&A =	\$672,337	
Subtotal	\$3,595,539	
 FEE @ 5.5% =	 \$3,595,539 * 0.055 =	 \$197,755

TOTAL PROCUREMENT FEE: \$85,142

TOTAL G&A FEE: \$672,337

TOTAL PIF: \$197,755

***"Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT - ESC.
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6J1
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 20-Jan-1998
 TIME: 15:39:29
 CHECKED BY: SNW
 APPRD BY: RDS/BRD

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$838,992</u>
1.1.2	TITLE III INSPECTION	499,400	339,592	838,992
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,859,548</u>
1.2.1	PROJECT MANAGEMENT	1,298,500	882,980	2,181,480
1.2.2	CONSTRUCTION MANAGEMENT	998,850	679,218	1,678,068
1.3	<u>CONSTRUCTION</u>			>> <u>\$16,780,703</u>
1.3.1	GENERAL CONDITIONS	2,351,566	1,599,065	3,950,631
1.3.3	CONCRETE	2,213,501	1,505,181	3,718,682
1.3.15	MECHANICAL	3,852,488	2,619,692	6,472,180
1.3.16	ELECTRICAL	1,570,958	1,068,252	2,639,210
1.5	<u>G&A/PIF</u>			>> <u>\$2,813,138</u>
1.5.1	G&A/PIF ADDER	1,674,487	1,138,651	2,813,138
1.5.2	PROCUREMENT FEES	163,812	111,392	\$275,204
SUBTOTAL INCLUDING ESCALATION		14,623,562	9,944,023	>> <u>\$24,567,585</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$1,986,904</u>
CONTINGENCY				>> <u>\$7,045,511</u>
TOTAL ESTIMATED COST				>> <u>\$33,600,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 36.77%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT - UNESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6J1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **20-Jan-1998**
TIME: **15:41:52**
CHECKED BY: _____
APPRD BY: *RDE/BoR*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$499,400</u>
1.1.2	TITLE III INSPECTION	499,400	0	499,400
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$2,297,350</u>
1.2.1	PROJECT MANAGEMENT	1,298,500	0	1,298,500
1.2.2	CONSTRUCTION MANAGEMENT	998,850	0	998,850
1.3	<u>CONSTRUCTION</u>			>> <u>\$9,988,513</u>
1.3.1	GENERAL CONDITIONS	2,351,566	0	2,351,566
1.3.3	CONCRETE	2,213,501	0	2,213,501
1.3.15	MECHANICAL	3,852,488	0	3,852,488
1.3.16	ELECTRICAL	1,570,958	0	1,570,958
1.5	<u>G&A/PIF</u>			>> <u>\$1,674,487</u>
1.5.1	G&A/PIF ADDER	1,674,487	0	1,674,487
1.5.2	PROCUREMENT FEES	163,812	0	>> <u>\$163,812</u>
	SUBTOTAL INCLUDING ESCALATION	14,623,562	0	>> \$14,623,562
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,182,681
	CONTINGENCY			>> \$4,293,757
	TOTAL ESTIMATED COST			>> \$20,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 37.45%

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-6J1

PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998

TIME: 15:38:27

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GEE.	1	LOT			0.000		499,400				499,400
	TITLE III INSPECTION S/T						0	\$499,400				\$499,400
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GEE.	1	LOT			0.000		1,298,500				1,298,500
	PROJECT MANAGEMENT S/T						0	\$1,298,500				\$1,298,500
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		998,850				998,850
	CONSTRUCTION MANAGEMENT S/T						0	\$998,850				\$998,850
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	5980.00	5,980	301,990				301,990
	TRAINING:	10	FTE		ZF-OE FA	233.000	2,330	120,624				120,624
	SMALL TOOLS & CONSUMABLES	1	LOT	154,700.00		0.000				154,700		154,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	2990.00	2,990	154,792	164,450			319,242
	MISC. EQUIPMENT	1	LOT			0.000			149,600			149,600
	CLEANUP & MATERIAL HANDLING	59,825	MHRS		ZF-LB FA	0.100	5,983	264,606				264,606

Rev. 6/99
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6J1
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 16:38:27
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	5980.00	11,960	590,824				590,824
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	421,185.00	FA	0.000				421,185		421,185
	GENERAL CONDITIONS S/T						29,243	\$1,432,836	\$314,050	\$575,885		\$2,322,771
1.3.3	CONCRETE											
	GROUT DELIVERY PIPE SHIELDING	6,000	LF	130.00	ZF-LB EA	0.200	1,200	53,076		780,000		833,076
	GROUT DELIVERY PIPE SHIELDING REMOVAL & DISPOSAL	6,000	LF		ZF-LB FA	0.800	4,800	212,304				212,304
	LOAD DISTRIBUTION SYSTEM FOR PIPE/SHIELDING	6,000	LF	20.00	ZF-LB FA	0.200	1,200	53,076		120,000		173,076
	LOAD DISTRIBUTION SYSTEM FOR PIPE/SHIELDING REMOVAL & DISPOSAL	6,000	LF		ZF-LB FA	0.800	4,800	212,304				212,304
	POUR CLASS-C GROUT & CLEAN PIPE	18,000	CY	0.28	ZF-LB FA	0.920	16,560	732,449		5,040		737,489
	CONCRETE S/T						28,560	\$1,283,209		\$905,040		\$2,168,249
1.3.15	MECHANICAL											
	DOUBLE CONTAINED GROUT DELIVERY PIPE	6,000	LF	47.00	ZF-PF FA	1.200	7,200	433,944	18,000	282,000	24,000	757,944
Memo:	VALVE/MANIFOLD ASSEMBLY . SELF-CONTAINED, SEALED UNIT TO MITIGATE LEAKAGE DURING GROUT PLACEMENT.	15	EA	100,000.00	ZF-PF FA	80.000	1,200	72,324		1,500,000		1,572,324
	INSTALL GROUT DROP TUBES	550	LF	20.00	ZF-PF FA	0.300	165	9,945		11,000		20,945

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6J1
 PREPARED BY: R. D. ADAMS

DATE 20-Jan-1998
 TIME: 15:38:27
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15	MECHANICAL REMOVE GROUT DROP TUBES	550	LF	0.20	ZF-PF FA	2.000	1,100	66,297		110	1,100	67,507
Memo:	DELIVERY PIPE REMOVAL INCLUDES GLOVE BAG CUTS TO RAD BOX LENGTHS, HANDLING, RAD BOXES PURCHASE AND RAD BOX DISPOSAL COSTS. VALVE/ MANIFOLD REMOVAL	6,000	LF	1.50	ZF-PF FA	1.740	10,440	629,219		9,000	90,000	728,219
Memo:	INCLUDES RAD TENT, DISCONNECT FROM PIPING & PUMP, RAD BOXES, RAD BOX DISPOSAL COSTS.	15	EA	2,000.00	ZF-PF FA	480.000	7,200	433,944		30,000	150,000	613,944
	MECHANICAL S/T						27,305	\$1,645,672	\$18,000	\$1,832,110	\$265,100	\$3,760,882
1.3.16	ELECTRICAL											
	RAD MONITORS IN EXISTING LANCES	44	EA	30,000.00	ZF-EL FA	30.000	1,320	69,670		1,320,000		1,389,670
Memo:	MONITOR TANKS DURING CLASS-C GROUT POUR ASSUME READINGS TAKE TWO DAYS, ONCE A MONTH FOR 11 YEARS. CERCLA TO MONITOR AFTER TANKS ARE FILLED WITH CLASS-C GROUT.	1	LOT		Z-1732 FA	2640.00	2,640	115,289				115,289
	ELECTRICAL S/T						3,960	\$184,958		\$1,320,000		\$1,504,958
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					1,293,909	1,293,909
	PIF	1	LOT			0.000					380,578	380,578
	G&A/PIF ADDER S/T						0				\$1,674,487	\$1,674,487

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2408-GJ1
PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 20-Jan-1998
TIME: 15:38:27

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						89,068	\$7,323,426	\$332,050	\$4,633,035	\$1,939,587	\$14,228,098

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT - UNESC.**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6J1**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **15:41:58**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	499,400	3.42	0	35	0.00	1.20	1.076%	2.87%	157,145	656,545
1.2.1	PROJECT MANAGEMENT	1,298,500	8.88	0	35	0.00	3.11	2.797%	7.46%	408,596	1,707,096
1.2.2	CONSTRUCTION MANAGEMENT	998,850	6.83	0	35	0.00	2.39	2.152%	5.74%	314,305	1,313,155
1.3.1	GENERAL CONDITIONS	2,351,566	16.08	0	40	0.00	6.43	5.789%	15.44%	845,670	3,197,236
1.3.3	CONCRETE	2,213,501	15.14	0	45	0.00	6.81	6.130%	16.35%	895,521	3,109,022
1.3.15	MECHANICAL	3,852,488	26.34	0	45	0.00	11.85	10.669%	28.46%	1,558,610	5,411,098
1.3.16	ELECTRICAL	1,570,958	10.74	0	45	0.00	4.83	4.351%	11.61%	635,566	2,206,524
1.5.1	G&A/PIF ADDER	1,674,487	11.45	0	40	0.00	4.58	4.122%	11.00%	602,179	2,276,666
1.5.2	PROCUREMENT FEES	163,812	1.12	0	40	0.00	0.45	0.403%	1.08%	58,910	222,722
	ESCALATION	0	0.00	0	40	0.00	0.00	0.000%	0.00%	(64)	(64)
SUBTOTAL		14,623,562	100.00					37.489%			
CALCULATED CONTINGENCY		5,482,291									
RESULTANT TEC		20,105,853									
ROUNDED TEC		20,100,000									
PROJECT CONTINGENCY		5,476,438						37.45%			
MANAGEMENT RESERVE		1,182,681									
CONTINGENCY		4,293,757									
TOTAL ESTIMATED COST		20,100,000								5,476,438	20,100,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT - ESC.**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

CONTINGENCY ANALYSIS

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6J1**
PREPARED BY: **R. D. ADAMS**

DATE: **20-Jan-1998**
TIME: **15:39:39**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	499,400	2.03	0	35	0.00	0.71	0.640%	1.74%	156,793	656,193
1.2.1	PROJECT MANAGEMENT	1,298,500	5.29	0	35	0.00	1.85	1.665%	4.51%	407,681	1,706,181
1.2.2	CONSTRUCTION MANAGEMENT	998,850	4.07	0	35	0.00	1.42	1.261%	3.47%	313,602	1,312,452
1.3.1	GENERAL CONDITIONS	2,351,566	9.57	0	40	0.00	3.83	3.446%	9.34%	843,777	3,195,343
1.3.3	CONCRETE	2,213,501	9.01	0	45	0.00	4.05	3.649%	9.89%	893,517	3,107,018
1.3.15	MECHANICAL	3,852,488	15.68	0	45	0.00	7.06	6.351%	17.22%	1,555,122	5,407,610
1.3.16	ELECTRICAL	1,570,958	6.39	0	45	0.00	2.88	2.590%	7.02%	634,144	2,205,102
1.5.1	G&A/PIF ADDER	1,674,487	6.82	0	40	0.00	2.73	2.454%	6.65%	600,831	2,275,318
1.5.2	PROCUREMENT FEES	163,812	0.67	0	40	0.00	0.27	0.240%	0.65%	58,778	222,590
	ESCALATION	9,944,023	40.48	0	40	0.00	16.19	14.571%	39.50%	3,568,170	13,512,193
	SUBTOTAL	24,567,585	100.00					36.887%			
	CALCULATED CONTINGENCY	9,062,139									
	RESULTANT TEC	33,629,724									
	ROUNDED TEC	33,600,000									
	PROJECT CONTINGENCY	9,032,415						36.77%			
	MANAGEMENT RESERVE	1,986,904									
	CONTINGENCY	7,045,511									
	TOTAL ESTIMATED COST	33,600,000								9,032,415	33,600,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

12/8/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-6J

PROCUREMENT FEE:

CONSTRUCTION*** =	\$5,461,837		
GFE =	\$0		
Subtotal	<u>\$5,461,837</u>		
FEE @ 3% =	\$5,461,837	* 0.03 =	\$163,855

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 7YEARS =	\$5,461,837		
GFE =	\$0		
PROCUREMENT FEE =	\$163,855		
Subtotal	<u>\$5,625,692</u>		
FEE @ 23% =	\$5,625,692	* 0.23 =	\$1,293,909

PIF @ 5.5%

CONSTRUCTION =	\$5,461,837		
GFE =	\$0		
PROCUREMENT FEE =	\$163,855		
G&A =	\$1,293,909		
Subtotal	<u>\$6,919,601</u>		
FEE @ 5.5% =	\$6,919,601	* 0.055 =	\$380,578

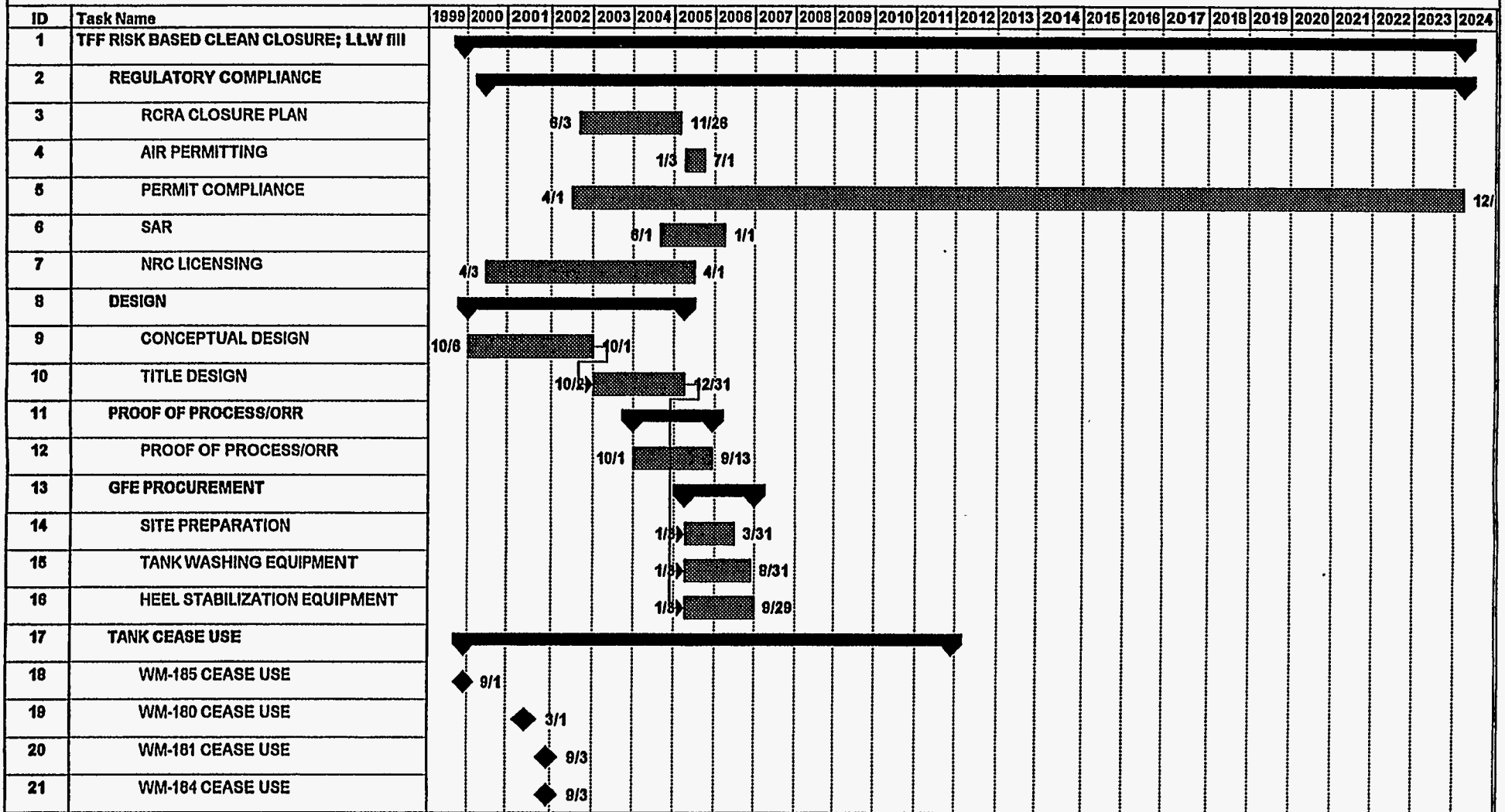
TOTAL PROCUREMENT FEE: \$163,855

TOTAL G&A FEE: \$1,293,909

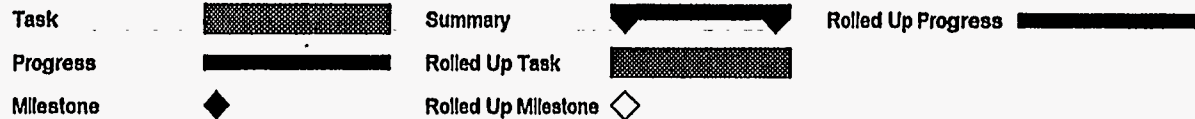
TOTAL PIF: \$380,578

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

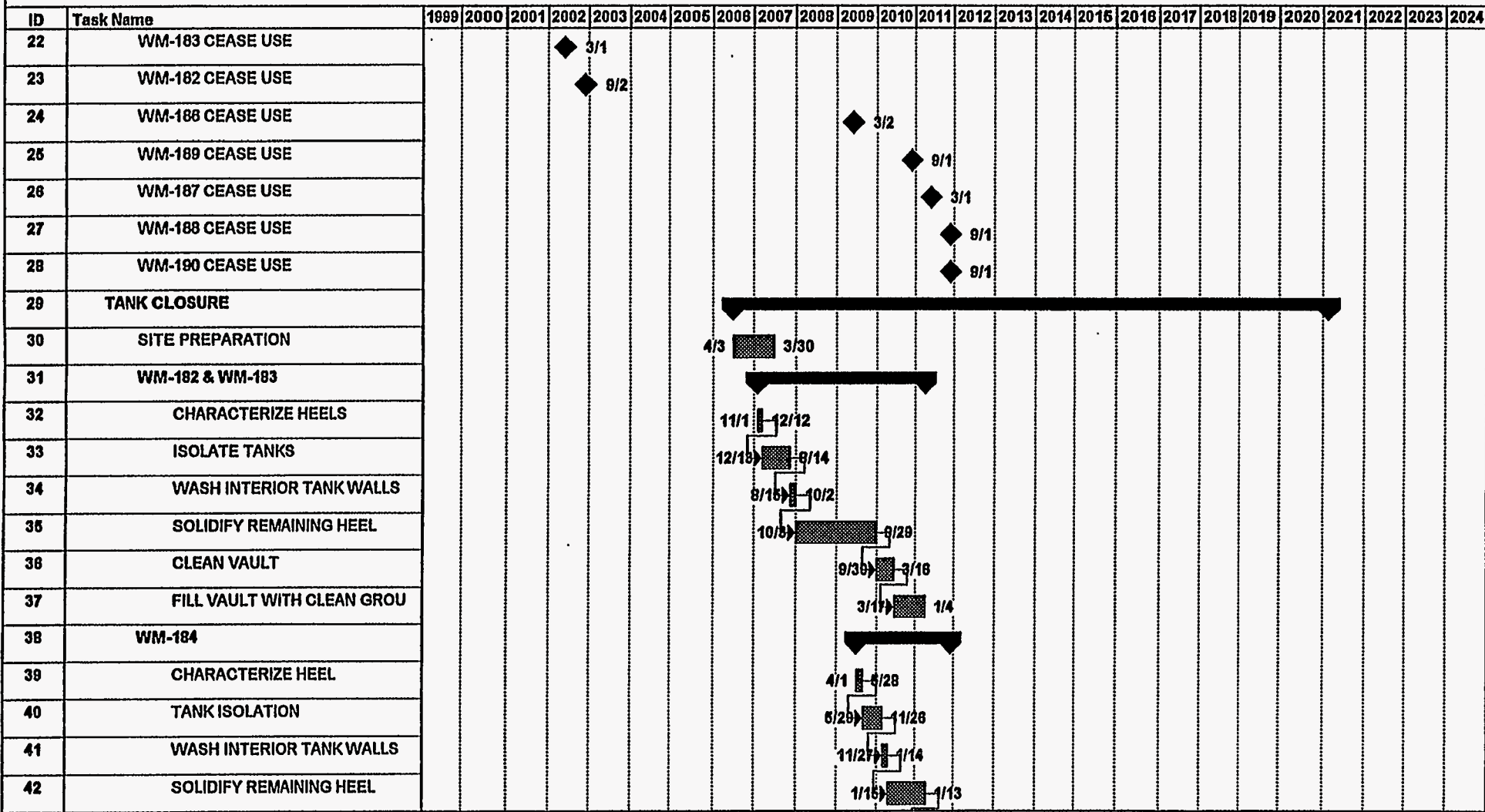
TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
LLW FILL



Project: 2408-8.MPP
Date: Fri 1/23/98



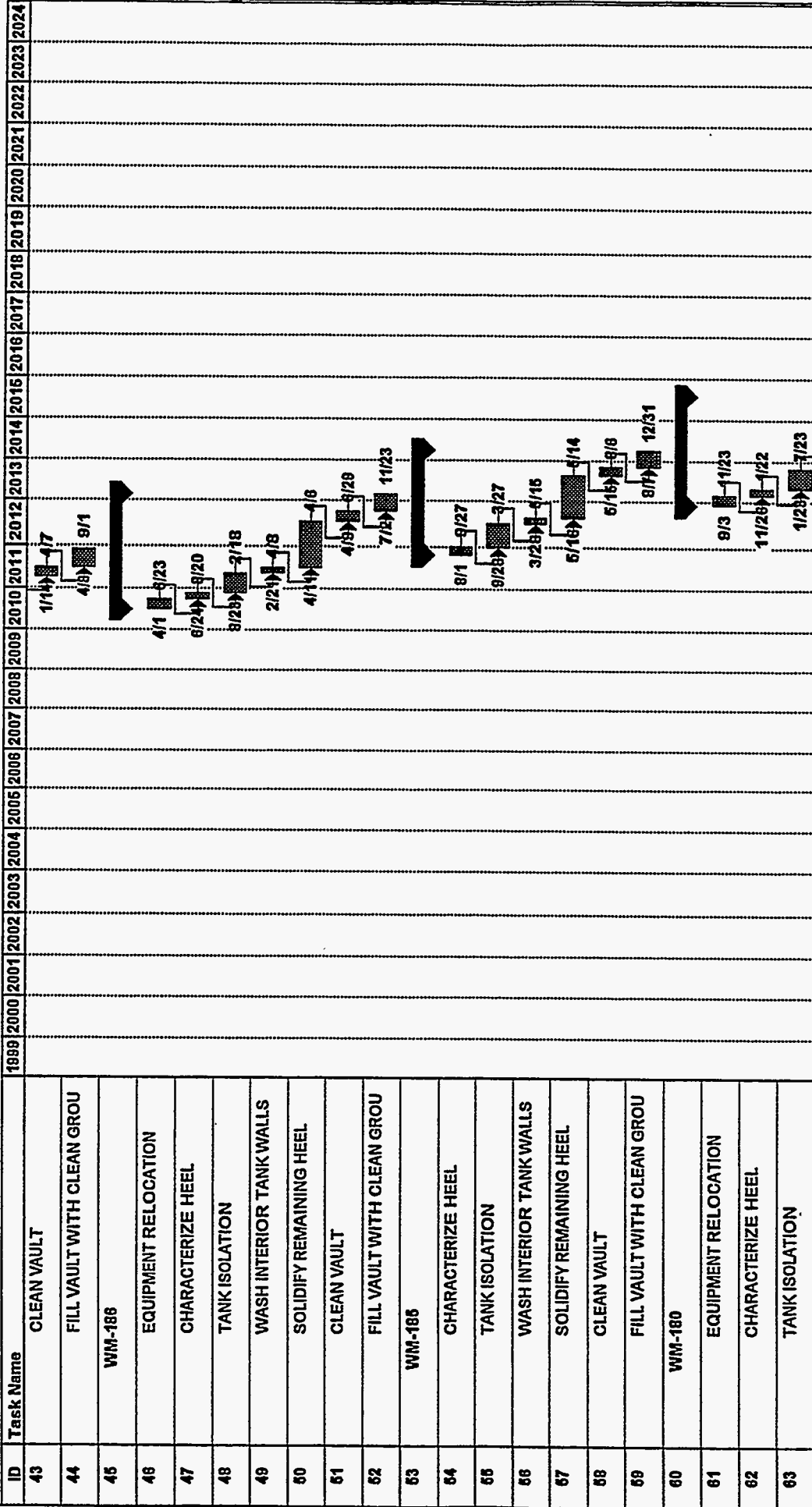
**TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
LLW FILL**



Project: 2406-8.MPP
Date: Fri 1/23/98

Task		Summary		Rolled Up Progress	
Progress		Rolled Up Task			
Milestone	◆	Rolled Up Milestone	◇		

TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
LLW FILL

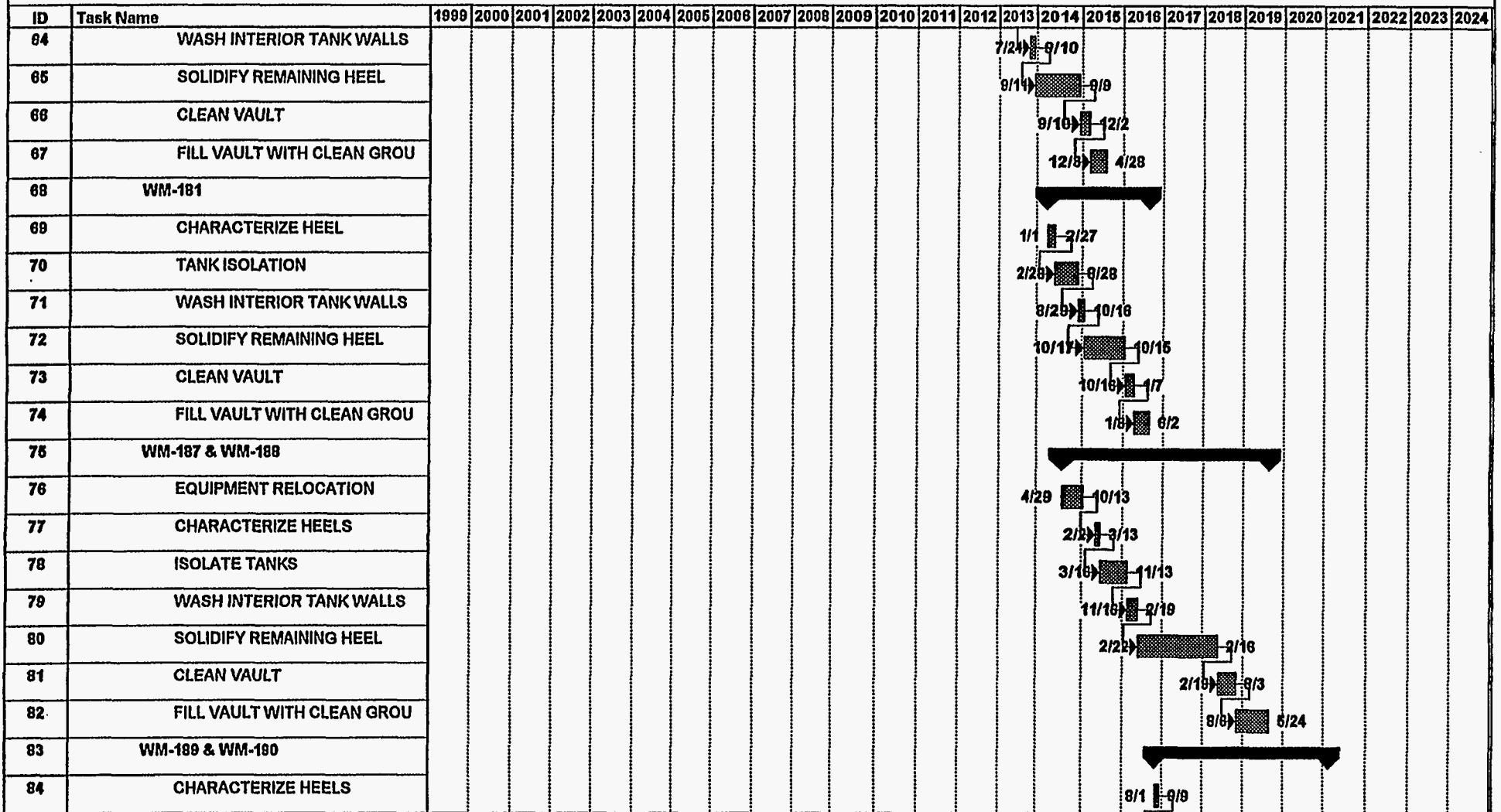


Project: 2406-6.MPP
Date: Fri 1/23/98

Task: Summary, Rolled Up Task, Rolled Up Milestone
Progress: Milestone

Legend:
 Summary
 Rolled Up Task
 Rolled Up Milestone

TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
LLW FILL



Project: 2408-6.MPP Date: Fri 1/23/98	Task		Summary		Rolled Up Progress	
	Progress		Rolled Up Task			
	Milestone		Rolled Up Milestone			

TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
LLW FILL

ID	Task Name	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018	2017	2018	2019	2020	2021	2022	2023	2024
85	ISOLATE TANKS																			9/12	5/12							
86	WASH INTERIOR TANK WALLS																			5/15	9/18							
87	SOLIDIFY REMAINING HEEL																			8/24	9/16							
88	CLEAN VAULT																					8/19	1/31					
89	FILL VAULT WITH CLEAN GROU																					2/8	11/20					
90	FILL TANK VOID W/ CLASS C GROUT													1/3														12/1
91	TURN OVER TO CERCLA																											1

Project: 2408-8.MPP Date: Fri 1/23/98	Task		Summary		Rolled Up Progress	
	Progress		Rolled Up Task			
	Milestone		Rolled Up Milestone			

Option 3

COST ESTIMATE SUMMARY

TANK FARM RCRA CLOSURE RISK BASED CLEAN CLOSURE CERCLA FILL REQUESTOR: B. C. SPAULDING	PLANNING ESTIMATE ESTIMATE # 2406-7 PREPARED BY: R. D. ADAMS	January 22, 1998 CHECKED BY: <i>[Signature]</i> APPROVED BY: <i>[Signature]</i>
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	UNESCALATED COSTS	ESCALATED COSTS
REGULATORY COMPLIANCE	\$12,400,000	\$18,100,000
DESIGN	\$19,600,000	\$22,000,000
PROOF OF PROCESS/ORR	\$5,800,000	\$6,800,000
SITE PREPARATION	\$9,700,000	\$11,400,000
CHARACTERIZE HEEL	\$3,600,000	\$4,600,000
TANK ISOLATION	\$7,700,000	\$10,200,000
WASH INTERIOR TANK WALLS	\$24,800,000	\$33,000,000
SOLIDIFY REMAINING HEEL	\$9,100,000	\$12,400,000
CLEAN VAULTS	\$14,000,000	\$21,900,000
FILL VAULT VOIDS WITH CLEAN GROUT	\$8,400,000	\$13,500,000
FILL TANK VOIDS WITH CLASS-C GROUT	\$27,900,000	\$56,900,000
TOTAL	\$143,000,000	\$210,800,000

*See the accompanying individual estimates for details.

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: RISK BASED CLEAN CLOSURE
CERCLA FILL

Estimator: RDA

Type of Estimate: PLANNING
File No: 2406-7-1

Date: 1/22/98

Approved By: *KLS for RDA*

I. SCOPE OF WORK: *Brief description of the proposed project.*

This project will provide RCRA closure for the eleven waste storage tanks at the ICPP. The tank heels will be flushed and neutralized. Tank internals will be sprayed to remove solid contamination. The remaining heel will be stabilized with grout. The vaults will be filled with clean grout. The tank voids will be filled with CERCLA soil. Finally, the tank farm will be turned over to CERCLA to monitor.

II. BASIS OF THE ESTIMATE: *Drawings, Design Report, Engineers notes, and/or other documentation upon which the estimate is originated.*

Information contained in draft copies of the fifty-percent feasibility report and information provided by the requester were used to scope the project.

III. ASSUMPTIONS: *Condition statements accepted or supposed true without proof or demonstration. An assumption has a direct impact on total estimated cost.*

1. All of the fieldwork will be accomplished by Force Account personnel or operations personnel. LMITCO personnel will design, manage and acquire permits.
2. This estimate is intended to cover project costs from project authorization to turnover. No distinction was made for "color of money".
3. The percentages used for Design, Inspection and, to some extent, Construction Management are slightly lower than those regularly used on an effort of this size. Much of the closure involves repetitive work after filling the first tank.
4. Project Management will maintain a fairly high level of involvement throughout the closure period.

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-7-1

Page 2 of 4

III. ASSUMPTIONS: (Continued)

5. The proposed schedule is:

Design -	2000 to 2005
Solidify Heel-	2005 to 2018
Fill Vault Voids with Clean Grout:	
WM-182 - 186-	2013 to 2014
Remaining Tanks-	2020 to 2021
Fill Tank Voids with CERCLA Soil:	2022 to 2029
6. Temporary construction facilities cover craft change and lunch areas, offices and warehousing.
7. Permitting assumptions: Others will accomplish the EIS. An EA will not be required in addition to the EIS. Delisting of hazards is by others. Post-closure monitoring is CERCLA's responsibility.
8. All excavated soil can be reused as backfill within the tank farm.
9. Excavation incorporates shoring to minimize exposure to contaminated dirt.
10. Much of the productivity was based on actual costs incurred on the Tank Farm Upgrades Project.
11. The 'Tank Farm Heel Removal Project' conceptual draft estimate, dated 12/19/94, was used as a reference.
12. Heel and vault grout costs are based on the "sand" grout used in the WCF Deactivation Project.
13. Grout drop tubes can be decontaminated and reused as needed.
14. Grout placement unit labor hours include time for set up and cleaning of grout equipment after each pour.
15. Heel characterization costs represent three sets of samples for each tank.

- Continued on Page 3 -

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-7-1

Page 3 of 4

III. ASSUMPTIONS: (Continued)

16. Heel flushing and riser equipment removal costs were confirmed with Dave Machovec.
17. Mounting/support frames were assumed for each piece of riser equipment to distribute their weight as well as to provide a mounting base.
18. The tank farm area enclosure is sized to cover all tanks at once with traffic lanes around.
19. Heel transfer lines will require shielding from the tanks to the appropriate valve box tie-in.
20. The clean grout pump will be staged north of tanks 185 & 186.
21. Spare equipment was estimated where needed.
22. All eleven-tank heels will be solidified before CERCLA soil placement begins.
23. Others will deliver the CERCLA soil to the tank farm containment.
24. The CERCLA soil will be mixed with a paraffin-based grout, in a facility located within the containment structure, to reduce contaminated dust.
25. A double-contained, shielded screw conveyor will be used to transport the CERCLA Soil/paraffin-based grout mixture to one tank at a time. The tanks are assumed to hold approximately 13,500 cy of soil (actual volume is about 18,000 cy).

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-7-1

Page 4 of 4

IV. CONTINGENCY GUIDELINE IMPLEMENTATION: *The percentage used*

For contingency as determined by the contingency allowance guidelines can be altered to reflect the type of construction and conditions that may impact the total estimated cost.

At this stage of project development, there are still many unanswered questions as to interferences and working conditions. Most of the work will take place in contaminated areas. Many of the pieces of equipment are not standard and require development. The closure schedule depends on tank turnover from operations over several years. The resultant contingency is in the upper range of the percentage suggested in the INEL Cost Estimating Guide.

V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE:

1. All FY'98 and later projects are to be assessed a Procurement Fee of 3%, a G&A Fee of 23%, and a Performance Incentive Fee (PIF) of 5.5%. See the attached G&A/PIF calculation sheet for the method used to calculate these fees. These fees were applied only to material, equipment and subcontract costs. Labor unit rates used in the estimate already contain these fees.
2. Shielding at or near the tank risers may be a much larger concern than suggested in the report drafts.
3. Comments received from the design review have been incorporated into the estimates. The specific changes include increased QA title III costs, washing arm costs, wet and dry grout placement arm costs, and the removal of redundant work from the "Fill Vault With Clean Grout" estimate. Also, an estimate for Proof of Process/ORR was added.

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
REGULATORY COMPLIANCE
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7A
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 10-Dec-1997
TIME: 16:27:59
CHECKED BY: [Signature]
APPRD BY: [Signature]

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>PERMITTING</u>			>> \$11,498,277
1.1.1	PERMITTING	7,875,532	3,622,745	11,498,277
1.3	<u>MANAGEMENT COSTS</u>			>> \$1,494,748
1.3.1	PROJECT MANAGEMENT	1,023,800	470,948	1,494,748
1.5	<u>G&A/PIF</u>			>> \$374,198
1.5.1	G&A/PIF ADDER	256,300	117,898	374,198
1.5.2	PROCUREMENT FEES	25,083	11,538	\$36,621
	SUBTOTAL INCLUDING ESCALATION	9,180,715	4,223,129	>> \$13,403,844
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$4,696,156
	TOTAL ESTIMATED COST			>> \$18,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 769.00%

CONTINGENCY= 35.04%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/95
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
 REGULATORY COMPLIANCE - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-7A1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **06:58:14**
 CHECKED BY: _____
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>PERMITTING</u>			>> <u>\$7,875,532</u>
1.1.1	PERMITTING	7,875,532	0	7,875,532
<u>1.3</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$1,023,800</u>
1.3.1	PROJECT MANAGEMENT	1,023,800	0	1,023,800
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$256,300</u>
1.5.1	G&A/PIF ADDER	256,300	0	256,300
1.5.2	PROCUREMENT FEES	25,083	0	>> <u>\$25,083</u>
SUBTOTAL INCLUDING ESCALATION		9,180,715	0	>> \$9,180,715
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$3,219,285
TOTAL ESTIMATED COST				>> \$12,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **769.00%**
 CONTINGENCY= **35.07%**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2408-7A

PREPARED BY: R. D. ADAMS

DATE 10-Dec-1997

TIME: 16:23:19

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	PERMITTING											
	AIR PERMITTING	1	LOT			0.000					30,000	30,000
	AIR MONITORS	6	EA		LMITCO	0.000					720,000	720,000
	AIR MONITORING ACTIVITIES	24	MO		Z-1792	2.000	48	2,096				2,096
	AIR MONITORING LAB FEES	8	EA			0.000					16,000	16,000
	RCRA CLOSURE PLAN	2	FTE		Z-1700 LMITCO	1500.00	3,000	193,980				193,980
	P.E. ACTIVITIES	1	LOT			0.000					60,000	60,000
	CERCLA COORDINATOR	2	FTE		Z-1700 LMITCO	43500.0	87,000	5,625,420				5,625,420
	REGULATORY AFFAIRS OVERSITE	29	YR		Z-1700 LMITCO	150.000	4,350	281,271				281,271
	SURVEY PLAT	1	LOT			0.000					10,000	10,000
	SAR	1	LOT		LMITCO Z-3170	13500.0	13,500	936,765				936,765
	PERMITTING S/T						107,898	\$7,039,532			\$836,000	\$7,875,532
1.3.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		1,023,800				1,023,800
	Memo: PM @ 13% OF PERMITTING											
	PROJECT MANAGEMENT S/T						0	\$1,023,800				\$1,023,800
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					198,048	198,048

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 0/00

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
REGULATORY COMPLIANCE

TYPE OF ESTIMATE: PLANNING

DATE 10-Dec-1997

LOCATION 1: INEEL/ICPP

PROJECT NO.: 2408-7A

TIME: 16:23:19

REQUESTOR: B. C. SPAULDING

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.6.1	G&A/PIF ADDER PIF	1	LOT			0.000					58,252	58,252
	G&A/PIF ADDER S/T						0				\$256,300	\$256,300
	PROJECT SUBTOTAL						107,000	\$8,063,332	\$0	\$0	\$1,092,300	\$9,155,632

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
REGULATORY COMPLIANCE - UNESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7A1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **06:58:20**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,875,532	85.78	0	40	0.00	34.31	30.882%	88.24%	2,840,841	10,716,373
1.3.1	PROJECT MANAGEMENT	1,023,800	11.15	0	30	0.00	3.35	3.011%	8.60%	276,977	1,300,777
1.5.1	G&A/PIF ADDER	256,300	2.79	0	40	0.00	1.12	1.005%	2.87%	92,452	348,752
1.5.2	PROCUREMENT FEES	25,083	0.27	0	40	0.00	0.11	0.098%	0.28%	9,048	34,131
	ESCALATION	0	0.00	0	40	0.00	0.00	0.000%	0.00%	(33)	(33)
SUBTOTAL		9,180,715	100.00					34.996%			
CALCULATED CONTINGENCY		3,212,915									
RESULTANT TEC		12,393,630									
ROUNDED TEC		12,400,000									
PROJECT CONTINGENCY		3,219,285						35.07%			
MANAGEMENT RESERVE		0									
CONTINGENCY		3,219,285									
TOTAL ESTIMATED COST		12,400,000								3,219,285	12,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL REGULATORY COMPLIANCE**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-7A**
 PREPARED BY: **R. D. ADAMS**

DATE: **10-Dec-1997**
 TIME: **16:23:24**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,875,532	58.76	0	40	0.00	23.50	21.152%	59.90%	2,812,943	10,688,475
1.3.1	PROJECT MANAGEMENT	1,023,800	7.64	0	30	0.00	2.29	2.062%	5.84%	274,257	1,298,057
1.5.1	G&A/PIF ADDER	256,300	1.91	0	40	0.00	0.76	0.688%	1.95%	91,544	347,844
1.5.2	PROCUREMENT FEES	25,083	0.19	0	40	0.00	0.07	0.067%	0.19%	8,959	34,042
	ESCALATION	4,223,129	31.51	0	40	0.00	12.60	11.342%	32.12%	1,508,453	5,731,582
	SUBTOTAL	13,403,844	100.00					35.313%			
	CALCULATED CONTINGENCY	4,733,242									
	RESULTANT TEC	18,137,086									
	ROUNDED TEC	18,100,000									
	PROJECT CONTINGENCY	4,696,156						35.04%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	4,696,156									
	TOTAL ESTIMATED COST	18,100,000								4,696,156	18,100,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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G&A/PIF ADDER CALCULATION SHEET

PROCUREMENT FEE:

CONSTRUCTION =	\$836,000	
GFE =	\$0	
Subtotal	\$836,000	
FEE @ 3% =	\$836,000 * 0.03 =	\$25,080

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$836,000	
GFE =	\$0	
PROCUREMENT FEE =	\$25,080	
Subtotal	\$861,080	
FEE @ 23% =	\$861,080 * 0.23 =	\$198,048

PIF @ 5.5%

CONSTRUCTION =	\$836,000	
GFE =	\$0	
PROCUREMENT FEE =	\$25,080	
G&A =	\$198,048	
Subtotal	\$1,059,128	
FEE @ 5.5% =	\$1,059,128 * 0.055 =	\$58,252

TOTAL PROCUREMENT FEE: \$25,080

TOTAL G&A FEE: \$198,048

TOTAL PIF: \$58,252

-COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
DESIGN - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7B1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 11:07:15
CHECKED BY: SALW
APPRD BY: HES/BoD

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING DESIGN			>> \$12,221,400
1.1.1	CONCEPTUAL DESIGN	3,182,630	254,610	3,437,240
1.1.2	TITLE DESIGN	7,638,400	1,145,760	8,784,160
1.2	MANAGEMENT COSTS			>> \$4,496,166
1.2.1	PROJECT MANAGEMENT	4,050,600	445,566	4,496,166
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		14,871,630	1,845,936	>> \$16,717,566
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$5,282,434
TOTAL ESTIMATED COST				>> \$22,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= ***.***%

CONTINGENCY= 31.60%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
 DESIGN - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-7B1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **11:05:44**
 CHECKED BY: _____
 APPRD BY: **MS/EAR**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN			>> \$10,821,030
1.1.1	CONCEPTUAL DESIGN	3,182,630	0	3,182,630
1.1.2	TITLE DESIGN	7,638,400	0	7,638,400
1.2	MANAGEMENT COSTS			>> \$4,050,600
1.2.1	PROJECT MANAGEMENT	4,050,600	0	4,050,600
1.5.2	PROCUREMENT FEES	0	0	>> \$0
	SUBTOTAL INCLUDING ESCALATION	14,871,630	0	>> \$14,871,630
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$4,728,370
	TOTAL ESTIMATED COST			>> \$19,600,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= ***** **%**
 CONTINGENCY= **31.79%**

DETAILED COST ESTIMATE SHEET

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL DESIGN
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7B1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 11:05:15
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	CONCEPTUAL DESIGN											
Memo:	CONCEPTUAL DESIGN/PROCEDURE DEVELOPMENT @ 5% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		2,893,300				2,893,300
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		289,330				289,330
	CONCEPTUAL DESIGN S/T						0	\$3,182,630				\$3,182,630
1.1.2	TITLE DESIGN											
Memo:	TITLE DESIGN/PROCEDURE DEVELOPMENT @ 12% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		6,944,000				6,944,000
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		694,400				694,400
	TITLE DESIGN S/T						0	\$7,638,400				\$7,638,400
1.2.1	PROJECT MANAGEMENT											
Memo:	DESIGN PROJECT MANAGEMENT @ 7% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		4,050,600				4,050,600
	PROJECT MANAGEMENT S/T						0	\$4,050,600				\$4,050,600
	PROJECT SUBTOTAL						0	\$14,871,630	\$0	\$0	\$0	\$14,871,630

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 DESIGN - UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-7B1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 11:05:48

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	3,182,630	21.40	0	35	0.00	7.49	6.741%	21.40%	1,011,903	4,194,533
1.1.2	TITLE DESIGN	7,638,400	51.36	0	35	0.00	17.98	16.179%	51.36%	2,428,596	10,066,996
1.2.1	PROJECT MANAGEMENT	4,050,600	27.24	0	35	0.00	9.53	8.580%	27.24%	1,287,871	5,338,471
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		14,871,630	100.00					31.500%			
CALCULATED CONTINGENCY		4,684,563									
RESULTANT TEC		19,556,193									
ROUNDED TEC		19,600,000									
PROJECT CONTINGENCY		4,728,370						31.79%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,728,370									
TOTAL ESTIMATED COST		19,600,000								4,728,370	19,600,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
DESIGN - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7B1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **11:07:19**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	3,182,630	19.04	0	35	0.00	6.66	5.997%	19.04%	1,005,651	4,188,281
1.1.2	TITLE DESIGN	7,638,400	45.69	0	35	0.00	15.99	14.393%	45.69%	2,413,590	10,051,990
1.2.1	PROJECT MANAGEMENT	4,050,600	24.23	0	35	0.00	8.48	7.632%	24.23%	1,279,913	5,330,513
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	1,845,936	11.04	0	35	0.00	3.86	3.478%	11.04%	583,280	2,429,216
	SUBTOTAL	16,717,566	100.00					31.500%			
	CALCULATED CONTINGENCY	5,266,033									
	RESULTANT TEC	21,983,599									
	ROUNDED TEC	22,000,000									
	PROJECT CONTINGENCY	5,282,434						31.60%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	5,282,434									
	TOTAL ESTIMATED COST	22,000,000								5,282,434	22,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
PROOF OF PROCESS/ORR- ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6CA**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **5:25:46**
CHECKED BY: **SN**
APPRD BY: **KLS/Pol**

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$175,500</u>
1.1.2	TITLE III INSPECTION	150,000	25,500	175,500
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$690,300</u>
1.2.1	PROJECT MANAGEMENT	390,000	66,300	456,300
1.2.2	CONSTRUCTION MANAGEMENT	200,000	34,000	234,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$3,510,000</u>
1.3.1	GENERAL	3,000,000	510,000	3,510,000
1.5	<u>G&A/PIF</u>			>> <u>\$508,294</u>
1.5.1	G&A/PIF ADDER	434,439	73,855	508,294
1.5.2	PROCUREMENT FEES	90,000	15,300	105,300
SUBTOTAL INCLUDING ESCALATION		4,264,439	724,955	>> \$4,989,394
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$412,359
CONTINGENCY				>> \$1,398,247
TOTAL ESTIMATED COST				>> \$6,800,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 36.29%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
PROOF OF PROCESS/ORR- UNESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6CA**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **07:23:58**

CHECKED BY:

APPRD BY:

Handwritten signature: R. D. Adams

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$150,000</u>
1.1.2	TITLE III INSPECTION	150,000	0	150,000
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$590,000</u>
1.2.1	PROJECT MANAGEMENT	390,000	0	390,000
1.2.2	CONSTRUCTION MANAGEMENT	200,000	0	200,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$3,000,000</u>
1.3.1	GENERAL	3,000,000	0	3,000,000
1.5	<u>G&A/PIF</u>			>> <u>\$434,439</u>
1.5.1	G&A/PIF ADDER	434,439	0	434,439
1.5.2	PROCUREMENT FEES	90,000	0	>> <u>\$90,000</u>
SUBTOTAL INCLUDING ESCALATION		4,264,439	0	>> <u>\$4,264,439</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$352,444</u>
CONTINGENCY				>> <u>\$1,183,117</u>
TOTAL ESTIMATED COST				>> <u>\$5,800,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **36.01%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL

PROOF OF PROCESS/ORR

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2408-GCA

PREPARED BY: R. D. ADAMS

PAGE # 1

DATE 22-Jan-1998

TIME: 07:26:17

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000	TITLE III INSPECTION Inspection and Overview	1	LOT			0.000		150,000				150,000
Memo:	@ 5% OF CONSTRUCTION PLUS GFE.											
	TITLE III INSPECTION S/T						0	\$150,000				\$150,000
1.2.1	PROJECT MANAGEMENT											
Memo:	PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		390,000				390,000
	PROJECT MANAGEMENT S/T						0	\$390,000				\$390,000
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		200,000				200,000
	CONSTRUCTION MANAGEMENT S/T						0	\$200,000				\$200,000
1.3.1	GENERAL											
	MOCKUP AND TESTING	1	LOT		FA	0.000					2,000,000	2,000,000
	ORR & OTHER TEST REPORTS	1	LOT		FA	0.000		1,000,000				1,000,000
	GENERAL S/T						0	\$1,000,000			\$2,000,000	\$3,000,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					250,700	250,700

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 PROOF OF PROCESS/ORR
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6CA
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 07:26:17
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					183,739	183,739
	G&A/PIF ADDER S/T						0				\$434,439	\$434,439
	PROJECT SUBTOTAL						0	\$1,740,000	\$0	\$0	\$2,434,439	\$4,174,439

Rev. 6/96
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 PROOF OF PROCESS/ORR- UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6CA
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 07:24:02

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.52	0	40	0.00	1.41	1.266%	3.52%	54,013	204,013
1.2.1	PROJECT MANAGEMENT	390,000	9.15	0	40	0.00	3.66	3.292%	9.15%	140,433	530,433
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.69	0	40	0.00	1.88	1.688%	4.69%	72,017	272,017
1.3.1	GENERAL	3,000,000	70.35	0	40	0.00	28.14	25.326%	70.35%	1,080,255	4,080,255
1.5.1	G&A/PIF ADDER	434,439	10.19	0	40	0.00	4.07	3.667%	10.19%	156,435	590,874
1.5.2	PROCUREMENT FEES	90,000	2.11	0	40	0.00	0.84	0.760%	2.11%	32,408	122,408
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		4,264,439	100.00					36.000%			
CALCULATED CONTINGENCY		1,535,198									
RESULTANT TEC		5,799,637									
ROUNDED TEC		5,800,000									
PROJECT CONTINGENCY		1,535,561						36.01%			
MANAGEMENT RESERVE		352,444									
CONTINGENCY		1,183,117									
TOTAL ESTIMATED COST		5,800,000								1,535,561	5,800,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/86
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
 PROOF OF PROCESS/ORR- ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6CA**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **07:25:50**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.01	0	40	0.00	1.20	1.082%	3.06%	55,441	205,441
1.2.1	PROJECT MANAGEMENT	390,000	7.82	0	40	0.00	3.13	2.814%	7.96%	144,146	534,146
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.01	0	40	0.00	1.60	1.443%	4.08%	73,921	273,921
1.3.1	GENERAL	3,000,000	60.13	0	40	0.00	24.05	21.646%	61.24%	1,108,816	4,108,816
1.5.1	G&A/PIF ADDER	434,439	8.71	0	40	0.00	3.48	3.135%	8.87%	160,571	595,010
1.5.2	PROCUREMENT FEES	90,000	1.80	0	40	0.00	0.72	0.649%	1.84%	33,264	123,264
	ESCALATION	724,955	14.53	0	35	0.00	5.09	4.577%	12.95%	234,447	959,402
	SUBTOTAL	4,989,394	100.00					35.346%			
	CALCULATED CONTINGENCY	1,763,559									
	RESULTANT TEC	6,752,953									
	ROUNDED TEC	6,800,000									
	PROJECT CONTINGENCY	1,810,606						36.29%			
	MANAGEMENT RESERVE	412,359									
	CONTINGENCY	1,398,247									
	TOTAL ESTIMATED COST	6,800,000								1,810,606	6,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

2406-7CA

PROCUREMENT FEE:

CONSTRUCTION =	\$3,000,000	
GFE =		
Subtotal	\$3,000,000	
FEE @ 3% =	\$3,000,000 * 0.03 =	\$90,000

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 2 YEARS =	\$1,000,000	
GFE =	\$0	
PROCUREMENT FEE =	\$90,000	
Subtotal	\$1,090,000	
FEE @ 23% =	\$1,090,000 * 0.23 =	\$250,700

PIF @ 5.5%

CONSTRUCTION =	\$3,000,000	
GFE =	\$0	
PROCUREMENT FEE =	\$90,000	
G&A =	\$250,700	
Subtotal	\$3,340,700	
FEE @ 5.5% =	\$3,340,700 * 0.055 =	\$183,739

TOTAL PROCUREMENT FEE: \$90,000

TOTAL G&A FEE: \$250,700

TOTAL PIF: \$183,739

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
 SITE PREPARATION - ESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-7C1
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
 TIME: 10:44:56
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$309,757
1.1.2	TITLE III INSPECTION	260,300	49,457	309,757
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> \$1,317,925
1.2.1	PROJECT MANAGEMENT	676,900	128,611	805,511
1.2.2	CONSTRUCTION MANAGEMENT	430,600	81,814	512,414
<u>1.3</u>	<u>CONSTRUCTION</u>			>> \$5,124,133
1.3.1	GENERAL CONDITIONS	1,361,837	258,749	1,620,586
1.3.2	SITWORK	118,825	22,577	141,402
1.3.3	CONCRETE	18,433	3,502	21,935
1.3.13	SPECIAL CONSTRUCTION	1,882,914	357,754	2,240,668
1.3.15	MECHANICAL	549,490	104,403	653,893
1.3.16	ELECTRICAL	374,495	71,154	445,649
<u>1.4</u>	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$1,054,053
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	153,153	1,054,053
<u>1.5</u>	<u>G&A/PIF</u>			>> \$635,741
1.5.1	G&A/PIF ADDER	534,236	101,505	635,741
1.5.2	PROCUREMENT FEES	118,196	22,048	\$140,244
SUBTOTAL INCLUDING ESCALATION		7,227,126	1,354,727	>> \$8,581,853
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$695,417
CONTINGENCY				>> \$2,122,730
TOTAL ESTIMATED COST				>> \$11,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 32.84%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 5/95

PROJECT NAME: **RISKED BASE CLEAN CLOSURE - CERCLA FILL
SITE PREPARATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7C1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **21-Jan-1998**
TIME: **09:47:15**

CHECKED BY: _____
APPRD BY: *K.S. / B.C.*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$260,300
1.1.2	TITLE III INSPECTION	260,300	0	260,300
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,107,500
1.2.1	PROJECT MANAGEMENT	676,900	0	676,900
1.2.2	CONSTRUCTION MANAGEMENT	430,600	0	430,600
1.3	<u>CONSTRUCTION</u>			>> \$4,305,994
1.3.1	GENERAL CONDITIONS	1,361,837	0	1,361,837
1.3.2	SITWORK	118,825	0	118,825
1.3.3	CONCRETE	18,433	0	18,433
1.3.13	SPECIAL CONSTRUCTION	1,882,914	0	1,882,914
1.3.15	MECHANICAL	549,490	0	549,490
1.3.16	ELECTRICAL	374,495	0	374,495
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$900,900
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	0	900,900
1.5	<u>G&A/PIF</u>			>> \$534,236
1.5.1	G&A/PIF ADDER	534,236	0	534,236
1.5.2	PROCUREMENT FEES	118,196	0	>> \$118,196
SUBTOTAL INCLUDING ESCALATION		7,227,126	0	>> \$7,227,126
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$585,933
CONTINGENCY				>> \$1,886,941
TOTAL ESTIMATED COST				>> \$9,700,000

<u>PROJECT COST PARAMETERS</u>	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	34.22%

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
SITE PREPARATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO: 2406-7C

PREPARED BY: R. D. ADAMS

PAGE # 1

DATE 21-Jan-1998

TIME: 09:43:50

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000 Memo:	TITLE III INSPECTION Inspection and Overview @ 5% OF CONSTRUCTION PLUS GEE.	1	LOT			0.000		260,300				260,300
	TITLE III INSPECTION S/T						0	\$260,300				\$260,300
1.2.1 Memo:	PROJECT MANAGEMENT PM @ 13% OF CONSTRUCTION PLUS GEE.	1	LOT			0.000		676,900				676,900
	PROJECT MANAGEMENT S/T						0	\$676,900				\$676,900
1.2.2 Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		430,600				430,600
	CONSTRUCTION MANAGEMENT S/T						0	\$430,600				\$430,600
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	1600.00	1,600	80,800				80,800
	MOB/DEMOB	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE FA	65.000	650	33,651				33,651
	SMALL TOOLS & CONSUMABLES	1	LOT	43,700.00	FA	0.000				43,700		43,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	800.000	800	41,416	44,000			85,416
	RAD TENTS	15	EA	5,000.00	FA	0.000				75,000		75,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/88

PROJECT NAME: **RISKED BASE CLEAN CLOSURE - CERCLA FILL
SITE PREPARATION**

TYPE OF ESTIMATE: **PLANNING**

DATE **21-Jan-1998**

LOCATION 1: **INEEL/ICPP**

PROJECT NO.: **2408-7C**

TIME: **09:43:50**

REQUESTOR: **B. C. SPAULDING**

PREPARED BY: **R. D. ADAMS**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
	MISC. EQUIPMENT	1	LOT			0.000			40,400			40,400
					FA							
	CLEANUP & MATERIAL HANDLING	16,147	MHRS		ZF-LB	0.100	1,615	71,418				71,418
					FA							
	RADCON TECH SUPPORT	2	FTE		Z-1342	1600.00	3,200	158,080				158,080
	TEMPORARY CONSTRUCTION FACILITIES	1	LOT			0.000					500,000	500,000
					FA							
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	230,050.00		0.000				230,050		230,050
	GENERAL CONDITIONS S/T						8,365	\$411,250	\$84,400	\$348,750	\$500,000	\$1,344,400
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	UTILITY EARTHWORK											
	TRENCH, BACKFILL & STOCKPILE	1,000	CY	1.00	ZF-OE	1.850	1,850	95,775	22,000	1,000		118,775
					FA							
	UTILITY EARTHWORK S/T						1,850	\$95,775	\$22,000	\$1,000		\$118,775
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	PENETRATIONS											
	VALVE BOX PENETRATIONS FOR UTILITIES	5	EA	600.00	ZF-LB	50.000	250	11,058	1,250	2,500		14,808
					FA							

Rev. 6/98

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-7C
 PREPARED BY: R. D. ADAMS

DATE 21-Jan-1998
 TIME: 09:43:50
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	PENETRATIONS											
	PENETRATIONS S/T						250	\$11,058	\$1,250	\$2,500		\$14,808
1.3.3.2	VOG BLOWER PAD											
	CONCRETE PAD FOR ENCLOSURE	10	CY		FA	0.000					3,500	3,500
	VOG BLOWER PAD S/T						0				\$3,500	\$3,500
1.3.13	SPECIAL CONSTRUCTION											
	CONTAMINATED EQUIPMENT STORAGE BUNKER	600	SF		ZF-CP FA	0.000					60,000	60,000
	DECON/SIZING AREA W/IN ENCLOSURE	1,500	SF		FA	0.000					75,000	75,000
	VOG BLOWER ENCLOSURE	200	SF		FA	0.000					12,000	12,000
	TANK FARM AREA ENCLOSURE ("SPRUNG" STRUCTURE)	55,000	SF		ZF-LB FA	0.000					1,650,000	1,650,000
	TANK FARM AREA ENCLOSURE RELOCATION	3	EA	2,000.00	ZF-LB FA	600.000	1,800	79,614		6,000		85,614
	SPECIAL CONSTRUCTION S/T						1,800	\$79,614		\$6,000	\$1,797,000	\$1,882,614
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	UTILITIES											
	UTILITY PIPING - ALLOW	1,900	LF	13.00	ZF-PF EA	0.500	950	57,257	2,375	24,700		84,332

Rev. 6/88

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
SITE PREPARATION

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-7C
PREPARED BY: R. D. ADAMS

DATE 21-Jan-1998

TIME: 09:43:50

REPORT NAME: Detail Cost Estimate Sheet

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	UTILITIES TEMPORARY UTILITY HOSES & FITTINGS	1	LOT	2,000.00		0.000				2,000		2,000
	UTILITIES S/T.						950	\$57,257	\$2,375	\$26,700		\$86,332
1.3.15.2	VOG MOVE & SET UP VOG FILTER SKID	7	EA		ZF-OE FA	120.000	840	43,487				43,487
	1 HP VOG BLOWERS	2	EA	3,100.00	ZF-SM FA	40.000	80	4,144		6,200		10,344
	PIPING MAIN	300	LF	80.00	ZF-PF FA	1.400	420	25,313	1,050	24,000		50,363
	PURCHASE SECONDARY LINE	280	LF	80.00		0.000				22,400		22,400
	INSTALL(MOVE) SECONDARY LINE	370	LF		ZF-PF FA	1.200	444	26,760	1,110			27,870
	PURCHASE 2"X4" DBL ENCASED CONDENSATE LINE	80	LF	110.00		0.000				8,800		8,800
	INSTALL/MOVE CONDENSATE LINE	80	LF		ZF-PF FA	2.900	232	13,983	580			14,563
	TAP PLA LINES FOR CONDENSATE	7	EA		ZF-PF FA	80.000	560	33,751	1,400			35,151
	PURCHASE TANK-TO-SKID 4"X6" DBL ENCASED LINE	300	LF	160.00		0.000				48,000		48,000
	INSTALL/MOVE TANK-TO-SKID DBL ENCASED LINES	830	LF		ZF-PF FA	3.750	3,113	187,590	7,785			195,376
	VOG S/T.						5,689	\$335,028	\$11,925	\$109,400		\$456,354
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

DETAILED COST ESTIMATE SHEET

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7C
 PREPARED BY: R. D. ADAMS

DATE: 21-Jan-1998
 TIME: 09:43:50
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	TEMPORARY POWER											
	HOOK UP CONTROL TRAILERS	1	LOT	20,000.00	ZF-EL FA	250.000	250	13,195		20,000		33,195
	MCC'S & MISC ELEC EQUIPMENT	1	LOT	61,000.00	ZF-EL FA	350.000	350	18,473		61,000		79,473
	CABLE & DUCT	7,000	LF	2.70	ZF-EL FA	0.044	308	16,256		18,900		35,156
	REMOVE & RECONNECT POWER TO VOG EQUIPMENT	7	EA		ZF-EL FA	600.000	4,200	221,676				221,676
	TEMPORARY POWER S/T						5,108	\$269,600		\$99,900		\$369,500
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	VOG SKID W/ FILTERS, DEMISTER, ETC.	2	EA	320,000.00	FA	0.000				640,000		640,000
	MCC/CONTROL/CCTV CONTROL & TRAILER	2	EA	70,000.00	FA	0.000				140,000		140,000
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	78,000.00	FA	0.000				78,000		78,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$858,000		\$858,000
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					294,427	294,427
	PIF	1	LOT			0.000					239,809	239,809
	G&A/PIF ADDER S/T						0				\$534,236	\$534,236

Lockheed Martin Idaho Technologies Co.
Rev. 0/96

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
SITE PREPARATION
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-7C
PREPARED BY: R. D. ADAMS

PAGE # 6

DATE 21-Jan-1998
TIME: 09:43:50

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						24,011	\$2,627,381	\$121,950	\$1,452,250	\$2,894,736	\$7,036,317

CONTINGENCY ANALYSIS

PROJECT NAME: RISKED BASE CLEAN CLOSURE - CERCLA FILL
SITE PREPARATION - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7C1
PREPARED BY: R. D. ADAMS

DATE: 21-Jan-1998
TIME: 09:47:23

REPORT NAME: Contingency Analysis

WBS Element	Cost Estimate Element	PROBABLE % VARIATION						PROJECT CONTINGENCY		SUMMARY	
		Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	260,300	3.60	0	40	0.00	1.44	1.297%	3.87%	95,584	355,884
1.2.1	PROJECT MANAGEMENT	676,900	9.37	0	40	0.00	3.75	3.372%	10.05%	248,562	925,462
1.2.2	CONSTRUCTION MANAGEMENT	430,600	5.96	0	40	0.00	2.38	2.145%	6.39%	158,119	588,719
1.3.1	GENERAL CONDITIONS	1,361,837	18.84	0	40	0.00	7.54	6.784%	20.22%	500,076	1,861,913
1.3.2	SITWORK	118,825	1.64	0	40	0.00	0.66	0.592%	1.76%	43,633	162,458
1.3.3	CONCRETE	18,433	0.26	0	40	0.00	0.10	0.092%	0.27%	6,769	25,202
1.3.13	SPECIAL CONSTRUCTION	1,882,914	26.05	0	30	0.00	7.82	7.034%	20.97%	518,565	2,401,479
1.3.15	MECHANICAL	549,490	7.60	0	50	0.00	3.80	3.421%	10.20%	252,221	801,711
1.3.16	ELECTRICAL	374,495	5.18	0	35	0.00	1.81	1.632%	4.87%	120,328	494,823
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	12.47	0	35	0.00	4.36	3.927%	11.71%	289,465	1,190,365
1.5.1	G&A/PIF ADDER	534,236	7.39	0	40	0.00	2.96	2.661%	7.93%	196,175	730,411
1.5.2	PROCUREMENT FEES	118,196	1.64	0	40	0.00	0.65	0.589%	1.76%	43,402	161,598
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(25)	(25)
	SUBTOTAL	7,227,126	100.00					33.545%			
	CALCULATED CONTINGENCY	2,424,364									
	RESULTANT TEC	9,651,490									
	ROUNDED TEC	9,700,000									
	PROJECT CONTINGENCY	2,472,874						34.22%			
	MANAGEMENT RESERVE	585,933									
	CONTINGENCY	1,886,941									
	TOTAL ESTIMATED COST	9,700,000								2,472,874	9,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95

PROJECT NAME: **RISKED BASE CLEAN CLOSURE - CERCLA FILL**

TYPE OF ESTIMATE:

PLANNING

DATE: **22-Jan-1998**

SITE PREPARATION - ESCALATED

PROJECT NO:

2406-7C1

TIME: **10:45:00**

LOCATION 1:

INEEL/ICPP

PREPARED BY:

R. D. ADAMS

REQUESTOR:

B. C. SPAULDING

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	260,300	3.03	0	40	0.00	1.21	1.092%	3.29%	92,626	352,926
1.2.1	PROJECT MANAGEMENT	676,900	7.89	0	40	0.00	3.16	2.840%	8.55%	240,871	917,771
1.2.2	CONSTRUCTION MANAGEMENT	430,600	5.02	0	40	0.00	2.01	1.806%	5.44%	153,226	583,826
1.3.1	GENERAL CONDITIONS	1,361,837	15.87	0	40	0.00	6.35	5.713%	17.20%	484,601	1,846,438
1.3.2	SITework	118,825	1.38	0	40	0.00	0.55	0.498%	1.50%	42,283	161,108
1.3.3	CONCRETE	18,433	0.21	0	40	0.00	0.09	0.077%	0.23%	6,559	24,992
1.3.13	SPECIAL CONSTRUCTION	1,882,914	21.94	0	30	0.00	6.58	5.924%	17.83%	502,517	2,385,431
1.3.15	MECHANICAL	549,490	6.40	0	50	0.00	3.20	2.881%	8.67%	244,416	793,906
1.3.16	ELECTRICAL	374,495	4.36	0	35	0.00	1.53	1.375%	4.14%	116,604	491,099
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	10.50	0	35	0.00	3.67	3.307%	9.95%	280,507	1,181,407
1.5.1	G&A/PIF ADDER	534,236	6.23	0	40	0.00	2.49	2.241%	6.75%	190,105	724,341
1.5.2	PROCUREMENT FEES	118,196	1.38	0	40	0.00	0.55	0.496%	1.49%	42,059	160,255
	ESCALATION	1,354,727	15.79	0	35	0.00	5.53	4.973%	14.97%	421,773	1,776,500
	SUBTOTAL	8,581,853	100.00					33.222%			
	CALCULATED CONTINGENCY	2,851,103									
	RESULTANT TEC	11,432,956									
	ROUNDED TEC	11,400,000									
	PROJECT CONTINGENCY	2,818,147						32.84%			
	MANAGEMENT RESERVE	695,417									
	CONTINGENCY	2,122,730									
	TOTAL ESTIMATED COST	11,400,000								2,818,147	11,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
 - Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

1/21/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-7C1

PROCUREMENT FEE:

CONSTRUCTION ***=	\$3,046,413		
GFE =	\$900,900		
	<u>Subtotal</u>	\$3,947,313	
FEE @ 3% =	\$3,947,313	* 0.03 =	\$118,419

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$500,000 *		
GFE =	\$661,700 **		
PROCUREMENT FEE =	\$118,419		
	<u>Subtotal</u>	\$1,280,119	
FEE @ 23% =	\$1,280,119	* 0.23 =	\$294,427

PIF @ 5.5%

CONSTRUCTION =	\$3,046,413		
GFE =	\$900,900		
PROCUREMENT FEE =	\$118,419		
G&A =	\$294,427		
	<u>Subtotal</u>	\$4,360,160	
FEE @ 5.5% =	\$4,360,160	* 0.055 =	\$239,809

TOTAL PROCUREMENT FEE: \$118,419

TOTAL G&A FEE: \$294,427

TOTAL PIF: \$239,809

*The \$500,000 ceiling on construction will be imposed since this activity will need to be completed within one year.

**The \$500,000 ceiling on any one contract will be imposed for the two VOG skids..

***Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
CHARACTERIZATION - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7D1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 07:42:04
CHECKED BY:
APPRD BY: *RDS*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$1,980,000
1.3.1	GENERAL CONDITIONS	1,980,000	0	1,980,000
1.5	G&A/PIF			>> \$607,027
1.5.1	G&A/PIF ADDER	607,027	0	607,027
1.5.2	PROCUREMENT FEES	59,400	0	>> \$59,400
	SUBTOTAL INCLUDING ESCALATION	2,646,427	0	>> \$2,646,427
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$953,573
	TOTAL ESTIMATED COST			>> \$3,600,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 0.00%

CONTINGENCY= 36.03%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
CHARACTERIZATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7D1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **07:40:39**
CHECKED BY: *S.N.V.*
APPRD BY: *H.S. in Red*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$2,554,200
1.3.1	GENERAL CONDITIONS	1,980,000	574,200	2,554,200
1.5	G&A/PIF			>> \$783,065
1.5.1	G&A/PIF ADDER	607,027	176,038	783,065
1.5.2	PROCUREMENT FEES	59,400	17,226	>> \$76,626
SUBTOTAL INCLUDING ESCALATION		2,646,427	767,464	>> \$3,413,891
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$1,186,109
TOTAL ESTIMATED COST				>> \$4,600,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **0.00%**

CONTINGENCY= **34.74%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL CHARACTERIZATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-7D

PREPARED BY: R. D. ADAMS

PAGE # 1

DATE 22-Jan-1998

TIME: 07:39:21

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
Memo:	HEEL CHARACTERIZATION PULL 6 SAMPLES PER TANK X 11 TANKS	66	EA			0.000					1,980,000	1,980,000
	GENERAL CONDITIONS S/T						0				\$1,980,000	\$1,980,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					469,062	469,062
	PIF	1	LOT			0.000					137,965	137,965
	G&A/PIF ADDER S/T						0				\$607,027	\$607,027
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$2,587,027	\$2,587,027

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
CHARACTERIZATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7D1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **07:42:08**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	1,980,000	74.82	0	40	0.00	29.93	26.934%	74.82%	713,443	2,693,443
1.5.1	G&A/PIF ADDER	607,027	22.94	0	40	0.00	9.18	8.258%	22.94%	218,727	825,754
1.5.2	PROCUREMENT FEES	59,400	2.24	0	40	0.00	0.90	0.808%	2.24%	21,403	80,803
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		2,646,427	100.00					36.000%			
CALCULATED CONTINGENCY		952,714									
RESULTANT TEC		3,599,141									
ROUNDED TEC		3,600,000									
PROJECT CONTINGENCY		953,573						36.03%			
MANAGEMENT RESERVE		0									
CONTINGENCY		953,573									
TOTAL ESTIMATED COST		3,600,000								953,573	3,600,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30%</p> <p>Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25%</p> <p>Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20%</p> <p>TITLE II 5% - 15%</p> <p>TITLE II/AFC Market Conditions</p>
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Rev. 6/96

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 CHARACTERIZATION - ESCALATED
 LOCATION 1: INEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-7D1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 07:40:35

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	1,980,000	58.00	0	40	0.00	23.20	20.879%	59.68%	707,821	2,687,821
1.5.1	G&A/PIF ADDER	607,027	17.78	0	40	0.00	7.11	6.401%	18.30%	217,003	824,030
1.5.2	PROCUREMENT FEES	59,400	1.74	0	40	0.00	0.70	0.626%	1.79%	21,235	80,635
	ESCALATION	767,464	22.48	0	35	0.00	7.57	7.081%	20.24%	240,050	1,007,514
SUBTOTAL		3,413,891	100.00					34.988%			
CALCULATED CONTINGENCY		1,194,465									
RESULTANT TEC		4,608,356									
ROUNDED TEC		4,600,000									
PROJECT CONTINGENCY		1,186,109						34.74%			
MANAGEMENT RESERVE		0									
CONTINGENCY		1,186,109									
TOTAL ESTIMATED COST		4,600,000								1,186,109	4,600,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE III/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
TANK ISOLATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7E1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **87:49:47**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$282,226</u>
1.1.2	TITLE III INSPECTION	212,200	70,026	282,226
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,297,947</u>
1.2.1	PROJECT MANAGEMENT	551,600	182,028	733,628
1.2.2	CONSTRUCTION MANAGEMENT	424,300	140,019	564,319
1.3	<u>CONSTRUCTION</u>			>> <u>\$5,643,741</u>
1.3.1	GENERAL CONDITIONS	1,544,535	509,697	2,054,232
1.3.2	SITWORK	225,389	74,378	299,767
1.3.15	MECHANICAL	2,459,556	811,654	3,271,210
1.3.16	ELECTRICAL	13,934	4,598	18,532
1.5	<u>G&A/PIF</u>			>> <u>\$231,316</u>
1.5.1	G&A/PIF ADDER	173,922	57,394	231,316
1.5.2	PROCUREMENT FEES	16,974	5,601	>> <u>\$22,575</u>
	SUBTOTAL INCLUDING ESCALATION	5,622,410	1,855,395	>> \$7,477,805
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$589,763
	CONTINGENCY			>> \$2,132,432
	TOTAL ESTIMATED COST			>> \$10,200,000

PROJECT COST PARAMETERS	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	36.40%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
TANK ISOLATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7E1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **07:51:20**
CHECKED BY: _____
APPR'D BY: *KAS/Ed*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$212,200</u>
1.1.2	TITLE III INSPECTION	212,200	0	212,200
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$975,900</u>
1.2.1	PROJECT MANAGEMENT	551,600	0	551,600
1.2.2	CONSTRUCTION MANAGEMENT	424,300	0	424,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,243,414</u>
1.3.1	GENERAL CONDITIONS	1,544,535	0	1,544,535
1.3.2	SITework	225,389	0	225,389
1.3.15	MECHANICAL	2,459,556	0	2,459,556
1.3.16	ELECTRICAL	13,934	0	13,934
1.5	<u>G&A/PIF</u>			>> <u>\$173,922</u>
1.5.1	G&A/PIF ADDER	173,922	0	173,922
1.5.2	PROCUREMENT FEES	16,974	0	>> <u>\$16,974</u>
	SUBTOTAL INCLUDING ESCALATION	5,622,410	0	>> \$5,622,410
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$443,431
	CONTINGENCY			>> \$1,634,159
	TOTAL ESTIMATED COST			>> \$7,700,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 36.95%

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		212,200				212,200
	TITLE III INSPECTION S/T						0	\$212,200				\$212,200
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		551,600				551,600
	PROJECT MANAGEMENT S/T						0	\$551,600				\$551,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		424,300				424,300
	CONSTRUCTION MANAGEMENT S/T						0	\$424,300				\$424,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	4656.00	4,656	235,128				235,128
	MOB/DEMOB	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE FA	186.000	1,860	96,292				96,292
	SMALL TOOLS & CONSUMABLES	1	LOT	127,920.00		0.000				127,920		127,920
	CRANE SUPPORT	1	LOT		ZF-OE FA	2326.00	2,326	120,417	128,000			248,417
	MISC. EQUIPMENT	1	LOT			0.000			117,650			117,650
	CLEANUP & MATERIAL HANDLING	46,561	MHRS		ZF-LB FA	0.100	4,656	205,939				205,939

Rev. 6/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING.

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7E1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 07:48:47
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	4656.00	9,312	460,013				460,013
	ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	19,900.00		0.000				19,900		19,900
	GENERAL CONDITIONS S/T						23,310	\$1,143,674	\$245,650	\$147,820		\$1,537,144
1.3.2	SITEWORK											
	SITEWORK S/T						0					
1.3.2.3	ISOLATE TANK LINES EXCAVATE, SHORING, STOCKPILE, CLEAN FILL, SHORING	740	CY	50.00	ZF-OE FA	4.000	2,960	153,239	33,300	37,000		223,539
	ISOLATE TANK LINES S/T						2,960	\$153,239	\$33,300	\$37,000		\$223,539
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.2	TANK LINE ISOLATION INITIAL PIPE FLUSHING	11	TANK		Z-5210 FA	800.000	8,800	520,608				520,608
	REMOVE VB COVER & PREPARE FOR ENTRY	77	EA		ZF-OE FA	60.000	4,620	239,177				239,177
	SET UP & REMOVE RAD TENTS	77	EA		ZF-LB FA	160.000	12,320	544,914				544,914
	CUT & CAP TANK LINES IN GLOVE BAGS	165	EA	100.00	ZF-PF FA	65.000	10,725	646,398	26,813	16,500		689,708

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-7E1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 07:48:47

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LINE ISOLATION											
	CUT & CAP COOLING WATER LINES	540	EA	15.00	ZF-PF FA	3.000	1,620	97,637	4,050	8,100		109,787
	CUT & CAP INSTRUMENT LINES	352	EA	3.00	ZF-PF FA	1.000	352	21,215	880	1,056		23,151
	BOX REMOVED PIPE SECTIONS (ALLOW)	3	BOX	500.00	ZF-PF FA	20.000	60	3,616		1,500		5,116
	PROCESS WASTE BOXES	3	EA		FA	0.000					15,000	15,000
	TANK LINE ISOLATION S/T						38,497	\$2,073,563	\$31,743	\$27,156	\$15,000	\$2,147,462
1.3.15.3	VOG SYSTEM											
	CUT,CAP & TIE-IN VOG LINES	22	EA		ZF-PF FA	100.000	2,200	132,594	5,500			138,094
	CUT & CAP TANK VOG LINES	66	EA	100.00	ZF-PF FA	40.000	2,640	159,113	6,600	6,600		172,313
	VOG SYSTEM S/T						4,840	\$291,707	\$12,100	\$6,600		\$310,407
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TANK ELECTRICAL/INSTRUMENTATION ISOLATION											
	CUT & CAP CONDUIT.	132	EA		ZF-EL FA	2.000	264	13,934				13,934
	TANK ELECTRICAL/INSTRUMENTATION ISOLATION S/T						264	\$13,934				\$13,934
1.5.1	G&A/PIF-ADDER											
00701000	G&A	1	LOT			0.000					134,393	134,393

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 6/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7E1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 07:48:47
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					39,529	39,529
	G&A/PIF ADDER S/T						0				\$173,922	\$173,922
	PROJECT SUBTOTAL						69,871	\$4,864,218	\$322,793	\$218,576	\$188,922	===== \$5,594,608 =====

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
TANK ISOLATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7E1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **07:51:24**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	3.77	0	35	0.00	1.32	1.189%	3.20%	66,401	278,601
1.2.1	PROJECT MANAGEMENT	551,600	9.81	0	35	0.00	3.43	3.090%	8.31%	172,605	724,205
1.2.2	CONSTRUCTION MANAGEMENT	424,300	7.55	0	35	0.00	2.64	2.377%	6.39%	132,770	557,070
1.3.1	GENERAL CONDITIONS	1,544,535	27.47	0	40	0.00	10.99	9.890%	26.59%	552,355	2,096,890
1.3.2	SITework	225,389	4.01	0	45	0.00	1.80	1.624%	4.36%	90,679	316,068
1.3.15	MECHANICAL	2,459,556	43.75	0	45	0.00	19.69	17.717%	47.63%	989,531	3,449,087
1.3.16	ELECTRICAL	13,934	0.25	0	40	0.00	0.10	0.089%	0.24%	4,983	18,917
1.5.1	G&A/PIF ADDER	173,922	3.09	0	40	0.00	1.24	1.114%	2.99%	62,198	236,120
1.5.2	PROCUREMENT FEES	16,974	0.30	0	40	0.00	0.12	0.109%	0.29%	6,070	23,044
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(2)	(2)
SUBTOTAL		5,622,410	100.00					37.198%			
CALCULATED CONTINGENCY		2,091,426									
RESULTANT TEC		7,713,836									
ROUNDED TEC		7,700,000									
PROJECT CONTINGENCY		2,077,590						36.95%			
MANAGEMENT RESERVE		443,431									
CONTINGENCY		1,634,159									
TOTAL ESTIMATED COST		7,700,000								2,077,590	7,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
TANK ISOLATION - ESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7E1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **07:49:52**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	2.84	0	35	0.00	0.99	0.894%	2.50%	68,001	280,201
1.2.1	PROJECT MANAGEMENT	551,600	7.38	0	35	0.00	2.58	2.324%	6.49%	176,763	728,363
1.2.2	CONSTRUCTION MANAGEMENT	424,300	5.67	0	35	0.00	1.99	1.787%	4.99%	135,969	560,269
1.3.1	GENERAL CONDITIONS	1,544,535	20.65	0	40	0.00	8.26	7.436%	20.78%	565,661	2,110,196
1.3.2	SITWORK	225,389	3.01	0	45	0.00	1.36	1.221%	3.41%	92,863	318,252
1.3.15	MECHANICAL	2,459,556	32.89	0	45	0.00	14.80	13.321%	37.23%	1,013,370	3,472,926
1.3.16	ELECTRICAL	13,934	0.19	0	40	0.00	0.07	0.067%	0.19%	5,103	19,037
1.5.1	G&A/PIF ADDER	173,922	2.33	0	40	0.00	0.93	0.837%	2.34%	63,696	237,618
1.5.2	PROCUREMENT FEES	16,974	0.23	0	40	0.00	0.09	0.082%	0.23%	6,216	23,190
	ESCALATION	1,855,395	24.81	0	35	0.00	8.68	7.816%	21.84%	594,553	2,449,948
SUBTOTAL		7,477,805	100.00					35.784%			
CALCULATED CONTINGENCY		2,675,875									
RESULTANT TEC		10,153,680									
ROUNDED TEC		10,200,000									
PROJECT CONTINGENCY		2,722,195						36.40%			
MANAGEMENT RESERVE		589,763									
CONTINGENCY		2,132,432									
TOTAL ESTIMATED COST		10,200,000								2,722,195	10,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

12/10/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-7E

PROCUREMENT FEE:

CONSTRUCTION*** =	\$567,297	
GFE =	\$0	
Subtotal	<u>\$567,297</u>	
FEE @ 3% =	\$567,297 * 0.03 =	\$17,019

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$567,297	
GFE =	\$0 **	
PROCUREMENT FEE =	\$17,019	
Subtotal	<u>\$584,316</u>	
FEE @ 23% =	\$584,316 * 0.23 =	\$134,393

PIF @ 5.5%

CONSTRUCTION =	\$567,297	
GFE =	\$0	
PROCUREMENT FEE =	\$17,019	
G&A =	\$134,393	
Subtotal	<u>\$718,709</u>	
FEE @ 5.5% =	\$718,709 * 0.055 =	\$39,529

TOTAL PROCUREMENT FEE: \$17,019

TOTAL G&A FEE: \$134,393

TOTAL PIF: \$39,529

****Construction = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
WASH INTERIOR TANK WALLS - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7F1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 09:38:06
CHECKED BY: *SW*
APPROD BY: *KSE/Bar*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$925,383</u>
1.1.2	TITLE III INSPECTION	656,300	269,083	925,383
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,415,443</u>
1.2.1	PROJECT MANAGEMENT	1,706,300	699,583	2,405,883
1.2.2	CONSTRUCTION MANAGEMENT	716,000	293,560	1,009,560
1.3	<u>CONSTRUCTION</u>			>> <u>\$10,095,541</u>
1.3.1	GENERAL CONDITIONS	2,483,125	1,018,081	3,501,206
1.3.2	SITWORK	134,015	54,946	188,961
1.3.4	HEEL	1,034,023	423,949	1,457,972
1.3.6	SHIELDING	177,285	72,687	249,972
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	454,632	1,563,491
1.3.11	EQUIPMENT	1,190,930	488,281	1,679,211
1.3.15	MECHANICAL	404,696	165,925	570,621
1.3.16	ELECTRICAL	627,026	257,081	884,107
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$7,277,707</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	1,312,373	7,277,707
1.5	<u>G&A/PIF</u>			>> <u>\$2,126,827</u>
1.5.1	G&A/PIF ADDER	1,508,388	618,439	2,126,827
1.5.2	PROCUREMENT FEES	219,192	70,941	>> <u>\$290,133</u>
	SUBTOTAL INCLUDING ESCALATION	17,931,473	6,199,561	>> \$24,131,034
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,979,021
	CONTINGENCY			>> \$6,889,945
	TOTAL ESTIMATED COST			>> \$33,000,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 36.75%

Lockheed Martin Idaho Technologies Co.

Rev. 5/95

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
WASH INTERIOR TANK WALLS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7F1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **09:36:13**

CHECKED BY: _____
APPRD BY: *KES for P...*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$656,300</u>
1.1.2	TITLE III INSPECTION	656,300	0	656,300
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$2,422,300</u>
1.2.1	PROJECT MANAGEMENT	1,706,300	0	1,706,300
1.2.2	CONSTRUCTION MANAGEMENT	716,000	0	716,000
1.3	<u>CONSTRUCTION</u>			>> <u>\$7,159,959</u>
1.3.1	GENERAL CONDITIONS	2,483,125	0	2,483,125
1.3.2	SITWORK	134,015	0	134,015
1.3.4	HEEL	1,034,023	0	1,034,023
1.3.6	SHIELDING	177,285	0	177,285
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	0	1,108,859
1.3.11	EQUIPMENT	1,190,930	0	1,190,930
1.3.15	MECHANICAL	404,696	0	404,696
1.3.16	ELECTRICAL	627,026	0	627,026
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$5,965,334</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	0	5,965,334
1.5	<u>G&A/PIF</u>			>> <u>\$1,508,388</u>
1.5.1	G&A/PIF ADDER	1,508,388	0	1,508,388
1.5.2	PROCUREMENT FEES	219,192	0	>> <u>\$219,192</u>
	SUBTOTAL INCLUDING ESCALATION	17,931,473	0	>> \$17,931,473
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,485,287
	CONTINGENCY			>> \$5,383,240
	TOTAL ESTIMATED COST			>> \$24,800,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **33.30%**

Rev. 6/86

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-7F1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 09:33:39
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MAT'L UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	SIC (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
	INSPECTION/TITLE III	1	LOT			0.000		656,300				656,300
	Memo: TITLE III @ 65% OF CONSTRUCTION PLUS GEE.											
	TITLE III INSPECTION S/T						0	\$656,300				\$656,300
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		1,706,300				1,706,300
	Memo: PM @ 13% OF CONSTRUCTION PLUS GEE.											
	PROJECT MANAGEMENT S/T						0	\$1,706,300				\$1,706,300
1.2.2	CONSTRUCTION MANAGEMENT											
	CONSTRUCTION MANAGEMENT	1	LOT			0.000		716,000				716,000
	Memo: CM @ 10% OF CONSTRUCTION.											
	CONSTRUCTION MANAGEMENT S/T							\$716,000				\$716,000
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV FA	7570.00	7,570	382,285				382,285
	TRAINING:	10	FTE		ZF-OE FA	291.000	2,910	150,651				150,651
	SMALL TOOLS & CONSUMABLES	1	LOT		FA	0.000			189,300			189,300
	CRANE SUPPORT	1	LOT		ZF-OE FA	3785.00	3,785	195,949	208,200			404,149
	MISC. EQUIPMENT	1	LOT	201,000.00	FA	0.000				201,000		201,000
	CLEANUP & MATERIAL HANDLING	75,713	MHRS		ZF-LB FA	0.100	7,571	334,879				334,879
	RADCON TECH SUPPORT	2	FTE		Z-1342	7570.00	15,140	747,916				747,916

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/90

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL**

TYPE OF ESTIMATE: **PLANNING**

DATE **22-Jan-1998**

WASH INTERIOR TANK WALLS

PROJECT NO.: **2406-7F1**

TIME: **09:33:39**

LOCATION 1: **INEEL/ICPP**

PREPARED BY: **R. D. ADAMS**

REPORT NAME: **Détail Cost Estimate Sheet**

REQUESTOR: **B. C. SPAULDING**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	59,900.00		0.000				59,900		59,900
	GENERAL CONDITIONS S/T						36,976	\$1,811,680	\$397,500	\$260,800		\$2,470,080
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS TANK RISERS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	440	CY	50.00	ZF-OE FA	4.000	1,760	91,115	19,800	22,000		132,915
	ACCESS TANK RISERS S/T						1,760	\$91,115	\$19,800	\$22,000		\$132,915
1.3.4	HEEL											
	HEEL S/T						0					
1.3.4.1	HEEL FLUSHING FLUSHES + PAPERWORK(11 TANKS X 27 FLUSHES/TANK)	297	EA		Z-5210 LMITCO	24.000	7,128	421,692				421,692
	HEEL FLUSHING S/T						7,128	\$421,692				\$421,692

Rev. 6/98
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7F1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 09:33:39
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.4.2	HEEL MIXING & REMOVAL SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	INSTALL & REMOVE MOUNTING/SUPPORT FRAME	11	EA		ZF-IW FA	160.000	1,760	84,885				84,885
	INSTALL, MIX, REMOVE & DECON PUMP	11	EA		ZF-OE FA	400.000	4,400	227,788				227,788
	HEEL MIXING & REMOVAL S/T						7,040	\$358,230		\$242,000		\$600,230
1.3.6	SHIELDING											
	TANK RISER TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.7	TANK INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM (THREE TIMES PER TANK)	33	EA		ZF-OE FA	500.000	16,500	854,205				854,205
	INSTALL & REMOVE SUPPORT/MOUNTING FRAME	33	EA		ZF-IW FA	160.000	5,280	254,654				254,654
	TANK INTERNAL WASHDOWN S/T						21,780	\$1,108,859				\$1,108,859
1.3.11	EQUIPMENT											
	EQUIPMENT S/T						0					

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL

WASH INTERIOR TANK WALLS

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-7F1

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 22-Jan-1998

TIME: 09:33:39

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.11.1	EQUIPMENT REMOVAL REMOVE JETS, LIFTS, CORROSION COUPONS, ETC.	44	EA		ZF-PF FA	160.000	7,040	424,301				424,301
	SET UP & REMOVE RAD TENT	44	EA		ZF-LB FA	160.000	7,040	311,379				311,379
	CUT & BOX REMOVED EQUIP.	44	EA	500.00	ZF-PF FA	80.000	3,520	212,160		22,000		234,160
	PROCESS WASTE BOXES	44	EA		FA	0.000					220,000	220,000
	EQUIPMENT REMOVAL S/T						17,600	\$947,830		\$22,000	\$220,000	\$1,189,830
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	HEEL TRANSFER LINES VALVE BOX TIE-IN	11	EA		ZF-PF FA	80.000	880	53,038				53,038
	SET UP & REMOVE RAD TENT	11	EA		ZF-LB FA	160.000	1,760	77,845				77,845
	DBL ENCASE TRANSFER LINE - PURCHASE	150	LF	160.00	ZF-PF FA	0.000				24,000		24,000
	DBL ENCASE TRANSFER LINE - INSTALL	1,100	LF		ZF-PF FA	3.750	4,125	248,614				248,614
	HEEL TRANSFER LINES S/T						6,765	\$379,496		\$24,000		\$403,496
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

WASH INTERIOR TANK WALLS

PROJECT NO.: 2406-7F1

TIME: 09:33:39

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	TEMPORARY POWER S/T						7,920	\$418,018				\$418,018
1.3.16.2	CAMERA & LIGHTING INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL FA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL FA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE MIXING PUMPS & CONTROLS	3	EA	250,000.00	FA	0.000				750,000		750,000
	PURCHASE MOUNTING/SUPPORT FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE WASHDOWN ARM, SKID & CONTROLS	2	EA	2,000,000.00	FA	0.000				4,000,000		4,000,000
	PURCHASE SUPPORT/MOUNTING FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE VIDEO & LIGHTING EQUIPMENT	1	LOT	50,000.00	FA	0.000				50,000		50,000
	PURCHASE MONITORING SYSTEM	1	LOT	40,000.00	FA	0.000				40,000		40,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 6

Rev. 0/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

WASH INTERIOR TANK WALLS

PROJECT NO: 2406-7F1

TIME: 09:33:39

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	541,270.00		0.000				541,270		541,270
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$5,681,270		\$5,681,270
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					1,038,062	1,038,062
	PIF	1	LOT			0.000					470,326	470,326
	G&A/PIF ADDER S/T						0				\$1,508,388	\$1,508,388
	PROJECT SUBTOTAL						112,689	\$8,909,415	\$417,300	\$6,340,170	\$1,728,388	\$17,395,273

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
WASH INTERIOR TANK WALLS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7F1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **09:36:18**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	656,300	3.66	0	35	0.00	1.28	1.153%	3.01%	206,451	862,751
1.2.1	PROJECT MANAGEMENT	1,706,300	9.52	0	35	0.00	3.33	2.997%	7.81%	536,746	2,243,046
1.2.2	CONSTRUCTION MANAGEMENT	716,000	3.99	0	35	0.00	1.40	1.258%	3.28%	225,230	941,230
1.3.1	GENERAL CONDITIONS	2,483,125	13.85	0	40	0.00	5.54	4.985%	13.00%	892,697	3,375,822
1.3.2	SITWORK	134,015	0.75	0	45	0.00	0.34	0.303%	0.79%	54,202	188,217
1.3.4	HEEL	1,034,023	5.77	0	40	0.00	2.31	2.076%	5.41%	371,737	1,405,760
1.3.6	SHIELDING	177,285	0.99	0	40	0.00	0.40	0.356%	0.93%	63,735	241,020
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	6.18	0	40	0.00	2.47	2.226%	5.80%	398,641	1,507,500
1.3.11	EQUIPMENT	1,190,930	6.64	0	40	0.00	2.66	2.391%	6.23%	428,146	1,619,076
1.3.15	MECHANICAL	404,696	2.26	0	45	0.00	1.02	0.914%	2.38%	163,677	568,373
1.3.16	ELECTRICAL	627,026	3.50	0	40	0.00	1.40	1.259%	3.28%	225,419	852,445
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	33.27	0	50	0.00	16.63	14.970%	39.03%	2,680,713	8,646,047
1.5.1	G&A/PIF ADDER	1,508,388	8.41	0	40	0.00	3.36	3.028%	7.90%	542,274	2,050,662
1.5.2	PROCUREMENT FEES	219,192	1.22	0	40	0.00	0.49	0.440%	1.15%	78,801	297,993
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	58	58
SUBTOTAL		17,931,473	100.00					38.357%			
CALCULATED CONTINGENCY		6,877,915									
RESULTANT TEC		24,809,388									
ROUNDED TEC		24,800,000									
PROJECT CONTINGENCY		6,868,527						38.30%			
MANAGEMENT RESERVE		1,485,287									
CONTINGENCY		5,383,240									
TOTAL ESTIMATED COST		24,800,000								6,868,527	24,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

CONTINGENCY ANALYSIS

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
WASH INTERIOR TANK WALLS - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7F1
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 09:38:10

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	656,300	2.72	0	35	0.00	0.95	0.857%	2.34%	207,629	863,929
1.2.1	PROJECT MANAGEMENT	1,706,300	7.07	0	35	0.00	2.47	2.227%	6.09%	539,810	2,246,110
1.2.2	CONSTRUCTION MANAGEMENT	716,000	2.97	0	35	0.00	1.04	0.935%	2.55%	226,516	942,516
1.3.1	GENERAL CONDITIONS	2,483,125	10.29	0	40	0.00	4.12	3.704%	10.12%	897,793	3,380,918
1.3.2	SITework	134,015	0.56	0	45	0.00	0.25	0.225%	0.61%	54,511	188,526
1.3.4	HEEL	1,034,023	4.29	0	40	0.00	1.71	1.543%	4.22%	373,859	1,407,882
1.3.6	SHIELDING	177,285	0.73	0	40	0.00	0.29	0.264%	0.72%	64,099	241,384
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	4.60	0	40	0.00	1.84	1.654%	4.52%	400,917	1,509,776
1.3.11	EQUIPMENT	1,190,930	4.94	0	40	0.00	1.97	1.777%	4.86%	430,590	1,621,520
1.3.15	MECHANICAL	404,696	1.68	0	45	0.00	0.75	0.679%	1.86%	164,611	569,307
1.3.16	ELECTRICAL	627,026	2.60	0	40	0.00	1.04	0.935%	2.56%	226,706	853,732
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	24.72	0	50	0.00	12.36	11.124%	30.40%	2,696,017	8,661,351
1.5.1	G&A/PIF ADDER	1,508,388	6.25	0	40	0.00	2.50	2.250%	6.15%	545,370	2,053,758
1.5.2	PROCUREMENT FEES	219,192	0.91	0	40	0.00	0.36	0.327%	0.89%	79,251	298,443
	ESCALATION	6,199,561	25.69	0	35	0.00	8.99	8.093%	22.11%	1,961,287	8,160,848
	SUBTOTAL	24,131,034	100.00					36.595%			
	CALCULATED CONTINGENCY	8,830,777									
	RESULTANT TEC	32,961,811									
	ROUNDED TEC	33,000,000									
	PROJECT CONTINGENCY	8,868,966						36.75%			
	MANAGEMENT RESERVE	1,979,021									
	CONTINGENCY	6,889,945									
	TOTAL ESTIMATED COST	33,000,000								8,868,966	33,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-7F

PROCUREMENT FEE:

CONSTRUCTION*** =	\$1,329,145	
GFE =	\$5,965,334	
Subtotal	<u>\$7,294,479</u>	
FEE @ 3% =	\$7,294,479 * 0.03 =	\$218,834

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 2 YEARS =	\$1,329,145	
GFE =	\$2,965,334	
PROCUREMENT FEE =	\$218,834	
Subtotal	<u>\$4,513,313</u>	
FEE @ 23% =	\$4,513,313 * 0.23 =	\$1,038,062

PIF @ 5.5%

CONSTRUCTION =	\$1,329,145	
GFE =	\$5,965,334	
PROCUREMENT FEE =	\$218,834	
G&A =	\$1,038,062	
Subtotal	<u>\$8,551,375</u>	
FEE @ 5.5% =	\$8,551,375 * 0.055 =	\$470,326

TOTAL PROCUREMENT FEE:	\$218,834
TOTAL G&A FEE:	\$1,038,062
TOTAL PIF:	\$470,326

****Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
SOLIDIFY REMAINING HEEL - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7G1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 09:50:57
CHECKED BY: *SNW*
APPRD BY: *HKS for BCI*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$343,650</u>
1.1.2	TITLE III INSPECTION	229,100	114,550	343,650
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,027,500</u>
1.2.1	PROJECT MANAGEMENT	595,700	297,850	893,550
1.2.2	CONSTRUCTION MANAGEMENT	89,300	44,650	133,950
1.3	<u>CONSTRUCTION</u>			>> <u>\$1,338,994</u>
1.3.1	GENERAL CONDITIONS	282,949	141,475	424,424
1.3.3	CONCRETE	413,015	206,507	619,522
1.3.15	MECHANICAL	80,583	40,291	120,874
1.3.16	ELECTRICAL	116,116	58,058	174,174
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$4,907,161</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	1,217,566	4,907,161
1.5	<u>G&A/PIF</u>			>> <u>\$1,242,707</u>
1.5.1	G&A/PIF ADDER	828,471	414,236	1,242,707
1.5.2	PROCUREMENT FEES	119,139	43,261	\$162,400
	SUBTOTAL INCLUDING ESCALATION	6,443,968	2,578,444	>> \$9,022,412
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$765,126
	CONTINGENCY			>> \$2,612,462
	TOTAL ESTIMATED COST			>> \$12,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 6.00%
 CONTINGENCY= 37.44%

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
SOLIDIFY REMAINING HEEL - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7G1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 09:48:58
CHECKED BY:
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$229,100</u>
1.1.2	TITLE III INSPECTION	229,100	0	229,100
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$685,000</u>
1.2.1	PROJECT MANAGEMENT	595,700	0	595,700
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0	89,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$892,663</u>
1.3.1	GENERAL CONDITIONS	282,949	0	282,949
1.3.3	CONCRETE	413,015	0	413,015
1.3.15	MECHANICAL	80,583	0	80,583
1.3.16	ELECTRICAL	116,116	0	116,116
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$3,689,595</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	0	3,689,595
1.5	<u>G&A/PIF</u>			>> <u>\$828,471</u>
1.5.1	G&A/PIF ADDER	828,471	0	828,471
1.5.2	PROCUREMENT FEES	119,139	0	>> <u>\$119,139</u>
	SUBTOTAL INCLUDING ESCALATION	6,443,968	0	>> \$6,443,968
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$552,987
	CONTINGENCY			>> \$2,103,045
	TOTAL ESTIMATED COST			>> \$9,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 41.22%

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7G1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 09:47:52
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
	INSPECTION/TITLE III	1	LOT			0.000		229,100				229,100
Memor:	TITLE III @ 5% OF CONSTRUCTION PLUS GFE											
	TITLE III INSPECTION S/T						0	\$229,100				\$229,100
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		595,700				595,700
Memor:	PM @ 13% OF CONSTRUCTION PLUS GFE											
	PROJECT MANAGEMENT S/T						0	\$595,700				\$595,700
1.2.2	CONSTRUCTION MANAGEMENT											
	CONSTRUCTION-MANAGEMENT	1	LOT			0.000		89,300				89,300
Memor:	CM @ 10% OF CONSTRUCTION											
	CONSTRUCTION MANAGEMENT S/T						0	\$89,300				\$89,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	820.000	820	41,410				41,410
	TRAINING:	10	FTE		ZF-OE FA	32.000	320	16,566				16,566
	SMALL TOOLS & CONSUMABLES	1	LOT	20,800.00		0.000				20,800		20,800
	CRANE SUPPORT	1	LOT		ZF-OE FA	410.000	410	21,226	22,550			43,776
	MISC. EQUIPMENT	1	LOT			0.000			20,600			20,600
	CLEANUP & MATERIAL HANDLING	8,238	MHRS		ZF-LB FA	0.100	824	36,437				36,437
	RADCON TECH SUPPORT	2	FTE		Z-1342	820.000	1,640	81,016				81,016

Rev. 0/00
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7G1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 09:47:52
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	20,290.00		0.000				20,290		20,290
	GENERAL CONDITIONS S/T						4,014	\$196,655	\$43,150	\$41,090		\$280,895
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.3	HEEL SOLIDIFICATION GROUT ARM MOUNTING FRAMES	2	EA	50,000.00		0.000				100,000		100,000
	INSTALL & REMOVE MOUNTING FRAMES	22	EA		ZF-IW FA	120.000	2,640	127,327				127,327
	INSTALL & REMOVE TEMPORARY SHIELDING AT RISER	22	EA		ZF-LB FA	80.000	1,760	77,845				77,845
	PLACE WET GROUT	800	CY	80.00	ZF-OE FA	0.500	400	20,708		64,000		84,708
	PLACE DRY GROUT (ALLOW)	110	CY	80.00	ZF-OE FA	1.000	110	5,695		8,800		14,495
	HEEL SOLIDIFICATION S/T						4,910	\$231,575		\$172,800		\$404,375
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.5	GROUT DELIVERY PIPING PURCHASE PIPE	350	LF	26.64		0.000				9,324		9,324

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL**

SOLIDIFY REMAINING HEEL

LOCATION 1: **INEEL/ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2406-7G1**

PREPARED BY: **R. D. ADAMS**

PAGE # **3**

DATE **22-Jan-1998**

TIME: **09:47:52**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.5	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	2,400	LF		ZF-PF FA	0.470	1,128	67,985	2,808			70,793
	GROUT DELIVERY PIPING S/T						1,128	\$67,985	\$2,808	\$9,324		\$80,117
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO WET & DRY GROUT ARMS EQUIPMENT	22	EA		ZF-EL FA	100.000	2,200	116,116				116,116
	TEMPORARY POWER S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE WET GROUT DELIVERY ARM & CONTROLS	2	EA	800,000.00	FA	0.000				1,600,000		1,600,000
	PURCHASE DRY GROUT DELIVERY ARM & CONTROLS	2	EA	750,000.00	FA	0.000				1,500,000		1,500,000
	PURCHASE GROUT PUMP	1	EA	55,000.00	FA	0.000				55,000		55,000
	PURCHASE AIR COMPRESSOR & MISC CLEANING EQUIP.	1	LOT	25,000.00	FA	0.000				25,000		25,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 0/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-7Q1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 09:47:52
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	333,900.00		0.000				333,900		333,900
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$3,513,900		\$3,513,900
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					572,109	572,109
	PIF	1	LOT			0.000					256,362	256,362
	G&A/PIF ADDER S/T						0				\$828,471	\$828,471
	PROJECT SUBTOTAL						12,252	\$1,626,430	\$45,958	\$3,737,114	\$828,471	***** \$6,137,973 *****

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
SOLIDIFY REMAINING HEEL - UNESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7G1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **09:49:02**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	3.56	0	35	0.00	1.24	1.120%	2.76%	73,316	302,416
1.2.1	PROJECT MANAGEMENT	595,700	9.24	0	35	0.00	3.24	2.912%	7.18%	190,635	786,335
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.39	0	35	0.00	0.49	0.437%	1.08%	28,578	117,878
1.3.1	GENERAL CONDITIONS	282,949	4.39	0	40	0.00	1.76	1.581%	3.90%	103,484	386,433
1.3.3	CONCRETE	413,015	6.41	0	40	0.00	2.56	2.307%	5.69%	151,054	564,069
1.3.15	MECHANICAL	80,583	1.25	0	45	0.00	0.56	0.506%	1.25%	33,156	113,739
1.3.16	ELECTRICAL	116,116	1.80	0	40	0.00	0.72	0.649%	1.50%	42,468	158,584
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	57.26	0	50	0.00	28.63	25.765%	63.51%	1,686,768	5,376,363
1.5.1	G&A/PIF ADDER	828,471	12.85	0	40	0.00	5.14	4.628%	11.41%	303,001	1,131,472
1.5.2	PROCUREMENT FEES	119,139	1.85	0	40	0.00	0.74	0.666%	1.64%	43,573	162,712
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(1)	(1)
SUBTOTAL		6,443,968	100.00					40.571%			
CALCULATED CONTINGENCY		2,614,384									
RESULTANT TEC		9,058,352									
ROUNDED TEC		9,100,000									
PROJECT CONTINGENCY		2,656,032						41.22%			
MANAGEMENT RESERVE		552,987									
CONTINGENCY		2,103,045									
TOTAL ESTIMATED COST		9,100,000								2,656,032	9,100,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.
Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7G1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **09:51:02**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	2.54	0	35	0.00	0.89	0.800%	2.11%	71,134	300,234
1.2.1	PROJECT MANAGEMENT	595,700	6.60	0	35	0.00	2.31	2.080%	5.48%	184,960	780,660
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0.99	0	35	0.00	0.35	0.312%	0.82%	27,727	117,027
1.3.1	GENERAL CONDITIONS	282,949	3.14	0	40	0.00	1.25	1.129%	2.97%	100,404	383,353
1.3.3	CONCRETE	413,015	4.58	0	40	0.00	1.83	1.648%	4.34%	146,558	559,573
1.3.15	MECHANICAL	80,583	0.89	0	45	0.00	0.40	0.362%	0.95%	32,169	112,752
1.3.16	ELECTRICAL	116,116	1.29	0	40	0.00	0.51	0.463%	1.22%	41,204	157,320
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	40.89	0	50	0.00	20.45	18.402%	48.45%	1,636,559	5,326,154
1.5.1	G&A/PIF ADDER	828,471	9.18	0	40	0.00	3.67	3.306%	8.70%	293,982	1,122,453
1.5.2	PROCUREMENT FEES	119,139	1.32	0	40	0.00	0.53	0.475%	1.25%	42,276	161,415
	ESCALATION	2,578,444	28.58	0	35	0.00	10.00	9.002%	23.70%	800,615	3,379,059
	SUBTOTAL	9,022,412	100.00					37.979%			
	CALCULATED CONTINGENCY	3,426,594									
	RESULTANT TEC	12,449,006									
	ROUNDED TEC	12,400,000									
	PROJECT CONTINGENCY	3,377,588						37.44%			
	MANAGEMENT RESERVE	765,126									
	CONTINGENCY	2,612,462									
	TOTAL ESTIMATED COST	12,400,000								3,377,588	12,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-7G

PROCUREMENT FEE:

CONSTRUCTION*** =	\$280,333	
GFE =	\$3,689,595	
Subtotal	\$3,969,928	
FEE @ 3% =	\$3,969,928 * 0.03 =	\$119,098

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 2 YEARS =	\$280,333	
GFE =	\$2,088,000	
PROCUREMENT FEE =	\$119,098	
Subtotal	\$2,487,431	
FEE @ 23% =	\$2,487,431 * 0.23 =	\$572,109

PIF @ 5.5%

CONSTRUCTION =	\$280,333	
GFE =	\$3,689,595	
PROCUREMENT FEE =	\$119,098	
G&A =	\$572,109	
Subtotal	\$4,661,135	
FEE @ 5.5% =	\$4,661,135 * 0.055 =	\$256,362

TOTAL PROCUREMENT FEE: \$119,098

TOTAL G&A FEE: \$572,109

TOTAL PIF: \$256,362

****Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
CLEAN VAULTS - ESCALATED
LOCATION 1: INEEL/CPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7H1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 10:15:25
CHECKED BY: SNW
APPROD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$596,766
1.1.2	TITLE III INSPECTION	377,700	219,066	596,766
1.2	<u>MANAGEMENT COSTS</u>			>> \$2,745,408
1.2.1	PROJECT MANAGEMENT	982,100	569,618	1,551,718
1.2.2	CONSTRUCTION MANAGEMENT	755,500	438,190	1,193,690
1.3	<u>CONSTRUCTION</u>			>> \$11,936,334
1.3.1	GENERAL CONDITIONS	2,485,927	1,442,418	3,929,345
1.3.2	SITWORK	759,751	440,656	1,200,407
1.3.3	CONCRETE	1,315,167	762,797	2,077,964
1.3.4	VAULT	299,658	173,801	473,459
1.3.5	SHIELDING	177,285	102,825	280,110
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	857,518	2,335,997
1.3.15	MECHANICAL	271,009	157,185	428,194
1.3.16	ELECTRICAL	766,366	444,492	1,210,858
1.5	<u>G&A/PIF</u>			>> \$986,313
1.5.1	G&A/PIF ADDER	624,249	362,064	986,313
1.5.2	PROCUREMENT FEES	60,437	35,054	\$95,491
SUBTOTAL INCLUDING ESCALATION		10,354,628	6,005,684	>> \$16,360,312
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,301,814
CONTINGENCY				>> \$4,237,874
TOTAL ESTIMATED COST				>> \$21,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 33.86%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/95

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
CLEAN VAULTS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7H1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **10:12:43**

CHECKED BY: _____
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$377,700</u>
1.1.2	TITLE III INSPECTION	377,700	0	377,700
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,737,600</u>
1.2.1	PROJECT MANAGEMENT	982,100	0	982,100
1.2.2	CONSTRUCTION MANAGEMENT	755,500	0	755,500
1.3	<u>CONSTRUCTION</u>			>> <u>\$7,554,642</u>
1.3.1	GENERAL CONDITIONS	2,486,927	0	2,486,927
1.3.2	SITWORK	759,751	0	759,751
1.3.3	CONCRETE	1,315,167	0	1,315,167
1.3.4	VAULT	299,658	0	299,658
1.3.5	SHIELDING	177,285	0	177,285
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	0	1,478,479
1.3.15	MECHANICAL	271,009	0	271,009
1.3.16	ELECTRICAL	766,366	0	766,366
1.5	<u>G&A/PIF</u>			>> <u>\$624,249</u>
1.5.1	G&A/PIF ADDER	624,249	0	624,249
1.5.2	PROCUREMENT FEES	60,437	0	>> <u>\$60,437</u>
SUBTOTAL INCLUDING ESCALATION		10,354,628	0	>> \$10,354,628
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$823,933
CONTINGENCY				>> \$2,821,439
TOTAL ESTIMATED COST				>> \$14,000,000

PROJECT COST PARAMETERS	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	35.21%

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 CLEAN VAULTS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7H1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 10:10:43
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
	TITLE III/QA Memo: @ 5% OF CONSTRUCTION AND GEE	1	LOT			0.000		377,700				377,700
	TITLE III INSPECTION S/T						0	\$377,700				\$377,700
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		982,100				982,100
	PROJECT MANAGEMENT S/T						0	\$982,100				\$982,100
1.2.2	CONSTRUCTION MANAGEMENT											
	CM	1	LOT			0.000		755,500				755,500
	CONSTRUCTION MANAGEMENT S/T						0	\$755,500				\$755,500
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	7390.00	7,390	373,195				373,195
	TRAINING:	10	FTE		ZF-OE FA	284.000	2,840	147,027				147,027
	SMALL TOOLS & CONSUMABLES	1	LOT	187,500.00	FA	0.000				187,500		187,500
	CRANE SUPPORT	1	LOT		ZF-OE FA	3695.00	3,695	191,290	203,200			394,490
	MISC. EQUIPMENT	1	LOT		FA	0.000			184,700			184,700
	CLEANUP & MATERIAL HANDLING	73,892	MHRS		ZF-LB FA	0.100	7,389	326,824				326,824

Rev. 6/98

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 CLEAN VAULTS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-7H1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 10:10:43
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	7390.00	14,780	730,132				730,132
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	127,318.00	FA	0.000				127,318		127,318
	GENERAL CONDITIONS S/T						36,094	\$1,768,468	\$387,900	\$314,818		\$2,471,186
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS VAULT TOP FOR CORE DRILLS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	2,600	CY	50.00	ZF-OE FA	4.000	10,400	538,408	29,250	130,000		697,658
	PLACE GRAVEL AROUND TANK MONITORS	44	EA	20.00	ZF-OE FA	24.000	1,056	54,669		880		55,549
	ACCESS VAULT TOP FOR CORE DRILLS S/T						11,456	\$593,077	\$29,250	\$130,880		\$753,207
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	TANK VAULT ACCESS HOLES CORE DRILL 18"DIA IN VAULT ROOF	99	EA	1,000.00	ZF-LB FA	100.000	9,900	437,877	148,500	99,000		685,377

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO: 2406-7H1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 10:10:43

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	TANK VAULT ACCESS HOLES SHIELDING AROUND VAULT HOLES	99	EA	5,000.00	ZF-LB FA	24.000	2,376	105,090		495,000		600,090
	TANK VAULT ACCESS HOLES S/T						12,276	\$542,967	\$148,500	\$594,000		\$1,285,467
1.3.4	VAULT											
	VAULT S/T						0					
1.3.4.1	VAULT CLEANING SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	VAULT CLEANING S/T						880	\$45,558		\$242,000		\$287,558
1.3.5	SHIELDING											
	VAULT OPENING TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.6	VAULT INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM(THREE TIMES PER TANK)	44	EA		ZF-OE FA	500.000	22,000	1,138,940				1,138,940

Rev. 6/88
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 CLEAN VAULTS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-7H1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 10:10:43
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.6	VAULT INTERNAL WASHDOWN INSTALL & REMOVE SUPPORT/MOUNTING FRAME	44	EA		ZF-IW FA	160.000	7,040	339,539				339,539
	VAULT INTERNAL WASHDOWN S/T						29,040	\$1,478,479				\$1,478,479
1.3.15	MECHANICAL											
	CONNECT PUMPS TO DISCHARGE PIPING	44	EA	500.00	ZF-PF	60.000	2,640	159,113		22,000		181,113
	CONNECT WASHDOWN EQUIPMENT TO UTILITY PIPING	44	EA	200.00	ZF-PF	30.000	1,320	79,556		8,800		88,356
	MECHANICAL S/T						3,960	\$238,669		\$30,800		\$269,469
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	44	EA		ZF-EL FA	120.000	5,280	278,678				278,678
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	44	EA		ZF-EL FA	120.000	5,280	278,678				278,678
	TEMPORARY POWER S/T						10,560	\$557,357				\$557,357

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-7H1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 10:10:43

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	CAMERA & LIGHTING INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL EA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL EA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					482,369	482,369
	PIF	1	LOT			0.000					141,880	141,880
	G&A/PIF ADDER S/T						0				\$624,249	\$624,249
	PROJECT SUBTOTAL						109,996	\$7,633,769	\$565,650	\$1,400,498	\$624,249	\$10,224,166

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
CLEAN VAULTS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7H1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **10:12:47**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	377,700	3.65	0	35	0.00	1.28	1.149%	3.23%	117,891	495,591
1.2.1	PROJECT MANAGEMENT	982,100	9.48	0	35	0.00	3.32	2.988%	8.41%	306,542	1,288,642
1.2.2	CONSTRUCTION MANAGEMENT	755,500	7.30	0	35	0.00	2.55	2.298%	6.47%	235,814	991,314
1.3.1	GENERAL CONDITIONS	2,486,927	24.02	0	40	0.00	9.61	8.646%	24.34%	887,135	3,374,062
1.3.2	SITWORK	759,751	7.34	0	45	0.00	3.30	2.972%	8.36%	304,895	1,064,646
1.3.3	CONCRETE	1,315,167	12.70	0	40	0.00	5.08	4.572%	12.87%	469,146	1,784,313
1.3.4	VAULT	299,658	2.89	0	40	0.00	1.16	1.042%	2.93%	106,894	406,552
1.3.5	SHIELDING	177,285	1.71	0	40	0.00	0.68	0.616%	1.73%	63,241	240,526
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	14.28	0	40	0.00	5.71	5.140%	14.47%	527,402	2,005,881
1.3.15	MECHANICAL	271,009	2.62	0	45	0.00	1.18	1.060%	2.98%	108,758	379,767
1.3.16	ELECTRICAL	766,366	7.40	0	40	0.00	2.96	2.664%	7.50%	273,378	1,039,744
1.5.1	G&A/PIF ADDER	624,249	6.03	0	40	0.00	2.41	2.170%	6.11%	222,682	846,931
1.5.2	PROCUREMENT FEES	60,437	0.58	0	40	0.00	0.23	0.210%	0.59%	21,559	81,996
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	35	35
SUBTOTAL		10,354,628	100.00					35.529%			
CALCULATED CONTINGENCY		3,678,862									
RESULTANT TEC		14,033,490									
ROUNDED TEC		14,000,000									
PROJECT CONTINGENCY		3,645,372						35.21%			
MANAGEMENT RESERVE		823,933									
CONTINGENCY		2,821,439									
TOTAL ESTIMATED COST		14,000,000								3,645,372	14,000,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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CONTINGENCY ANALYSIS

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
CLEAN VAULTS - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-7H1
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 10:15:31

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	377,700	2.31	0	35	0.00	0.81	0.727%	2.14%	118,313	496,013
1.2.1	PROJECT MANAGEMENT	982,100	6.00	0	35	0.00	2.10	1.891%	5.55%	307,640	1,289,740
1.2.2	CONSTRUCTION MANAGEMENT	755,500	4.62	0	35	0.00	1.62	1.455%	4.27%	235,658	992,158
1.3.1	GENERAL CONDITIONS	2,486,927	15.20	0	40	0.00	6.08	5.472%	16.07%	890,312	3,377,239
1.3.2	SITework	759,751	4.64	0	45	0.00	2.09	1.881%	5.52%	305,987	1,065,738
1.3.3	CONCRETE	1,315,167	8.04	0	40	0.00	3.22	2.894%	8.50%	470,826	1,785,993
1.3.4	VAULT	299,658	1.83	0	40	0.00	0.73	0.659%	1.94%	107,277	406,935
1.3.5	SHIELDING	177,285	1.08	0	40	0.00	0.43	0.390%	1.15%	63,467	240,752
1.3.6	VAULT INTERNAL WASHDOWN	1,478,479	9.04	0	40	0.00	3.61	3.253%	9.55%	529,291	2,007,770
1.3.15	MECHANICAL	271,009	1.66	0	45	0.00	0.75	0.671%	1.97%	109,148	380,157
1.3.16	ELECTRICAL	766,366	4.68	0	40	0.00	1.87	1.686%	4.95%	274,357	1,040,723
1.5.1	G&A/PIF ADDER	624,249	3.82	0	40	0.00	1.53	1.374%	4.03%	223,479	847,728
1.5.2	PROCUREMENT FEES	60,437	0.37	0	40	0.00	0.15	0.133%	0.39%	21,636	82,073
	ESCALATION	6,005,684	36.71	0	35	0.00	12.85	11.563%	33.96%	1,881,297	7,886,981
SUBTOTAL		16,360,312	100.00					34.050%			
CALCULATED CONTINGENCY		5,570,652									
RESULTANT TEC		21,930,964									
ROUNDED TEC		21,900,000									
PROJECT CONTINGENCY		5,539,688						33.86%			
MANAGEMENT RESERVE		1,301,814									
CONTINGENCY		4,237,874									
TOTAL ESTIMATED COST		21,900,000								5,539,688	21,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.
 PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

12/10/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-7H

PROCUREMENT FEE:

CONSTRUCTION*** =	\$2,036,173		
GFE =	\$0		
Subtotal	<u>\$2,036,173</u>		
FEE @ 3% =	\$2,036,173	* 0.03 =	\$61,085

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$2,036,173		
GFE =	\$0		
PROCUREMENT FEE =	\$61,085		
Subtotal	<u>\$2,097,258</u>		
FEE @ 23% =	\$2,097,258	* 0.23 =	\$482,369

PIF @ 5.5%

CONSTRUCTION =	\$2,036,173		
GFE =	\$0		
PROCUREMENT FEE =	\$61,085		
G&A =	\$482,369		
Subtotal	<u>\$2,579,628</u>		
FEE @ 5.5% =	\$2,579,628	* 0.055 =	\$141,880

TOTAL PROCUREMENT FEE: \$61,085

TOTAL G&A FEE: \$482,369

TOTAL PIF: \$141,880

***Construction = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-711**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **10:30:53**
CHECKED BY: *SNW*
APPRD BY: *KES for Paul*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$333,498
1.1.2	TITLE III INSPECTION	204,600	128,898	333,498
1.2	MANAGEMENT COSTS			>> \$1,534,156
1.2.1	PROJECT MANAGEMENT	532,000	335,160	867,160
1.2.2	CONSTRUCTION MANAGEMENT	409,200	257,796	666,996
1.3	CONSTRUCTION			>> \$6,669,980
1.3.1	GENERAL CONDITIONS	809,912	510,245	1,320,157
1.3.3	CONCRETE	2,591,677	1,632,756	4,224,433
1.3.15	MECHANICAL	690,423	434,967	1,125,390
1.5	G&A/PIF			>> \$1,412,152
1.5.1	G&A/PIF ADDER	866,351	545,801	1,412,152
1.5.2	PROCUREMENT FEES	84,705	53,364	>> \$138,069
	SUBTOTAL INCLUDING ESCALATION	6,188,868	3,898,987	>> \$10,087,855
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$822,020
	CONTINGENCY			>> \$2,590,125
	TOTAL ESTIMATED COST			>> \$13,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 33.82%

Lockheed Martin Idaho Technologies Co.

Rev. 8/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-711**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **10:29:02**
CHECKED BY: _____
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$204,600</u>
1.1.2	TITLE III INSPECTION	204,600	0	204,600
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$941,200</u>
1.2.1	PROJECT MANAGEMENT	532,000	0	532,000
1.2.2	CONSTRUCTION MANAGEMENT	409,200	0	409,200
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,092,012</u>
1.3.1	GENERAL CONDITIONS	809,912	0	809,912
1.3.3	CONCRETE	2,591,677	0	2,591,677
1.3.15	MECHANICAL	690,423	0	690,423
1.5	<u>G&A/PIF</u>			>> <u>\$866,351</u>
1.5.1	G&A/PIF ADDER	866,351	0	866,351
1.5.2	PROCUREMENT FEES	84,705	0	>> <u>\$84,705</u>
SUBTOTAL INCLUDING ESCALATION		6,188,868	0	>> \$6,188,868
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$504,307
CONTINGENCY				>> \$1,706,825
TOTAL ESTIMATED COST				>> \$8,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **35.73%**

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL

FILL VAULT W/ CLEAN GROUT

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-711

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 10:25:22

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION	1	LOT			0.000		204,600				204,600
	TITLE III INSPECTION S/T						0	\$204,600				\$204,600
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION	1	LOT			0.000		532,000				532,000
	PROJECT MANAGEMENT S/T						0	\$532,000				\$532,000
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		409,200				409,200
	CONSTRUCTION MANAGEMENT S/T						0	\$409,200				\$409,200
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	1780.00	1,780	89,890				89,890
	TRAINING:	10	FTE		ZF-OE FA	72.000	720	37,274				37,274
	SMALL TOOLS & CONSUMABLES	1	LOT	41,900.00		0.000				41,900		41,900
	CRANE SUPPORT	1	LOT		ZF-OE FA	890.000	890	46,075	48,950			95,025
	MISC. EQUIPMENT	1	LOT			0.000			44,600			44,600
	CLEANUP & MATERIAL HANDLING	17,845	MHRS		ZF-LB FA	0.100	1,785	78,928				78,928
	RADCON TECH SUPPORT	2	FTE		Z-1342	1780.00	3,560	175,864				175,864

Lockheed Martin Idaho Technologies Co.

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PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL**

FILL VAULT W/ CLEAN GROUT

LOCATION 1: **INEEL/ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2408-711**

PREPARED BY: **R. D. ADAMS**

PAGE # **2**

DATE **22-Jan-1998**

TIME: **10:25:22**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	232,700.00	FA	0.000				232,700		232,700
	GENERAL CONDITIONS S/T						8,735	\$428,032	\$93,550	\$274,600		\$796,182
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.2	VAULT & TANK GROUTING PURCHASE GROUT DROP TUBE & ACCESSORIES	1,200	LF	20.00	FA	0.000				24,000		24,000
	INSTALL & REMOVE DROP TUBES	2,200	LF		ZF-LB FA	0.500	1,100	48,653				48,653
	GROUT PLACEMENT, CLEANUP	21,080	CY	80.00	ZF-LB FA	0.620	13,070	578,068		1,686,400		2,264,468
	FIBROUS GROUT REINFORCEMENT	21,080	CY	5.00	FA	0.000				105,400		105,400
	GROUT OVER TANK MONITOR FEET	44	EA	80.00	ZF-OE FA	24.000	1,056	54,669		3,520		58,189
	VAULT & TANK GROUTING S/T						15,226	\$681,391		\$1,819,320		\$2,500,711
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	700	LF		ZF-PF FA	0.470	329	19,829	819			20,648

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 FILL VAULT W/ CLEAN GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-711
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 10:25:22
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	GROUT DELIVERY PIPING GROUT MANIFOLDS & CLEANING SYSTEM	1	LOT	12,500.00	ZF-PF FA	750.000	750	45,203		12,500		57,703
	GROUT DELIVERY PIPING S/T						1,079	\$65,031	\$819	\$12,500		\$78,350
1.3.15.2	TANK LEAK MONITORS & VENTILATION TANK LEAK MONITORS	44	EA	10,000.00	ZF-PF FA	32.000	1,408	84,860		440,000		524,860
	HEPA TEMPORARY VAULT BREATHERS	11	EA	5,000.00	ZF-SM FA	12.000	132	6,838		55,000		61,838
	TANK LEAK MONITORS & VENTILATION S/T						1,540	\$91,698		\$495,000		\$586,698
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					669,446	669,446
	PIF	1	LOT			0.000					196,905	196,905
	G&A/PIF ADDER S/T						0				\$866,351	\$866,351
	PROJECT SUBTOTAL						26,579	\$2,411,952	\$94,369	\$2,601,420	\$866,351	\$5,974,092

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - UNESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-711**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **10:29:07**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	204,600	3.31	0	35	0.00	1.16	1.041%	2.92%	64,555	269,155
1.2.1	PROJECT MANAGEMENT	532,000	8.60	0	35	0.00	3.01	2.708%	7.59%	167,855	699,855
1.2.2	CONSTRUCTION MANAGEMENT	409,200	6.61	0	35	0.00	2.31	2.083%	5.84%	129,110	538,310
1.3.1	GENERAL CONDITIONS	809,912	13.09	0	40	0.00	5.23	4.711%	13.21%	292,047	1,101,959
1.3.3	CONCRETE	2,591,677	41.88	0	40	0.00	16.75	15.076%	42.27%	934,536	3,526,213
1.3.15	MECHANICAL	690,423	11.16	0	45	0.00	5.02	4.518%	12.67%	280,080	970,503
1.5.1	G&A/PIF ADDER	866,351	14.00	0	40	0.00	5.60	5.039%	14.13%	312,398	1,178,749
1.5.2	PROCUREMENT FEES	84,705	1.37	0	40	0.00	0.55	0.493%	1.38%	30,544	115,249
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	7	7
SUBTOTAL		6,188,868	100.00					35.669%			
CALCULATED CONTINGENCY		2,207,501									
RESULTANT TEC		8,396,369									
ROUNDED TEC		8,400,000									
PROJECT CONTINGENCY		2,211,132						35.73%			
MANAGEMENT RESERVE		504,307									
CONTINGENCY		1,706,825									
TOTAL ESTIMATED COST		8,400,000								2,211,132	8,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
 FILL VAULT W/ CLEAN GROUT - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-711**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **10:30:57**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	204,600	2.03	0	35	0.00	0.71	0.639%	1.88%	64,007	268,607
1.2.1	PROJECT MANAGEMENT	532,000	5.27	0	35	0.00	1.85	1.661%	4.88%	166,430	698,430
1.2.2	CONSTRUCTION MANAGEMENT	409,200	4.06	0	35	0.00	1.42	1.278%	3.75%	128,013	537,213
1.3.1	GENERAL CONDITIONS	809,912	8.03	0	40	0.00	3.21	2.890%	8.49%	289,568	1,099,480
1.3.3	CONCRETE	2,591,677	25.69	0	40	0.00	10.28	9.249%	27.16%	926,601	3,518,278
1.3.15	MECHANICAL	690,423	6.84	0	45	0.00	3.08	2.772%	8.14%	277,702	968,125
1.5.1	G&A/PIF ADDER	866,351	8.59	0	40	0.00	3.44	3.092%	9.08%	309,746	1,176,097
1.5.2	PROCUREMENT FEES	84,705	0.84	0	40	0.00	0.34	0.302%	0.89%	30,285	114,990
	ESCALATION	3,898,987	38.65	0	35	0.00	13.53	12.175%	35.75%	1,219,793	5,118,780
	SUBTOTAL	10,087,855	100.00					34.058%			
	CALCULATED CONTINGENCY	3,435,681									
	RESULTANT TEC	13,523,536									
	ROUNDED TEC	13,500,000									
	PROJECT CONTINGENCY	3,412,145						33.82%			
	MANAGEMENT RESERVE	822,020									
	CONTINGENCY	2,590,125									
	TOTAL ESTIMATED COST	13,500,000								3,412,145	13,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-71

PROCUREMENT FEE:

CONSTRUCTION*** =	\$2,825,860		
GFE =	\$0		
Subtotal	\$2,825,860		
FEE @ 3% =	\$2,825,860	* 0.03 =	\$84,776

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$2,825,860		
GFE =	\$0		
PROCUREMENT FEE =	\$84,776		
Subtotal	\$2,910,636		
FEE @ 23% =	\$2,910,636	* 0.23 =	\$669,446

PIF @ 5.5%

CONSTRUCTION =	\$2,825,860		
GFE =	\$0		
PROCUREMENT FEE =	\$84,776		
G&A =	\$669,446		
Subtotal	\$3,580,082		
FEE @ 5.5% =	\$3,580,082	* 0.055 =	\$196,905

TOTAL PROCUREMENT FEE: \$84,776

TOTAL G&A FEE: \$669,446

TOTAL PIF: \$196,905

***Construction = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
CERCLA SOIL IN TANK VOIDS - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7J1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **10:37:05**

CHECKED BY: SNV
APPRD BY: RDS for BCP

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$1,485,651</u>
1.1.2	TITLE III INSPECTION	704,100	781,551	1,485,651
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$6,833,868</u>
1.2.1	PROJECT MANAGEMENT	1,830,600	2,031,966	3,862,566
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	1,563,102	2,971,302
1.3	<u>CONSTRUCTION</u>			>> <u>\$29,712,620</u>
1.3.1	GENERAL CONDITIONS	2,650,704	2,942,282	5,592,986
1.3.2	SITework	7,919,800	8,790,978	16,710,778
1.3.13	SPECIAL CONSTRUCTION	440,000	488,400	928,400
1.3.14	CONVEYING SYSTEMS	3,071,306	3,409,150	6,480,456
1.5	<u>G&A/PIF</u>			>> <u>\$3,128,873</u>
1.5.1	G&A/PIF ADDER	1,482,878	1,645,995	3,128,873
1.5.2	PROCUREMENT FEES	297,126	329,810	>> <u>\$626,936</u>
	SUBTOTAL INCLUDING ESCALATION	19,804,714	21,983,234	>> \$41,787,948
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$3,346,843
	CONTINGENCY			>> \$11,765,209
	TOTAL ESTIMATED COST			>> \$56,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **36.16%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/86
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
 CERCLA SOIL IN TANK VOIDS - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-7J1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **10:35:17**
 CHECKED BY: _____
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$704,100
1.1.2	TITLE III INSPECTION	704,100	0	704,100
1.2	<u>MANAGEMENT COSTS</u>			>> \$3,238,800
1.2.1	PROJECT MANAGEMENT	1,830,600	0	1,830,600
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	0	1,408,200
1.3	<u>CONSTRUCTION</u>			>> \$14,081,810
1.3.1	GENERAL CONDITIONS	2,650,704	0	2,650,704
1.3.2	SITWORK	7,919,800	0	7,919,800
1.3.13	SPECIAL CONSTRUCTION	440,000	0	440,000
1.3.14	CONVEYING SYSTEMS	3,071,306	0	3,071,306
1.5	<u>G&A/PIF</u>			>> \$1,482,878
1.5.1	G&A/PIF ADDER	1,482,878	0	1,482,878
1.5.2	PROCUREMENT FEES	297,126	0	>> \$297,126
SUBTOTAL INCLUDING ESCALATION		19,804,714	0	>> \$19,804,714
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,586,181
CONTINGENCY				>> \$6,509,105
TOTAL ESTIMATED COST				>> \$27,900,000

<u>PROJECT COST PARAMETERS</u>	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	40.88%

PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

CERCLA SOIL IN TANK VOIDS

PROJECT NO: 2406-7J1

TIME: 10:33:20

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION	1	LOT			0.000		704,100				704,100
	TITLE III INSPECTION S/T						0	\$704,100				\$704,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION	1	LOT			0.000		1,830,600				1,830,600
	PROJECT MANAGEMENT S/T						0	\$1,830,600				\$1,830,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		1,408,200				1,408,200
	CONSTRUCTION MANAGEMENT S/T						0	\$1,408,200				\$1,408,200
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV EA	5180.00	5,180	261,590				261,590
	TRAINING:	10	FTE		ZF-OE EA	199.000	1,990	103,022				103,022
	SMALL TOOLS & CONSUMABLES	1	LOT	140,000.00		0.000				140,000		140,000
	CRANE SUPPORT	1	LOT		ZF-OE EA	5180.00	5,180	268,169	285,000			553,169
	MISC. EQUIPMENT	1	LOT			0.000			130,000			130,000
	CLEANUP & MATERIAL HANDLING	51,776	MHRS		ZF-LB EA	0.100	5,178	229,005				229,005

Lockheed Martin Idaho Technologies Co.

Rev. 0/99

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL**

CERCLA SOIL IN TANK VOIDS

LOCATION 1: **INEEL/ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2408-7J1**

PREPARED BY: **R. D. ADAMS**

PAGE # **2**

DATE **22-Jan-1999**

TIME: **10:33:20**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
	RADCON TECH SUPPORT	2	FTE		Z-1342	5180.00	10,360	511,784				511,784
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	681,080.00	FA	0.000				681,080		681,080
	GENERAL CONDITIONS S/T						27,888	\$1,373,570	\$415,000	\$821,080		\$2,609,650
1.3.2	SITework											
	MIXING PLANT	2	EA			0.000					1,000,000	1,000,000
Memo:	Includes hoppers, augers, mixers, vibrators, controls, etc. All materials to be decontaminable.											
	MODIFY EXISTING CONTROL TRAILER(S)	1	LOT			0.000					150,000	150,000
Memo:	Assume existing control trailers from final solidifying process can be modified as control station for mixing plant.											
	PARAFFIN GROUTING AGENT	1,175,000	GAL	5.00		0.000				5,875,000		5,875,000
Memo:	Per a report by M.M. Dahmahr, assume 87 gallons of paraffin grout agent per cy of soil. Also, assume 75% of tank voids will be filled with CERCLA soil, 13,500 cy. Paraffin agent to be delivered in heated tank truck to site.											
	MIX & DELIVER SOIL TO TANKS	13,500	CY		ZF-OE	0.860	11,610	601,050				601,050
	SITework S/T						11,610	\$601,050		\$5,875,000	\$1,150,000	\$7,626,050
1.3.13	SPECIAL CONSTRUCTION											
	MIXING PLANT BUILDING	2,400	SF			0.000					240,000	240,000
Memo:	Cost include foundation, shell, utilities, lighting and fire protection.											
	RAD MONITORING SYSTEM	1	LOT			0.000					200,000	200,000
	SPECIAL CONSTRUCTION S/T						0				\$440,000	\$440,000

Rev. 6/86
 PROJECT NAME: RISK BASED CLEAN CLOSURE - CERCLA FILL
 CERCLA SOIL IN TANK VOIDS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-7J1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 10:33:20
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER.1)	TOTAL COST
1.3.14	CONVEYING SYSTEMS											
	SCREW CONVEYOR FOR DELIVERY TO TANKS	1	EA	200,000.00	ZF-IW	300.000	300	14,469		200,000		214,469
	SCREW CONVEYOR SPARE PARTS	1	LOT	100,000.00		0.000				100,000		100,000
	MOVE SCREW CONVEYOR TO OTHER TANKS	1,525	LF		ZF-IW	5.500	8,388	404,529				404,529
	SCREW CONVEYOR HEATING SYSTEM	275	LF			0.000					33,000	33,000
	SST ENCASEMENT FOR CONVEYOR	275	LF	160.00	ZF-PF	0.000				44,000		44,000
	INITIAL (CLEAN) SET UP OF ENCASEMENT	275	LF		ZF-PF	2.920	803	48,397				48,397
	CUT, REMOVE & RESET FOR OTHER TANKS	1,525	LF		ZF-PF	12.500	19,063	1,148,897				1,148,897
	CONCRETE SHIELDING AROUND ENCASEMENT	275	LF	900.00	ZF-OE	1.000	275	14,237		247,500		261,737
	REMOVE & REINSTALL SHIELDING	1,525	LF		ZF-OE	3.500	5,338	276,322				276,322
	CUT UP & BOX CONVEYOR <i>Includes waste processing costs</i>	400	LF	50.00	ZF-IW	15.000	6,000	289,380		20,000	200,000	509,380
	CONVEYING SYSTEMS S/T						40,166	\$2,196,231		\$611,500	\$233,000	\$3,040,731
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					873,386	873,386
	PIF	1	LOT			0.000					609,492	609,492
	G&A/PIF ADDER S/T						0				\$1,482,878	\$1,482,878
	PROJECT SUBTOTAL						79,663	\$8,113,751	\$415,000	\$7,307,580	\$3,305,878	\$19,142,209

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
 CERCLA SOIL IN TANK VOIDS - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-7J1**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **10:35:22**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	704,100	3.56	0	40	0.00	1.42	1.280%	3.11%	252,110	956,210
1.2.1	PROJECT MANAGEMENT	1,830,600	9.24	0	40	0.00	3.70	3.328%	8.10%	655,465	2,486,065
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	7.11	0	40	0.00	2.84	2.560%	6.23%	504,220	1,912,420
1.3.1	GENERAL CONDITIONS	2,650,704	13.38	0	45	0.00	6.02	5.421%	13.19%	1,067,750	3,718,454
1.3.2	SITework	7,919,800	39.99	10	50	4.00	19.99	17.595%	42.81%	3,465,935	11,385,735
1.3.13	SPECIAL CONSTRUCTION	440,000	2.22	0	35	0.00	0.78	0.700%	1.70%	137,853	577,853
1.3.14	CONVEYING SYSTEMS	3,071,306	15.51	0	50	0.00	7.75	6.979%	16.98%	1,374,640	4,445,946
1.5.1	G&A/PIF ADDER	1,482,878	7.49	0	40	0.00	3.00	2.696%	6.56%	530,960	2,013,838
1.5.2	PROCUREMENT FEES	297,126	1.50	0	40	0.00	0.60	0.540%	1.31%	106,389	403,515
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(36)	(36)
SUBTOTAL		19,804,714	100.00					41.057%			
CALCULATED CONTINGENCY		8,139,180									
RESULTANT TEC		27,943,894									
ROUNDED TEC		27,900,000									
PROJECT CONTINGENCY		8,095,286						40.88%			
MANAGEMENT RESERVE		1,586,181									
CONTINGENCY		6,509,105									
TOTAL ESTIMATED COST		27,900,000								8,095,286	27,900,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - CERCLA FILL
CERCLA SOIL IN TANK VOIDS - ESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-7J1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **10:37:10**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	704,100	1.68	0	40	0.00	0.57	0.507%	1.68%	254,289	958,389
1.2.1	PROJECT MANAGEMENT	1,830,600	4.38	0	40	0.00	1.75	1.577%	4.37%	661,130	2,491,730
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	3.37	0	40	0.00	1.35	1.213%	3.37%	508,579	1,916,779
1.3.1	GENERAL CONDITIONS	2,650,704	6.34	0	45	0.00	2.85	2.569%	7.13%	1,076,980	3,727,684
1.3.2	SITWORK	7,919,800	18.95	10	50	1.90	9.48	8.339%	23.13%	3,495,893	11,415,693
1.3.13	SPECIAL CONSTRUCTION	440,000	1.05	0	35	0.00	0.37	0.332%	0.92%	139,045	579,045
1.3.14	CONVEYING SYSTEMS	3,071,306	7.35	0	50	0.00	3.57	3.307%	9.17%	1,386,522	4,457,828
1.5.1	G&A/PIF ADDER	1,482,878	3.55	0	40	0.00	1.42	1.277%	3.54%	535,549	2,018,427
1.5.2	PROCUREMENT FEES	297,126	0.71	0	40	0.00	0.28	0.256%	0.71%	107,309	404,435
	ESCALATION	21,983,234	52.61	0	35	0.00	18.41	16.571%	45.97%	6,946,756	28,929,990
	SUBTOTAL	41,787,948	100.00					36.048%			
	CALCULATED CONTINGENCY	15,063,899									
	RESULTANT TEC	56,851,847									
	ROUNDED TEC	56,900,000									
	PROJECT CONTINGENCY	15,112,052						36.16%			
	MANAGEMENT RESERVE	3,346,843									
	CONTINGENCY	11,765,209									
	TOTAL ESTIMATED COST	56,900,000								15,112,052	56,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.
PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE III/AFC Market Conditions

12/10/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-7J

PROCUREMENT FEE:

CONSTRUCTION*** =	\$9,910,959		
GFE =	\$0		
Subtotal	\$9,910,959		
FEE @ 3% =	\$9,910,959	* 0.03 =	\$297,329

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 7YEARS =	\$3,500,000		
GFE =	\$0		
PROCUREMENT FEE =	\$297,329		
Subtotal	\$3,797,329		
FEE @ 23% =	\$3,797,329	* 0.23 =	\$873,386

PIF @ 5.5%

CONSTRUCTION =	\$9,910,959		
GFE =	\$0		
PROCUREMENT FEE =	\$297,329		
G&A =	\$873,386		
Subtotal	\$11,081,673		
FEE @ 5.5% =	\$11,081,673	* 0.055 =	\$609,492

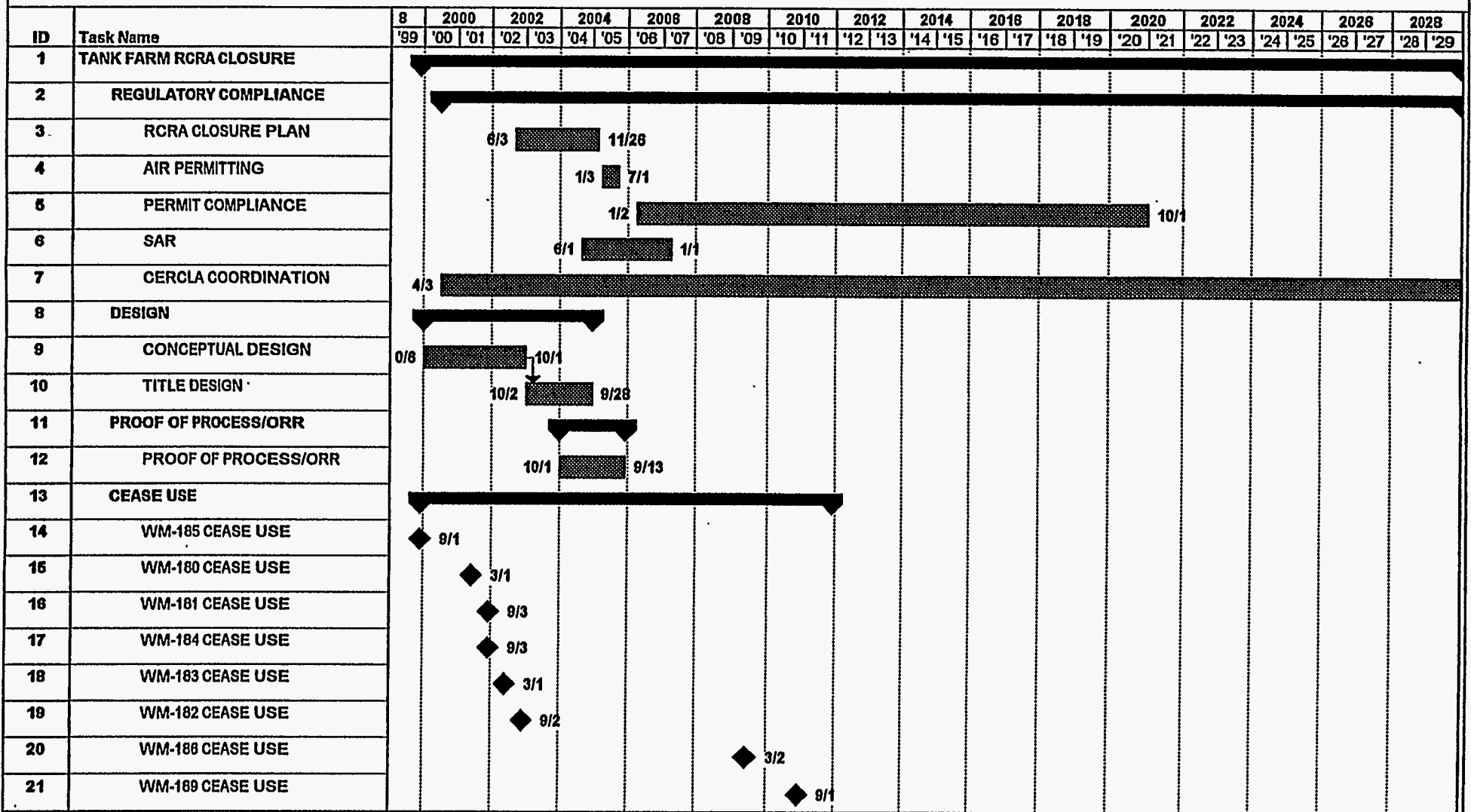
TOTAL PROCUREMENT FEE: \$297,329

TOTAL G&A FEE: \$873,386

TOTAL PIF: \$609,492

***Construction = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

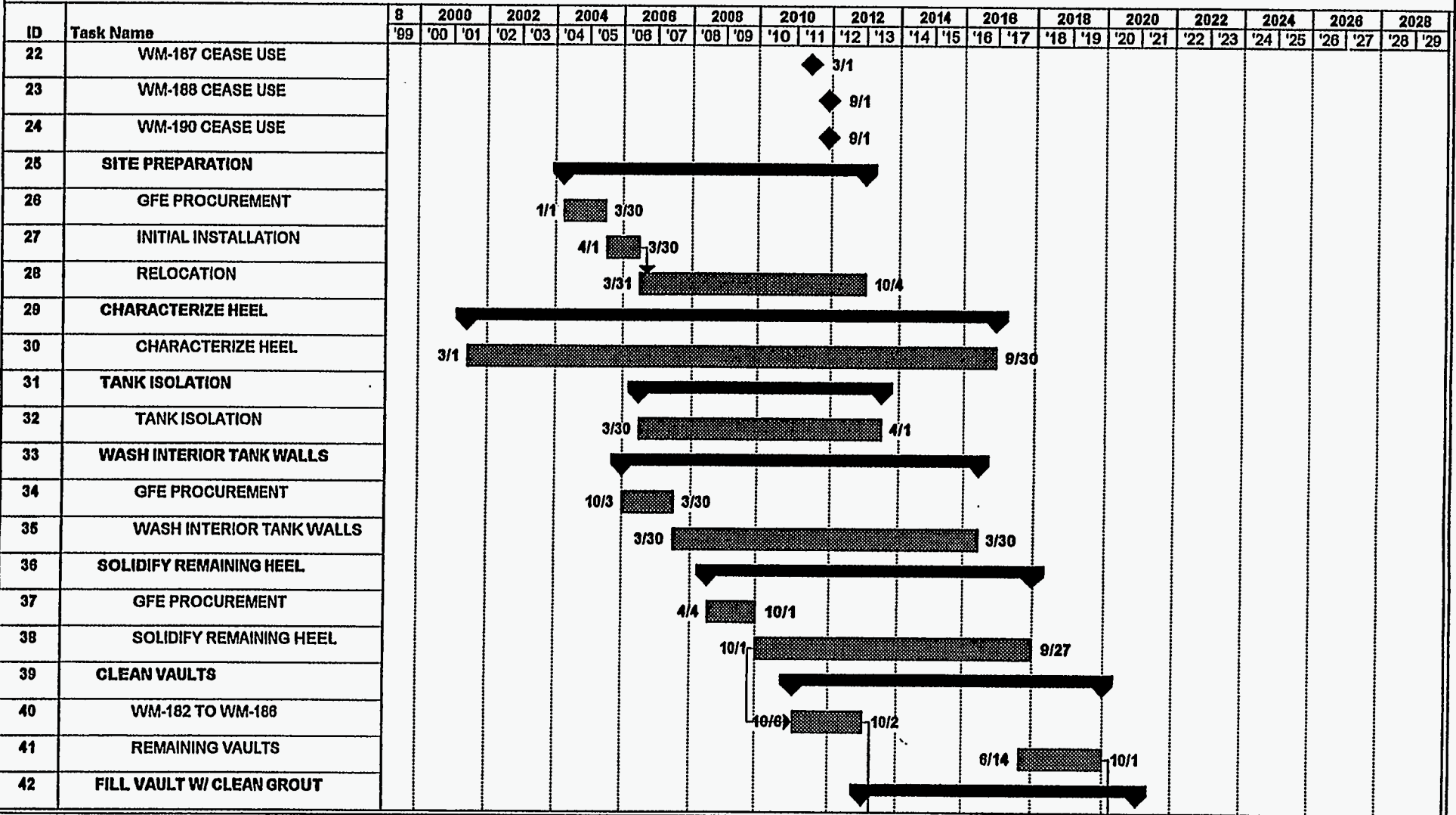
**TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
CERCLA FILL**



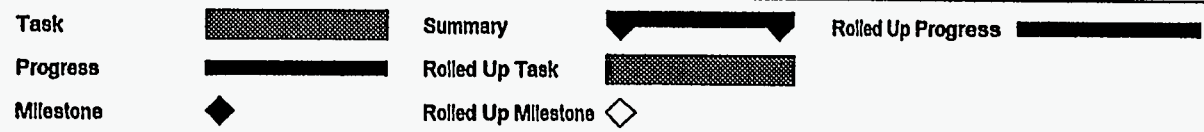
Project: 2408-7.MPP
Date: Fri 1/23/98

Task	[Task bar]	Summary	[Summary bar]	Rolled Up Progress	[Rolled Up Progress bar]
Progress	[Progress bar]	Rolled Up Task	[Rolled Up Task bar]		
Milestone	[Milestone diamond]	Rolled Up Milestone	[Rolled Up Milestone diamond]		

**TANK FARM RCRA CLOSURE
RISK BASED CLEAN CLOSURE
CERCLA FILL**



Project: 2406-7.MPP
Date: Fri 1/23/98



Option 4

COST ESTIMATE SUMMARY

TANK FARM RCRA CLOSURE CLOSE TO RCRA LANDFILL STANDARDS LLW FILL REQUESTOR: B. C. SPAULDING	PLANNING ESTIMATE ESTIMATE # 2406-8 PREPARED BY: R. D. ADAMS	January 22, 1998 CHECKED BY: <i>OKM</i> APPROVED BY: <i>R.D. Adams</i>
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	UNESCALATED COSTS	ESCALATED COSTS
REGULATORY COMPLIANCE	\$12,000,000	\$15,500,000
DESIGN	\$17,200,000	\$19,500,000
PROOF OF PROCESS/ORR	\$5,800,000	\$6,800,000
SITE PREPARATION	\$9,500,000	\$11,500,000
CHARACTERIZE HEEL	\$1,800,000	\$2,600,000
TANK ISOLATION	\$7,700,000	\$11,000,000
WASH INTERIOR TANK WALLS	\$23,400,000	\$32,100,000
SOLIDIFY REMAINING HEEL	\$8,600,000	\$11,000,000
FILL VAULT VOIDS WITH CLEAN GROUT	\$13,900,000	\$21,800,000
FILL TANK VOIDS WITH CLASS-C GROUT	\$20,100,000	\$33,600,000
TOTAL	\$120,000,000	\$165,400,000

*See the accompanying individual estimates for details.

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: CLOSE TO RCRA LANDFILL STANDARDS; Estimator: RDA
LLW FILL

Type of Estimate: PLANNING
File No: 2406-8-1

Date: 1/22/98

Approved By: *KKS for RDA*

I. SCOPE OF WORK: *Brief description of the proposed project.*

This project will provide RCRA closure for the eleven waste storage tanks at the ICPP. The tank heels will be flushed and neutralized. Tank internals will be sprayed to remove solid contamination. The remaining heel will be stabilized with grout. The vaults will be filled with clean grout. The tank voids will be filled with Class C grout. Finally, the tank farm will be turned over to CERCLA to monitor.

II. BASIS OF THE ESTIMATE: *Drawings, Design Report, Engineers notes, and/or other documentation upon which the estimate is originated.*

Information contained in draft copies of the fifty percent feasibility report was used to scope the project.

III. ASSUMPTIONS: *Condition statements accepted or supposed true without proof or demonstration. An assumption has a direct impact on total estimated cost.*

1. All of the fieldwork will be accomplished by Force Account personnel or operations personnel. LMITCO personnel will design, manage and acquire permits.
2. This estimate is intended to cover project costs from project authorization to turnover. No distinction was made for "color of money".
3. The percentages used for Design, Inspection and, to some extent, Construction Management are slightly lower than those regularly used on an effort of this size. Much of the closure involves repetitive work after filling the first tank with grout.
4. Project Management will maintain a fairly high level of involvement throughout the closure period.

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-8-1

Page 2 of 3

III. ASSUMPTIONS: (Continued)

5. The proposed schedule is:

Design -	2000 to 2005
Solidify Heel-	2007 to 2019
Fill Vault Voids with Clean Grout:	
WM-182 - 186-	2010 to 2014
Remaining Tanks-	2015 to 2021
Fill Tank Voids with Class-C Grout:	2011 to 2024
6. Temporary construction facilities cover craft change and lunch areas, offices and warehousing.
7. Permitting assumptions: Others will accomplish the EIS. An EA will not be required in addition to the EIS. Delisting of hazards is by others. Post-closure monitoring is CERCLA's responsibility.
8. All excavated soil can be reused as backfill within the tank farm.
9. Excavation incorporates shoring to minimize exposure to contaminated dirt.
10. Much of the productivity was based on actual costs incurred on the Tank Farm Upgrades Project.
11. The 'Tank Farm Heel Removal Project' conceptual draft estimate, dated 12/19/94, was used as a reference.
12. Heel and vault grout costs are based on the "sand" grout used in the WCF Deactivation Project.
13. Grout drop tubes can be decontaminated and reused as needed.
14. Grout placement unit labor hours include time for set up and cleaning of grout equipment after each pour.
15. Heel characterization costs represent three sets of samples for each tank.

- Continued on Page 3 -

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2406-8-1

Page 3 of 4

III. ASSUMPTIONS: (Continued)

16. Heel flushing and riser equipment removal costs were confirmed with Dave Machovec.
17. Mounting/support frames were assumed for each piece of riser equipment to distribute their weight as well as to provide a mounting base.
18. The tank farm area enclosure is sized to cover as many as four tanks at once with traffic lanes around.
19. Heel transfer lines will require shielding from the tanks to the appropriate valve box tie-in.
20. The clean grout pump will be staged north of tanks 185 & 186.
21. Spare equipment was estimated where needed.
22. All eleven tank heels will be solidified before Class C grout pours begin.
23. Shielded grout delivery lines will be run from the Class C grout source to each tank. All lines will remain in place during the entire grout sequence. They will be cleaned between pours.
24. The valve/manifold will be a self-contained unit that will minimize potential radioactive releases and contamination.
25. The required amount of Class C grout to fill all eleven tanks two feet at a time can be produced in the eleven day period discussed in the report.

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2406-8-1

Page 4 of 4

IV. CONTINGENCY GUIDELINE IMPLEMENTATION: *The percentage used
For contingency as determined by the contingency allowance guidelines
can be altered to reflect the type of construction and conditions that may
impact the total estimated cost.*

At this stage of project development, there are still many unanswered questions as to interferences and working conditions. Most of the work will take place in contaminated areas. Many of the pieces of equipment are not standard and require development. The closure schedule depends on tank turnover from operations over several years. The resultant contingency is in the upper range of the percentage suggested in the INEL Cost Estimating Guide.

V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE:

1. All FY'98 and later projects are to be assessed a Procurement Fee of 3%, a G&A Fee of 23%, and a Performance Incentive Fee (PIF) of 5.5%. See the attached G&A/PIF calculation sheet for the method used to calculate these fees. These fees were applied only to material, equipment and subcontract costs. Labor unit rates used in the estimate already contain these fees.
2. Shielding at or near the tank risers may be a much larger concern than suggested in the report drafts.
3. Comments received from the design review have been incorporated into the estimates. The specific changes include increased QA title III costs, washing arm costs, wet and dry grout placement arm costs, and the removal of redundant work from the "Fill Vault With Clean Grout" estimate. Also, an estimate for Proof of Process/ORR was added.

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA STANDARDS - LLW FILL
REGULATORY COMPLIANCE - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8A1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **12:31:38**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	PERMITTING			>> \$9,767,853
1.1.1	PERMITTING	7,571,979	2,195,874	9,767,853
1.3	MANAGEMENT COSTS			>> \$1,273,230
1.3.1	PROJECT MANAGEMENT	987,000	286,230	1,273,230
1.5	G&A/PIF			>> \$409,725
1.5.1	G&A/PIF ADDER	317,616	92,109	409,725
1.5.2	PROCUREMENT FEES	31,091	9,016	>> \$40,107
	SUBTOTAL INCLUDING ESCALATION	8,907,686	2,583,229	>> \$11,490,915
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$4,009,085
	TOTAL ESTIMATED COST			>> \$15,500,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **767.00%**

CONTINGENCY= **34.89%**

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA STANDARDS - LLW FILL
REGULATORY COMPLIANCE - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8A1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 13:33:46
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	PERMITTING			>> \$7,571,979
1.1.1	PERMITTING	7,571,979	0	7,571,979
1.3	MANAGEMENT COSTS			>> \$987,000
1.3.1	PROJECT MANAGEMENT	987,000	0	987,000
1.5	G&A/PIF			>> \$317,616
1.5.1	G&A/PIF ADDER	317,616	0	317,616
1.5.2	PROCUREMENT FEES	31,091	0	>> \$31,091
SUBTOTAL INCLUDING ESCALATION		8,907,686	0	>> \$8,907,686
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$3,092,314
TOTAL ESTIMATED COST				>> \$12,000,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 767.00%
CONTINGENCY= 34.72%

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9A1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 13:30:52

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	PERMITTING											
	AIR PERMITTING	1	LOT		LIMITCO	0.000					30,000	30,000
	AIR MONITORS	6	EA			0.000					720,000	720,000
	AIR MONITORING ACTIVITIES	24	MO		Z-1732	2.000	48	2,096				2,096
	AIR MONITORING LAB FEES	8	EA			0.000					16,000	16,000
	RCRA CLOSURE PLAN	2	FTE		Z-1700 LIMITCO	1500.00	3,000	193,980				193,980
	P.E. ACTIVITIES	1	LOT		LIMITCO	0.000					60,000	60,000
	CERCLA COORDINATOR	1.	FTE		Z-1700 LIMITCO	39600.0	39,600	2,560,536				2,560,536
	REGULATORY AFFAIRS OVERSITE	22	YR		Z-1700 LIMITCO	150.000	3,300	213,378				213,378
	SURVEY PLAT	1	LOT		LIMITCO	0.000					10,000	10,000
	SARR	1	LOT		Z-3170	13500.0	13,500	936,765				936,765
	NRC LANDFILL DISPOSAL REQUIREMENTS	5	YR		Z-1710	9000.00	45,000	2,480,400				2,480,400
	ENV & HAZ. ANALYSIS	2	FTE		Z-1710	1800.00	2,700	148,824				148,824
	SEISMIC TEST BORES (ALLOW)	20	HOLE			0.000					200,000	200,000
	PERMITTING S/T						107,148	\$6,535,979			\$1,036,000	\$7,571,979
1.3.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		987,000				987,000
Memo:	PM @ 13% OF PERMITTING											
	PROJECT MANAGEMENT S/T						0	\$987,000				\$987,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 0/00
 PROJECT NAME: CLOSE TO RCRA STANDARDS - LLW FILL
 REGULATORY COMPLIANCE
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-8A1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 13:30:52
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					245,428	245,428
	PIF	1	LOT			0.000					72,188	72,188
	G&A/PIF ADDER S/T						0				\$317,616	\$317,616
	PROJECT SUBTOTAL						107,148	\$7,522,979	\$0	\$0	\$1,353,616	\$8,876,595

CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA STANDARDS - LLW FILL
REGULATORY COMPLIANCE - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8A1
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 13:33:50

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION							PROJECT CONTINGENCY		SUMMARY		
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,571,979	85.01	0	40	0.00	34.00	30.602%	87.43%	2,703,493	10,275,472
1.3.1	PROJECT MANAGEMENT	987,000	11.08	0	30	0.00	3.32	2.992%	8.55%	264,298	1,251,298
1.5.1	G&A/PIF ADDER	317,616	3.57	0	40	0.00	1.43	1.284%	3.67%	113,401	431,017
1.5.2	PROCUREMENT FEES	31,091	0.35	0	40	0.00	0.14	0.126%	0.36%	11,101	42,192
	ESCALATION	0	0.00	0	40	0.00	0.00	0.000%	0.00%	21	21
SUBTOTAL		8,907,686	100.00					35.003%			
CALCULATED CONTINGENCY		3,117,937									
RESULTANT TEC		12,025,623									
ROUNDED TEC		12,000,000									
PROJECT CONTINGENCY		3,092,314						34.72%			
MANAGEMENT RESERVE		0									
CONTINGENCY		3,092,314									
TOTAL ESTIMATED COST		12,000,000								3,092,314	12,000,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA STANDARDS - LLW FILL
REGULATORY COMPLIANCE - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8A1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **13:31:42**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,571,979	65.90	0	40	0.00	26.36	23.722%	67.34%	2,699,771	10,271,750
1.3.1	PROJECT MANAGEMENT	987,000	8.59	0	30	0.00	2.58	2.319%	6.58%	263,934	1,250,934
1.5.1	G&A/PIF ADDER	317,616	2.76	0	40	0.00	1.11	0.995%	2.82%	113,245	430,861
1.5.2	PROCUREMENT FEES	31,091	0.27	0	40	0.00	0.11	0.097%	0.28%	11,085	42,176
	ESCALATION	2,583,229	22.48	0	40	0.00	8.99	8.093%	22.97%	921,050	3,504,279
SUBTOTAL		11,490,915	100.00					35.227%			
CALCULATED CONTINGENCY		4,047,899									
RESULTANT TEC		15,538,814									
ROUNDED TEC		15,500,000									
PROJECT CONTINGENCY		4,009,085						34.89%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,009,085									
TOTAL ESTIMATED COST		15,500,000								4,009,085	15,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

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PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

PROCUREMENT FEE:

CONSTRUCTION =	\$1,036,000		
GFE =	\$0		
Subtotal	\$1,036,000		
FEE @ 3% =	\$1,036,000	* 0.03 =	\$31,080

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING *# OF YEARS =	\$1,036,000		
GFE =	\$0		
PROCUREMENT FEE =	\$31,080		
Subtotal	\$1,067,080		
FEE @ 23% =	\$1,067,080	* 0.23 =	\$245,428

PIF @ 5.5%

CONSTRUCTION =	\$1,036,000		
GFE =	\$0		
PROCUREMENT FEE =	\$31,080		
G&A =	\$245,428		
Subtotal	\$1,312,508		
FEE @ 5.5% =	\$1,312,508	* 0.055 =	\$72,188

TOTAL PROCUREMENT FEE: \$31,080

TOTAL G&A FEE: \$245,428

TOTAL PIF: \$72,188

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
DESIGN - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8B1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 16:27:43
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN			>> \$11,154,871
1.1.1	CONCEPTUAL DESIGN	2,869,000	229,520	3,098,520
1.1.2	TITLE DESIGN	6,885,770	1,170,581	8,056,351
1.2	MANAGEMENT COSTS			>> \$3,684,756
1.2.1	PROJECT MANAGEMENT	3,319,600	365,156	3,684,756
1.5.2	PROCUREMENT FEES	0	0	\$0
	SUBTOTAL INCLUDING ESCALATION	13,074,370	1,765,257	>> \$14,839,627
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$4,660,373
	TOTAL ESTIMATED COST			>> \$19,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= ***.***%
 CONTINGENCY= 31.40%

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
DESIGN - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8B1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 16:26:03
CHECKED BY: *[Signature]*
APPRD BY: _____

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN</u>			>> <u>\$9,754,770</u>
1.1.1	CONCEPTUAL DESIGN	2,869,000	0	2,869,000
1.1.2	TITLE DESIGN	6,885,770	0	6,885,770
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,319,600</u>
1.2.1	PROJECT MANAGEMENT	3,319,600	0	3,319,600
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
	SUBTOTAL INCLUDING ESCALATION	13,074,370	0	>> \$13,074,370
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$4,125,630
	TOTAL ESTIMATED COST			>> \$17,200,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= ***.***%
CONTINGENCY= 31.56%

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8B1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 16:25:05

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	CONCEPTUAL DESIGN											
Memo:	CONCEPTUAL DESIGN/PROCEDURE DEVELOPMENT @ 5% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		2,371,100				2,371,100
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		237,100				237,100
	ADD 10% FOR EXTRA ENGINEERING & MODELING TO SUPPORT NRC	1	LOT			0.000		260,800				260,800
	CONCEPTUAL DESIGN S/T						0	\$2,869,000				\$2,869,000
1.1.2	TITLE DESIGN											
Memo:	TITLE DESIGN/PROCEDURE DEVELOPMENT @ 12% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		5,690,700				5,690,700
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		569,070				569,070
	ADD 10% FOR EXTRA ENGINEERING & MODELING TO SUPPORT NRC	1	LOT			0.000		626,000				626,000
	TITLE DESIGN S/T						0	\$6,885,770				\$6,885,770
1.2.1	PROJECT MANAGEMENT											
Memo:	DESIGN PROJECT MANAGEMENT @ 7% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		3,319,600				3,319,600
	PROJECT MANAGEMENT S/T						0	\$3,319,600				\$3,319,600

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						0	\$13,074,370	\$0	\$0	\$0	\$13,074,370

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL DESIGN - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8B1**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **16:26:08**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,869,000	21.94	0	35	0.00	7.68	6.912%	21.94%	905,316	3,774,316
1.1.2	TITLE DESIGN	6,885,770	52.67	0	35	0.00	18.43	16.590%	52.67%	2,172,811	9,058,581
1.2.1	PROJECT MANAGEMENT	3,319,600	25.39	0	35	0.00	8.89	7.998%	25.39%	1,047,503	4,367,103
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
	SUBTOTAL	13,074,370	100.00					31.500%			
	CALCULATED CONTINGENCY	4,118,427									
	RESULTANT TEC	17,192,797									
	ROUNDED TEC	17,200,000									
	PROJECT CONTINGENCY	4,125,630						31.56%			
	MANAGEMENT RESERVE	0									
	CONTINGENCY	4,125,630									
	TOTAL ESTIMATED COST	17,200,000								4,125,630	17,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
DESIGN - ESCALATED
INEEL/ICPP**
LOCATION 1:
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8B1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **16:27:48**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,869,000	19.33	0	35	0.00	6.77	6.090%	19.33%	901,007	3,770,007
1.1.2	TITLE DESIGN	6,885,770	46.40	0	35	0.00	16.24	14.616%	46.40%	2,162,471	9,048,241
1.2.1	PROJECT MANAGEMENT	3,319,600	22.37	0	35	0.00	7.83	7.046%	22.37%	1,042,518	4,362,118
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	1,765,257	11.90	0	35	0.00	4.16	3.747%	11.90%	554,377	2,319,634
SUBTOTAL		14,839,627	100.00					31.500%			
CALCULATED CONTINGENCY		4,674,483									
RESULTANT TEC		19,514,110									
ROUNDED TEC		19,500,000									
PROJECT CONTINGENCY		4,660,373						31.40%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,660,373									
TOTAL ESTIMATED COST		19,500,000								4,660,373	19,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

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Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR- ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-6CA**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **13:42:25**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$175,500
1.1.2	TITLE III INSPECTION	150,000	25,500	175,500
1.2	<u>MANAGEMENT COSTS</u>			>> \$690,300
1.2.1	PROJECT MANAGEMENT	390,000	66,300	456,300
1.2.2	CONSTRUCTION MANAGEMENT	200,000	34,000	234,000
1.3	<u>CONSTRUCTION</u>			>> \$3,510,000
1.3.1	GENERAL	3,000,000	510,000	3,510,000
1.5	<u>G&A/PIF</u>			>> \$508,294
1.5.1	G&A/PIF ADDER	434,439	73,855	508,294
1.5.2	PROCUREMENT FEES	90,000	15,300	\$105,300
	SUBTOTAL INCLUDING ESCALATION	4,264,439	724,955	>> \$4,989,394
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$412,359
	CONTINGENCY			>> \$1,398,247
	TOTAL ESTIMATED COST			>> \$6,800,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 36.29%

Lockheed Martin Idaho Technologies Co.

Rev. 6/86

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
PROOF OF PROCESS/ORR - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

COST ESTIMATE SUMMARY

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6CA**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **13:44:51**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$150,000
1.1.2	TITLE III INSPECTION	150,000	0	150,000
1.2	MANAGEMENT COSTS			>> \$590,000
1.2.1	PROJECT MANAGEMENT	390,000	0	390,000
1.2.2	CONSTRUCTION MANAGEMENT	200,000	0	200,000
1.3	CONSTRUCTION			>> \$3,000,000
1.3.1	GENERAL	3,000,000	0	3,000,000
1.5	G&A/PIF			>> \$434,439
1.5.1	G&A/PIF ADDER	434,439	0	434,439
1.5.2	PROCUREMENT FEES	90,000	0	>> \$90,000
	SUBTOTAL INCLUDING ESCALATION	4,264,439	0	>> \$4,264,439
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$352,444
	CONTINGENCY			>> \$1,183,117
	TOTAL ESTIMATED COST			>> \$5,800,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **36.01%**

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6CA
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 13:43:17
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000	TITLE III INSPECTION Inspection and Overview Memo: @ 6% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		150,000				150,000
	TITLE III INSPECTION S/T						0	\$150,000				\$150,000
1.2.1	PROJECT MANAGEMENT											
	PM Memo: @ 13% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		390,000				390,000
	PROJECT MANAGEMENT S/T						0	\$390,000				\$390,000
1.2.2	CONSTRUCTION MANAGEMENT											
	CM Memo: @ 10% OF CONSTRUCTION	1	LOT			0.000		200,000				200,000
	CONSTRUCTION MANAGEMENT S/T						0	\$200,000				\$200,000
1.3.1	GENERAL											
	MOCKUP AND TESTING	1	LOT			0.000					2,000,000	2,000,000
	ORR & OTHER TEST REPORTS	1	LOT		EA	0.000		1,000,000				1,000,000
	GENERAL S/T				EA		0	\$1,000,000			\$2,000,000	\$3,000,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					250,700	250,700

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/86
 PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-6CA
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 13:43:17
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					183,739	183,739
	G&A/PIF ADDER S/T						0				\$434,439	\$434,439
	PROJECT SUBTOTAL						0	\$1,740,000	\$0	\$0	\$2,434,439	\$4,174,439

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: RISK BASED CLEAN CLOSURE - LLW FILL
 PROOF OF PROCESS/ORR - UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-6CA
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 13:44:55

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.52	0	40	0.00	1.41	1.266%	3.52%	54,013	204,013
1.2.1	PROJECT MANAGEMENT	390,000	9.15	0	40	0.00	3.66	3.292%	9.15%	140,433	530,433
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.69	0	40	0.00	1.88	1.688%	4.69%	72,017	272,017
1.3.1	GENERAL	3,000,000	70.35	0	40	0.00	28.14	25.326%	70.35%	1,080,255	4,080,255
1.5.1	G&A/PIF ADDER	434,439	10.19	0	40	0.00	4.07	3.667%	10.19%	156,435	590,874
1.5.2	PROCUREMENT FEES	90,000	2.11	0	40	0.00	0.84	0.760%	2.11%	32,408	122,408
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		4,264,439	100.00					36.000%			
CALCULATED CONTINGENCY		1,535,198									
RESULTANT TEC		5,799,637									
ROUNDED TEC		5,800,000									
PROJECT CONTINGENCY		1,535,561						36.01%			
MANAGEMENT RESERVE		352,444									
CONTINGENCY		1,183,117									
TOTAL ESTIMATED COST		5,800,000								1,535,561	5,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis. Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **RISK BASED CLEAN CLOSURE - LLW FILL
PROOF OF PROCESS/ORR- ESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-6CA**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **13:42:29**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.01	0	40	0.00	1.20	1.082%	3.06%	55,441	205,441
1.2.1	PROJECT MANAGEMENT	390,000	7.82	0	40	0.00	3.13	2.814%	7.95%	144,146	534,146
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.01	0	40	0.00	1.50	1.443%	4.08%	73,921	273,921
1.3.1	GENERAL	3,000,000	60.13	0	40	0.00	24.05	21.645%	61.24%	1,108,816	4,108,816
1.5.1	G&A/PIF ADDER	434,439	8.71	0	40	0.00	3.48	3.135%	8.87%	160,571	595,010
1.5.2	PROCUREMENT FEES	90,000	1.80	0	40	0.00	0.72	0.649%	1.84%	33,264	123,264
	ESCALATION	724,955	14.53	0	35	0.00	5.09	4.577%	12.95%	234,447	959,402
SUBTOTAL		4,989,394	100.00					35.346%			
CALCULATED CONTINGENCY		1,763,559									
RESULTANT TEC		6,752,953									
ROUNDED TEC		6,800,000									
PROJECT CONTINGENCY		1,810,606						36.29%			
MANAGEMENT RESERVE		412,359									
CONTINGENCY		1,398,247									
TOTAL ESTIMATED COST		6,800,000								1,810,606	6,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET
2406-8CA

PROCUREMENT FEE:

CONSTRUCTION =	\$3,000,000		
GFE =			
	Subtotal	<u>\$3,000,000</u>	
FEE @ 3% =	\$3,000,000	* 0.03 =	\$90,000

G&A @ 23% (with a ceiling of \$500,000 imposed per year

CONSTRUCTION OR CEILING * 2 YEARS =	\$1,000,000		
GFE =	\$0		
PROCUREMENT FEE =	\$90,000		
	Subtotal	<u>\$1,090,000</u>	
FEE @ 23% =	\$1,090,000	* 0.23 =	\$250,700

PIF @ 5.5%

CONSTRUCTION =	\$3,000,000		
GFE =	\$0		
PROCUREMENT FEE =	\$90,000		
G&A =	\$250,700		
	Subtotal	<u>\$3,340,700</u>	
FEE @ 5.5% =	\$3,340,700	* 0.055 =	\$183,739

TOTAL PROCUREMENT FEE:		\$90,000
TOTAL G&A FEE:		\$250,700
TOTAL PIF:		\$183,739

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
SITE PREPARATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8C1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **14:00:12**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$310,978
1.1.2	TITLE III INSPECTION	254,900	56,078	310,978
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,320,528
1.2.1	PROJECT MANAGEMENT	662,700	145,794	808,494
1.2.2	CONSTRUCTION MANAGEMENT	419,700	92,334	512,034
1.3	<u>CONSTRUCTION</u>			>> \$5,120,116
1.3.1	GENERAL CONDITIONS	1,252,660	275,585	1,528,245
1.3.2	SITWORK	118,825	26,141	144,966
1.3.3	CONCRETE	18,433	4,055	22,488
1.3.13	SPECIAL CONSTRUCTION	1,882,914	414,241	2,297,155
1.3.15	MECHANICAL	549,490	120,888	670,378
1.3.16	ELECTRICAL	374,495	82,389	456,884
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$1,072,071
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	171,171	1,072,071
1.5	<u>G&A/PIF</u>			>> \$643,328
1.5.1	G&A/PIF ADDER	527,318	116,010	643,328
1.5.2	PROCUREMENT FEES	115,208	24,735	\$139,943
SUBTOTAL INCLUDING ESCALATION		7,077,543	1,529,421	>> \$8,606,964
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$697,546
CONTINGENCY				>> \$2,195,490
TOTAL ESTIMATED COST				>> \$11,500,000

PROJECT COST PARAMETERS	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	33.61%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
 SITE PREPARATION - UNESCALATED
 INEEL/ICPP**
 LOCATION 1:
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8C1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **13:56:37**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$254,900</u>
1.1.2	TITLE III INSPECTION	254,900	0	254,900
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,082,400</u>
1.2.1	PROJECT MANAGEMENT	662,700	0	662,700
1.2.2	CONSTRUCTION MANAGEMENT	419,700	0	419,700
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,196,817</u>
1.3.1	GENERAL CONDITIONS	1,252,660	0	1,252,660
1.3.2	SITework	118,825	0	118,825
1.3.3	CONCRETE	18,433	0	18,433
1.3.13	SPECIAL CONSTRUCTION	1,882,914	0	1,882,914
1.3.15	MECHANICAL	549,490	0	549,490
1.3.16	ELECTRICAL	374,495	0	374,495
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$900,900</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	0	900,900
1.5	<u>G&A/PIF</u>			>> <u>\$527,318</u>
1.5.1	G&A/PIF ADDER	527,318	0	527,318
1.5.2	PROCUREMENT FEES	115,208	0	>> <u>\$115,208</u>
SUBTOTAL INCLUDING ESCALATION		7,077,543	0	>> <u>\$7,077,543</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$574,024</u>
CONTINGENCY				>> <u>\$1,848,433</u>
TOTAL ESTIMATED COST				>> <u>\$9,500,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **34.23%**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2408-8C1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 13:54:08

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
00201000	Inspection and Overview	1	LOT			0.000		254,900				254,900
	Memo: @ 5% OF CONSTRUCTION PLUS GFE.											
	TITLE III INSPECTION S/T						0	\$254,900				\$254,900
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		662,700				662,700
	Memo: @ 13% OF CONSTRUCTION PLUS GFE.											
	PROJECT MANAGEMENT S/T						0	\$662,700				\$662,700
1.2.2	CONSTRUCTION MANAGEMENT											
	CM	1	LOT			0.000		419,700				419,700
	Memo: @ 10% OF CONSTRUCTION.											
	CONSTRUCTION MANAGEMENT S/T						0	\$419,700				\$419,700
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV	1600.00	1,600	80,800				80,800
					EA							
	MOB/DEMOB	1	LOT		ZF-OE	500.000	500	25,885				25,885
					EA							
	TRAINING:	10	FTE		ZF-OE	64.000	640	33,133				33,133
					EA							
	SMALL TOOLS & CONSUMABLES	1	LOT	42,400.00		0.000				42,400		42,400
					EA							
	CRANE SUPPORT	1	LOT		ZF-OE	800.000	800	41,416	50,000			91,416
					EA							
	RAD TENTS	15	EA	5,000.00		0.000				75,000		75,000
					EA							

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8C1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1988

TIME: 13:54:08

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS MISC. EQUIPMENT	1	LOT			0.000			38,900			38,900
	CLEANUP & MATERIAL HANDLING	16,047	MHRS		ZF-LB FA	0.100	1,805	70,976				70,976
	RADCON TECH SUPPORT	2	FTE		Z-1342	1600.00	3,200	158,080				158,080
	TEMPORARY CONSTRUCTION FACILITIES	1	LOT			0.000					500,000	500,000
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	124,000.00		0.000				124,000		124,000
	GENERAL CONDITIONS S/T						8,345	\$410,290	\$88,900	\$241,400	\$500,000	\$1,240,590
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	UTILITY EARTHWORK TRENCH, BACKFILL & STOCKPILE	1,000	CY	1.00	ZF-OE FA	1.850	1,850	95,775	22,000	1,000		118,775
	UTILITY EARTHWORK S/T						1,850	\$95,775	\$22,000	\$1,000		\$118,775
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	PENETRATIONS VALVE BOX PENETRATIONS FOR UTILITIES	5	EA	500.00	ZF-LB FA	50.000	250	11,058	1,250	2,500		14,808

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

SITE PREPARATION

PROJECT NO: 2406-8C1

TIME: 13:54:06

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	PENETRATIONS											
	PENETRATIONS S/T						250	\$11,058	\$1,250	\$2,500		\$14,808
1.3.3.2	VOG BLOWER PAD											
	CONCRETE PAD FOR ENCLOSURE	10	CY		FA	0.000					3,500	3,500
	VOG BLOWER PAD S/T						0				\$3,500	\$3,500
1.3.13	SPECIAL CONSTRUCTION											
	CONTAMINATED EQUIPMENT STORAGE BUNKER	600	SF		ZF-CP FA	0.000					60,000	60,000
	DECON/SIZING AREA W/IN ENCLOSURE	1,500	SF		FA	0.000					75,000	75,000
	VOG BLOWER ENCLOSURE	200	SF		FA	0.000					12,000	12,000
	TANK FARM AREA ENCLOSURE ("SPRUNG" STRUCTURE)	55,000	SF		FA	0.000					1,650,000	1,650,000
	TANK FARM AREA ENCLOSURE RELOCATION	3	EA	2,000.00	ZF-LB FA	600.000	1,800	79,614		6,000		85,614
	SPECIAL CONSTRUCTION S/T						1,800	\$79,614		\$6,000	\$1,797,000	\$1,882,614
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	UTILITIES											
	UTILITY PIPING - ALLOW	1,800	LF	13.00	ZF-PF FA	0.500	950	57,257	2,375	24,700		84,332

DETAILED COST ESTIMATE SHEET

Rev. 0/00
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-8C1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 13:54:06
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRB	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	UTILITIES TEMPORARY UTILITY HOSES & FITTINGS	1	LOT	2,000.00		0.000				2,000		2,000
	UTILITIES S/T						950	\$57,257	\$2,375	\$26,700		\$86,332
1.3.15.2	VOG MOVE & SET UP VOG FILTER SKID	7	EA		ZF-OE FA	120.000	840	43,487				43,487
	1 HP VOG BLOWERS	2	EA	3,100.00	ZF-SM FA	40.000	80	4,144		6,200		10,344
	PIPING MAIN	300	LF	80.00	ZF-PF FA	1.400	420	25,313	1,050	24,000		50,363
	PURCHASE SECONDARY LINE	280	LF	80.00		0.000				22,400		22,400
	INSTALL(MOVE) SECONDARY LINE	370	LF		ZF-PF FA	1.200	444	26,760	1,110			27,870
	PURCHASE 2"X4" DBL ENCASED CONDENSATE LINE	80	LF	110.00		0.000				8,800		8,800
	INSTALL/MOVE CONDENSATE LINE	80	LF		ZF-PF FA	2.900	232	13,983	580			14,563
	TAP PLA LINES FOR CONDENSATE	7	EA		ZF-PF FA	80.000	560	33,751	1,400			35,151
	PURCHASE TANK-TO-SKID 4"X6" DBL ENCASED LINE	300	LF	160.00		0.000				48,000		48,000
	INSTALL/MOVE TANK-TO-SKID DBL ENCASED LINES	830	LF		ZF-PF FA	3.750	3,113	187,590	7,785			195,376
	VOG S/T						5,689	\$335,028	\$11,925	\$109,400		\$456,354
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8C1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 13:54:06

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	TEMPORARY POWER											
	HOOK UP CONTROL TRAILERS	1	LOT	20,000.00	ZF-EL EA	250.000	250	13,195		20,000		33,195
	MCC'S & MISC ELEC EQUIPMENT	1	LOT	61,000.00	ZF-EL EA	350.000	350	18,473		61,000		79,473
	CABLE & DUCT	7,000	LF	2.70	ZF-EL EA	0.044	308	16,256		18,900		35,156
	REMOVE & RECONNECT POWER TO VOG EQUIPMENT	7	EA		ZF-EL EA	600.000	4,200	221,676				221,676
	TEMPORARY POWER S/T						5,108	\$269,600		\$99,900		\$369,500
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	VOG SKID W/ FILTERS, DEMISTER, ETC.	2	EA	320,000.00	EA FA	0.000				640,000		640,000
	MCC/CONTROL/CCTV CONTROL & TRAILER	2	EA	70,000.00	EA FA	0.000				140,000		140,000
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	78,000.00	EA FA	0.000				78,000		78,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$858,000		\$858,000
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					293,681	293,681
	PIF	1	LOT			0.000					233,637	233,637
	G&A/PIF ADDER S/T						0				\$527,318	\$527,318

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL

SITE PREPARATION

INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

PAGE # 6

DATE 22-Jan-1988

TIME: 13:54:08

REPORT NAME: Detail Cost Estimate Sheet

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8C1

PREPARED BY: R. D. ADAMS

CODE	DESCRIPTION	QTY	UOM	MAT'L UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						23,991	\$2,595,921	\$126,450	\$1,344,900	\$2,927,816	\$6,895,089

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
SITE PREPARATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8C1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **13:56:42**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	254,900	3.60	0	40	0.00	1.44	1.297%	3.87%	93,776	348,676
1.2.1	PROJECT MANAGEMENT	662,700	9.36	0	40	0.00	3.75	3.371%	10.06%	243,803	906,503
1.2.2	CONSTRUCTION MANAGEMENT	419,700	5.93	0	40	0.00	2.37	2.135%	6.37%	154,405	574,105
1.3.1	GENERAL CONDITIONS	1,252,660	17.70	0	40	0.00	7.08	6.372%	19.02%	460,845	1,713,505
1.3.2	SITWORK	118,825	1.68	0	40	0.00	0.67	0.604%	1.80%	43,715	162,540
1.3.3	CONCRETE	18,433	0.26	0	40	0.00	0.10	0.094%	0.28%	6,781	25,214
1.3.13	SPECIAL CONSTRUCTION	1,882,914	26.60	0	30	0.00	7.98	7.183%	21.45%	519,534	2,402,448
1.3.15	MECHANICAL	549,490	7.76	0	50	0.00	3.88	3.494%	10.43%	252,692	802,182
1.3.16	ELECTRICAL	374,495	5.29	0	35	0.00	1.85	1.667%	4.98%	120,552	495,047
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	12.73	0	35	0.00	4.46	4.010%	11.97%	290,006	1,190,906
1.5.1	G&A/PIF ADDER	527,318	7.45	0	40	0.00	2.98	2.682%	8.01%	193,997	721,315
1.5.2	PROCUREMENT FEES	115,208	1.63	0	40	0.00	0.65	0.586%	1.75%	42,384	157,592
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(33)	(33)
SUBTOTAL		7,077,543	100.00					33.493%			
CALCULATED CONTINGENCY		2,370,515									
RESULTANT TEC		9,448,058									
ROUNDED TEC		9,500,000									
PROJECT CONTINGENCY		2,422,457						34.23%			
MANAGEMENT RESERVE		574,024									
CONTINGENCY		1,848,433									
TOTAL ESTIMATED COST		9,500,000								2,422,457	9,500,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
SITE PREPARATION - ESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8C1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **14:00:16**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	254,900	2.96	0	40	0.00	1.18	1.066%	3.22%	93,076	347,976
1.2.1	PROJECT MANAGEMENT	662,700	7.70	0	40	0.00	3.08	2.772%	8.36%	241,982	904,682
1.2.2	CONSTRUCTION MANAGEMENT	419,700	4.88	0	40	0.00	1.95	1.755%	5.30%	153,252	572,952
1.3.1	GENERAL CONDITIONS	1,252,660	14.55	0	40	0.00	5.82	5.239%	15.81%	457,404	1,710,064
1.3.2	SITWORK	118,825	1.38	0	40	0.00	0.55	0.497%	1.50%	43,389	162,214
1.3.3	CONCRETE	18,433	0.21	0	40	0.00	0.09	0.077%	0.23%	6,731	25,164
1.3.13	SPECIAL CONSTRUCTION	1,882,914	21.88	0	30	0.00	6.56	5.907%	17.82%	515,654	2,398,568
1.3.15	MECHANICAL	549,490	6.38	0	50	0.00	3.19	2.873%	8.67%	250,805	800,295
1.3.16	ELECTRICAL	374,495	4.35	0	35	0.00	1.52	1.371%	4.14%	119,652	494,147
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	10.47	0	35	0.00	3.66	3.297%	9.95%	287,840	1,188,740
1.5.1	G&A/PIF ADDER	527,318	6.13	0	40	0.00	2.45	2.206%	6.66%	192,548	719,866
1.5.2	PROCUREMENT FEES	115,208	1.34	0	40	0.00	0.54	0.482%	1.45%	42,068	157,276
	ESCALATION	1,529,421	17.77	0	35	0.00	6.22	5.597%	16.89%	488,635	2,018,056
	SUBTOTAL	8,606,964	100.00					33.139%			
	CALCULATED CONTINGENCY	2,852,282									
	RESULTANT TEC	11,459,246									
	ROUNDED TEC	11,500,000									
	PROJECT CONTINGENCY	2,893,036						33.61%			
	MANAGEMENT RESERVE	697,546									
	CONTINGENCY	2,195,490									
	TOTAL ESTIMATED COST	11,500,000								2,893,036	11,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
- Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8C

PROCUREMENT FEE:

CONSTRUCTION ***=	\$2,938,195		
GFE =	\$900,900		
	<u>Subtotal</u>	\$3,839,095	
FEE @ 3% =	\$3,839,095	* 0.03 =	\$115,173

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 1 YEAR =	\$500,000 *		
GFE =	\$661,700 **		
PROCUREMENT FEE =	\$115,173		
	<u>Subtotal</u>	\$1,276,873	
FEE @ 23% =	\$1,276,873	* 0.23 =	\$293,681

PIF @ 5.5%

CONSTRUCTION =	\$2,938,195		
GFE =	\$900,900		
PROCUREMENT FEE =	\$115,173		
G&A =	\$293,681		
	<u>Subtotal</u>	\$4,247,949	
FEE @ 5.5% =	\$4,247,949	* 0.055 =	\$233,637

TOTAL PROCUREMENT FEE: \$115,173

TOTAL G&A FEE: \$293,681

TOTAL PIF: \$233,637

*The \$500,000 ceiling on construction will be imposed since this activity will need to be completed within one year.

**The \$500,000 ceiling on any one contract will be imposed for the two VOG skids.

****Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL CHARACTERIZATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8D1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **14:04:06**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$1,435,500
1.3.1	GENERAL CONDITIONS	990,000	445,500	1,435,500
1.5	G&A/PIF			>> \$440,095
1.5.1	G&A/PIF ADDER	303,514	136,581	440,095
1.5.2	PROCUREMENT FEES	29,700	13,365	>> \$43,065
SUBTOTAL INCLUDING ESCALATION		1,323,214	595,446	>> \$1,918,660
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$681,340
TOTAL ESTIMATED COST				>> \$2,600,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **0.00%**

CONTINGENCY= **35.51%**

Lockheed Martin Idaho Technologies Co.
Rev. 686

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL CHARACTERIZATION
LOCATION 1: INEEL/CPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8D1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 14:02:12
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$990,000</u>
1.3.1	GENERAL CONDITIONS	990,000	0	990,000
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$303,514</u>
1.5.1	G&A/PIF ADDER	303,514	0	303,514
1.5.2	PROCUREMENT FEES	29,700	0	>> <u>\$29,700</u>
	SUBTOTAL INCLUDING ESCALATION	1,323,214	0	>> \$1,323,214
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$476,786
	TOTAL ESTIMATED COST			>> \$1,800,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 0.00%
 CONTINGENCY= 36.03%

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 1

Rev: 8/08
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL CHARACTERIZATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-8D
 PREPARED BY: R. D. ADAMS

DATE: 09-Dec-1997
 TIME: 19:35:26
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
Memo:	HEEL CHARACTERIZATION FULL 3 SAMPLES PER TANK X 11 TANKS.	33	EA			0.000					990,000	990,000
	GENERAL CONDITIONS S/T						0				\$990,000	\$990,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					234,531	234,531
	PIF	1	LOT			0.000					68,983	68,983
	G&A/PIF ADDER S/T						0				\$303,514	\$303,514
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$1,293,514	\$1,293,514

Lockheed Martin Idaho Technologies Co.

Rev. 6/86

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL CHARACTERIZATION**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8D1**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **14:02:16**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	990,000	74.82	0	40	0.00	29.93	26.934%	74.82%	356,721	1,346,721
1.5.1	G&A/PIF ADDER	303,514	22.94	0	40	0.00	9.18	8.258%	22.94%	109,363	412,877
1.5.2	PROCUREMENT FEES	29,700	2.24	0	40	0.00	0.90	0.808%	2.24%	10,702	40,402
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		1,323,214	100.00					36.000%			
CALCULATED CONTINGENCY		476,357									
RESULTANT TEC		1,799,571									
ROUNDED TEC		1,800,000									
PROJECT CONTINGENCY -		476,786						36.03%			
MANAGEMENT RESERVE		0									
CONTINGENCY		476,786									
TOTAL ESTIMATED COST		1,800,000								476,786	1,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
CHARACTERIZATION - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8D1
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 14:04:10

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	990,000	51.60	0	40	0.00	20.64	18.575%	53.68%	365,755	1,355,755
1.5.1	G&A/PIF ADDER	303,514	15.82	0	40	0.00	6.33	5.695%	16.46%	112,133	415,647
1.5.2	PROCUREMENT FEES	29,700	1.55	0	40	0.00	0.62	0.557%	1.61%	10,973	40,673
	ESCALATION	595,446	31.03	0	35	0.00	10.86	9.776%	28.25%	192,479	787,925
SUBTOTAL		1,918,660	100.00					34.603%			
CALCULATED CONTINGENCY		663,923									
RESULTANT TEC		2,582,583									
ROUNDED TEC		2,600,000									
PROJECT CONTINGENCY		681,340						35.51%			
MANAGEMENT RESERVE		0									
CONTINGENCY		681,340									
TOTAL ESTIMATED COST		2,600,000								681,340	2,600,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

12/9/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8D

PROCUREMENT FEE:

CONSTRUCTION*** =	\$990,000		
GFE =	\$0		
	Subtotal	\$990,000	
FEE @ 3% =	\$990,000	* 0.03 =	\$29,700

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$990,000		
GFE =	\$0		
PROCUREMENT FEE =	\$29,700		
	Subtotal	\$1,019,700	
FEE @ 23% =	\$1,019,700	* 0.23 =	\$234,531

PIF @ 5.5%

CONSTRUCTION =	\$990,000		
GFE =	\$0		
PROCUREMENT FEE =	\$29,700		
G&A =	\$234,531		
	Subtotal	\$1,254,231	
FEE @ 5.5% =	\$1,254,231	* 0.055 =	\$68,983

TOTAL PROCUREMENT FEE: \$29,700

TOTAL G&A FEE: \$234,531

TOTAL PIF: \$68,983

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
TANK ISOLATION - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8E1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **14:33:28**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$307,690</u>
1.1.2	TITLE III INSPECTION	212,200	95,490	307,690
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,415,055</u>
1.2.1	PROJECT MANAGEMENT	551,600	248,220	799,820
1.2.2	CONSTRUCTION MANAGEMENT	424,300	190,935	615,235
1.3	<u>CONSTRUCTION</u>			>> <u>\$6,152,950</u>
1.3.1	GENERAL CONDITIONS	1,544,535	695,041	2,239,576
1.3.2	SITWORK	225,389	101,425	326,814
1.3.15	MECHANICAL	2,459,556	1,106,800	3,566,356
1.3.16	ELECTRICAL	13,934	6,270	20,204
1.5	<u>G&A/PIF</u>			>> <u>\$252,187</u>
1.5.1	G&A/PIF ADDER	173,922	78,265	252,187
1.5.2	PROCUREMENT FEES	16,974	7,638	>> <u>\$24,612</u>
	SUBTOTAL INCLUDING ESCALATION	5,622,410	2,530,084	>> <u>\$8,152,494</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$642,975</u>
	CONTINGENCY			>> <u>\$2,204,531</u>
	TOTAL ESTIMATED COST			>> <u>\$11,000,000</u>

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **34.93%**

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
TANK ISOLATION - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8E1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 14:31:52
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$212,200
1.1.2	TITLE III INSPECTION	212,200	0	212,200
1.2	<u>MANAGEMENT COSTS</u>			>> \$975,900
1.2.1	PROJECT MANAGEMENT	551,600	0	551,600
1.2.2	CONSTRUCTION MANAGEMENT	424,300	0	424,300
1.3	<u>CONSTRUCTION</u>			>> \$4,243,414
1.3.1	GENERAL CONDITIONS	1,544,535	0	1,544,535
1.3.2	SITWORK	225,389	0	225,389
1.3.15	MECHANICAL	2,459,556	0	2,459,556
1.3.16	ELECTRICAL	13,934	0	13,934
1.5	<u>G&A/PIF</u>			>> \$173,922
1.5.1	G&A/PIF ADDER	173,922	0	173,922
1.5.2	PROCUREMENT FEES	16,974	0	>> \$16,974
	SUBTOTAL INCLUDING ESCALATION	5,622,410	0	>> \$5,622,410
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$443,431
	CONTINGENCY			>> \$1,634,159
	TOTAL ESTIMATED COST			>> \$7,700,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 36.95%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
TANK ISOLATION**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2408-8E1**
PREPARED BY: **R. D. ADAMS**

PAGE # **1**

DATE **22-Jan-1998**
TIME: **14:30:51**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		212,200				212,200
	TITLE III INSPECTION S/T						0	\$212,200				\$212,200
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		551,600				551,600
	PROJECT MANAGEMENT S/T						0	\$551,600				\$551,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		424,300				424,300
	CONSTRUCTION MANAGEMENT S/T						0	\$424,300				\$424,300
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV EA	4656.00	4,656	235,128				235,128
	MOB/DEMOB	1	LOT		ZF-OE EA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE EA	186.000	1,860	96,292				96,292
	SMALL TOOLS & CONSUMABLES	1	LOT	127,920.00		0.000				127,920		127,920
	CRANE SUPPORT	1	LOT		ZF-OE EA	2328.00	2,328	120,417	128,000			248,417
	MISC. EQUIPMENT	1	LOT			0.000			117,650			117,650
	CLEANUP & MATERIAL HANDLING	46,561	MHRS		ZF-LB EA	0.100	4,656	205,939				205,939

Lockheed Martin Idaho Technologies Co.

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL TANK ISOLATION**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO.: **2406-8E1**
 PREPARED BY: **R. D. ADAMS**

PAGE # 2

DATE **22-Jan-1998**
 TIME: **14:30:51**
 REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	4656.00	9,312	460,013				460,013
	ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	19,900.00		0.000				19,900		19,900
	GENERAL CONDITIONS S/T						23,310	\$1,143,674	\$245,650	\$147,820		\$1,537,144
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.3	ISOLATE TANK LINES EXCAVATE, SHORING, STOCKPILE, CLEAN FILL, SHORING	740	CY	50.00	ZF-OE FA	4.000	2,960	153,239	33,300	37,000		223,539
	ISOLATE TANK LINES S/T						2,960	\$153,239	\$33,300	\$37,000		\$223,539
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.2	TANK LINE ISOLATION INITIAL PIPE FLUSHING	11	TANK		Z-5210 FA	800.000	8,800	520,608				520,608
	REMOVE VB COVER & PREPARE FOR ENTRY	77	EA		ZF-OE FA	60.000	4,620	239,177				239,177
	SET UP & REMOVE RAD TENTS	77	EA		ZF-LB FA	160.000	12,320	544,914				544,914
	CUT & CAP TANK LINES IN GLOVE BAGS	165	EA	100.00	ZF-PF FA	65.000	10,725	646,396	26,813	16,500		689,708

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8E1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 14:30:51

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LINE ISOLATION CUT & CAP COOLING WATER LINES	540	EA	15.00	ZF-PF FA	3.000	1,620	97,637	4,050	8,100		109,787
	CUT & CAP INSTRUMENT LINES	352	EA	3.00	ZF-PF FA	1.000	352	21,215	880	1,056		23,151
	BOX REMOVED PIPE SECTIONS (ALLOW)	3	BOX	500.00	ZF-PF FA	20.000	60	3,616		1,500		5,116
	PROCESS WASTE BOXES	3	EA		FA	0.000					15,000	15,000
	TANK LINE ISOLATION S/T						38,497	\$2,073,563	\$31,743	\$27,156	\$15,000	\$2,147,462
1.3.15.3	VOG SYSTEM CUT,CAP & TIE-IN VOG LINES	22	EA		ZF-PF FA	100.000	2,200	132,594	5,500			138,094
	CUT & CAP TANK VOG LINES	66	EA	100.00	ZF-PF FA	40.000	2,640	159,113	6,600	6,600		172,313
	VOG SYSTEM S/T						4,840	\$291,707	\$12,100	\$6,600		\$310,407
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TANK ELECTRICAL/INSTRUMENTATION ISOLATION CUT & CAP CONDUIT	132	EA		ZF-EL FA	2.000	264	13,934				13,934
	TANK ELECTRICAL/INSTRUMENTATION ISOLATION S/T						264	\$13,934				\$13,934
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					134,393	134,393

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 0/99

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

TANK ISOLATION

PROJECT NO: 2408-8E1

TIME: 14:30:51

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.6.1	G&A/PIF ADDER PIF	1	LOT			0.000					39,529	39,529
	G&A/PIF ADDER S/T						0				\$173,922	\$173,922
	PROJECT SUBTOTAL						69.871	\$4,864,218	\$322,793	\$218,576	\$188,922	\$5,594,508

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
TANK ISOLATION - UNESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8E1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **14:31:56**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	3.77	0	35	0.00	1.32	1.189%	3.20%	66,401	278,601
1.2.1	PROJECT MANAGEMENT	551,600	9.81	0	35	0.00	3.43	3.090%	8.31%	172,605	724,205
1.2.2	CONSTRUCTION MANAGEMENT	424,300	7.55	0	35	0.00	2.64	2.377%	6.39%	132,770	557,070
1.3.1	GENERAL CONDITIONS	1,544,535	27.47	0	40	0.00	10.99	9.890%	26.59%	552,355	2,096,890
1.3.2	SITWORK	225,389	4.01	0	45	0.00	1.80	1.624%	4.36%	90,679	316,068
1.3.15	MECHANICAL	2,459,556	43.75	0	45	0.00	19.69	17.717%	47.63%	989,531	3,449,087
1.3.16	ELECTRICAL	13,934	0.25	0	40	0.00	0.10	0.089%	0.24%	4,983	18,917
1.5.1	G&A/PIF ADDER	173,922	3.09	0	40	0.00	1.24	1.114%	2.99%	62,198	236,120
1.5.2	PROCUREMENT FEES	16,974	0.30	0	40	0.00	0.12	0.109%	0.29%	6,070	23,044
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(2)	(2)
SUBTOTAL		5,622,410	100.00					37.198%			
CALCULATED CONTINGENCY		2,091,426									
RESULTANT TEC		7,713,836									
ROUNDED TEC		7,700,000									
PROJECT CONTINGENCY		2,077,590						36.95%			
MANAGEMENT RESERVE		443,431									
CONTINGENCY		1,634,159									
TOTAL ESTIMATED COST		7,700,000								2,077,590	7,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE III/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL TANK ISOLATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8E1**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **14:33:32**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	2.60	0	35	0.00	0.91	0.820%	2.31%	65,896	278,096
1.2.1	PROJECT MANAGEMENT	551,600	6.77	0	35	0.00	2.37	2.131%	6.02%	171,292	722,892
1.2.2	CONSTRUCTION MANAGEMENT	424,300	5.20	0	35	0.00	1.82	1.639%	4.63%	131,761	556,061
1.3.1	GENERAL CONDITIONS	1,544,535	18.95	0	40	0.00	7.58	6.820%	19.25%	548,155	2,092,690
1.3.2	SITWORK	225,389	2.76	0	45	0.00	1.24	1.120%	3.16%	89,989	315,378
1.3.15	MECHANICAL	2,459,556	30.17	0	45	0.00	13.58	12.219%	34.49%	982,007	3,441,563
1.3.16	ELECTRICAL	13,934	0.17	0	40	0.00	0.07	0.062%	0.17%	4,945	18,879
1.5.1	G&A/PIF ADDER	173,922	2.13	0	40	0.00	0.85	0.768%	2.17%	61,725	235,647
1.5.2	PROCUREMENT FEES	16,974	0.21	0	40	0.00	0.08	0.075%	0.21%	6,024	22,998
	ESCALATION	2,530,084	31.03	0	35	0.00	10.86	9.776%	27.59%	785,712	3,315,796
	SUBTOTAL	8,152,494	100.00					35.430%			
	CALCULATED CONTINGENCY	2,888,402									
	RESULTANT TEC	11,040,896									
	ROUNDED TEC	11,000,000									
	PROJECT CONTINGENCY	2,847,506						34.93%			
	MANAGEMENT RESERVE	642,975									
	CONTINGENCY	2,204,531									
	TOTAL ESTIMATED COST	11,000,000								2,847,506	11,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8E

PROCUREMENT FEE:

CONSTRUCTION*** =	\$567,297	
GFE =	\$0	
Subtotal	<u>\$567,297</u>	
FEE @ 3% =	\$567,297 * 0.03 =	\$17,019

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$567,297	
GFE =	\$0 **	
PROCUREMENT FEE =	\$17,019	
Subtotal	<u>\$584,316</u>	
FEE @ 23% =	\$584,316 * 0.23 =	\$134,393

PIF @ 5.5%

CONSTRUCTION =	\$567,297	
GFE =	\$0	
PROCUREMENT FEE =	\$17,019	
G&A =	\$134,393	
Subtotal	<u>\$718,709</u>	
FEE @ 5.5% =	\$718,709 * 0.055 =	\$39,529

TOTAL PROCUREMENT FEE:	\$17,019
TOTAL G&A FEE:	\$134,393
TOTAL PIF:	\$39,529

****Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
WASH INTERIOR TANK WALLS - ESCALATED
INEEL/ICPP**
LOCATION 1:
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8F1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **15:02:32**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$938,550</u>
1.1.2	TITLE III INSPECTION	625,700	312,850	938,550
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,422,700</u>
1.2.1	PROJECT MANAGEMENT	1,626,900	813,450	2,440,350
1.2.2	CONSTRUCTION MANAGEMENT	654,900	327,450	982,350
1.3	<u>CONSTRUCTION</u>			>> <u>\$9,823,965</u>
1.3.1	GENERAL CONDITIONS	2,153,604	1,076,802	3,230,406
1.3.2	SITWORK	134,015	67,008	201,023
1.3.4	HEEL	752,895	376,447	1,129,342
1.3.6	SHIELDING	177,285	88,642	265,927
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	554,430	1,663,289
1.3.11	EQUIPMENT	1,190,930	595,465	1,786,395
1.3.15	MECHANICAL	404,696	202,348	607,044
1.3.16	ELECTRICAL	627,026	313,513	940,539
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$7,098,747</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	1,133,413	7,098,747
1.5	<u>G&A/PIF</u>			>> <u>\$1,903,238</u>
1.5.1	G&A/PIF ADDER	1,268,825	634,413	1,903,238
1.5.2	PROCUREMENT FEES	212,749	74,937	\$287,686
SUBTOTAL INCLUDING ESCALATION		16,903,718	6,571,168	>> \$23,474,886
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,911,364
CONTINGENCY				>> \$6,713,750
TOTAL ESTIMATED COST				>> \$32,100,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **6.00%**

CONTINGENCY= **36.74%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
 WASH INTERIOR TANK WALLS - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8F1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **15:00:32**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$625,700</u>
1.1.2	TITLE III INSPECTION	625,700	0	625,700
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$2,281,800</u>
1.2.1	PROJECT MANAGEMENT	1,626,900	0	1,626,900
1.2.2	CONSTRUCTION MANAGEMENT	654,900	0	654,900
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$6,549,310</u>
1.3.1	GENERAL CONDITIONS	2,153,604	0	2,153,604
1.3.2	SITWORK	134,015	0	134,015
1.3.4	HEEL	752,895	0	752,895
1.3.6	SHIELDING	177,285	0	177,285
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	0	1,108,859
1.3.11	EQUIPMENT	1,190,930	0	1,190,930
1.3.15	MECHANICAL	404,696	0	404,696
1.3.16	ELECTRICAL	627,026	0	627,026
<u>1.4</u>	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$5,965,334</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	0	5,965,334
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$1,268,825</u>
1.5.1	G&A/PIF ADDER	1,268,825	0	1,268,825
1.5.2	PROCUREMENT FEES	212,749	0	>> <u>\$212,749</u>
	SUBTOTAL INCLUDING ESCALATION	16,903,718	0	>> \$16,903,718
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,399,622
	CONTINGENCY			>> \$5,096,660
	TOTAL ESTIMATED COST			>> \$23,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 38.43%

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
WASH INTERIOR TANK WALLS**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2406-8F1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **14:58:14**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		625,700				625,700
	TITLE III INSPECTION S/T						0	\$625,700				\$625,700
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		1,626,900				1,626,900
	PROJECT MANAGEMENT S/T						0	\$1,626,900				\$1,626,900
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		654,900				654,900
	CONSTRUCTION MANAGEMENT S/T						0	\$654,900				\$654,900
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV EA	7100.00	7,100	358,550				358,550
	TRAINING:	10	FTE		ZF-OE EA	276.000	2,760	142,885				142,885
	SMALL TOOLS & CONSUMABLES	1	LOT	177,400.00		0.000				177,400		177,400
	CRANE SUPPORT	1	LOT		ZF-OE EA	3550.00	3,550	183,784	19,500			203,284
	MISC. EQUIPMENT	1	LOT			0.000			186,900			186,900
	CLEANUP & MATERIAL HANDLING	70,961	MHRS		ZF-LB EA	0.100	7,096	313,861				313,861
	RADCON TECH SUPPORT	2	FTE		Z-1342	7100.00	14,200	701,480				701,480

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 8/86
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-8F1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 14:58:14
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	57,500.00		0.000				57,500		57,500
	GENERAL CONDITIONS S/T						34,706	\$1,700,559	\$206,400	\$234,900		\$2,141,859
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS TANK RISERS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	440	CY	50.00	ZF-OE FA	4.000	1,760	91,115	19,800	22,000		132,915
	ACCESS TANK RISERS S/T						1,760	\$91,115	\$19,800	\$22,000		\$132,915
1.3.4	HEEL											
	HEEL S/T						0					
1.3.4.1	HEEL FLUSHING FLUSHES + PAPERWORK(11 TANKS X 9 FLUSHES/TANK)	99	EA		Z-6210 LIMITCO	24.000	2,376	140,564				140,564
	HEEL FLUSHING S/T						2,376	\$140,564				\$140,564

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
WASH INTERIOR TANK WALLS

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8F1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 14:58:14

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.4.2	HEEL MIXING & REMOVAL INSTALL & REMOVE MOUNTING/SUPPORT FRAME	11	EA		ZF-IW FA	160.000	1,760	84,885				84,885
	INSTALL, MIX, REMOVE & DECON PUMP	11	EA		ZF-OE FA	400.000	4,400	227,788				227,788
	SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	HEEL MIXING & REMOVAL S/T						7,040	\$358,230		\$242,000		\$600,230
1.3.6	SHIELDING											
	TANK RISER TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.7	TANK INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM(THREE TIMES PER TANK)	33	EA		ZF-OE FA	500.000	16,500	854,205				854,205
	INSTALL & REMOVE SUPPORT/MOUNTING FRAME	33	EA		ZF-IW FA	160.000	5,280	254,654				254,654
	TANK INTERNAL WASHDOWN S/T						21,780	\$1,108,859				\$1,108,859
1.3.11	EQUIPMENT											
	EQUIPMENT S/T						0					

CODE	DESCRIPTION	QTY.	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.11.1	EQUIPMENT REMOVAL REMOVE JETS, LIFTS, CORROSION COUPONS, ETC.	44	EA		ZF-PF FA	160.000	7,040	424,301				424,301
	SET UP & REMOVE RAD TENT	44	EA		ZF-LB FA	160.000	7,040	311,379				311,379
	CUT & BOX REMOVED EQUIP.	44	EA	500.00	ZF-PF FA	80.000	3,520	212,150		22,000		234,150
	PROCESS WASTE BOXES	44	EA		FA	0.000					220,000	220,000
	EQUIPMENT REMOVAL S/T						17,600	\$947,830		\$22,000	\$220,000	\$1,189,830
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	HEEL TRANSFER LINES VALVE BOX TIE-IN	11	EA		ZF-PF FA	80.000	880	53,038				53,038
	SET UP & REMOVE RAD TENT	11	EA		ZF-LB FA	160.000	1,760	77,845				77,845
	DBL ENCASE TRANSFER LINE - PURCHASE	150	LF	160.00	ZF-PF FA	0.000				24,000		24,000
	DBL ENCASE TRANSFER LINE - INSTALL	1,100	LF		ZF-PF FA	3.750	4,125	248,614				248,614
	HEEL TRANSFER LINES S/T						6,765	\$379,496		\$24,000		\$403,496
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

DETAILED COST ESTIMATE SHEET

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1998

WASH INTERIOR TANK WALLS

PROJECT NO.: 2406-8F1

TIME: 14:58:14

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.1	TEMPORARY POWER											
	REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	TEMPORARY POWER S/T						7,920	\$418,018				\$418,018
1.3.16.2	CAMERA & LIGHTING											
	INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL EA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM											
	INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL EA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE MIXING PUMPS & CONTROLS	3	EA	250,000.00	FA	0.000				750,000		750,000
	PURCHASE MOUNTING/SUPPORT FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE WASHDOWN ARM, SKID & CONTROLS	2	EA	2,000,000.00	FA	0.000				4,000,000		4,000,000
	PURCHASE SUPPORT/MOUNTING FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE VIDEO & LIGHTING EQUIPMENT	1	LOT	50,000.00	FA	0.000				50,000		50,000
	PURCHASE MONITORING SYSTEM	1	LOT	40,000.00	FA	0.000				40,000		40,000

Lockheed Martin Idaho Technologies Co.

Rev. 6/08
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-8F1
 PREPARED BY: R. D. ADAMS

PAGE # 6

DATE 22-Jan-1998
 TIME: 14:58:14
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	541,270.00		0.000				541,270		541,270
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$5,681,270		\$5,681,270
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					822,716	822,716
	PIF	1	LOT			0.000					446,109	446,109
	G&A/PIF ADDER S/T						0				\$1,268,825	\$1,268,825
	PROJECT SUBTOTAL						105.667	\$8,346,066	\$226,200	\$6,314,170	\$1,488,825	\$16,375,261

CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
WASH INTERIOR TANK WALLS - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8F1
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 15:00:38

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	625,700	3.70	0	35	0.00	1.30	1.166%	3.02%	196,508	822,208
1.2.1	PROJECT MANAGEMENT	1,626,900	9.62	0	35	0.00	3.37	3.032%	7.87%	510,946	2,137,846
1.2.2	CONSTRUCTION MANAGEMENT	654,900	3.87	0	35	0.00	1.36	1.220%	3.17%	205,678	860,578
1.3.1	GENERAL CONDITIONS	2,153,604	12.74	0	40	0.00	5.10	4.587%	11.90%	772,986	2,926,590
1.3.2	SITWORK	134,015	0.79	0	45	0.00	0.36	0.321%	0.83%	54,114	188,129
1.3.4	HEEL	752,895	4.45	0	40	0.00	1.78	1.603%	4.16%	270,234	1,023,129
1.3.6	SHIELDING	177,285	1.05	0	40	0.00	0.42	0.378%	0.98%	63,632	240,917
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	6.56	0	40	0.00	2.62	2.362%	6.13%	397,999	1,506,858
1.3.11	EQUIPMENT	1,190,930	7.05	0	40	0.00	2.82	2.536%	6.58%	427,457	1,618,387
1.3.15	MECHANICAL	404,696	2.39	0	45	0.00	1.08	0.970%	2.52%	163,413	568,109
1.3.16	ELECTRICAL	627,026	3.71	0	40	0.00	1.48	1.335%	3.46%	225,056	852,082
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	35.29	0	50	0.00	17.65	15.881%	41.20%	2,676,397	8,641,731
1.5.1	G&A/PIF ADDER	1,268,825	7.51	0	40	0.00	3.00	2.702%	7.01%	455,415	1,724,240
1.5.2	PROCUREMENT FEES	212,749	1.25	0	40	0.00	0.50	0.453%	1.18%	76,361	289,110
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	86	86
SUBTOTAL		16,903,718	100.00					38.546%			
CALCULATED CONTINGENCY		6,515,623									
RESULTANT TEC		23,419,341									
ROUNDED TEC		23,400,000									
PROJECT CONTINGENCY		6,496,282						38.43%			
MANAGEMENT RESERVE		1,399,622									
CONTINGENCY		5,096,660									
TOTAL ESTIMATED COST		23,400,000								6,496,282	23,400,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20%</p> <p>TITLE II 5% - 15%</p> <p>TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
WASH INTERIOR TANK WALLS - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8F1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **15:02:39**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	625,700	2.67	0	35	0.00	0.93	0.840%	2.30%	198,006	823,706
1.2.1	PROJECT MANAGEMENT	1,626,900	6.93	0	35	0.00	2.43	2.183%	5.97%	514,840	2,141,740
1.2.2	CONSTRUCTION MANAGEMENT	654,900	2.79	0	35	0.00	0.98	0.879%	2.40%	207,246	862,146
1.3.1	GENERAL CONDITIONS	2,153,604	9.17	0	40	0.00	3.67	3.303%	9.03%	778,877	2,932,481
1.3.2	SITWORK	134,015	0.57	0	45	0.00	0.26	0.231%	0.63%	54,527	188,542
1.3.4	HEEL	752,895	3.21	0	40	0.00	1.28	1.155%	3.16%	272,294	1,025,189
1.3.6	SHIELDING	177,285	0.76	0	40	0.00	0.30	0.272%	0.74%	64,117	241,402
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	4.72	0	40	0.00	1.89	1.700%	4.65%	401,033	1,509,892
1.3.11	EQUIPMENT	1,190,930	5.07	0	40	0.00	2.03	1.826%	4.99%	430,715	1,621,645
1.3.15	MECHANICAL	404,696	1.72	0	45	0.00	0.78	0.698%	1.91%	164,659	569,355
1.3.16	ELECTRICAL	627,026	2.67	0	40	0.00	1.07	0.962%	2.63%	226,772	853,798
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	25.41	0	50	0.00	12.71	11.435%	31.27%	2,696,796	8,662,130
1.5.1	G&A/PIF ADDER	1,268,825	5.41	0	40	0.00	2.16	1.946%	5.32%	458,886	1,727,711
1.5.2	PROCUREMENT FEES	212,749	0.91	0	40	0.00	0.36	0.326%	0.89%	76,943	289,692
	ESCALATION	6,571,168	27.99	0	35	0.00	9.80	8.818%	24.11%	2,079,403	8,650,571
SUBTOTAL		23,474,886	100.00					35.573%			
CALCULATED CONTINGENCY		8,585,541									
RESULTANT TEC		32,060,427									
ROUNDED TEC		32,100,000									
PROJECT CONTINGENCY		8,625,114						36.74%			
MANAGEMENT RESERVE		1,911,364									
CONTINGENCY		6,713,750									
TOTAL ESTIMATED COST		32,100,000								8,625,114	32,100,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8F

PROCUREMENT FEE:

CONSTRUCTION*** =	\$1,110,745		
GFE =	\$5,965,334		
Subtotal	<u>\$7,076,079</u>		
 FEE @ 3% =	 \$7,076,079	 * 0.03 =	 \$212,282

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING *# OF YEARS =	\$1,110,745		
GFE =	\$2,254,000		
PROCUREMENT FEE =	\$212,282		
Subtotal	<u>\$3,577,027</u>		
 FEE @ 23% =	 \$3,577,027	 * 0.23 =	 \$822,716

PIF @ 5.5%

CONSTRUCTION =	\$1,110,745		
GFE =	\$5,965,334		
PROCUREMENT FEE =	\$212,282		
G&A =	\$822,716		
Subtotal	<u>\$8,111,078</u>		
 FEE @ 5.5% =	 \$8,111,078	 * 0.055 =	 \$446,109

TOTAL PROCUREMENT FEE: \$212,282

TOTAL G&A FEE: \$822,716

TOTAL PIF: \$446,109

****Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8G1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **15:28:13**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$343,650
1.1.2	TITLE III INSPECTION	229,100	114,550	343,650
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,027,500
1.2.1	PROJECT MANAGEMENT	595,700	297,850	893,550
1.2.2	CONSTRUCTION MANAGEMENT	89,300	44,650	133,950
1.3	<u>CONSTRUCTION</u>			>> \$1,338,994
1.3.1	GENERAL CONDITIONS	282,949	141,475	424,424
1.3.3	CONCRETE	413,015	206,507	619,522
1.3.15	MECHANICAL	80,583	40,291	120,874
1.3.16	ELECTRICAL	116,116	58,058	174,174
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$4,390,618
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	701,023	4,390,618
1.5	<u>G&A/PIF</u>			>> \$701,520
1.5.1	G&A/PIF ADDER	467,680	233,840	701,520
1.5.2	PROCUREMENT FEES	119,139	29,831	\$148,970
	SUBTOTAL INCLUDING ESCALATION	6,083,177	1,868,075	>> \$7,951,252
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$658,010
	CONTINGENCY			>> \$2,390,738
	TOTAL ESTIMATED COST			>> \$11,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **6.00%**

CONTINGENCY= **38.34%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
 SOLIDIFY REMAINING HEEL - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-8G1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **15:18:14**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$229,100</u>
1.1.2	TITLE III INSPECTION	229,100	0	229,100
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$685,000</u>
1.2.1	PROJECT MANAGEMENT	595,700	0	595,700
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0	89,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$892,663</u>
1.3.1	GENERAL CONDITIONS	282,949	0	282,949
1.3.3	CONCRETE	413,015	0	413,015
1.3.15	MECHANICAL	80,583	0	80,583
1.3.16	ELECTRICAL	116,116	0	116,116
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$3,689,595</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	0	3,689,595
1.5	<u>G&A/PIF</u>			>> <u>\$467,680</u>
1.5.1	G&A/PIF ADDER	467,680	0	467,680
1.5.2	PROCUREMENT FEES	119,139	0	>> <u>\$119,139</u>
SUBTOTAL INCLUDING ESCALATION		6,083,177	0	>> <u>\$6,083,177</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$516,908</u>
CONTINGENCY				>> <u>\$1,999,915</u>
TOTAL ESTIMATED COST				>> <u>\$8,600,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **41.37%**

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
SOLIDIFY REMAINING HEEL

LOCATION 1: INEEL/ CPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8G1
PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
TIME: 15:15:59
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		229,100				229,100
	TITLE III INSPECTION S/T						0	\$229,100				\$229,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		595,700				595,700
	PROJECT MANAGEMENT S/T						0	\$595,700				\$595,700
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		89,300				89,300
	CONSTRUCTION MANAGEMENT S/T						0	\$89,300				\$89,300
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV	820.000	820	41,410				41,410
	TRAINING:	10	FTE		ZF-OE	32.000	320	16,566				16,566
	SMALL TOOLS & CONSUMABLES	1	LOT	20,800.00		0.000				20,800		20,800
	CRANE SUPPORT	1	LOT		ZF-OE	410.000	410	21,226	22,550			43,776
	MISC. EQUIPMENT	1	LOT			0.000			20,600			20,600
	CLEANUP & MATERIAL HANDLING	8,238	MHRS		ZF-LB	0.100	824	36,437				36,437
	RADCON TECH SUPPORT	2	FTE		Z-1342	820.000	1,640	81,016				81,016

Rev. 6/00
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 SOLIDIFY REMAINING HEEL
 LOCATION: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-8G1
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 15:15:59
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	20,290.00		0.000				20,290		20,290
	GENERAL CONDITIONS S/T						4,014	\$196,655	\$43,150	\$41,090		\$280,895
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.3	HEEL SOLIDIFICATION GROUT ARM MOUNTING FRAMES	2	EA	50,000.00		0.000				100,000		100,000
	INSTALL & REMOVE MOUNTING FRAMES	22	EA		EA ZF-IW	120.000	2,640	127,327				127,327
	INSTALL & REMOVE TEMPORARY SHIELDING AT RISER	22	EA		EA ZF-LB	80.000	1,760	77,845				77,845
	PLACE WET GROUT	800	CY	80.00	EA ZF-OE	0.500	400	20,708		64,000		84,708
	PLACE DRY GROUT (ALLOW)	110	CY	80.00	EA ZF-OE	1.000	110	5,695		8,800		14,495
	HEEL SOLIDIFICATION S/T						4,910	\$231,575		\$172,800		\$404,375
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.5	GROUT DELIVERY PIPING PURCHASE PIPE	350	LF	26.64		0.000				9,324		9,324

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL

SOLIDIFY REMAINING HEEL

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8G1

PREPARED BY: R. D. ADAMS

PAGE # 3

DATE 22-Jan-1998

TIME: 15:15:59

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.6	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	2,400	LF		ZF-PF FA	0.470	1,128	67,985	2,808			70,793
	GROUT DELIVERY PIPING S/T						1,128	\$67,985	\$2,808	\$9,324		\$80,117
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO WET & DRY GROUT ARMS EQUIPMENT	22	EA		ZF-EL FA	100.000	2,200	116,116				116,116
	TEMPORARY POWER S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE WET GROUT DELIVERY ARM & CONTROLS	2	EA	800,000.00	FA	0.000				1,600,000		1,600,000
	PURCHASE DRY GROUT DELIVERY ARM & CONTROLS	2	EA	750,000.00	FA	0.000				1,500,000		1,500,000
	PURCHASE GROUT PUMP	1	EA	55,000.00	FA	0.000				55,000		55,000
	PURCHASE AIR COMPRESSOR & MISC CLEANING EQUIP.	1	LOT	25,000.00	FA	0.000				25,000		25,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
SOLIDIFY REMAINING HEEL

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-8G1
PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 15:15:59

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	333,900.00		0.000				333,900		333,900
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$3,513,900		\$3,513,900
1.6.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					330,255	330,255
	PIF	1	LOT			0.000					137,425	137,425
	G&A/PIF ADDER S/T						0				\$467,680	\$467,680
	PROJECT SUBTOTAL						12.252	\$1,526,430	\$46,958	\$3,737,114	\$467,680	***** \$5,777,182 *****

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
SOLIDIFY REMAINING HEEL - UNESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8G1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **15:18:19**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	3.77	0	35	0.00	1.32	1.186%	2.90%	73,106	302,206
1.2.1	PROJECT MANAGEMENT	595,700	9.79	0	35	0.00	3.43	3.085%	7.55%	190,087	785,787
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.47	0	35	0.00	0.51	0.462%	1.13%	28,496	117,796
1.3.1	GENERAL CONDITIONS	282,949	4.65	0	40	0.00	1.86	1.674%	4.10%	103,187	386,136
1.3.3	CONCRETE	413,015	6.79	0	40	0.00	2.72	2.444%	5.98%	150,620	563,635
1.3.15	MECHANICAL	80,583	1.32	0	45	0.00	0.60	0.536%	1.31%	33,061	113,644
1.3.16	ELECTRICAL	116,116	1.91	0	40	0.00	0.76	0.687%	1.68%	42,346	158,462
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	60.65	0	50	0.00	30.33	27.294%	66.83%	1,681,924	5,371,519
1.5.1	G&A/PIF ADDER	457,680	7.69	0	40	0.00	3.08	2.768%	6.78%	170,556	628,236
1.5.2	PROCUREMENT FEES	119,139	1.96	0	40	0.00	0.78	0.705%	1.73%	43,448	162,587
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(8)	(8)
SUBTOTAL		6,083,177	100.00					40.842%			
CALCULATED CONTINGENCY		2,484,499									
RESULTANT TEC		8,567,676									
ROUNDED TEC		8,600,000									
PROJECT CONTINGENCY		2,516,823						41.37%			
MANAGEMENT RESERVE		516,908									
CONTINGENCY		1,999,915									
TOTAL ESTIMATED COST		8,600,000								2,516,823	8,600,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

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 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8G1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **15:20:18**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY			SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	2.88	0	35	0.00	1.01	0.908%	2.35%	71,599	300,699
1.2.1	PROJECT MANAGEMENT	595,700	7.49	0	35	0.00	2.62	2.360%	6.11%	186,169	781,869
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.12	0	35	0.00	0.39	0.354%	0.92%	27,908	117,208
1.3.1	GENERAL CONDITIONS	282,949	3.56	0	40	0.00	1.42	1.281%	3.31%	101,050	384,009
1.3.3	CONCRETE	413,015	5.19	0	40	0.00	2.08	1.870%	4.84%	147,516	560,531
1.3.15	MECHANICAL	80,583	1.01	0	45	0.00	0.46	0.410%	1.06%	32,379	112,962
1.3.16	ELECTRICAL	116,116	1.46	0	40	0.00	0.58	0.526%	1.36%	41,473	157,589
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	46.40	0	50	0.00	23.20	20.881%	54.03%	1,647,257	5,336,852
1.5.1	G&A/PIF ADDER	467,680	5.88	0	40	0.00	2.35	2.117%	5.48%	167,040	634,720
1.5.2	PROCUREMENT FEES	119,139	1.50	0	40	0.00	0.60	0.539%	1.40%	42,553	161,692
	ESCALATION	1,868,075	23.49	0	35	0.00	8.22	7.401%	19.15%	583,794	2,451,869
	SUBTOTAL	7,951,252	100.00					38.647%			
	CALCULATED CONTINGENCY	3,072,943									
	RESULTANT TEC	11,024,195									
	ROUNDED TEC	11,000,000									
	PROJECT CONTINGENCY	3,048,748						38.34%			
	MANAGEMENT RESERVE	658,010									
	CONTINGENCY	2,390,738									
	TOTAL ESTIMATED COST	11,000,000								3,048,748	11,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE III/AFC	Market Conditions

1/22/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8G

PROCUREMENT FEE:

CONSTRUCTION*** =	\$280,333		
GFE =	\$3,689,595		
Subtotal	\$3,969,928		
 FEE @ 3% =	 \$3,969,928	 * 0.03 =	 \$119,098

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$280,333		
GFE =	\$2,088,000		
PROCUREMENT FEE =	\$119,098		
Subtotal	\$2,487,431		
 FEE @ 23% =	 \$2,487,431	 * 0.23 =	 \$572,109

PIF @ 5.5%

CONSTRUCTION =	\$280,333		
GFE =	\$3,689,595		
PROCUREMENT FEE =	\$119,098		
G&A =	\$572,109		
Subtotal	\$4,661,135		
 FEE @ 5.5% =	 \$4,661,135	 * 0.055 =	 \$256,362

TOTAL PROCUREMENT FEE: \$119,098

TOTAL G&A FEE: \$572,109

TOTAL PIF: \$256,362

****Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL VAULT W/ CLEAN GROUT - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8H1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
TIME: **15:53:34**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$553,474
1.1.2	TITLE III INSPECTION	350,300	203,174	553,474
1.2	MANAGEMENT COSTS			>> \$2,435,254
1.2.1	PROJECT MANAGEMENT	840,700	487,606	1,328,306
1.2.2	CONSTRUCTION MANAGEMENT	700,600	406,348	1,106,948
1.3	CONSTRUCTION			>> \$11,069,852
1.3.1	GENERAL CONDITIONS	1,649,217	956,546	2,605,763
1.3.2	SITWORK	759,751	440,656	1,200,407
1.3.3	CONCRETE	3,906,844	2,265,970	6,172,814
1.3.15	MECHANICAL	690,423	400,445	1,090,868
1.5	G&A/PIF			>> \$1,954,797
1.5.1	G&A/PIF ADDER	1,237,213	717,584	1,954,797
1.5.2	PROCUREMENT FEES	121,208	70,301	>> \$191,509
SUBTOTAL INCLUDING ESCALATION		10,256,256	5,948,630	>> \$16,204,886
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,321,616
CONTINGENCY				>> \$4,273,498
TOTAL ESTIMATED COST				>> \$21,800,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= **5.00%**
CONTINGENCY= **34.53%**

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL VAULT W/ CLEAN GROUT - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8H1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 15:51:02
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$350,300</u>
1.1.2	TITLE III INSPECTION	350,300	0	350,300
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,541,300</u>
1.2.1	PROJECT MANAGEMENT	840,700	0	840,700
1.2.2	CONSTRUCTION MANAGEMENT	700,600	0	700,600
1.3	<u>CONSTRUCTION</u>			>> <u>\$7,006,235</u>
1.3.1	GENERAL CONDITIONS	1,649,217	0	1,649,217
1.3.2	SITWORK	759,751	0	759,751
1.3.3	CONCRETE	3,906,844	0	3,906,844
1.3.15	MECHANICAL	690,423	0	690,423
1.5	<u>G&A/PIF</u>			>> <u>\$1,237,213</u>
1.5.1	G&A/PIF ADDER	1,237,213	0	1,237,213
1.5.2	PROCUREMENT FEES	121,208	0	>> <u>\$121,208</u>
	SUBTOTAL INCLUDING ESCALATION	10,256,256	0	>> <u>\$10,256,256</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$836,466</u>
	CONTINGENCY			>> <u>\$2,807,278</u>
	TOTAL ESTIMATED COST			>> <u>\$13,900,000</u>

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 5.00%
CONTINGENCY= 35.53%

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO: 2406-8H1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 15:30:26

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 6% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		350,300				350,300
	TITLE III INSPECTION S/T						0	\$350,300				\$350,300
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		840,700				840,700
	PROJECT MANAGEMENT S/T						0	\$840,700				\$840,700
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		700,600				700,600
	CONSTRUCTION MANAGEMENT S/T						0	\$700,600				\$700,600
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	4160.00	4,160	210,080				210,080
	TRAINING:	10	FTE		ZF-OE FA	162.000	1,620	83,867				83,867
	SMALL TOOLS & CONSUMABLES	1	LOT	98,700.00		0.000				98,700		98,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	2080.00	2,080	107,682	114,400			222,082
	MISC. EQUIPMENT	1	LOT			0.000			103,900			103,900
	CLEANUP & MATERIAL HANDLING	41,577	MHRS		ZF-LB FA	0.100	4,158	183,895				183,895
	RADCON TECH SUPPORT	2	FTE		Z-1342	4160.00	8,320	411,008				411,008

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/89

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL VAULT W/ CLEAN GROUT

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-8H1
PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
TIME: 15:30:26

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	315,000.00	FA	0.000				315,000		315,000
	GENERAL CONDITIONS S/T						20,338	\$996,532	\$218,300	\$413,700		\$1,628,532
1.3.2	SITework											
	SITework S/T						0					
1.3.2.1	ACCESS VAULT TOP FOR CORE DRILLS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	2,600	CY	50.00	ZF-OE FA	4.000	10,400	538,408	29,250	130,000		697,658
	PLACE GRAVEL AROUND TANK MONITORS	44	EA	20.00	ZF-OE FA	24.000	1,056	54,669		880		55,549
	ACCESS VAULT TOP FOR CORE DRILLS S/T						11,456	\$593,077	\$29,250	\$130,880		\$753,207
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	TANK VAULT ACCESS HOLES CORE DRILL 18"DIA IN VAULT ROOF	99	EA	1,000.00	ZF-LB FA	100.000	9,900	437,977	148,500	99,000		685,377

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-8H1

PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998

TIME: 15:30:26

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	TANK VAULT ACCESS HOLES											
	SHIELDING AROUND VAULT HOLES	99	EA	5,000.00	ZF-LB FA	24.000	2,376	105,090		495,000		600,090
	TANK VAULT ACCESS HOLES S/T						12,276	\$542,967	\$148,500	\$594,000		\$1,285,467
1.3.3.2	VAULT & TANK GROUTING											
	PURCHASE GROUT DROP TUBE & ACCESSORIES	1,200	LF	20.00	FA	0.000				24,000		24,000
	INSTALL & REMOVE DROP TUBES	2,200	LF		ZF-LB FA	0.500	1,100	48,653				48,653
	GROUT PLACEMENT, CLEANUP	21,080	CY	80.00	ZF-LB FA	0.620	13,070	578,068		1,686,400		2,264,468
	FIBROUS GROUT REINFORCEMENT	21,080	CY	5.00	FA	0.000				105,400		105,400
	GROUT OVER TANK MONITOR FEET	44	EA	80.00	ZF-OE FA	24.000	1,056	54,669		3,520		58,189
	VAULT & TANK GROUTING S/T						15,226	\$681,391		\$1,819,320		\$2,500,711
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	GROUT DELIVERY PIPING											
	INSTALL, REMOVE & CLEAN PIPE	700	LF		ZF-PF FA	0.470	329	19,829	819			20,648
	GROUT MANIFOLDS & CLEANING SYSTEM	1	LOT	12,500.00	ZF-PF FA	750.000	750	45,203		12,500		57,703
	GROUT DELIVERY PIPING S/T						1,079	\$65,031	\$819	\$12,500		\$78,350
1.3.15.2	TANK LEAK MONITORS & VENTILATION											
	TANK LEAK MONITORS	44	EA	10,000.00	ZF-PF FA	32.000	1,408	84,860		440,000		524,860

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 6/90
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 FILL VAULT W/ CLEAN GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-8H1
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 15:30:26
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LEAK MONITORS & VENTILATION HEPA TEMPORARY VAULT BREATHERS	11	EA	5,000.00	ZF-SM EA	12.000	132	6,838		55,000		61,838
	TANK LEAK MONITORS & VENTILATION S/T						1,540	\$91,698		\$495,000		\$586,698
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					956,019	956,019
	PIF	1	LOT			0.000					281,194	281,194
	G&A/PIF ADDER S/T						0				\$1,237,213	\$1,237,213
	PROJECT SUBTOTAL						61,914	\$4,862,296	\$396,869	\$3,465,400	\$1,237,213	\$9,961,778

CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL VAULT W/ CLEAN GROUT - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-8H1
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 15:51:07

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	350,300	3.42	0	35	0.00	1.20	1.076%	3.00%	109,485	459,785
1.2.1	PROJECT MANAGEMENT	840,700	8.20	0	35	0.00	2.87	2.582%	7.21%	262,757	1,103,457
1.2.2	CONSTRUCTION-MANAGEMENT	700,600	6.83	0	35	0.00	2.39	2.152%	6.01%	218,970	919,570
1.3.1	GENERAL CONDITIONS	1,649,217	16.08	0	40	0.00	6.43	5.789%	16.17%	589,093	2,238,310
1.3.2	SITWORK	759,751	7.41	0	45	0.00	3.33	3.000%	8.38%	305,302	1,065,053
1.3.3	CONCRETE	3,906,844	38.09	0	40	0.00	15.24	13.713%	38.30%	1,395,505	5,302,350
1.3.15	MECHANICAL	690,423	6.73	0	45	0.00	3.03	2.726%	7.61%	277,443	967,866
1.5.1	G&A/PIF ADDER	1,237,213	12.06	0	40	0.00	4.83	4.343%	12.13%	441,927	1,679,140
1.5.2	PROCUREMENT FEES	121,208	1.18	0	40	0.00	0.47	0.425%	1.19%	43,295	164,503
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(34)	(34)
SUBTOTAL		10,256,256	100.00					35.806%			
CALCULATED CONTINGENCY		3,672,388									
RESULTANT TEC		13,928,644									
ROUNDED TEC		13,900,000									
PROJECT CONTINGENCY		3,643,744						35.53%			
MANAGEMENT RESERVE		836,466									
CONTINGENCY		2,807,278									
TOTAL ESTIMATED COST		13,900,000								3,643,744	13,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL VAULT W/ CLEAN GROUT - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-8H1**
PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
TIME: **15:53:40**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	350,300	2.16	0	35	0.00	0.76	0.681%	1.99%	111,316	461,616
1.2.1	PROJECT MANAGEMENT	840,700	5.19	0	35	0.00	1.82	1.634%	4.77%	267,152	1,107,852
1.2.2	CONSTRUCTION MANAGEMENT	700,600	4.32	0	35	0.00	1.51	1.362%	3.98%	222,632	923,232
1.3.1	GENERAL CONDITIONS	1,649,217	10.18	0	40	0.00	4.07	3.664%	10.70%	598,945	2,248,162
1.3.2	SITWORK	759,751	4.69	0	45	0.00	2.11	1.899%	5.55%	310,408	1,070,159
1.3.3	CONCRETE	3,906,844	24.11	0	40	0.00	9.64	8.679%	25.36%	1,418,846	5,325,690
1.3.15	MECHANICAL	690,423	4.26	0	45	0.00	1.92	1.726%	5.04%	282,083	972,506
1.5.1	G&A/PIF ADDER	1,237,213	7.63	0	40	0.00	3.05	2.749%	8.03%	449,318	1,686,531
1.5.2	PROCUREMENT FEES	121,208	0.75	0	40	0.00	0.30	0.269%	0.79%	44,019	165,227
	ESCALATION	5,948,630	36.71	0	35	0.00	12.85	11.563%	33.79%	1,890,395	7,839,025
SUBTOTAL		16,204,886	100.00					34.225%			
CALCULATED CONTINGENCY		5,546,206									
RESULTANT TEC		21,751,092									
ROUNDED TEC		21,800,000									
PROJECT CONTINGENCY		5,595,114						34.53%			
MANAGEMENT RESERVE		1,321,616									
CONTINGENCY		4,273,498									
TOTAL ESTIMATED COST		21,800,000								5,595,114	21,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

12/9/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8H

PROCUREMENT FEE:

CONSTRUCTION*** =	\$4,035,539.		
GFE =	\$0		
Subtotal	<u>\$4,035,539</u>		
FEE @ 3% =	\$4,035,539	* 0.03 =	\$121,066

G&A @ 23% (with a ceiling of \$500,000 imposed per year

CONSTRUCTION OR CEILING * # OF YEARS =	\$4,035,539		
GFE =	\$0		
PROCUREMENT FEE =	\$121,066		
Subtotal	<u>\$4,156,605</u>		
FEE @ 23% =	\$4,156,605	* 0.23 =	\$956,019

PIF @ 5.5%

CONSTRUCTION =	\$4,035,539		
GFE =	\$0		
PROCUREMENT FEE =	\$121,066		
G&A =	\$956,019		
Subtotal	<u>\$5,112,624</u>		
FEE @ 5.5% =	\$5,112,624	* 0.055 =	\$281,194

TOTAL PROCUREMENT FEE: \$121,066

TOTAL G&A FEE: \$956,019

TOTAL PIF: \$281,194

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT - ESC.
LOCATION 1: INEEL/CPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-811
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
TIME: 16:04:16
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$838,992
1.1.2	TITLE III INSPECTION	499,400	339,592	838,992
1.2	MANAGEMENT COSTS			>> \$3,859,548
1.2.1	PROJECT MANAGEMENT	1,298,500	882,980	2,181,480
1.2.2	CONSTRUCTION MANAGEMENT	998,850	679,218	1,678,068
1.3	CONSTRUCTION			>> \$16,780,703
1.3.1	GENERAL CONDITIONS	2,351,566	1,599,065	3,950,631
1.3.3	CONCRETE	2,213,501	1,505,181	3,718,682
1.3.15	MECHANICAL	3,852,488	2,619,692	6,472,180
1.3.16	ELECTRICAL	1,570,958	1,068,252	2,639,210
1.5	G&A/PIF			>> \$2,813,138
1.5.1	G&A/PIF ADDER	1,674,487	1,138,651	2,813,138
1.5.2	PROCUREMENT FEES	163,812	111,392	\$275,204
SUBTOTAL INCLUDING ESCALATION		14,623,562	9,944,023	>> \$24,567,585
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,986,904
CONTINGENCY				>> \$7,045,511
TOTAL ESTIMATED COST				>> \$33,600,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 36.77%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT - UNESC.**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-811**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **16:52:34**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$499,400
1.1.2	TITLE III INSPECTION	499,400	0	499,400
1.2	MANAGEMENT COSTS			>> \$2,297,350
1.2.1	PROJECT MANAGEMENT	1,298,500	0	1,298,500
1.2.2	CONSTRUCTION MANAGEMENT	998,850	0	998,850
1.3	CONSTRUCTION			>> \$9,988,513
1.3.1	GENERAL CONDITIONS	2,351,566	0	2,351,566
1.3.3	CONCRETE	2,213,501	0	2,213,501
1.3.15	MECHANICAL	3,852,488	0	3,852,488
1.3.16	ELECTRICAL	1,570,958	0	1,570,958
1.5	G&A/PIF			>> \$1,674,487
1.5.1	G&A/PIF ADDER	1,674,487	0	1,674,487
1.5.2	PROCUREMENT FEES	163,812	0	>> \$163,812
SUBTOTAL INCLUDING ESCALATION		14,623,562	0	>> \$14,623,562
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,182,681
CONTINGENCY				>> \$4,293,757
TOTAL ESTIMATED COST				>> \$20,100,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 37.45%

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-811
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 15:59:50
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 6% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		499,400				499,400
	TITLE III INSPECTION S/T						0	\$499,400				\$499,400
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		1,298,500				1,298,500
	PROJECT MANAGEMENT S/T						0	\$1,298,500				\$1,298,500
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		998,850				998,850
	CONSTRUCTION MANAGEMENT S/T						0	\$998,850				\$998,850
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	5980.00	5,980	301,990				301,990
	TRAINING:	10	FTE		ZF-OE FA	233.000	2,330	120,624				120,624
	SMALL TOOLS & CONSUMABLES	1	LOT	154,700.00		0.000				154,700		154,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	2990.00	2,990	154,792	164,450			319,242
	MISC. EQUIPMENT	1	LOT			0.000			149,600			149,600
	CLEANUP & MATERIAL HANDLING	59,825	MHRS		ZF-LB FA	0.100	5,983	264,606				264,606

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT

TYPE OF ESTIMATE: PLANNING

DATE 22-Jan-1988

PROJECT NO.: 2408-811

TIME: 16:59:50

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	5980.00	11,960	590,824				590,824
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	421,185.00	FA	0.000				421,185		421,185
	GENERAL CONDITIONS S/T						29,243	\$1,432,836	\$314,050	\$575,885		\$2,322,771
1.3.3	CONCRETE											
	GROUT DELIVERY PIPE SHIELDING	6,000	LF	130.00	ZF-LB FA	0.200	1,200	53,076		780,000		833,076
	GROUT DELIVERY PIPE SHIELDING REMOVAL & DISPOSAL	6,000	LF		ZF-LB FA	0.800	4,800	212,304				212,304
	LOAD DISTRIBUTION SYSTEM FOR PIPE/SHIELDING	6,000	LF	20.00	ZF-LB FA	0.200	1,200	53,076		120,000		173,076
	LOAD DISTRIBUTION SYSTEM FOR PIPE/SHIELDING REMOVAL & DISPOSAL	6,000	LF		ZF-LB FA	0.800	4,800	212,304				212,304
	POUR CLASS-C GROUT & CLEAN PIPE	18,000	CY	0.28	ZF-LB FA	0.920	16,560	732,449		5,040		737,489
	CONCRETE S/T						28,560	\$1,263,209		\$905,040		\$2,168,249
1.3.15	MECHANICAL											
	DOUBLE CONTAINED GROUT DELIVERY PIPE	6,000	LF	47.00	ZF-PF FA	1.200	7,200	433,944	18,000	282,000	24,000	757,944
Memo:	VALVE/MANIFOLD ASSEMBLY SELF-CONTAINED, SEALED UNIT TO MITIGATE LEAKAGE DURING GROUT PLACEMENT.	15	EA	100,000.00	ZF-PF FA	80.000	1,200	72,324		1,500,000		1,572,324
	INSTALL GROUT DROP TUBES	550	LF	20.00	ZF-PF FA	0.300	165	9,945		11,000		20,945

Rev. 8/98
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-811
 PREPARED BY: R. D. ADAMS

DATE 22-Jan-1998
 TIME: 15:59:50
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15	MECHANICAL											
	REMOVE GROUT DROP TUBES	550	LF	0.20	ZF-PF FA	2.000	1,100	66,297		110	1,100	67,507
Memo:	DELIVERY PIPE REMOVAL INCLUDES GLOVEBAG CUTS TO RAD BOX LENGTHS, HANDLING, RAD BOXES PURCHASE AND RAD BOX DISPOSAL COSTS.	6,000	LF	1.50	ZF-PF FA	1.740	10,440	629,219		9,000	90,000	728,219
Memo:	VALVE/ MANIFOLD REMOVAL INCLUDES RAD TENT, DISCONNECT FROM PIPING & PUMP, RAD BOXES, RAD BOX DISPOSAL COSTS.	15	EA	2,000.00	ZF-PF FA	480.000	7,200	433,944		30,000	150,000	613,944
	MECHANICAL S/T						27,305	\$1,645,672	\$18,000	\$1,832,110	\$265,100	\$3,760,862
1.3.16	ELECTRICAL											
	RAD MONITORS IN EXISTING LANCES	44	EA	30,000.00	ZF-EL FA	30.000	1,320	69,670		1,320,000		1,389,670
Memo:	MONITOR TANKS DURING CLASS-C GROUT POUR ASSUME READINGS TAKE TWO DAYS, ONCE A MONTH FOR 11 YEARS. CERCLA TO MONITOR AFTER TANKS ARE FILLED WITH CLASS-C GROUT.	1	LOT		Z-1732 FA	2640.00	2,640	115,289				115,289
	ELECTRICAL S/T						3,960	\$184,958		\$1,320,000		\$1,504,958
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					1,293,909	1,293,909
	PIF	1	LOT			0.000					380,578	380,578
	G&A/PIF ADDER S/T						0				\$1,674,487	\$1,674,487

Lockheed Martin Idaho Technologies Co.

Rev. 8/96

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL

FILL TANK VOID W/ CLASS-C GROUT

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-811

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 22-Jan-1998

TIME: 15:59:50

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						89,068	\$7,323,426	\$332,050	\$4,633,035	\$1,939,587	\$14,228,098

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
 FILL TANK VOID W/ CLASS-C GROUT - UNESC.
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-811
 PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
 TIME: 16:02:39

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	499,400	3.42	0	35	0.00	1.20	1.076%	2.87%	157,145	656,545
1.2.1	PROJECT MANAGEMENT	1,298,500	8.88	0	35	0.00	3.11	2.797%	7.46%	408,596	1,707,096
1.2.2	CONSTRUCTION MANAGEMENT	998,850	6.83	0	35	0.00	2.39	2.152%	5.74%	314,305	1,313,155
1.3.1	GENERAL CONDITIONS	2,351,566	16.08	0	40	0.00	6.43	5.789%	15.44%	845,670	3,197,236
1.3.3	CONCRETE	2,213,501	15.14	0	45	0.00	6.81	6.130%	16.35%	895,521	3,109,022
1.3.15	MECHANICAL	3,852,488	26.34	0	45	0.00	11.85	10.669%	28.46%	1,558,610	5,411,098
1.3.16	ELECTRICAL	1,570,958	10.74	0	45	0.00	4.83	4.351%	11.61%	635,566	2,206,524
1.5.1	G&A/PIF ADDER	1,674,487	11.45	0	40	0.00	4.58	4.122%	11.00%	602,179	2,276,666
1.5.2	PROCUREMENT FEES	163,812	1.12	0	40	0.00	0.45	0.403%	1.08%	58,910	222,722
	ESCALATION	0	0.00	0	40	0.00	0.00	0.000%	0.00%	(64)	(64)
SUBTOTAL		14,623,562	100.00					37.489%			
CALCULATED CONTINGENCY		5,482,291									
RESULTANT TEC		20,105,853									
ROUNDED TEC		20,100,000									
PROJECT CONTINGENCY		5,476,438						37.45%			
MANAGEMENT RESERVE		1,182,681									
CONTINGENCY		4,293,757									
TOTAL ESTIMATED COST		20,100,000								5,476,438	20,100,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - LLW FILL
FILL TANK VOID W/ CLASS-C GROUT - ESC.
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-811
PREPARED BY: R. D. ADAMS

DATE: 22-Jan-1998
TIME: 16:04:22

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	499,400	2.03	0	35	0.00	0.71	0.640%	1.74%	156,793	656,193
1.2.1	PROJECT MANAGEMENT	1,298,500	5.29	0	35	0.00	1.85	1.665%	4.51%	407,681	1,706,181
1.2.2	CONSTRUCTION MANAGEMENT	998,850	4.07	0	35	0.00	1.42	1.281%	3.47%	313,602	1,312,452
1.3.1	GENERAL CONDITIONS	2,351,566	9.57	0	40	0.00	3.83	3.446%	9.34%	843,777	3,195,343
1.3.3	CONCRETE	2,213,501	9.01	0	45	0.00	4.05	3.649%	9.89%	893,517	3,107,018
1.3.15	MECHANICAL	3,852,488	15.68	0	45	0.00	7.06	6.351%	17.22%	1,555,122	5,407,610
1.3.16	ELECTRICAL	1,570,958	6.39	0	45	0.00	2.88	2.590%	7.02%	634,144	2,205,102
1.5.1	G&A/PIF ADDER	1,674,487	6.82	0	40	0.00	2.73	2.454%	6.65%	600,831	2,275,318
1.5.2	PROCUREMENT FEES	163,812	0.67	0	40	0.00	0.27	0.240%	0.65%	58,778	222,590
	ESCALATION	9,944,023	40.48	0	40	0.00	16.19	14.571%	39.50%	3,568,170	13,512,193
	SUBTOTAL	24,567,585	100.00					36.887%			
	CALCULATED CONTINGENCY	9,062,139									
	RESULTANT TEC	33,629,724									
	ROUNDED TEC	33,600,000									
	PROJECT CONTINGENCY	9,032,415						36.77%			
	MANAGEMENT RESERVE	1,986,904									
	CONTINGENCY	7,045,511									
	TOTAL ESTIMATED COST	33,600,000								9,032,415	33,600,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

12/9/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-8i

PROCUREMENT FEE:

CONSTRUCTION*** =	\$5,461,837	
GFE =	\$0	
Subtotal	\$5,461,837	
FEE @ 3% =	\$5,461,837 * 0.03 =	\$163,855

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$5,461,837	
GFE =	\$0	
PROCUREMENT FEE =	\$163,855	
Subtotal	\$5,625,692	
FEE @ 23% =	\$5,625,692 * 0.23 =	\$1,293,909

PIF @ 5.5%

CONSTRUCTION =	\$5,461,837	
GFE =	\$0	
PROCUREMENT FEE =	\$163,855	
G&A =	\$1,293,909	
Subtotal	\$6,919,601	
FEE @ 5.5% =	\$6,919,601 * 0.055 =	\$380,578

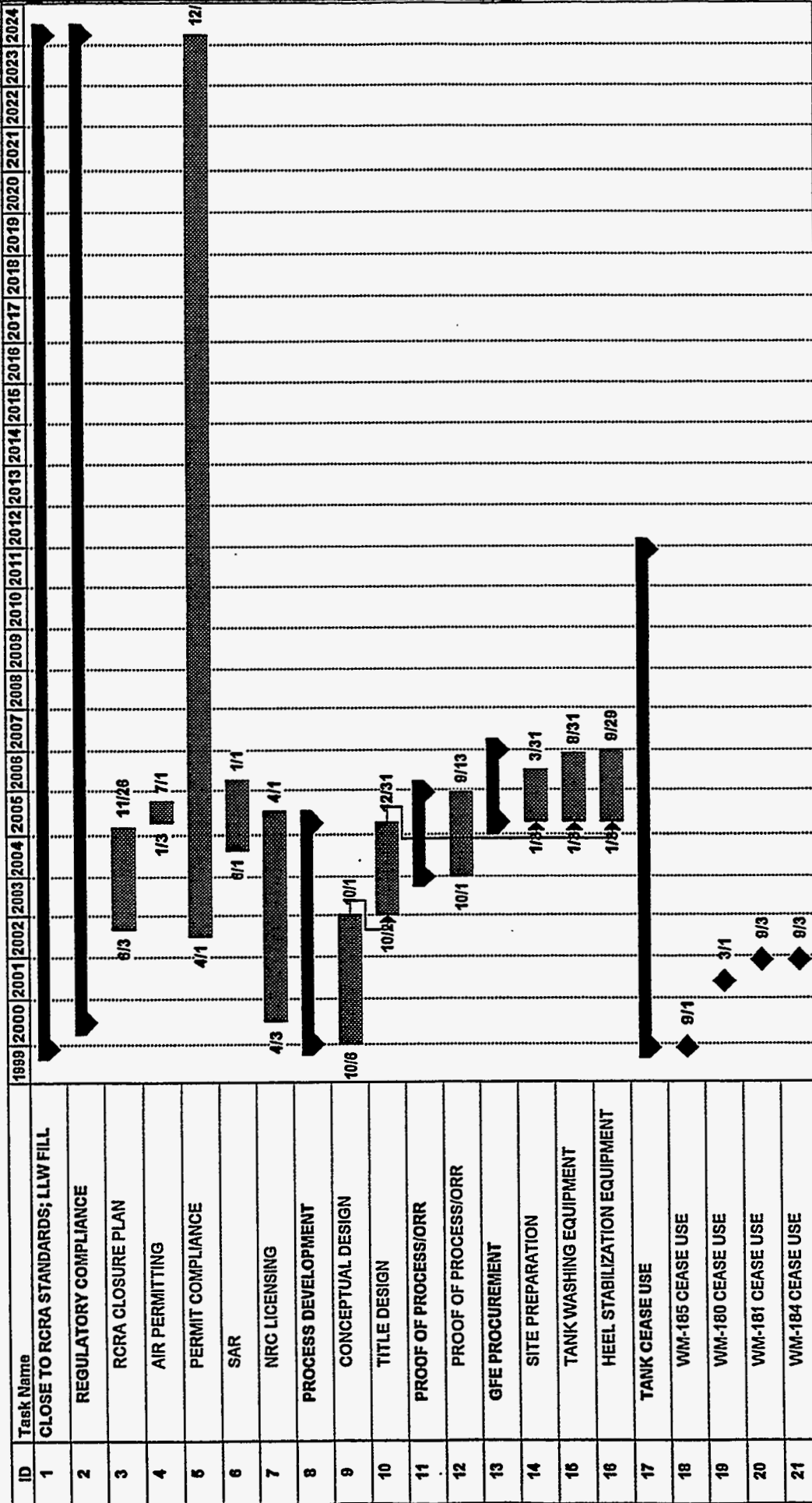
TOTAL PROCUREMENT FEE: \$163,855

TOTAL G&A FEE: \$1,293,909

TOTAL PIF: \$380,578

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

TANK FARM RCRA CLOSURE
CLOSE TO RCRA STANDARDS
LLW FILL



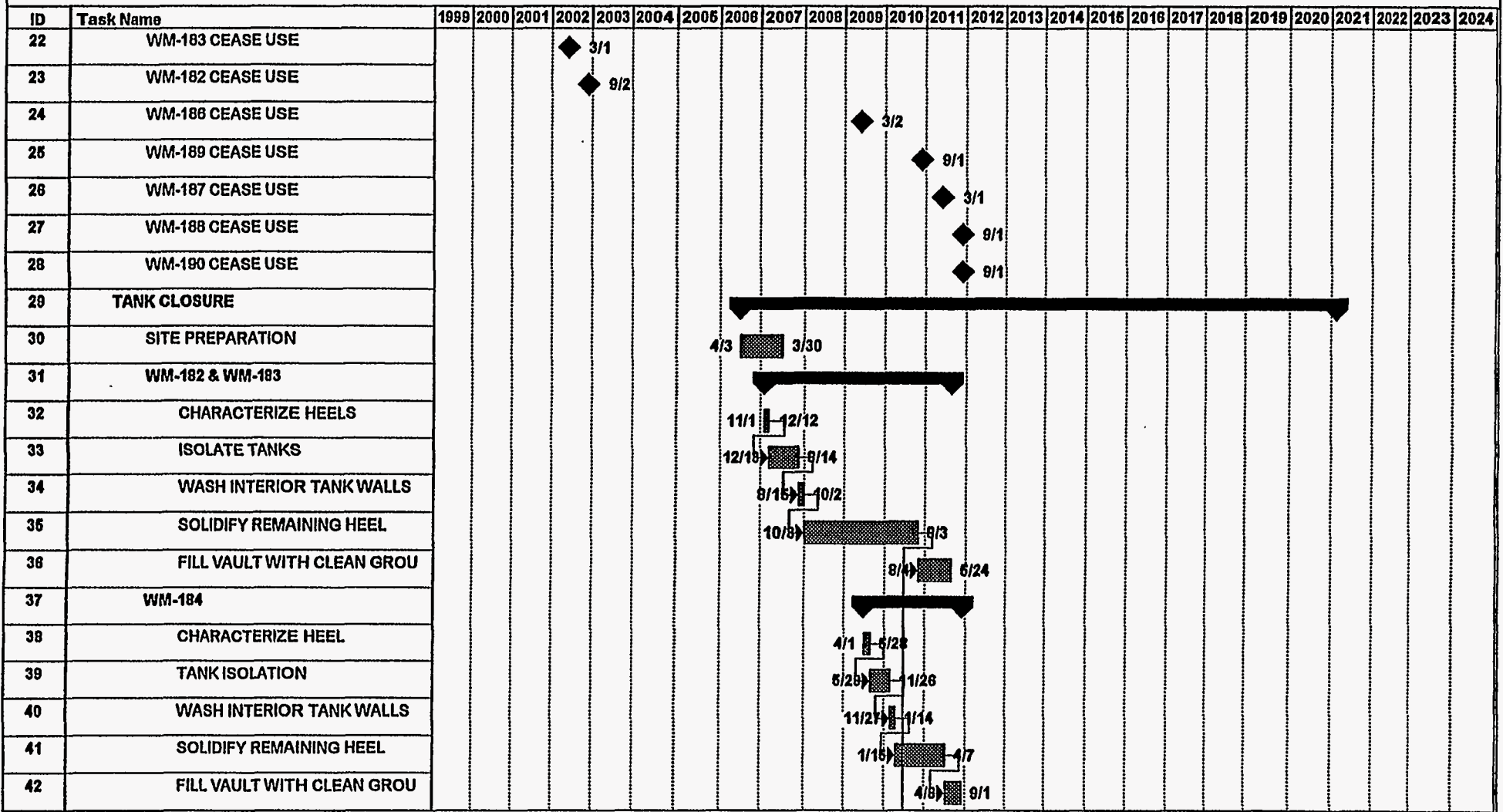
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Progress: [Progress Bar] Rolled Up Task: [Rolled Up Task Bar]

Milestone: [Milestone Diamond] Rolled Up Milestone: [Rolled Up Milestone Diamond]

Project: 2406-8.MPP
Date: Fri 1/23/98

**TANK FARM RCRA CLOSURE
CLOSE TO RCRA STANDARDS
LLW FILL**



Project: 2406-8.MPP Date: Fri 1/23/98	Task		Summary		Rolled Up Progress	
	Progress		Rolled Up Task			
	Milestone	◆	Rolled Up Milestone	◇		

TANK FARM RCRA CLOSURE
CLOSE TO RCRA STANDARDS
LLW FILL

ID	Task Name	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
43	WM-186																										
44	EQUIPMENT RELOCATION												4/1	8/23													
45	CHARACTERIZE HEEL												6/24	9/20													
46	TANK ISOLATION												8/28	9/18													
47	WASH INTERIOR TANK WALLS												2/24	4/8													
48	SOLIDIFY REMAINING HEEL												4/14	8/29													
49	FILL VAULT WITH CLEAN GROU													7/2	11/23												
50	WM-185																										
51	CHARACTERIZE HEEL													8/1	9/27												
52	TANK ISOLATION													9/28	3/27												
53	WASH INTERIOR TANK WALLS													3/28	4/15												
54	SOLIDIFY REMAINING HEEL													5/18	9/8												
55	FILL VAULT WITH CLEAN GROU														8/7	12/31											
56	WM-180																										
57	EQUIPMENT RELOCATION														9/3	11/23											
58	CHARACTERIZE HEEL														11/28	1/22											
59	TANK ISOLATION														1/28	7/23											
60	WASH INTERIOR TANK WALLS														7/24	9/10											
61	SOLIDIFY REMAINING HEEL														9/14	12/2											
62	FILL VAULT WITH CLEAN GROU															12/8	4/28										
63	WM-181																										

Project: 2408-8.MPP
Date: Fri 1/23/98

Task



Summary



Rolled Up Progress



Progress



Rolled Up Task



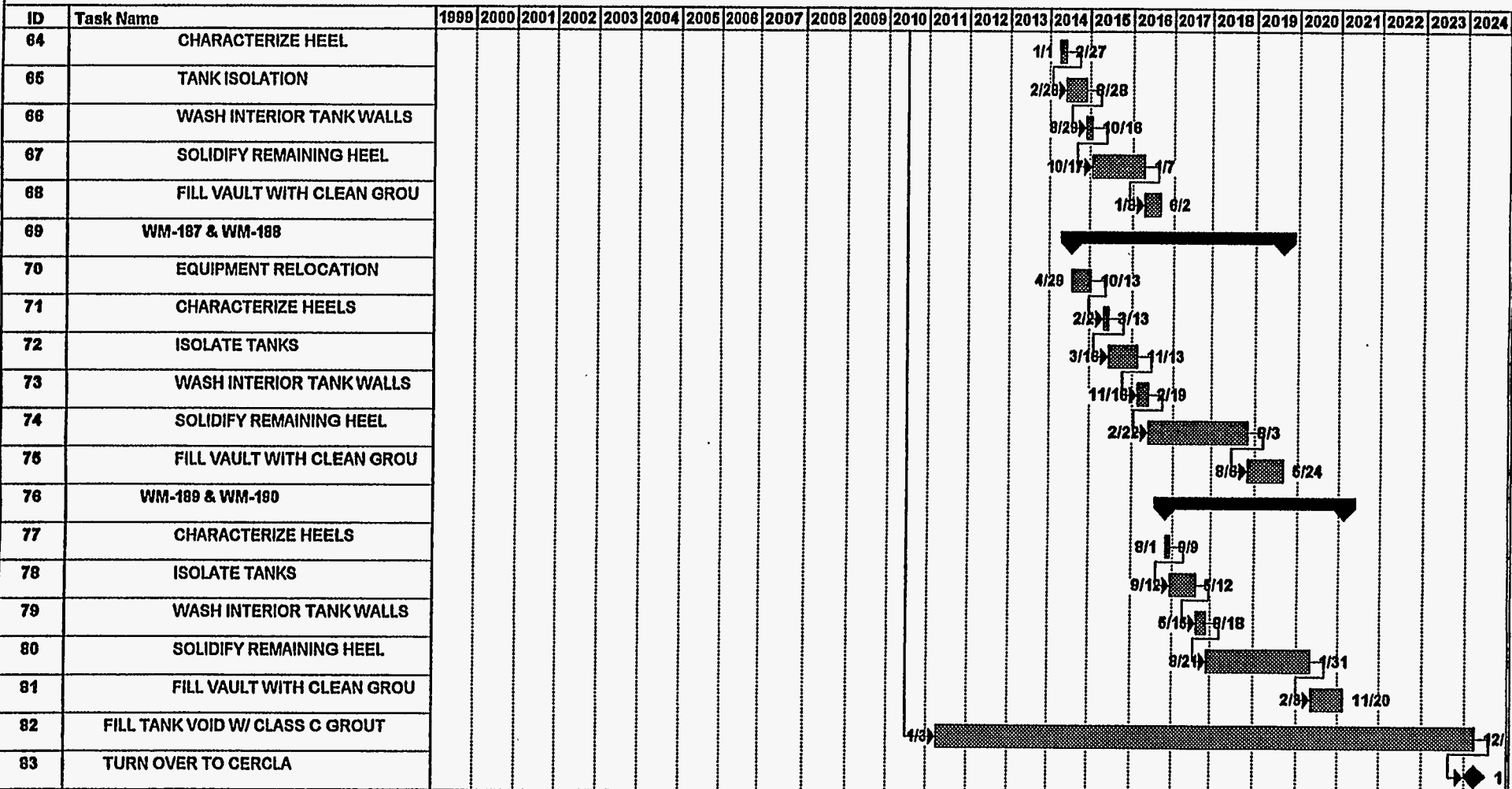
Milestone



Rolled Up Milestone



**TANK FARM RCRA CLOSURE
CLOSE TO RCRA STANDARDS
LLW FILL**



Project: 2408-8.MPP
Date: Fri 1/23/98

Task		Summary		Rolled Up Progress	
Progress		Rolled Up Task			
Milestone		Rolled Up Milestone			

Option 5

COST ESTIMATE SUMMARY

TANK FARM RCRA CLOSURE CLOSE TO RCRA LANDFILL STANDARDS CERCLA FILL REQUESTOR: B. C. SPAULDING	PLANNING ESTIMATE ESTIMATE # 2406-9 PREPARED BY: R. D. ADAMS	January 23, 1998 CHECKED BY: <i>ARM</i> APPROVED BY: <i>ES in B22</i>
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	UNESCALATED COSTS	ESCALATED COSTS
REGULATORY COMPLIANCE	\$11,500,000	\$16,100,000
DESIGN	\$18,500,000	\$20,700,000
PROOF OF PROCESS/ORR	\$8,000,000	\$9,500,000
SITE PREPARATION	\$9,300,000	\$11,900,000
CHARACTERIZE HEEL	\$1,800,000	\$2,300,000
TANK ISOLATION	\$7,700,000	\$10,200,000
WASH INTERIOR TANK WALLS	\$23,400,000	\$32,500,000
SOLIDIFY REMAINING HEEL	\$9,100,000	\$12,400,000
FILL VAULT VOIDS WITH CLEAN GROUT	\$13,900,000	\$22,400,000
FILL TANK VOIDS WITH CERCLA SOIL	\$27,900,000	\$56,900,000
TOTAL	\$131,100,000	\$194,900,000

*See the accompanying individual estimates for details.

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: CLOSE TO RCRA LANDFILL STANDARDS
CERCLA FILL

Estimator: RDA

Type of Estimate: PLANNING

Date: 1/23/98

File No: 2406-9-1

Approved By: *KRS/MB*

I. SCOPE OF WORK: *Brief description of the proposed project.*

This project will provide RCRA closure for the eleven waste storage tanks at the ICPP. The tank heels will be flushed and neutralized. Tank internals will be sprayed to remove solid contamination. The remaining heel will be stabilized with grout. The vaults will be filled with clean grout. The tank voids will be filled with CERCLA soil. Finally, the tank farm will be turned over to CERCLA to monitor.

II. BASIS OF THE ESTIMATE: *Drawings, Design Report, Engineers notes, and/or other documentation upon which the estimate is originated.*

Information contained in draft copies of the fifty- percent feasibility report and information provided by the requester were used to scope the project.

III. ASSUMPTIONS: *Condition statements accepted or supposed true without proof or demonstration. An assumption has a direct impact on total estimated cost.*

1. All of the fieldwork will be accomplished by Force Account personnel or operations personnel. LMITCO personnel will design, manage and acquire permits.
2. This estimate is intended to cover project costs from project authorization to turnover. No distinction was made for "color of money".
3. The percentages used for Design, Inspection and, to some extent, Construction Management are slightly lower than those regularly used on an effort of this size. Much of the closure involves repetitive work after filling the first tank with grout.
4. Project Management will maintain a fairly high level of involvement throughout the closure period.

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-9-1

Page 2 of 4

III. ASSUMPTIONS: (Continued)

5. The proposed schedule is:

Design -	2000 to 2005
Solidify Heel-	2005 to 2018
Fill Vault Voids with Clean Grout:	
WM-182 - 186-	2013 to 2014
Remaining Tanks-	2020 to 2021
Fill Tank Voids with CERCLA Soil:	2022 to 2029
6. Temporary construction facilities cover craft change and lunch areas, offices and warehousing.
7. Permitting assumptions: Others will accomplish the EIS. An EA will not be required in addition to the EIS. Delisting of hazards is by others. Post-closure monitoring is CERCLA's responsibility.
8. All excavated soil can be reused as backfill within the tank farm.
9. Excavation incorporates shoring to minimize exposure to contaminated dirt.
10. Much of the productivity was based on actual costs incurred on the Tank Farm Upgrades Project.
11. The 'Tank Farm Heel Removal Project' conceptual draft estimate, dated 12/19/94, was used as a reference.
12. Heel and vault grout costs are based on the "sand" grout used in the WCF Deactivation Project.
13. Grout drop tubes can be decontaminated and reused as needed.
14. Grout placement unit labor hours include time for set up and cleaning of grout equipment after each pour.
15. Heel characterization costs represent three sets of samples for each tank.

- Continued on Page 3 -

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-9-1

Page 3 of 4

III. ASSUMPTIONS: (Continued)

16. Heel flushing and riser equipment removal costs were confirmed with Dave Machovec.
17. Mounting/support frames were assumed for each piece of riser equipment to distribute their weight as well as to provide a mounting base.
18. The tank farm area enclosure is sized to cover all tanks at once with traffic lanes around.
19. Heel transfer lines will require shielding from the tanks to the appropriate valve box tie-in.
20. The clean grout pump will be staged north of tanks 185 & 186.
21. Spare equipment was estimated where needed.
22. All eleven-tank heels will be solidified before CERCLA soil placement begins.
23. Others will deliver the CERCLA soil to the tank farm containment.
24. The CERCLA soil will be mixed with a paraffin-based grout, in a facility located within the containment structure, to reduce contaminated dust.
25. A double-contained, shielded screw conveyor will be used to transport the CERCLA Soil/paraffin-based grout mixture to one tank at a time. The tanks are assumed to hold approximately 13,500 cy of soil (actual volume is about 18,000 cy).

**COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)**

File No: 2406-9-1

Page 4 of 4

IV. CONTINGENCY GUIDELINE IMPLEMENTATION: *The percentage used
For contingency as determined by the contingency allowance guidelines
can be altered to reflect the type of construction and conditions that may
impact the total estimated cost.*

At this stage of project development, there are still many unanswered questions as to interferences and working conditions. Most of the work will take place in contaminated areas. Many of the pieces of equipment are not standard and require development. The closure schedule depends on tank turnover from operations over several years. The resultant contingency is in the upper range of the percentage suggested in the INEL Cost Estimating Guide.

V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE:

1. All FY'98 and later projects are to be assessed a Procurement Fee of 3%, a G&A Fee of 23%, and a Performance Incentive Fee (PIF) of 5.5%. See the attached G&A/PIF calculation sheet for the method used to calculate these fees. These fees were applied only to material, equipment and subcontract costs. Labor unit rates used in the estimate already contain these fees.
2. Shielding at or near the tank risers may be a much larger concern than suggested in the report drafts.
3. Comments received from the design review have been incorporated into the estimates. The specific changes include increased QA title III costs, washing arm costs, wet and dry grout placement arm costs, and the removal of redundant work from the "Fill Vault With Clean Grout" estimate. Also, an estimate for Proof of Process/ORR was added.

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL REGULATORY COMPLIANCE**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9A**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **22-Jan-1998**
 TIME: **17:03:08**

CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>PERMITTING</u>			>> <u>\$10,242,938</u>
1.1.1	PERMITTING	7,264,495	2,978,443	10,242,938
<u>1.3</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$1,331,604</u>
1.3.1	PROJECT MANAGEMENT	944,400	387,204	1,331,604
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$396,746</u>
1.5.1	G&A/PIF ADDER	281,380	115,366	396,746
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
SUBTOTAL INCLUDING ESCALATION		8,490,275	3,481,013	>> \$11,971,288
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$4,128,712
TOTAL ESTIMATED COST				>> \$16,100,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 769.00%
 CONTINGENCY= 34.49%

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 REGULATORY COMPLIANCE - UNESCALATED
 LOCATION 1: INEEL/CPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9A1
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 22-Jan-1998
 TIME: 17:05:31
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	PERMITTING			>> \$7,264,495
1.1.1	PERMITTING	7,264,495	0	7,264,495
1.3	MANAGEMENT COSTS			>> \$944,400
1.3.1	PROJECT MANAGEMENT	944,400	0	944,400
1.5	G&A/PIF			>> \$281,380
1.5.1	G&A/PIF ADDER	281,380	0	281,380
1.5.2	PROCUREMENT FEES	0	0	\$0
	SUBTOTAL INCLUDING ESCALATION	8,490,275	0	>> \$8,490,275
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$3,009,725
	TOTAL ESTIMATED COST			>> \$11,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 769.00%
 CONTINGENCY= 35.45%

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	PERMITTING											
	AIR PERMITTING	1	LOT		LIMITCC	0.000					30,000	30,000
	AIR MONITORS	6	EA			0.000					720,000	720,000
	AIR MONITORING ACTIVITIES	24	MO		Z-1732	2,000	48	2,096				2,096
	AIR MONITORING LAB FEES	8	EA			0.000					16,000	16,000
	RCRA CLOSURE PLAN	2	FTE		Z-1700 LIMITCC	1500.00	3,000	193,980				193,980
	P.E. ACTIVITIES	1	LOT		LIMITCC	0.000					60,000	60,000
	CERCLA COORDINATOR	2	FTE		Z-1700 LIMITCC	39000.0	78,000	5,043,480				5,043,480
	REGULATORY AFFAIRS OVERSITE	28	YR		Z-1700 LIMITCC	150.000	3,900	252,174				252,174
	SURVEY PLAT	1	LOT		LIMITCC	0.000					10,000	10,000
	SARR	1	LOT		Z-3170	13500.0	13,500	936,765				936,765
	PERMITTING S/T						98,448	\$6,428,495			\$836,000	\$7,264,495
1.3.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		944,400				944,400
Memo:	PM @ 13% OF PERMITTING											
	PROJECT MANAGEMENT S/T						0	\$944,400				\$944,400
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					198,048	198,048
	PIF	1	LOT			0.000					58,252	58,252

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
REGULATORY COMPLIANCE

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2408-9A

PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 22-Jan-1998

TIME: 17:03:02

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.6.1	G&A/PIF ADDER PROCUREMENT FEE	1	LOT			0.000					25,080	25,080
	G&A/PIF ADDER S/T						0				\$281,380	\$281,380
	PROJECT SUBTOTAL						98,448	\$7,372,895	\$0	\$0	\$1,117,380	\$8,490,275

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL REGULATORY COMPLIANCE - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9A1**
 PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **17:05:36**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,264,495	85.56	0	40	0.00	34.23	30.803%	86.09%	2,591,176	9,855,671
1.3.1	PROJECT MANAGEMENT	944,400	11.12	20	40	2.22	4.45	3.782%	10.57%	318,144	1,262,544
1.5.1	G&A/PIF ADDER	281,380	3.31	0	40	0.00	1.33	1.193%	3.33%	100,366	381,746
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	39	39
SUBTOTAL		8,490,275	100.00					35.778%			
CALCULATED CONTINGENCY		3,037,611									
RESULTANT TEC		11,527,886									
ROUNDED TEC		11,500,000									
PROJECT CONTINGENCY		3,009,725						35.45%			
MANAGEMENT RESERVE		0									
CONTINGENCY		3,009,725									
TOTAL ESTIMATED COST		11,500,000								3,009,725	11,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.
Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL REGULATORY COMPLIANCE** TYPE OF ESTIMATE: **PLANNING**
 LOCATION 1: **INEEL/ICPP** PROJECT NO: **2406-9A**
 REQUESTOR: **B. C. SPAULDING** PREPARED BY: **R. D. ADAMS**

DATE: **22-Jan-1998**
 TIME: **17:03:15**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	7,264,495	60.68	0	.40	0.00	24.27	21.846%	63.26%	2,611,769	9,876,264
1.3.1	PROJECT MANAGEMENT	944,400	7.89	20	40	1.58	3.16	2.682%	7.77%	320,673	1,265,073
1.5.1	G&A/PIF ADDER	281,380	2.35	0	40	0.00	0.94	0.846%	2.45%	101,163	382,543
1.5.2	PROCUREMENT FEES	0	0.00	0	0	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	3,481,013	29.08	0	35	0.00	10.18	9.160%	26.52%	1,095,107	4,576,120
SUBTOTAL		11,971,288	100.00					34.534%			
CALCULATED CONTINGENCY		4,134,130									
RESULTANT TEC		16,105,418									
ROUNDED TEC		16,100,000									
PROJECT CONTINGENCY		4,128,712						34.49%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,128,712									
TOTAL ESTIMATED COST		16,100,000								4,128,712	16,100,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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G&A/PIF ADDER CALCULATION SHEET

PROCUREMENT FEE:

CONSTRUCTION =	\$836,000	
GFE =	\$0	
Subtotal	\$836,000	
FEE @ 3% =	\$836,000 * 0.03 =	\$25,080

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$836,000	
GFE =	\$0	
PROCUREMENT FEE =	\$25,080	
Subtotal	\$861,080	
FEE @ 23% =	\$861,080 * 0.23 =	\$198,048

PIF @ 5.5%

CONSTRUCTION =	\$836,000	
GFE =	\$0	
PROCUREMENT FEE =	\$25,080	
G&A =	\$198,048	
Subtotal	\$1,059,128	
FEE @ 5.5% =	\$1,059,128 * 0.055 =	\$58,252

TOTAL PROCUREMENT FEE:	\$25,080
TOTAL G&A FEE:	\$198,048
TOTAL PIF:	\$58,252

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL, DESIGN - ESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9B1
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
 TIME: 11:54:05

CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN			>> \$11,160,923
1.1.1	CONCEPTUAL DESIGN	2,906,530	232,522	3,139,052
1.1.2	TITLE DESIGN	6,975,540	1,046,331	8,021,871
1.2	MANAGEMENT COSTS			>> \$4,106,112
1.2.1	PROJECT MANAGEMENT	3,699,200	406,912	4,106,112
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		13,581,270	1,685,765	>> \$15,267,035
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$5,432,965
TOTAL ESTIMATED COST				>> \$20,700,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= *** **%
 CONTINGENCY= 35.59%

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL DESIGN - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9B1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **11:52:27**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN</u>			>> <u>\$9,882,070</u>
1.1.1	CONCEPTUAL DESIGN	2,906,530	0	2,906,530
1.1.2	TITLE DESIGN	6,975,540	0	6,975,540
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,699,200</u>
1.2.1	PROJECT MANAGEMENT	3,699,200	0	3,699,200
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
SUBTOTAL INCLUDING ESCALATION		13,581,270	0	>> \$13,581,270
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$4,918,730
TOTAL ESTIMATED COST				>> \$18,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= *****.***%**
 CONTINGENCY= **36.22%**

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL DESIGN

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO: 2406-9B1

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 11:51:34

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	CONCEPTUAL DESIGN											
Memo:	CONCEPTUAL DESIGN/PROCEDURE DEVELOPMENT @ 5% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		2,642,300				2,642,300
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		264,230				264,230
	CONCEPTUAL DESIGN S/T						0	\$2,906,530				\$2,906,530
1.1.2	TITLE DESIGN											
Memo:	TITLE DESIGN/PROCEDURE DEVELOPMENT @ 12% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		6,341,400				6,341,400
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		634,140				634,140
	TITLE DESIGN S/T						0	\$6,975,540				\$6,975,540
1.2.1	PROJECT MANAGEMENT											
Memo:	DESIGN PROJECT MANAGEMENT @ 7% OF CONSTRUCTION PLUS GEE	1	LOT			0.000		3,699,200				3,699,200
	PROJECT MANAGEMENT S/T						0	\$3,699,200				\$3,699,200
	PROJECT SUBTOTAL						0	\$13,581,270	\$0	\$0	\$0	\$13,581,270

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL** TYPE OF ESTIMATE: **PLANNING**
 DESIGN - UNESCALATED PROJECT NO: **2406-9B1**
 LOCATION 1: **INEL/ICPP** PREPARED BY: **R. D. ADAMS**
 REQUESTOR: **B. C. SPAULDING**

DATE: **23-Jan-1998**
 TIME: **11:52:33**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,906,530	21.40	0	40	0.00	8.56	7.704%	21.40%	1,052,658	3,959,188
1.1.2	TITLE DESIGN	6,975,540	51.36	0	40	0.00	20.54	18.490%	51.36%	2,526,332	9,501,872
1.2.1	PROJECT MANAGEMENT	3,699,200	27.24	0	40	0.00	10.90	9.806%	27.24%	1,339,740	5,038,940
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		13,581,270	100.00					35.000%			
CALCULATED CONTINGENCY		4,889,257									
RESULTANT TEC		18,470,527									
ROUNDED TEC		18,500,000									
PROJECT CONTINGENCY		4,918,730						35.22%			
MANAGEMENT RESERVE		0									
CONTINGENCY		4,918,730									
TOTAL ESTIMATED COST		18,500,000								4,918,730	18,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 DESIGN - ESCALATED
 LOCATION 1: INEEL/CPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9B1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 11:54:10

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,906,530	19.04	0	40	0.00	7.62	6.854%	19.30%	1,048,804	3,955,334
1.1.2	TITLE DESIGN	6,975,540	45.69	0	40	0.00	18.28	16.448%	46.33%	2,517,083	9,492,623
1.2.1	PROJECT MANAGEMENT	3,699,200	24.23	0	40	0.00	9.69	8.723%	24.57%	1,334,835	5,034,035
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	1,685,765	11.04	0	35	0.00	3.86	3.478%	9.80%	532,243	2,218,008
SUBTOTAL		15,267,035	100.00					35.503%			
CALCULATED CONTINGENCY		5,420,273									
RESULTANT TEC		20,687,308									
ROUNDED TEC		20,700,000									
PROJECT CONTINGENCY		5,432,965						35.59%			
MANAGEMENT RESERVE		0									
CONTINGENCY		5,432,965									
TOTAL ESTIMATED COST		20,700,000								5,432,965	20,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
 - Conceptual 15% - 25%
- TITLE I Experimental/Special Conditions.....Up to 40%
- TITLE II 10% - 20%
- TITLE II/AFC 5% - 15%
- Market Conditions

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL PROOF OF PROCESS/ORR - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9CA**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **08:09:51**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$263,466</u>
1.1.2	TITLE III INSPECTION	221,400	42,066	263,466
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$922,964</u>
1.2.1	PROJECT MANAGEMENT	575,600	109,364	684,964
1.2.2	CONSTRUCTION MANAGEMENT	200,000	38,000	238,000
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$5,269,141</u>
1.3.1	GENERAL	4,427,850	841,291	5,269,141
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$488,834</u>
1.5.1	G&A/PIF ADDER	410,785	78,049	488,834
1.5.2	PROCUREMENT FEES	78,816	14,975	<u>\$93,791</u>
	SUBTOTAL INCLUDING ESCALATION	5,914,451	1,123,745	>> \$7,038,196
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$585,177
	CONTINGENCY			>> \$1,876,627
	TOTAL ESTIMATED COST			>> \$9,500,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 34.98%

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
PROOF OF PROCESS/ORR - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-9CA
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
TIME: 08:08:12
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$221,400
1.1.2	TITLE III INSPECTION	221,400	0	221,400
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> \$775,600
1.2.1	PROJECT MANAGEMENT	575,600	0	575,600
1.2.2	CONSTRUCTION MANAGEMENT	200,000	0	200,000
<u>1.3</u>	<u>CONSTRUCTION</u>			>> \$4,427,850
1.3.1	GENERAL	4,427,850	0	4,427,850
<u>1.5</u>	<u>G&A/PIF</u>			>> \$410,785
1.5.1	G&A/PIF ADDER	410,785	0	410,785
1.5.2	PROCUREMENT FEES	78,816	0	>> \$78,816
	SUBTOTAL INCLUDING ESCALATION	5,914,451	0	>> \$5,914,451
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$491,745
	CONTINGENCY			>> \$1,593,804
	TOTAL ESTIMATED COST			>> \$8,000,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 5.00%
CONTINGENCY= 35.26%

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9CA

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 08:01:40

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
00201000	Inspection and Overview	1	LOT			0.000		221,400				221,400
Memo:	0.5% OF CONSTRUCTION PLUS GFE											
	TITLE III INSPECTION S/T						0	\$221,400				\$221,400
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		575,600				575,600
Memo:	0.13% OF CONSTRUCTION PLUS GFE											
	PROJECT MANAGEMENT S/T						0	\$575,600				\$575,600
1.2.2	CONSTRUCTION MANAGEMENT											
	CM	1	LOT			0.000		200,000				200,000
Memo:	0.10% OF CONSTRUCTION											
	CONSTRUCTION MANAGEMENT S/T						0	\$200,000				\$200,000
1.3.1	GENERAL											
	MOCKUP AND TESTING	1	LOT		FA	0.000					2,000,000	2,000,000
	ORR & OTHER TEST REPORTS	1	LOT		FA	0.000		1,000,000				1,000,000
	GENERAL S/T						0	\$1,000,000			\$2,000,000	\$3,000,000
1.2.1.1	MIXING & PLACING SYSTEM											
	PROOF OF PROCESS ON MIXING & PLACING SYSTEM	5	FTE	120,000.00	Z-4580	2250.00	11,250	797,850		600,000		1,397,850

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL

PROOF OF PROCESS/ÓRR

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9CA

PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 23-Jan-1998

TIME: 08:01:40

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.2.1.1	MIXING & PLACING SYSTEM											
	MIXING & PLACING SYSTEM S/T						11,250	\$797,850		\$600,000		\$1,397,850
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					248,147	248,147
	PIF	1	LOT			0.000					162,638	162,638
	G&A/PIF ADDER S/T						.0				\$410,785	\$410,785
	PROJECT SUBTOTAL						11,250	\$2,794,850	\$0	\$600,000	\$2,410,785	\$5,805,635

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL PROOF OF PROCESS/ORR - UNESCALATED**
 LOCATION 1: **INEEL/CPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9CA**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **08:08:17**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	221,400	3.74	0	40	0.00	1.50	1.348%	3.74%	78,070	299,470
1.2.1	PROJECT MANAGEMENT	575,600	9.73	0	40	0.00	3.89	3.504%	9.73%	202,968	778,568
1.2.2	CONSTRUCTION MANAGEMENT	200,000	3.38	0	40	0.00	1.35	1.217%	3.38%	70,524	270,524
1.3.1	GENERAL	4,427,850	74.86	0	40	0.00	29.95	26.951%	74.86%	1,561,345	5,989,195
1.5.1	G&A/PIF ADDER	410,785	6.95	0	40	0.00	2.78	2.500%	6.95%	144,851	555,636
1.5.2	PROCUREMENT FEES	78,816	1.33	0	40	0.00	0.53	0.480%	1.33%	27,792	106,608
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(1)	(1)
SUBTOTAL		5,914,451	100.00					35.000%			
CALCULATED CONTINGENCY		2,129,202									
RESULTANT TEC		8,043,653									
ROUNDED TEC		8,000,000									
PROJECT CONTINGENCY		2,085,549						35.26%			
MANAGEMENT RESERVE		491,745									
CONTINGENCY		1,593,804									
TOTAL ESTIMATED COST		8,000,000								2,085,549	8,000,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
PROOF OF PROCESS/ORR - ESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9CA**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **08:09:57**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	221,400	3.15	0	40	0.00	1.26	1.132%	3.21%	79,017	300,417
1.2.1	PROJECT MANAGEMENT	575,600	8.18	0	40	0.00	3.27	2.944%	8.34%	205,429	781,029
1.2.2	CONSTRUCTION MANAGEMENT	200,000	2.84	0	40	0.00	1.14	1.023%	2.90%	71,379	271,379
1.3.1	GENERAL	4,427,850	62.91	0	40	0.00	25.16	22.648%	64.19%	1,580,261	6,008,131
1.5.1	G&A/PIF ADDER	410,785	5.84	0	40	0.00	2.33	2.101%	5.96%	146,607	557,392
1.5.2	PROCUREMENT FEES	78,816	1.12	0	40	0.00	0.45	0.403%	1.14%	28,129	106,945
	ESCALATION	1,123,745	15.97	0	35	0.00	5.59	5.029%	14.25%	350,962	1,474,707
SUBTOTAL		7,038,196	100.00					35.282%			
CALCULATED CONTINGENCY		2,483,182									
RESULTANT TEC		9,521,378									
ROUNDED TEC		9,500,000									
PROJECT CONTINGENCY		2,461,804						34.98%			
MANAGEMENT RESERVE		585,177									
CONTINGENCY		1,876,627									
TOTAL ESTIMATED COST		9,500,000								2,461,804	9,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

2406-9CA

PROCUREMENT FEE:

CONSTRUCTION =	\$2,630,000		
GFE =			
Subtotal	<u>\$2,630,000</u>		
FEE @ 3% =	\$2,630,000	* 0.03 =	\$78,900

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 2 YEARS =	\$1,000,000		
GFE =	\$0		
PROCUREMENT FEE =	\$78,900		
Subtotal	<u>\$1,078,900</u>		
FEE @ 23% =	\$1,078,900	* 0.23 =	\$248,147

PIF @ 5.5%

CONSTRUCTION =	\$2,630,000		
GFE =	\$0		
PROCUREMENT FEE =	\$78,900		
G&A =	\$248,147		
Subtotal	<u>\$2,957,047</u>		
FEE @ 5.5% =	\$2,957,047	* 0.055 =	\$162,638

TOTAL PROCUREMENT FEE: \$78,900

TOTAL G&A FEE: \$248,147

TOTAL PIF: \$162,638

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9C
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
 TIME: 08:14:11

CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$322,371</u>
1.1.2	TITLE III INSPECTION	249,900	72,471	322,371
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,367,013</u>
1.2.1	PROJECT MANAGEMENT	649,900	188,471	838,371
1.2.2	CONSTRUCTION MANAGEMENT	409,800	118,842	528,642
1.3	<u>CONSTRUCTION</u>			>> <u>\$5,286,541</u>
1.3.1	GENERAL CONDITIONS	1,153,937	334,642	1,488,579
1.3.2	SITWORK	118,825	34,459	153,284
1.3.3	CONCRETE	18,433	5,345	23,778
1.3.13	SPECIAL CONSTRUCTION	1,882,914	546,045	2,428,959
1.3.15	MECHANICAL	549,490	159,352	708,842
1.3.16	ELECTRICAL	374,495	108,604	483,099
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$1,162,161</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	261,261	1,162,161
1.5	<u>G&A/PIF</u>			>> <u>\$672,019</u>
1.5.1	G&A/PIF ADDER	520,945	151,074	672,019
1.5.2	PROCUREMENT FEES	111,977	32,473	144,450
SUBTOTAL INCLUDING ESCALATION		6,941,516	2,013,039	>> \$8,954,555
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$726,517
CONTINGENCY				>> \$2,218,928
TOTAL ESTIMATED COST				>> \$11,900,000

PROJECT COST PARAMETERS

EDI AS-A % OF CONST. + GFE= 5.00%

CONTINGENCY= 32.89%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SITE PREPARATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9C**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **08:12:09**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$249,900
1.1.2	TITLE III INSPECTION	249,900	0	249,900
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,059,700
1.2.1	PROJECT MANAGEMENT	649,900	0	649,900
1.2.2	CONSTRUCTION MANAGEMENT	409,800	0	409,800
1.3	<u>CONSTRUCTION</u>			>> \$4,098,094
1.3.1	GENERAL CONDITIONS	1,153,937	0	1,153,937
1.3.2	SITework	118,825	0	118,825
1.3.3	CONCRETE	18,433	0	18,433
1.3.13	SPECIAL CONSTRUCTION	1,882,914	0	1,882,914
1.3.15	MECHANICAL	549,490	0	549,490
1.3.16	ELECTRICAL	374,495	0	374,495
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$900,900
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	0	900,900
1.5	<u>G&A/PIF</u>			>> \$520,945
1.5.1	G&A/PIF ADDER	520,945	0	520,945
1.5.2	PROCUREMENT FEES	111,977	0	>> \$111,977
	SUBTOTAL INCLUDING ESCALATION	6,941,516	0	>> \$6,941,516
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$563,192
	CONTINGENCY			>> \$1,795,292
	TOTAL ESTIMATED COST			>> \$9,300,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **33.98%**

DETAILED COST ESTIMATE SHEET

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL

TYPE OF ESTIMATE: PLANNING

DATE: 23-Jan-1998

SITE PREPARATION

PROJECT NO.: 2406-9C

TIME: 08:11:11

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000 Memo:	TITLE III INSPECTION Inspection and Overview @ 5% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		249,900				249,900
	TITLE III INSPECTION S/T						0	\$249,900				\$249,900
1.2.1 Memo:	PROJECT MANAGEMENT PM @ 13% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		649,900				649,900
	PROJECT MANAGEMENT S/T						0	\$649,900				\$649,900
1.2.2 Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		409,800				409,800
	CONSTRUCTION MANAGEMENT S/T						0	\$409,800				\$409,800
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	1600.00	1,600	80,800				80,800
	MOB/DEMOB	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE FA	65.000	650	33,651				33,651
	SMALL TOOLS & CONSUMABLES	1	LOT	43,700.00		0.000				43,700		43,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	800.000	800	41,416	44,000			85,416
	RAD TENTS	15	EA	5,000.00		0.000				75,000		75,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SITE PREPARATION

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

LOCATION 1: INEEL/ICPP

PROJECT NO.: 2406-9C

TIME: 08:11:11

REQUESTOR: B. C. SPAULDING

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS MISC. EQUIPMENT	1	LOT			0.000			40,400			40,400
	CLEANUP & MATERIAL HANDLING	16,147	MHRS		EA ZF-LB	0.100	1,615	71,418				71,418
	RADCON TECH SUPPORT	2	FTE		EA Z-1342	1600.00	3,200	158,080				158,080
	TEMPORARY CONSTRUCTION FACILITIES	1	LOT			0.000					500,000	500,000
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	32,050.00		0.000				32,050		32,050
	GENERAL CONDITIONS S/T						8,365	\$411,250	\$84,400	\$150,750	\$500,000	\$1,146,400
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	UTILITY EARTHWORK TRENCH, BACKFILL & STOCKPILE	1,000	CY	1.00	ZF-OE EA	1.850	1,850	95,775	22,000	1,000		118,775
	UTILITY EARTHWORK S/T						1,850	\$95,775	\$22,000	\$1,000		\$118,775
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	PENETRATIONS VALVE BOX PENETRATIONS FOR UTILITIES	5	EA	500.00	ZF-LB EA	50.000	250	11,058	1,250	2,500		14,808

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 SITE PREPARATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-9C
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 08:11:11
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	PENETRATIONS											
	PENETRATIONS S/T						250	\$11,058	\$1,250	\$2,500		\$14,808
1.3.3.2	VOG BLOWER PAD											
	CONCRETE PAD FOR ENCLOSURE	10	CY		EA	0.000					3,500	3,500
	VOG BLOWER PAD S/T						0				\$3,500	\$3,500
1.3.13	SPECIAL CONSTRUCTION											
	CONTAMINATED EQUIPMENT STORAGE BUNKER	600	SF		ZF-CP EA	0.000					60,000	60,000
	DECON/SIZING AREA W/IN ENCLOSURE	1,500	SF		EA	0.000					75,000	75,000
	VOG BLOWER ENCLOSURE	200	SF		EA	0.000					12,000	12,000
	TANK FARM AREA ENCLOSURE ("SPRUNG" STRUCTURE)	55,000	SF		EA	0.000					1,650,000	1,650,000
	TANK FARM AREA ENCLOSURE RELOCATION	3	EA	2,000.00	ZF-LB EA	600.000	1,800	79,614		6,000		85,614
	SPECIAL CONSTRUCTION S/T						1,800	\$79,614		\$6,000	\$1,797,000	\$1,882,614
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	UTILITIES											
	UTILITY PIPING - ALLOW	1,900	LF	13.00	ZF-PF EA	0.500	950	57,257	2,375	24,700		84,332

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL

SITE PREPARATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9C

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 23-Jan-1998

TIME: 08:11:11

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	UTILITIES TEMPORARY UTILITY HOSES & FITTINGS	1	LOT	2,000.00		0.000				2,000		2,000
	UTILITIES S/T						950	\$57,257	\$2,375	\$26,700		\$86,332
1.3.15.2	VOG MOVE & SET UP VOG FILTER SKID	7	EA		ZF-OE EA	120.000	840	43,487				43,487
	1 HP VOG BLOWERS	2	EA	3,100.00	ZF-SM EA	40.000	80	4,144		6,200		10,344
	PIPING MAIN	300	LF	80.00	ZF-PF EA	1.400	420	25,313	1,050	24,000		50,363
	PURCHASE SECONDARY LINE	280	LF	80.00		0.000				22,400		22,400
	INSTALL(MOVE) SECONDARY LINE	370	LF		ZF-PF EA	1.200	444	26,760	1,110			27,870
	PURCHASE 2"X4" DBL ENCASED CONDENSATE LINE	80	LF	110.00		0.000				8,800		8,800
	INSTALL/MOVE CONDENSATE LINE	80	LF		ZF-PF EA	2.900	232	13,983	580			14,563
	TAP PLA LINES FOR CONDENSATE	7	EA		ZF-PF EA	80.000	560	33,751	1,400			35,151
	PURCHASE TANK-TO-SKID 4"X6" DBL ENCASED LINE	300	LF	160.00		0.000				48,000		48,000
	INSTALL/MOVE TANK-TO-SKID DBL ENCASED LINES	830	LF		ZF-PF EA	3.750	3,113	187,590	7,785			195,376
	VOG S/T						5,689	\$335,028	\$11,925	\$109,400		\$456,354
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SITE PREPARATION**

LOCATION 1: **INEEL/ICPP**

REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**

PROJECT NO.: **2406-9C**

PREPARED BY: **R. D. ADAMS**

PAGE # **5**

DATE **23-Jan-1998**

TIME: **08:11:11**

REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	TEMPORARY POWER											
	HOOK UP CONTROL TRAILERS	1	LOT	20,000.00	ZF-EL FA	250.000	250	13,195		20,000		33,195
	MCC'S & MISC ELEC EQUIPMENT	1	LOT	61,000.00	ZF-EL FA	350.000	350	18,473		61,000		79,473
	CABLE & DUCT	7,000	LF	2.70	ZF-EL FA	0.044	308	16,256		18,900		35,156
	REMOVE & RECONNECT POWER TO VOG EQUIPMENT	7	EA		ZF-EL FA	600.000	4,200	221,676				221,676
	TEMPORARY POWER S/T						5,108	\$269,600		\$99,900		\$369,500
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	VOG SKID W/ FILTERS, DEMISTER, ETC.	2	EA	320,000.00	FA	0.000				640,000		640,000
	MCC/CONTROL/CCTV CONTROL & TRAILER	2	EA	70,000.00	FA	0.000				140,000		140,000
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	78,000.00	FA	0.000				78,000		78,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$858,000		\$858,000
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					292,993	292,993
	PIF	1	LOT			0.000					227,952	227,952
	G&A/PIF ADDER S/T						0				\$520,945	\$520,945

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SITE PREPARATION

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2408-9C
PREPARED BY: R. D. ADAMS

PAGE # 6

DATE 23-Jan-1998
TIME 08:11:11
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						24,011	\$2,569,181	\$121,950	\$1,254,250	\$2,821,445	\$6,766,826

CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL TYPE OF ESTIMATE: PLANNING
 SITE PREPARATION - UNESCALATED PROJECT NO: 2406-9C
 LOCATION 1: INEEL/ICPP PREPARED BY: R. D. ADAMS
 REQUESTOR: B. C. SPAULDING

DATE: 23-Jan-1998
 TIME: 08:12:14

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	249,900	3.60	0	40	0.00	1.44	1.296%	3.88%	91,396	341,296
1.2.1	PROJECT MANAGEMENT	649,900	9.36	0	40	0.00	3.75	3.371%	10.08%	237,689	887,589
1.2.2	CONSTRUCTION MANAGEMENT	409,800	5.90	0	40	0.00	2.36	2.125%	6.35%	149,877	559,677
1.3.1	GENERAL CONDITIONS	1,153,937	16.62	0	40	0.00	6.65	5.985%	17.89%	422,032	1,575,969
1.3.2	SITWORK	118,825	1.71	0	40	0.00	0.68	0.616%	1.84%	43,458	162,283
1.3.3	CONCRETE	18,433	0.27	0	40	0.00	0.11	0.096%	0.29%	6,742	25,175
1.3.13	SPECIAL CONSTRUCTION	1,882,914	27.13	0	30	0.00	8.14	7.324%	21.90%	516,461	2,399,395
1.3.15	MECHANICAL	549,490	7.92	0	50	0.00	3.96	3.562%	10.65%	251,208	800,698
1.3.16	ELECTRICAL	374,495	5.40	0	35	0.00	1.89	1.699%	5.08%	119,844	494,339
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	12.98	0	35	0.00	4.54	4.088%	12.22%	288,302	1,189,202
1.5.1	G&A/PIF ADDER	520,945	7.50	0	40	0.00	3.00	2.702%	8.08%	190,526	711,471
1.5.2	PROCUREMENT FEES	111,977	1.61	0	40	0.00	0.65	0.581%	1.74%	40,954	152,931
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(25)	(25)
SUBTOTAL		6,941,516	100.00					33.444%			
CALCULATED CONTINGENCY.		2,321,545									
RESULTANT TEC		9,263,061									
ROUNDED TEC		9,300,000									
PROJECT CONTINGENCY		2,358,484						33.98%			
MANAGEMENT RESERVE		563,192									
CONTINGENCY		1,795,292									
TOTAL ESTIMATED COST		9,300,000								2,358,484	9,300,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co: Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.
 PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - -15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL**
SITE PREPARATION - ESCALATED
 LOCATION 1: **INEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9C**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **08:14:17**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	249,900	2.79	0	40	0.00	1.12	1.005%	3.04%	89,654	339,554
1.2.1	PROJECT MANAGEMENT	649,900	7.26	0	40	0.00	2.90	2.613%	7.92%	233,158	883,058
1.2.2	CONSTRUCTION MANAGEMENT	409,800	4.58	0	40	0.00	1.83	1.648%	4.99%	147,020	556,820
1.3.1	GENERAL CONDITIONS	1,153,937	12.89	0	40	0.00	5.15	4.639%	14.06%	413,986	1,567,923
1.3.2	SITWORK	118,825	1.33	0	40	0.00	0.53	0.478%	1.45%	42,630	161,455
1.3.3	CONCRETE	18,433	0.21	0	40	0.00	0.08	0.074%	0.22%	6,613	25,046
1.3.13	SPECIAL CONSTRUCTION	1,882,914	21.03	0	30	0.00	6.31	5.577%	17.20%	506,635	2,389,549
1.3.15	MECHANICAL	549,490	6.14	0	50	0.00	3.07	2.761%	8.37%	246,418	795,908
1.3.16	ELECTRICAL	374,495	4.18	0	35	0.00	1.46	1.317%	3.99%	117,559	492,054
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	10.06	0	35	0.00	3.52	3.169%	9.60%	282,806	1,183,706
1.5.1	G&A/PIF ADDER	520,945	5.82	0	40	0.00	2.33	2.094%	6.35%	186,894	707,839
1.5.2	PROCUREMENT FEES	111,977	1.25	0	40	0.00	0.50	0.450%	1.36%	40,173	152,150
	ESCALATION	2,013,039	22.48	0	35	0.00	7.87	7.081%	21.45%	631,899	2,644,938
	SUBTOTAL	8,954,555	100.00					33.007%			
	CALCULATED CONTINGENCY	2,955,652									
	RESULTANT TEC	11,910,207									
	ROUNDED TEC	11,900,000									
	PROJECT CONTINGENCY	2,945,445						32.89%			
	MANAGEMENT RESERVE	726,517									
	CONTINGENCY	2,218,928									
	TOTAL ESTIMATED COST	11,900,000								2,945,445	11,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE:

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

1/23/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-9C

PROCUREMENT FEE:

CONSTRUCTION ***=	\$2,838,513		
GFE =	\$900,900		
Subtotal	\$3,739,413		
 FEE @ 3% =	 \$3,739,413	 * 0.03 =	 \$112,182

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 1 YEAR =	\$500,000 *		
GFE =	\$661,700 **		
PROCUREMENT FEE =	\$112,182		
Subtotal	\$1,273,882		
 FEE @ 23% =	 \$1,273,882	 * 0.23 =	 \$292,993

PIF @ 5.5%

CONSTRUCTION =	\$2,838,513		
GFE =	\$900,900		
PROCUREMENT FEE =	\$112,182		
G&A =	\$292,993		
Subtotal	\$4,144,588		
 FEE @ 5.5% =	 \$4,144,588	 * 0.055 =	 \$227,952

TOTAL PROCUREMENT FEE:	\$112,182
TOTAL G&A FEE:	\$292,993
TOTAL PIF:	\$227,952

*The \$500,000 ceiling on construction will be imposed since this activity will need to be completed within one year.

**The \$500,000 ceiling on any one contract will be imposed for the two VOG skids.

****"Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL CHARACTERIZATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9D1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **08:50:33**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$1,277,100
1.3.1	GENERAL CONDITIONS	990,000	287,100	1,277,100
1.5	G&A/PIF			>> \$391,533
1.5.1	G&A/PIF ADDER	303,514	88,019	391,533
1.5.2	PROCUREMENT FEES	29,700	8,613	>> \$38,313
	SUBTOTAL INCLUDING ESCALATION	1,323,214	383,732	>> \$1,706,946
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$593,054
	TOTAL ESTIMATED COST			>> \$2,300,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **0.00%**
 CONTINGENCY= **34.74%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL CHARACTERIZATION - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9D1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **08:48:57**
 CHECKED BY: *[Signature]*
 APPROD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$990,000
1.3.1	GENERAL CONDITIONS	990,000	0	990,000
1.5	G&A/PIF			>> \$303,514
1.5.1	G&A/PIF ADDER	303,514	0	303,514
1.5.2	PROCUREMENT FEES	29,700	0	>> \$29,700
	SUBTOTAL INCLUDING ESCALATION	1,323,214	0	>> \$1,323,214
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$476,786
	TOTAL ESTIMATED COST			>> \$1,800,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **0.00%**
 CONTINGENCY= **36.03%**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO: 2406-9D1

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 08:48:06

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
Memo:	HEEL CHARACTERIZATION PULL 3 SAMPLES PER TANK X 11 TANKS.	33	EA			0.000					990,000	990,000
	GENERAL CONDITIONS S/T						0				\$990,000	\$990,000
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					234,531	234,531
	PIF	1	LOT			0.000					68,983	68,983
	G&A/PIF ADDER S/T						0				\$303,514	\$303,514
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$1,293,514	\$1,293,514

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL CHARACTERIZATION - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9D1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **08:49:03**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	990,000	74.82	0	40	0.00	29.93	26.934%	74.82%	356,721	1,346,721
1.5.1	G&A/PIF ADDER	303,514	22.94	0	40	0.00	9.18	8.258%	22.94%	109,363	412,877
1.5.2	PROCUREMENT FEES	29,700	2.24	0	40	0.00	0.90	0.808%	2.24%	10,702	40,402
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		1,323,214	100.00					36.000%			
CALCULATED CONTINGENCY		476,357									
RESULTANT TEC		1,799,571									
ROUNDED TEC		1,800,000									
PROJECT CONTINGENCY		476,786						36.03%			
MANAGEMENT RESERVE		0									
CONTINGENCY		476,786									
TOTAL ESTIMATED COST		1,800,000								476,786	1,800,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30%</p> <p>Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25%</p> <p>Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20%</p> <p>TITLE II 5% - 15%</p> <p>TITLE III/AFC Market Conditions</p>
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CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL CHARACTERIZATION - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-9D1
PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
TIME: 08:50:38

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	990,000	58.00	0	40	0.00	23.20	20.873%	59.68%	353,910	1,343,910
1.5.1	G&A/PIF ADDER	303,514	17.78	0	40	0.00	7.11	6.401%	18.30%	108,502	412,016
1.5.2	PROCUREMENT FEES	29,700	1.74	0	40	0.00	0.70	0.626%	1.79%	10,617	40,317
	ESCALATION	383,732	22.48	0	35	0.00	7.87	7.081%	20.24%	120,025	503,757
SUBTOTAL		1,706,946	100.00					34.988%			
CALCULATED CONTINGENCY		597,233									
RESULTANT TEC		2,304,179									
ROUNDED TEC		2,300,000									
PROJECT CONTINGENCY		593,054						34.74%			
MANAGEMENT RESERVE		0									
CONTINGENCY		593,054									
TOTAL ESTIMATED COST		2,300,000								593,054	2,300,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE III/AFC Market Conditions

12/10/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-9D

PROCUREMENT FEE:

CONSTRUCTION*** =	\$990,000		
GFE =	\$0		
Subtotal	\$990,000		
FEE @ 3% =	\$990,000	* 0.03 =	\$29,700

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$990,000		
GFE =	\$0		
PROCUREMENT FEE =	\$29,700		
Subtotal	\$1,019,700		
FEE @ 23% =	\$1,019,700	* 0.23 =	\$234,531

PIF @ 5.5%

CONSTRUCTION =	\$990,000		
GFE =	\$0		
PROCUREMENT FEE =	\$29,700		
G&A =	\$234,531		
Subtotal	\$1,254,231		
FEE @ 5.5% =	\$1,254,231	* 0.055 =	\$68,983

TOTAL PROCUREMENT FEE: \$29,700

TOTAL G&A FEE: \$234,531

TOTAL PIF: \$68,983

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL TANK ISOLATION - ESCALATED**
 LOCATION 1: **INEEL/CPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9E1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **08:58:46**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$282,226</u>
1.1.2	TITLE III INSPECTION	212,200	70,026	282,226
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,297,947</u>
1.2.1	PROJECT MANAGEMENT	551,600	182,028	733,628
1.2.2	CONSTRUCTION MANAGEMENT	424,300	140,019	564,319
1.3	<u>CONSTRUCTION</u>			>> <u>\$5,643,741</u>
1.3.1	GENERAL CONDITIONS	1,544,535	509,697	2,054,232
1.3.2	SITWORK	225,389	74,378	299,767
1.3.15	MECHANICAL	2,459,556	811,654	3,271,210
1.3.16	ELECTRICAL	13,934	4,598	18,532
1.5	<u>G&A/PIF</u>			>> <u>\$231,316</u>
1.5.1	G&A/PIF ADDER	173,922	57,394	231,316
1.5.2	PROCUREMENT FEES	16,974	5,601	>> <u>\$22,575</u>
SUBTOTAL INCLUDING ESCALATION		5,622,410	1,855,395	>> <u>\$7,477,805</u>
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> <u>\$589,763</u>
CONTINGENCY				>> <u>\$2,132,432</u>
TOTAL ESTIMATED COST				>> <u>\$10,200,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **36.40%**

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL TANK ISOLATION - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9E1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **08:56:54**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$212,200</u>
1.1.2	TITLE III INSPECTION	212,200	0	212,200
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$975,900</u>
1.2.1	PROJECT MANAGEMENT	551,600	0	551,600
1.2.2	CONSTRUCTION MANAGEMENT	424,300	0	424,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,243,414</u>
1.3.1	GENERAL CONDITIONS	1,544,535	0	1,544,535
1.3.2	SITework	225,389	0	225,389
1.3.15	MECHANICAL	2,459,556	0	2,459,556
1.3.16	ELECTRICAL	13,934	0	13,934
1.5	<u>G&A/PIF</u>			>> <u>\$173,922</u>
1.5.1	G&A/PIF ADDER	173,922	0	173,922
1.5.2	PROCUREMENT FEES	16,974	0	>> <u>\$16,974</u>
	SUBTOTAL INCLUDING ESCALATION	5,622,410	0	>> \$5,622,410
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$443,431
	CONTINGENCY			>> \$1,634,159
	TOTAL ESTIMATED COST			>> \$7,700,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **36.95%**

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9E1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 08:55:02
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFF	1	LOT			0.000		212,200				212,200
	TITLE III INSPECTION S/T						0	\$212,200				\$212,200
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFF	1	LOT			0.000		551,600				551,600
	PROJECT MANAGEMENT S/T						0	\$551,600				\$551,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		424,300				424,300
	CONSTRUCTION MANAGEMENT S/T						0	\$424,300				\$424,300
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV FA	4666.00	4,666	235,128				235,128
	MOB/DEMOB	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE FA	186.000	1,860	96,292				96,292
	SMALL TOOLS & CONSUMABLES	1	LOT	127,920.00		0.000				127,920		127,920
	CRANE SUPPORT	1	LOT		ZF-OE FA	2326.00	2,326	120,417	128,000			248,417
	MISC. EQUIPMENT	1	LOT			0.000			117,650			117,650
	CLEANUP & MATERIAL HANDLING	46,561	MHRS		ZF-LB FA	0.100	4,656	205,939				205,939

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-9E1
 PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 23-Jan-1998
 TIME: 08:55:02
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	4656.00	9,312	460,013				460,013
	ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	19,900.00		0.000				19,900		19,900
	GENERAL CONDITIONS S/T						23,310	\$1,143,674	\$246,650	\$147,820		\$1,537,144
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.3	ISOLATE TANK LINES EXCAVATE, SHORING, STOCKPILE, CLEAN FILL, SHORING	740	CY	50.00	ZF-OE FA	4.000	2,960	153,239	33,300	37,000		223,539
	ISOLATE TANK LINES S/T						2,960	\$153,239	\$33,300	\$37,000		\$223,539
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.2	TANK LINE ISOLATION INITIAL PIPE FLUSHING	11	TANK		Z-5210 FA	800.000	8,800	520,608				520,608
	REMOVE VB COVER & PREPARE FOR ENTRY	77	EA		ZF-OE FA	60.000	4,620	239,177				239,177
	SET UP & REMOVE RAD TENTS	77	EA		ZF-LB FA	160.000	12,320	544,914				544,914
	CUT & CAP TANK LINES IN GLOVE BAGS	165	EA	100.00	ZF-PF FA	65.000	10,725	646,396	26,813	16,500		689,708

DETAILED COST ESTIMATE SHEET

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

TANK ISOLATION

PROJECT NO.: 2406-9E1

TIME: 08:55:02

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LINE ISOLATION											
	CUT & CAP COOLING WATER LINES	540	EA	15.00	ZF-PF EA	3.000	1,620	97,637	4,050	8,100		109,787
	CUT & CAP INSTRUMENT LINES	352	EA	3.00	ZF-PF EA	1.000	352	21,215	880	1,056		23,151
	BOX REMOVED PIPE SECTIONS (ALLOW)	3	BOX	500.00	ZF-PF EA	20.000	60	3,616		1,500		5,116
	PROCESS WASTE BOXES	3	EA		EA	0.000					15,000	15,000
	TANK LINE ISOLATION S/T						38,497	\$2,073,563	\$31,743	\$27,156	\$15,000	\$2,147,462
1.3.15.3	VOG SYSTEM											
	CUT,CAP & TIE-IN VOG LINES	22	EA		ZF-PF EA	100.000	2,200	132,594	5,500			138,094
	CUT & CAP TANK VOG LINES	66	EA	100.00	ZF-PF EA	40.000	2,640	159,113	6,600	6,600		172,313
	VOG SYSTEM S/T						4,840	\$291,707	\$12,100	\$6,600		\$310,407
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TANK ELECTRICAL/INSTRUMENTATION ISOLATION											
	CUT & CAP CONDUIT	132	EA		ZF-EL EA	2.000	264	13,934				13,934
	TANK ELECTRICAL/INSTRUMENTATION ISOLATION S/T						264	\$13,934				\$13,934
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					134,393	134,393

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 6/06
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-9E1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 08:55:02
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST, EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					39,529	39,529
	G&A/PIF ADDER S/T						0				\$173,922	\$173,922
	PROJECT SUBTOTAL						69,871	\$4,864,218	\$322,793	\$218,576	\$188,922	\$5,594,508

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	3.77	0	35	0.00	1.32	1.189%	3.20%	66,401	278,601
1.2.1	PROJECT MANAGEMENT	551,600	9.81	0	35	0.00	3.43	3.050%	8.31%	172,605	724,205
1.2.2	CONSTRUCTION MANAGEMENT	424,300	7.55	0	35	0.00	2.64	2.377%	6.39%	132,770	557,070
1.3.1	GENERAL CONDITIONS	1,544,535	27.47	0	40	0.00	10.99	9.890%	26.59%	552,355	2,096,890
1.3.2	SITework	225,389	4.01	0	45	0.00	1.80	1.624%	4.36%	90,679	316,068
1.3.15	MECHANICAL	2,459,556	43.75	0	45	0.00	19.69	17.717%	47.63%	989,531	3,449,087
1.3.16	ELECTRICAL	13,934	0.25	0	40	0.00	0.10	0.089%	0.24%	4,983	18,917
1.5.1	G&A/PIF ADDER	173,922	3.09	0	40	0.00	1.24	1.114%	2.99%	62,198	236,120
1.5.2	PROCUREMENT FEES	16,974	0.30	0	40	0.00	0.12	0.109%	0.29%	6,070	23,044
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(2)	(2)
SUBTOTAL		5,622,410	100.00					37.198%			
CALCULATED CONTINGENCY		2,091,426									
RESULTANT TEC		7,713,836									
ROUNDED TEC		7,700,000									
PROJECT CONTINGENCY		2,077,590						36.95%			
MANAGEMENT RESERVE		443,431									
CONTINGENCY		1,634,159									
TOTAL ESTIMATED COST		7,700,000								2,077,590	7,700,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% -- 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% -- 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% -- 20% TITLE II 5% -- 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/95

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL TANK ISOLATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9E1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **08:58:52**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	2.84	0	35	0.00	0.99	0.894%	2.50%	68,001	280,201
1.2.1	PROJECT MANAGEMENT	551,600	7.38	0	35	0.00	2.58	2.324%	6.49%	176,763	728,363
1.2.2	CONSTRUCTION MANAGEMENT	424,300	5.67	0	35	0.00	1.99	1.787%	4.99%	135,969	560,269
1.3.1	GENERAL CONDITIONS	1,544,535	20.65	0	40	0.00	8.26	7.436%	20.78%	565,661	2,110,196
1.3.2	SITWORK	225,389	3.01	0	45	0.00	1.36	1.221%	3.41%	92,863	318,252
1.3.15	MECHANICAL	2,459,556	32.89	0	45	0.00	14.80	13.321%	37.23%	1,013,370	3,472,926
1.3.16	ELECTRICAL	13,934	0.19	0	40	0.00	0.07	0.067%	0.19%	5,103	19,037
1.5.1	G&A/PIF ADDER	173,922	2.33	0	40	0.00	0.93	0.837%	2.34%	63,696	237,618
1.5.2	PROCUREMENT FEES	16,974	0.23	0	40	0.00	0.09	0.082%	0.23%	6,216	23,190
	ESCALATION	1,855,395	24.81	0	35	0.00	8.68	7.816%	21.84%	594,553	2,449,948
SUBTOTAL		7,477,805	100.00					35.784%			
CALCULATED CONTINGENCY		2,675,875									
RESULTANT TEC		10,153,680									
ROUNDED TEC		10,200,000									
PROJECT CONTINGENCY		2,722,195						36.40%			
MANAGEMENT RESERVE		589,763									
CONTINGENCY		2,132,432									
TOTAL ESTIMATED COST		10,200,000								2,722,195	10,200,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
WASH INTERIOR TANK WALLS - ESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9F1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **09:43:53**

CHECKED BY: *[Signature]*

APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$882,237
1.1.2	TITLE III INSPECTION	625,700	256,537	882,237
1.2	<u>MANAGEMENT COSTS</u>			>> \$3,217,338
1.2.1	PROJECT MANAGEMENT	1,626,900	667,029	2,293,929
1.2.2	CONSTRUCTION MANAGEMENT	654,900	268,509	923,409
1.3	<u>CONSTRUCTION</u>			>> \$9,234,527
1.3.1	GENERAL CONDITIONS	2,153,604	882,978	3,036,582
1.3.2	SITWORK	134,015	54,946	188,961
1.3.4	HEEL	752,895	308,687	1,061,582
1.3.6	SHIELDING	177,285	72,687	249,972
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	454,632	1,563,491
1.3.11	EQUIPMENT	1,190,930	488,281	1,679,211
1.3.15	MECHANICAL	404,696	165,925	570,621
1.3.16	ELECTRICAL	627,026	257,081	884,107
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$8,411,121
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	2,445,787	8,411,121
1.5	<u>G&A/PIF</u>			>> \$1,789,043
1.5.1	G&A/PIF ADDER	1,268,825	520,218	1,789,043
1.5.2	PROCUREMENT FEES	212,749	87,227	\$299,976
SUBTOTAL INCLUDING ESCALATION		16,903,718	6,930,524	>> \$23,834,242
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,973,467
CONTINGENCY				>> \$6,692,291
TOTAL ESTIMATED COST				>> \$32,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 36.36%

Lockheed Martin Idaho Technologies Co.

Rev. 6/86

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
WASH INTERIOR TANK WALLS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9F1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **09:41:44**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$625,700
1.1.2	TITLE III INSPECTION	625,700	0	625,700
1.2	<u>MANAGEMENT COSTS</u>			>> \$2,281,800
1.2.1	PROJECT MANAGEMENT	1,626,900	0	1,626,900
1.2.2	CONSTRUCTION MANAGEMENT	654,900	0	654,900
1.3	<u>CONSTRUCTION</u>			>> \$6,549,310
1.3.1	GENERAL CONDITIONS	2,153,604	0	2,153,604
1.3.2	SITWORK	134,015	0	134,015
1.3.4	HEEL	752,895	0	752,895
1.3.6	SHIELDING	177,285	0	177,285
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	0	1,108,859
1.3.11	EQUIPMENT	1,190,930	0	1,190,930
1.3.15	MECHANICAL	404,696	0	404,696
1.3.16	ELECTRICAL	627,026	0	627,026
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$5,965,334
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	0	5,965,334
1.5	<u>G&A/PIF</u>			>> \$1,268,825
1.5.1	G&A/PIF ADDER	1,268,825	0	1,268,825
1.5.2	PROCUREMENT FEES	212,749	0	>> \$212,749
SUBTOTAL INCLUDING ESCALATION		16,903,718	0	>> \$16,903,718
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,399,622
CONTINGENCY				>> \$5,096,660
TOTAL ESTIMATED COST				>> \$23,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 38.43%

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-9F1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 09:11:25
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		625,700				625,700
	TITLE III INSPECTION S/T						0	\$625,700				\$625,700
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		1,626,900				1,626,900
	PROJECT MANAGEMENT S/T						0	\$1,626,900				\$1,626,900
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		654,900				654,900
	CONSTRUCTION MANAGEMENT S/T						0	\$654,900				\$654,900
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV EA	7100.00	7,100	358,550				358,550
	TRAINING:	10	FTE		ZF-OE EA	276.000	2,760	142,885				142,885
	SMALL TOOLS & CONSUMABLES	1	LOT	177,400.00		0.000				177,400		177,400
	CRANE SUPPORT	1	LOT		ZF-OE EA	3550.00	3,550	183,784	19,500			203,284
	MISC. EQUIPMENT	1	LOT			0.000			186,900			186,900
	CLEANUP & MATERIAL HANDLING	70,861	MHRS		ZF-LB EA	0.100	7,096	313,861				313,861
	RADCON TECH SUPPORT	2	FTE		Z-1342	7100.00	14,200	701,480				701,480

Lockheed Martin Idaho Technologies Co.

Rev. 8/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
WASH INTERIOR TANK WALLS

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9F1

PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 23-Jan-1998

TIME: 09:11:25

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0393P QUALITY STANDARDS	1	LOT	57,500.00		0.000				57,500		57,500
	GENERAL CONDITIONS S/T						34,706	\$1,700,559	\$206,400	\$234,900		\$2,141,859
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS TANK RISERS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	440	CY	50.00	ZF-OE FA	4.000	1,760	91,115	19,800	22,000		132,915
	ACCESS TANK RISERS S/T						1,760	\$91,115	\$19,800	\$22,000		\$132,915
1.3.4	HEEL											
	HEEL S/T						0					
1.3.4.1	HEEL FLUSHING FLUSHES + PAPERWORK(11 TANKS X 9 FLUSHES/TANK)	99	EA		Z-5210 LIMITCO	24.000	2,376	140,564				140,564
	HEEL FLUSHING S/T						2,376	\$140,564				\$140,564

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-9F1
PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
TIME: 09:11:25
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.4.2	HEEL MIXING & REMOVAL											
	INSTALL & REMOVE MOUNTING/SUPPORT FRAME	11	EA		ZF-IW FA	160.000	1,760	84,885				84,885
	INSTALL, MIX, REMOVE & DECON PUMP	11	EA		ZF-OE FA	400.000	4,400	227,788				227,788
	SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	HEEL MIXING & REMOVAL S/T						7,040	\$358,230		\$242,000		\$600,230
1.3.6	SHIELDING											
	TANK RISER TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.7	TANK INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM(THREE TIMES PER TANK)	33	EA		ZF-OE FA	500.000	16,500	854,205				854,205
	INSTALL & REMOVE SUPPORT/MOUNTING FRAME	33	EA		ZF-IW FA	160.000	5,280	254,654				254,654
	TANK INTERNAL WASHDOWN S/T						21,780	\$1,108,859				\$1,108,859
1.3.11	EQUIPMENT											
	EQUIPMENT S/T						0					

Lockheed Martin Idaho Technologies Co.

Rev. 0/98

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
WASH INTERIOR TANK WALLS**

LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2408-9F1**
PREPARED BY: **R. D. ADAMS**

PAGE # **4**

DATE **23-Jan-1998**
TIME: **09:11:25**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB.HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.11.1	EQUIPMENT REMOVAL REMOVE JETS, LIFTS, CORROSION COUPONS, ETC.	44	EA		ZF-PF FA	160.000	7,040	424,301				424,301
	SET UP & REMOVE RAD TENT	44	EA		ZF-LB FA	160.000	7,040	311,379				311,379
	CUT & BOX REMOVED EQUIP.	44	EA	500.00	ZF-PF FA	80.000	3,520	212,150		22,000		234,150
	PROCESS WASTE BOXES	44	EA		FA	0.000					220,000	220,000
	EQUIPMENT REMOVAL S/T						17,600	\$947,830		\$22,000	\$220,000	\$1,189,830
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	HEEL TRANSFER LINES VALVE BOX TIE-IN	11	EA		ZF-PF FA	80.000	880	53,038				53,038
	SET UP & REMOVE RAD TENT	11	EA		ZF-LB FA	160.000	1,760	77,845				77,845
	DBL ENCASE TRANSFER LINE - PURCHASE	150	LF	160.00	ZF-PF FA	0.000				24,000		24,000
	DBL ENCASE TRANSFER LINE - INSTALL	1,100	LF		ZF-PF FA	3.750	4,125	248,614				248,614
	HEEL TRANSFER LINES S/T						6,765	\$379,496		\$24,000		\$403,496
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9F1

PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998

TIME: 09:11:25

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	TEMPORARY POWER S/T						7,920	\$418,018				\$418,018
1.3.16.2	CAMERA & LIGHTING INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL FA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL FA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE MIXING PUMPS & CONTROLS	3	EA	250,000.00	FA	0.000				750,000		750,000
	PURCHASE MOUNTING/SUPPORT FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE WASHDOWN ARM, SKID & CONTROLS	2	EA	2,000,000.00	FA	0.000				4,000,000		4,000,000
	PURCHASE SUPPORT/MOUNTING FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE VIDEO & LIGHTING EQUIPMENT	1	LOT	50,000.00	FA	0.000				50,000		50,000
	PURCHASE MONITORING SYSTEM	1	LOT	40,000.00	FA	0.000				40,000		40,000

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
WASH INTERIOR TANK WALLS

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-9F1
PREPARED BY: R. D. ADAMS

PAGE # 6

DATE 23-Jan-1998
TIME: 09:11:25
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	541,270.00		0.000				541,270		541,270
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$5,681,270		\$5,681,270
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					822,716	822,716
	PIF	1	LOT			0.000					446,109	446,109
	G&A/PIF ADDER S/T						0				\$1,268,825	\$1,268,825
	PROJECT SUBTOTAL						105.667	\$8,346,066	\$226,200	\$6,314,170	\$1,488,825	\$16,375,261

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 WASH INTERIOR TANK WALLS - UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9F1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 09:41:50

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	625,700	3.70	0	35	0.00	1.30	1.166%	3.02%	196,508	822,208
1.2.1	PROJECT MANAGEMENT	1,626,900	9.62	0	35	0.00	3.37	3.032%	7.87%	510,946	2,137,846
1.2.2	CONSTRUCTION MANAGEMENT	654,900	3.87	0	35	0.00	1.36	1.220%	3.17%	205,678	860,578
1.3.1	GENERAL CONDITIONS	2,153,604	12.74	0	40	0.00	5.10	4.587%	11.90%	772,986	2,926,590
1.3.2	SITWORK	134,015	0.79	0	45	0.00	0.36	0.321%	0.83%	54,114	188,129
1.3.4	HEEL	752,895	4.45	0	40	0.00	1.78	1.603%	4.16%	270,234	1,023,129
1.3.6	SHIELDING	177,285	1.05	0	40	0.00	0.42	0.378%	0.98%	63,632	240,917
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	6.56	0	40	0.00	2.62	2.362%	6.13%	397,999	1,506,858
1.3.11	EQUIPMENT	1,190,930	7.05	0	40	0.00	2.82	2.536%	6.58%	427,457	1,618,387
1.3.15	MECHANICAL	404,696	2.39	0	45	0.00	1.08	0.970%	2.52%	163,413	568,109
1.3.16	ELECTRICAL	627,026	3.71	0	40	0.00	1.48	1.335%	3.45%	225,056	852,082
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	35.29	0	50	0.00	17.65	15.881%	41.20%	2,676,397	8,641,731
1.5.1	G&A/PIF ADDER	1,268,825	7.51	0	40	0.00	3.00	2.702%	7.01%	455,415	1,724,240
1.5.2	PROCUREMENT FEES	212,749	1.26	0	40	0.00	0.50	0.453%	1.18%	76,361	289,110
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	86	86
SUBTOTAL		16,903,718	100.00					38.546%			
CALCULATED CONTINGENCY		6,515,623									
RESULTANT TEC		23,419,341									
ROUNDED TEC		23,400,000									
PROJECT CONTINGENCY		6,496,282						38.43%			
MANAGEMENT RESERVE		1,399,622									
CONTINGENCY		5,096,660									
TOTAL ESTIMATED COST		23,400,000								6,496,282	23,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
 - Conceptual 15% - 25%
- Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL**
WASH INTERIOR TANK WALLS - ESCALATED
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-9F1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **09:43:58**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	625,700	2.63	0	35	0.00	0.92	0.827%	2.27%	196,347	822,047
1.2.1	PROJECT MANAGEMENT	1,626,900	6.83	0	35	0.00	2.39	2.150%	5.89%	510,528	2,137,428
1.2.2	CONSTRUCTION MANAGEMENT	654,900	2.75	0	35	0.00	0.96	0.866%	2.37%	205,510	860,410
1.3.1	GENERAL CONDITIONS	2,153,604	9.04	0	40	0.00	3.61	3.253%	8.91%	772,354	2,925,958
1.3.2	SITWORK	134,015	0.56	0	45	0.00	0.25	0.228%	0.62%	54,070	188,085
1.3.4	HEEL	752,895	3.16	0	40	0.00	1.26	1.137%	3.12%	270,013	1,022,908
1.3.6	SHIELDING	177,285	0.74	0	40	0.00	0.30	0.268%	0.73%	63,580	240,865
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	4.65	0	40	0.00	1.86	1.675%	4.59%	397,674	1,506,533
1.3.11	EQUIPMENT	1,190,930	5.00	0	40	0.00	2.00	1.799%	4.93%	427,107	1,618,037
1.3.15	MECHANICAL	404,696	1.70	0	45	0.00	0.76	0.688%	1.88%	163,280	567,976
1.3.16	ELECTRICAL	627,026	2.63	0	40	0.00	1.05	0.947%	2.59%	224,872	851,898
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	25.03	0	50	0.00	12.51	11.263%	30.86%	2,674,209	8,639,543
1.5.1	G&A/PIF ADDER	1,268,825	5.32	0	40	0.00	2.13	1.916%	5.25%	455,043	1,723,868
1.5.2	PROCUREMENT FEES	212,749	0.89	0	40	0.00	0.36	0.321%	0.88%	76,299	289,048
	ESCALATION	6,930,524	29.08	0	35	0.00	10.18	9.160%	25.10%	2,174,872	9,105,396
SUBTOTAL		23,834,242	100.00					36.497%			
CALCULATED CONTINGENCY		8,698,738									
RESULTANT TEC		32,532,980									
ROUNDED TEC		32,500,000									
PROJECT CONTINGENCY		8,665,758						36.36%			
MANAGEMENT RESERVE		1,973,467									
CONTINGENCY		6,692,291									
TOTAL ESTIMATED COST		32,500,000								8,665,758	32,500,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30%</p> <p> Experimental/Special Conditions.....Up to 50%</p> <p> Conceptual 15% - 25%</p> <p> Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20%</p> <p>TITLE II 5% - 15%</p> <p>TITLE III/AFC Market Conditions</p>
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1/23/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-9F

PROCUREMENT FEE:

CONSTRUCTION*** =	\$1,110,745		
GFE =	\$5,965,334		
Subtotal	<u>\$7,076,079</u>		
FEE @ 3% =	\$7,076,079	* 0.03 =	\$212,282

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING *# OF YEARS =	\$1,110,745		
GFE =	\$2,254,000		
PROCUREMENT FEE =	\$212,282		
Subtotal	<u>\$3,577,027</u>		
FEE @ 23% =	\$3,577,027	* 0.23 =	\$822,716

PIF @ 5.5%

CONSTRUCTION =	\$1,110,745		
GFE =	\$5,965,334		
PROCUREMENT FEE =	\$212,282		
G&A =	\$822,716		
Subtotal	<u>\$8,111,078</u>		
FEE @ 5.5% =	\$8,111,078	* 0.055 =	\$446,109

TOTAL PROCUREMENT FEE: \$212,282

TOTAL G&A FEE: \$822,716

TOTAL PIF: \$446,109

****Construction**= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SOLIDIFY REMAINING HEEL - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-9G1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
TIME: 10:11:18
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$343,650
1.1.2	TITLE III INSPECTION	229,100	114,550	343,650
1.2	MANAGEMENT COSTS			>> \$1,027,500
1.2.1	PROJECT MANAGEMENT	595,700	297,850	893,550
1.2.2	CONSTRUCTION MANAGEMENT	89,300	44,650	133,950
1.3	CONSTRUCTION			>> \$1,338,994
1.3.1	GENERAL CONDITIONS	282,949	141,475	424,424
1.3.3	CONCRETE	413,015	206,507	619,522
1.3.15	MECHANICAL	80,583	40,291	120,874
1.3.16	ELECTRICAL	116,116	58,058	174,174
1.4	GOVERNMENT FURNISHED EQUIP.			>> \$4,907,161
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	1,217,566	4,907,161
1.5	G&A/PIF			>> \$1,242,707
1.5.1	G&A/PIF ADDER	828,471	414,236	1,242,707
1.5.2	PROCUREMENT FEES	119,139	43,261	162,400
SUBTOTAL INCLUDING ESCALATION		6,443,968	2,578,444	>> \$9,022,412
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$765,126
CONTINGENCY				>> \$2,612,462
TOTAL ESTIMATED COST				>> \$12,400,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= 6.00%
CONTINGENCY= 37.44%

Lockheed Martin Idaho Technologies Co.
Rev. 6/95

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SOLIDIFY REMAINING HEEL - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9G1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **10:09:28**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$229,100</u>
1.1.2	TITLE III INSPECTION	229,100	0	229,100
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$685,000</u>
1.2.1	PROJECT MANAGEMENT	595,700	0	595,700
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0	89,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$892,663</u>
1.3.1	GENERAL CONDITIONS	282,949	0	282,949
1.3.3	CONCRETE	413,015	0	413,015
1.3.15	MECHANICAL	80,583	0	80,583
1.3.16	ELECTRICAL	116,116	0	116,116
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$3,689,595</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	0	3,689,595
1.5	<u>G&A/PIF</u>			>> <u>\$828,471</u>
1.5.1	G&A/PIF ADDER	828,471	0	828,471
1.5.2	PROCUREMENT FEES	119,139	0	>> <u>\$119,139</u>
SUBTOTAL INCLUDING ESCALATION		6,443,968	0	>> \$6,443,968
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$552,987
CONTINGENCY				>> \$2,103,045
TOTAL ESTIMATED COST				>> \$9,100,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= **5.00%**
CONTINGENCY= **41.22%**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9G1

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 10:07:39

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		229,100				229,100
	TITLE III INSPECTION S/T						0	\$229,100				\$229,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		595,700				595,700
	PROJECT MANAGEMENT S/T						0	\$595,700				\$595,700
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		89,300				89,300
	CONSTRUCTION MANAGEMENT S/T						0	\$89,300				\$89,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	820.000	820	41,410				41,410
	TRAINING:	10	FTE		ZF-OE FA	32.000	320	16,566				16,566
	SMALL TOOLS & CONSUMABLES	1	LOT	20,800.00		0.000				20,800		20,800
	CRANE SUPPORT	1	LOT		ZF-OE FA	410.000	410	21,226	22,550			43,776
	MISC. EQUIPMENT	1	LOT			0.000			20,600			20,600
	CLEANUP & MATERIAL HANDLING	8,238	MHRS		ZF-LB FA	0.100	824	36,437				36,437
	RADCON TECH SUPPORT	2	FTE		Z-1342	820.000	1,640	81,016				81,016

Lockheed Martin Idaho Technologies Co.

Rev. 0/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SOLIDIFY REMAINING HEEL

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2408-9G1
PREPARED BY: R. D. ADAMS

PAGE# 2

DATE 23-Jan-1998
TIME: 10:07:39
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	20,290.00		0.000				20,290		20,290
	GENERAL CONDITIONS S/T						4,014	\$196,655	\$43,150	\$41,090		\$280,895
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.3	HEEL SOLIDIFICATION GROUT ARM MOUNTING FRAMES	2	EA	50,000.00		0.000				100,000		100,000
	INSTALL & REMOVE MOUNTING FRAMES	22	EA		ZF-IW FA	120.000	2,640	127,327				127,327
	INSTALL & REMOVE TEMPORARY SHIELDING AT RISER	22	EA		ZF-LB FA	80.000	1,760	77,845				77,845
	PLACE WET GROUT	800	CY	80.00	ZF-OE FA	0.500	400	20,708		64,000		84,708
	PLACE DRY GROUT (ALLOW)	110	CY	80.00	ZF-OE FA	1.000	110	5,695		8,800		14,495
	HEEL SOLIDIFICATION S/T						4,910	\$231,575		\$172,800		\$404,375
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.5	GROUT DELIVERY PIPING PURCHASE PIPE	350	LF	26.64		0.000				9,324		9,324

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.5	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	2,400	LF		ZF-PF FA	0.470	1,128	67,985	2,808			70,793
	GROUT DELIVERY PIPING S/T						1,128	\$67,985	\$2,808	\$9,324		\$80,117
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO WET & DRY GROUT ARMS EQUIPMENT	22	EA		ZF-EL FA	100.000	2,200	116,116				116,116
	TEMPORARY POWER S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE WET GROUT DELIVERY ARM & CONTROLS	2	EA	800,000.00	FA	0.000				1,600,000		1,600,000
	PURCHASE DRY GROUT DELIVERY ARM & CONTROLS	2	EA	750,000.00	FA	0.000				1,500,000		1,500,000
	PURCHASE GROUT PUMP	1	EA	55,000.00	FA	0.000				55,000		55,000
	PURCHASE AIR COMPRESSOR & MISC CLEANING EQUIP.	1	LOT	25,000.00	FA	0.000				25,000		25,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 6/88
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 SOLIDIFY REMAINING HEEL
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-9G1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 10:07:39
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	333,900.00		0.000				333,900		333,900
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$3,513,900		\$3,513,900
1.6.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					572,109	572,109
	PIF	1	LOT			0.000					256,362	256,362
	G&A/PIF ADDER S/T						0				\$828,471	\$828,471
	PROJECT SUBTOTAL						12,252	\$1,526,430	\$45,958	\$3,737,114	\$828,471	\$6,137,973

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 SOLIDIFY REMAINING HEEL - UNESCALATED
 LOCATION 1: INEEL/CPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-9G1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 10:09:33

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	3.56	0	35	0.00	1.24	1.120%	2.76%	73,316	302,416
1.2.1	PROJECT MANAGEMENT	595,700	9.24	0	35	0.00	3.24	2.912%	7.18%	190,635	786,335
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.39	0	35	0.00	0.49	0.437%	1.08%	28,578	117,878
1.3.1	GENERAL CONDITIONS	282,949	4.39	0	40	0.00	1.76	1.581%	3.90%	103,484	386,433
1.3.3	CONCRETE	413,015	6.41	0	40	0.00	2.56	2.307%	5.69%	151,054	564,069
1.3.15	MECHANICAL	80,583	1.25	0	45	0.00	0.56	0.506%	1.25%	33,156	113,739
1.3.16	ELECTRICAL	116,116	1.80	0	40	0.00	0.72	0.649%	1.60%	42,468	158,584
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	57.26	0	50	0.00	28.63	25.765%	63.51%	1,686,768	5,376,363
1.5.1	G&A/PIF ADDER	828,471	12.86	0	40	0.00	5.14	4.628%	11.41%	303,001	1,131,472
1.5.2	PROCUREMENT FEES	119,139	1.85	0	40	0.00	0.74	0.666%	1.64%	43,573	162,712
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(1)	(1)
SUBTOTAL		6,443,968	100.00					40.571%			
CALCULATED CONTINGENCY		2,614,384									
RESULTANT TEC		9,058,352									
ROUNDED TEC		9,100,000									
PROJECT CONTINGENCY		2,656,032						41.22%			
MANAGEMENT RESERVE		552,987									
CONTINGENCY		2,103,045									
TOTAL ESTIMATED COST		9,100,000								2,656,032	9,100,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
 - Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/95

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9G1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **10:11:23**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	229,100	2.54	0	35	0.00	0.89	0.800%	2.11%	71,134	300,234
1.2.1	PROJECT MANAGEMENT	595,700	6.60	0	35	0.00	2.31	2.080%	5.48%	184,960	780,660
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0.99	0	35	0.00	0.35	0.312%	0.82%	27,727	117,027
1.3.1	GENERAL CONDITIONS	282,949	3.14	0	40	0.00	1.25	1.129%	2.97%	100,404	383,353
1.3.3	CONCRETE	413,015	4.58	0	40	0.00	1.83	1.648%	4.34%	146,558	559,573
1.3.15	MECHANICAL	80,583	0.89	0	45	0.00	0.40	0.362%	0.95%	32,169	112,752
1.3.16	ELECTRICAL	116,116	1.29	0	40	0.00	0.51	0.463%	1.22%	41,204	157,320
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,689,595	40.89	0	50	0.00	20.45	18.402%	48.45%	1,636,559	5,326,154
1.5.1	G&A/PIF ADDER	828,471	9.18	0	40	0.00	3.67	3.306%	8.70%	293,982	1,122,453
1.5.2	PROCUREMENT FEES	119,139	1.32	0	40	0.00	0.53	0.475%	1.25%	42,276	161,415
	ESCALATION	2,578,444	28.58	0	35	0.00	10.00	9.002%	23.70%	800,615	3,379,059
	SUBTOTAL	9,022,412	100.00					37.979%			
	CALCULATED CONTINGENCY	3,426,594									
	RESULTANT TEC	12,449,006									
	ROUNDED TEC	12,400,000									
	PROJECT CONTINGENCY	3,377,588						37.44%			
	MANAGEMENT RESERVE	765,126									
	CONTINGENCY	2,612,462									
	TOTAL ESTIMATED COST	12,400,000								3,377,588	12,400,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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1/23/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-9G

PROCUREMENT FEE:

CONSTRUCTION*** =	\$280,333		
GFE =	\$3,689,595		
Subtotal	\$3,969,928		
FEE @ 3% =	\$3,969,928	* 0.03 =	\$119,098

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$280,333		
GFE =	\$2,088,000		
PROCUREMENT FEE =	\$119,098		
Subtotal	\$2,487,431		
FEE @ 23% =	\$2,487,431	* 0.23 =	\$572,109

PIF @ 5.5%

CONSTRUCTION =	\$280,333		
GFE =	\$3,689,595		
PROCUREMENT FEE =	\$119,098		
G&A =	\$572,109		
Subtotal	\$4,661,135		
FEE @ 5.5% =	\$4,661,135	* 0.055 =	\$256,362

TOTAL PROCUREMENT FEE: \$119,098

TOTAL G&A FEE: \$572,109

TOTAL PIF: \$256,362

***"Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-9H1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
TIME: 10:48:51
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$570,989</u>
1.1.2	TITLE III INSPECTION	350,300	220,689	570,989
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$2,512,319</u>
1.2.1	PROJECT MANAGEMENT	840,700	529,641	1,370,341
1.2.2	CONSTRUCTION MANAGEMENT	700,600	441,378	1,141,978
1.3	<u>CONSTRUCTION</u>			>> <u>\$11,420,164</u>
1.3.1	GENERAL CONDITIONS	1,649,217	1,039,007	2,688,224
1.3.2	SITWORK	759,751	478,643	1,238,394
1.3.3	CONCRETE	3,906,844	2,461,312	6,368,156
1.3.15	MECHANICAL	690,423	434,957	1,125,390
1.5	<u>G&A/PIF</u>			>> <u>\$2,016,657</u>
1.5.1	G&A/PIF ADDER	1,237,213	779,444	2,016,657
1.5.2	PROCUREMENT FEES	121,208	76,361	197,569
	SUBTOTAL INCLUDING ESCALATION	10,256,256	6,461,442	>> \$16,717,698
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$1,363,439
	CONTINGENCY			>> \$4,318,863
	TOTAL ESTIMATED COST			>> \$22,400,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 33.99%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/95

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9H1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **10:46:45**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$350,300
1.1.2	TITLE III INSPECTION	350,300	0	350,300
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,541,300
1.2.1	PROJECT MANAGEMENT	840,700	0	840,700
1.2.2	CONSTRUCTION MANAGEMENT	700,600	0	700,600
1.3	<u>CONSTRUCTION</u>			>> \$7,006,235
1.3.1	GENERAL CONDITIONS	1,649,217	0	1,649,217
1.3.2	SITWORK	759,751	0	759,751
1.3.3	CONCRETE	3,906,844	0	3,906,844
1.3.15	MECHANICAL	690,423	0	690,423
1.5	<u>G&A/PIF</u>			>> \$1,237,213
1.5.1	G&A/PIF ADDER	1,237,213	0	1,237,213
1.5.2	PROCUREMENT FEES	121,208	0	>> \$121,208
	SUBTOTAL INCLUDING ESCALATION	10,256,256	0	>> \$10,256,256
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$836,466
	CONTINGENCY			>> \$2,807,278
	TOTAL ESTIMATED COST			>> \$13,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 35.53%

Lockheed Martin Idaho Technologies Co.

Rev. 6/98
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 FILL VAULT W/ CLEAN GROUT**
 LOCATION 1: **INEEL/CPP**
 REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO.: **2406-9H1**
 PREPARED BY: **R. D. ADAMS**

PAGE # **1**

DATE **23-Jan-1998**
 TIME: **10:22:00**
 REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 6% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		350,300				350,300
	TITLE III INSPECTION S/T						0	\$350,300				\$350,300
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		840,700				840,700
	PROJECT MANAGEMENT S/T						0	\$840,700				\$840,700
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		700,600				700,600
	CONSTRUCTION MANAGEMENT S/T						0	\$700,600				\$700,600
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV FA	4160.00	4,160	210,080				210,080
	TRAINING:	10	FTE		ZF-OE FA	162.000	1,620	83,867				83,867
	SMALL TOOLS & CONSUMABLES	1	LOT	98,700.00		0.000				98,700		98,700
	CRANE SUPPORT	1	LOT		ZF-OE EA	2080.00	2,080	107,682	114,400			222,082
	MISC. EQUIPMENT	1	LOT			0.000			103,900			103,900
	CLEANUP & MATERIAL HANDLING	41,577	MHRS		ZF-LB FA	0.100	4,158	183,895				183,895
	RADCON TECH SUPPORT	2	FTE		Z-1342	4160.00	8,320	411,008				411,008

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL

FILL VAULT W/ CLEAN GROUT

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-9H1

PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 23-Jan-1998

TIME: 10:22:00

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	315,000.00	FA	0.000				315,000		315,000
	GENERAL CONDITIONS S/T						20,338	\$996,532	\$218,300	\$413,700		\$1,628,532
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS VAULT TOP FOR CORE DRILLS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	2,600	CY	50.00	ZF-OE FA	4.000	10,400	538,408	29,250	130,000		697,658
	PLACE GRAVEL AROUND TANK MONITORS	44	EA	20.00	ZF-OE FA	24.000	1,056	54,669		880		55,549
	ACCESS VAULT TOP FOR CORE DRILLS S/T						11,456	\$593,077	\$29,250	\$130,880		\$753,207
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	TANK VAULT ACCESS HOLES CORE DRILL 18"DIA IN VAULT ROOF	99	EA	1,000.00	ZF-LB FA	100.000	9,900	437,877	148,500	99,000		685,377

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	TANK VAULT ACCESS HOLES SHIELDING AROUND VAULT HOLES	99	EA	5,000.00	ZF-LB FA	24.000	2,376	105,090		495,000		600,090
	TANK VAULT ACCESS HOLES S/T						12,276	\$542,967	\$148,500	\$594,000		\$1,285,467
1.3.3.2	VAULT & TANK GROUTING PURCHASE GROUT DROP TUBE & ACCESSORIES	1,200	LF	20.00	FA	0.000				24,000		24,000
	INSTALL & REMOVE DROP TUBES	2,200	LF		ZF-LB FA	0.500	1,100	48,653				48,653
	GROUT PLACEMENT, CLEANUP	21,080	CY	80.00	ZF-LB FA	0.620	13,070	578,068		1,686,400		2,264,468
	FIBROUS GROUT REINFORCEMENT	21,080	CY	5.00	FA	0.000				105,400		105,400
	GROUT OVER TANK MONITOR FEET	44	EA	80.00	ZF-OE FA	24.000	1,056	54,669		3,520		58,189
	VAULT & TANK GROUTING S/T						15,226	\$681,391		\$1,819,320		\$2,500,711
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	700	LF		ZF-PF FA	0.470	329	19,829	819			20,648
	GROUT MANIFOLDS & CLEANING SYSTEM	1	LOT	12,500.00	ZF-PF FA	750.000	750	45,203		12,500		57,703
	GROUT DELIVERY PIPING S/T						1,079	\$65,031	\$819	\$12,500		\$78,350
1.3.15.2	TANK LEAK MONITORS & VENTILATION TANK LEAK MONITORS	44	EA	10,000.00	ZF-PF FA	32.000	1,408	84,860		440,000		524,860

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
FILL VAULT W/ CLEAN GROUT

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

PROJECT NO.: 2406-9H1
PREPARED BY: R. D. ADAMS

TIME: 10:22:00

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LEAK MONITORS & VENTILATION HEPA TEMPORARY VAULT BREATHERS	11	EA	5,000.00	ZF-SM EA	12.000	132	6,838		55,000		61,838
	TANK LEAK MONITORS & VENTILATION S/T						1,540	\$91,698		\$495,000		\$586,698
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					956,019	956,019
	PIF	1	LOT			0.000					281,194	281,194
	G&A/PIF ADDER S/T						0				\$1,237,213	\$1,237,213
	PROJECT SUBTOTAL						61,914	\$4,862,296	\$396,869	\$3,465,400	\$1,237,213	\$9,961,778

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9H1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **10:46:50**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	350,300	3.42	0	35	0.00	1.20	1.076%	3.00%	109,485	459,785
1.2.1	PROJECT MANAGEMENT	840,700	8.20	0	35	0.00	2.87	2.582%	7.21%	262,757	1,103,457
1.2.2	CONSTRUCTION MANAGEMENT	700,600	6.83	0	35	0.00	2.39	2.152%	6.01%	218,970	919,570
1.3.1	GENERAL CONDITIONS	1,649,217	16.08	0	40	0.00	6.43	5.789%	16.17%	589,093	2,238,310
1.3.2	SITework	759,751	7.41	0	45	0.00	3.33	3.000%	8.38%	305,302	1,065,053
1.3.3	CONCRETE	3,906,844	38.09	0	40	0.00	15.24	13.713%	38.30%	1,395,506	5,302,350
1.3.15	MECHANICAL	690,423	6.73	0	45	0.00	3.03	2.726%	7.61%	277,443	967,866
1.5.1	G&A/PIF ADDER	1,237,213	12.06	0	40	0.00	4.83	4.343%	12.13%	441,927	1,679,140
1.5.2	PROCUREMENT FEES	121,208	1.18	0	40	0.00	0.47	0.425%	1.19%	43,295	164,503
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(34)	(34)
SUBTOTAL		10,256,256	100.00					35.806%			
CALCULATED CONTINGENCY		3,672,388									
RESULTANT TEC		13,928,644									
ROUNDED TEC		13,900,000									
PROJECT CONTINGENCY		3,643,744						35.53%			
MANAGEMENT RESERVE		836,466									
CONTINGENCY		2,807,278									
TOTAL ESTIMATED COST		13,900,000								3,643,744	13,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
FILL VAULT W/ CLEAN GROUT - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-9H1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **10:48:57**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	350,300	2.10	0	35	0.00	0.73	0.660%	1.93%	109,852	460,152
1.2.1	PROJECT MANAGEMENT	840,700	5.03	0	35	0.00	1.76	1.584%	4.64%	263,639	1,104,339
1.2.2	CONSTRUCTION MANAGEMENT	700,600	4.19	0	35	0.00	1.47	1.320%	3.87%	219,705	920,305
1.3.1	GENERAL CONDITIONS	1,649,217	9.87	0	40	0.00	3.95	3.551%	10.40%	591,070	2,240,287
1.3.2	SITWORK	759,751	4.54	0	45	0.00	2.05	1.841%	5.39%	306,327	1,066,078
1.3.3	CONCRETE	3,906,844	23.37	0	40	0.00	9.35	8.413%	24.64%	1,400,192	5,307,036
1.3.15	MECHANICAL	690,423	4.13	0	45	0.00	1.86	1.673%	4.90%	278,374	968,797
1.5.1	G&A/PIF ADDER	1,237,213	7.40	0	40	0.00	2.96	2.664%	7.80%	443,410	1,680,623
1.5.2	PROCUREMENT FEES	121,208	0.73	0	40	0.00	0.29	0.261%	0.76%	43,440	164,648
	ESCALATION	6,461,442	38.65	0	35	0.00	13.53	12.175%	35.66%	2,026,293	8,487,735
	SUBTOTAL	16,717,698	100.00					34.142%			
	CALCULATED CONTINGENCY	5,707,742									
	RESULTANT TEC	22,425,440									
	ROUNDED TEC	22,400,000									
	PROJECT CONTINGENCY	5,682,302						33.99%			
	MANAGEMENT RESERVE	1,363,439									
	CONTINGENCY	4,318,863									
	TOTAL ESTIMATED COST	22,400,000								5,682,302	22,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE III/AFC	Market Conditions

12/11/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-9H

PROCUREMENT FEE:

CONSTRUCTION*** =	\$4,035,539	
GFE =	\$0	
Subtotal	\$4,035,539	
FEE @ 3% =	\$4,035,539 * 0.03 =	\$121,066

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$4,035,539	
GFE =	\$0	
PROCUREMENT FEE =	\$121,066	
Subtotal	\$4,156,605	
FEE @ 23% =	\$4,156,605 * 0.23 =	\$956,019

PIF @ 5.5%

CONSTRUCTION =	\$4,035,539	
GFE =	\$0	
PROCUREMENT FEE =	\$121,066	
G&A =	\$956,019	
Subtotal	\$5,112,624	
FEE @ 5.5% =	\$5,112,624 * 0.055 =	\$281,194

TOTAL PROCUREMENT FEE: \$121,066

TOTAL G&A FEE: \$956,019

TOTAL PIF: \$281,194

***"Construction"= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
CERCLA SOIL IN TANK VOIDS - ESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-911**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **10:54:43**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$1,485,651</u>
1.1.2	TITLE III INSPECTION	704,100	781,551	1,485,651
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$6,833,868</u>
1.2.1	PROJECT MANAGEMENT	1,830,600	2,031,966	3,862,566
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	1,563,102	2,971,302
1.3	<u>CONSTRUCTION</u>			>> <u>\$29,712,620</u>
1.3.1	GENERAL CONDITIONS	2,650,704	2,942,282	5,592,986
1.3.2	SITWORK	7,919,800	8,790,978	16,710,778
1.3.13	SPECIAL CONSTRUCTION	440,000	488,400	928,400
1.3.14	CONVEYING SYSTEMS	3,071,306	3,409,150	6,480,456
1.5	<u>G&A/PIF</u>			>> <u>\$3,128,873</u>
1.5.1	G&A/PIF ADDER	1,482,878	1,645,995	3,128,873
1.5.2	PROCUREMENT FEES	297,125	329,810	\$626,936
SUBTOTAL INCLUDING ESCALATION		19,804,714	21,983,234	>> \$41,787,948
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$3,346,843
CONTINGENCY				>> \$11,765,209
TOTAL ESTIMATED COST				>> \$56,900,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= **5.00%**
CONTINGENCY= **36.16%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
CERCLA SOIL IN TANK VOIDS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-911**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **10:52:36**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$704,100</u>
1.1.2	TITLE III INSPECTION	704,100	0	704,100
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,238,800</u>
1.2.1	PROJECT MANAGEMENT	1,830,600	0	1,830,600
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	0	1,408,200
1.3	<u>CONSTRUCTION</u>			>> <u>\$14,081,810</u>
1.3.1	GENERAL CONDITIONS	2,650,704	0	2,650,704
1.3.2	SITWORK	7,919,800	0	7,919,800
1.3.13	SPECIAL CONSTRUCTION	440,000	0	440,000
1.3.14	CONVEYING SYSTEMS	3,071,306	0	3,071,306
1.5	<u>G&A/PIF</u>			>> <u>\$1,482,878</u>
1.5.1	G&A/PIF ADDER	1,482,878	0	1,482,878
1.5.2	PROCUREMENT FEES	297,126	0	>> <u>\$297,126</u>
SUBTOTAL INCLUDING ESCALATION		19,804,714	0	>> \$19,804,714
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,586,181
CONTINGENCY				>> \$6,509,105
TOTAL ESTIMATED COST				>> \$27,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **40.88%**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-911

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 10:51:40

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION.	1	LOT			0.000		704,100				704,100
	TITLE III INSPECTION S/T						0	\$704,100				\$704,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION.	1	LOT			0.000		1,830,600				1,830,600
	PROJECT MANAGEMENT S/T						0	\$1,830,600				\$1,830,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		1,408,200				1,408,200
	CONSTRUCTION MANAGEMENT S/T						0	\$1,408,200				\$1,408,200
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	5180.00	5,180	261,590				261,590
	TRAINING:	10	FTE		ZF-OE FA	199.000	1,990	103,022				103,022
	SMALL TOOLS & CONSUMABLES	1	LOT	140,000.00		0.000				140,000		140,000
	CRANE SUPPORT	1	LOT		ZF-OE FA	5180.00	5,180	268,169	285,000			553,169
	MISC. EQUIPMENT	1	LOT			0.000			130,000			130,000
	CLEANUP & MATERIAL HANDLING	51,776	MHRS		ZF-LB FA	0.100	5,178	229,005				229,005

Rev. 0/96

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
CERCLA SOIL IN TANK VOIDS

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

PROJECT NO.: 2406-911
PREPARED BY: R. D. ADAMS

TIME: 10:51:40

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
	RADCON TECH SUPPORT	2	FTE		Z-1342	5180.00	10,360	511,784				511,784
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	681,080.00	FA	0.000				681,080		681,080
	GENERAL CONDITIONS S/T						27,888	\$1,373,570	\$415,000	\$821,080		\$2,609,650
1.3.2	SITework											
	MIXING PLANT	2	EA			0.000					1,000,000	1,000,000
Memo:	Includes hoppers, augers, mixers, vibrators, controls, etc. All materials to be decontaminable.											
	MODIFY EXISTING CONTROL TRAILER(S)	1	LOT			0.000					150,000	150,000
Memo:	Assume existing control trailers from heat solidifying process can be modified as control station for mixing plant.											
	PARAFFIN GROUTING AGENT	1,175,000	GAL	5.00		0.000				5,875,000		5,875,000
Memo:	Per a report by M.M. Dahmeier, assume 87 gallons of paraffin grout agent per cy of soil. Also, assume 75% of tank voids will be filled with CERCLA soil, 13,600 cy. Paraffin agent to be delivered in heated tank truck to site.											
	MIX & DELIVER SOIL TO TANKS	13,500	CY		ZF-OE	0.860	11,610	601,050				601,050
	SITework S/T						11,610	\$601,050		\$5,875,000	\$1,150,000	\$7,626,050
1.3.13	SPECIAL CONSTRUCTION											
	MIXING PLANT BUILDING	2,400	SF			0.000					240,000	240,000
Memo:	Cost includes foundation, shell, utilities, lighting and fire protection.											
	RAD MONITORING SYSTEM	1	LOT			0.000					200,000	200,000
	SPECIAL CONSTRUCTION S/T						0				\$440,000	\$440,000

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.14	CONVEYING SYSTEMS											
	SCREW CONVEYOR FOR DELIVERY TO TANKS	1	EA	200,000.00	ZF-IW	300.000	300	14,469		200,000		214,469
	SCREW CONVEYOR SPARE PARTS	1	LOT	100,000.00		0.000				100,000		100,000
	MOVE SCREW CONVEYOR TO OTHER TANKS	1,525	LF		ZF-IW	5.500	8,388	404,529				404,529
	SCREW CONVEYOR HEATING SYSTEM	275	LF			0.000					33,000	33,000
	SST ENCASEMENT FOR CONVEYOR	275	LF	160.00	ZF-PF	0.000				44,000		44,000
	INITIAL (CLEAN) SET UP OF ENCASEMENT	275	LF		ZF-PF	2.920	803	48,397				48,397
	CUT, REMOVE & RESET FOR OTHER TANKS	1,525	LF		ZF-PF	12.500	19,063	1,148,897				1,148,897
	CONCRETE SHIELDING AROUND ENCASEMENT	275	LF	900.00	ZF-OE	1.000	275	14,237		247,500		261,737
	REMOVE & REINSTALL SHIELDING	1,525	LF		ZF-OE	3.500	5,338	276,322				276,322
	CUT UP & BOX CONVEYOR	400	LF	50.00	ZF-IW	15.000	6,000	289,380		20,000	200,000	509,380
Memo:	Includes waste processing costs											
	CONVEYING SYSTEMS S/T						40,168	\$2,186,231		\$611,500	\$233,000	\$3,040,731
1.6.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					873,386	873,386
	PIF	1	LOT			0.000					609,492	609,492
	G&A/PIF ADDER S/T						0				\$1,482,878	\$1,482,878
	PROJECT SUBTOTAL						79,683	\$8,113,751	\$415,000	\$7,307,580	\$3,305,878	\$19,142,209

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CERCLA FILL**
CERCLA SOIL IN TANK VOIDS - UNESCALATED
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-911**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **10:52:45**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	704,100	3.56	0	40	0.00	1.42	1.280%	3.11%	252,110	956,210
1.2.1	PROJECT MANAGEMENT	1,830,600	9.24	0	40	0.00	3.70	3.328%	8.10%	655,465	2,486,065
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	7.11	0	40	0.00	2.84	2.560%	6.23%	504,220	1,912,420
1.3.1	GENERAL CONDITIONS	2,650,704	13.38	0	45	0.00	6.02	5.421%	13.19%	1,067,750	3,718,454
1.3.2	SITWORK	7,919,800	39.99	10	50	4.00	19.99	17.595%	42.61%	3,465,935	11,385,735
1.3.13	SPECIAL CONSTRUCTION	440,000	2.22	0	35	0.00	0.78	0.700%	1.70%	137,853	577,853
1.3.14	CONVEYING SYSTEMS	3,071,306	15.51	0	50	0.00	7.75	6.979%	16.98%	1,374,640	4,445,946
1.5.1	G&A/PIF ADDER	1,482,878	7.49	0	40	0.00	3.00	2.695%	6.56%	530,950	2,013,838
1.5.2	PROCUREMENT FEES	297,126	1.50	0	40	0.00	0.60	0.540%	1.31%	106,389	403,515
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(36)	(36)
SUBTOTAL		19,804,714	100.00					41.097%			
CALCULATED CONTINGENCY		8,139,180									
RESULTANT TEC		27,943,894									
ROUNDED TEC		27,900,000									
PROJECT CONTINGENCY		8,095,286						40.88%			
MANAGEMENT RESERVE		1,586,181									
CONTINGENCY		6,509,105									
TOTAL ESTIMATED COST		27,900,000								8,095,286	27,900,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CERCLA FILL
 CERCLA SOIL IN TANK VOIDS - ESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-911
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 10:54:49

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	704,100	1.68	0	40	0.00	0.67	0.607%	1.68%	254,289	958,389
1.2.1	PROJECT MANAGEMENT	1,830,600	4.38	0	40	0.00	1.75	1.577%	4.37%	661,130	2,491,730
1.2.2	CONSTRUCTION MANAGEMENT	1,408,200	3.37	0	40	0.00	1.35	1.213%	3.37%	508,579	1,916,779
1.3.1	GENERAL CONDITIONS	2,650,704	6.34	0	45	0.00	2.85	2.569%	7.13%	1,076,980	3,727,684
1.3.2	SITWORK	7,919,800	18.95	10	50	1.90	9.48	8.339%	23.13%	3,495,893	11,415,693
1.3.13	SPECIAL CONSTRUCTION	440,000	1.05	0	35	0.00	0.37	0.332%	0.92%	139,045	579,045
1.3.14	CONVEYING SYSTEMS	3,071,306	7.35	0	50	0.00	3.67	3.307%	9.17%	1,386,522	4,457,828
1.5.1	G&A/PIF ADDER	1,482,878	3.55	0	40	0.00	1.42	1.277%	3.54%	535,549	2,018,427
1.5.2	PROCUREMENT FEES	297,126	0.71	0	40	0.00	0.28	0.256%	0.71%	107,309	404,435
	ESCALATION	21,983,234	52.61	0	35	0.00	18.41	16.571%	45.97%	6,946,756	28,929,990
	SUBTOTAL	41,787,948	100.00					36.048%			
	CALCULATED CONTINGENCY	15,063,899									
	RESULTANT TEC	56,851,847									
	ROUNDED TEC	56,900,000									
	PROJECT CONTINGENCY	15,112,052						36.16%			
	MANAGEMENT RESERVE	3,346,843									
	CONTINGENCY	11,765,209									
	TOTAL ESTIMATED COST	56,900,000								15,112,052	56,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

12/11/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-9I

PROCUREMENT FEE:

CONSTRUCTION*** =	\$9,910,959	
GFE =	\$0	
Subtotal	\$9,910,959	
FEE @ 3% =	\$9,910,959	* 0.03 = \$297,329

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * 7 YEARS =	\$3,500,000	
GFE =	\$0	
PROCUREMENT FEE =	\$297,329	
Subtotal	\$3,797,329	
FEE @ 23% =	\$3,797,329	* 0.23 = \$873,386

PIF @ 5.5%

CONSTRUCTION =	\$9,910,959	
GFE =	\$0	
PROCUREMENT FEE =	\$297,329	
G&A =	\$873,386	
Subtotal	\$11,081,673	
FEE @ 5.5% =	\$11,081,673	* 0.055 = \$609,492

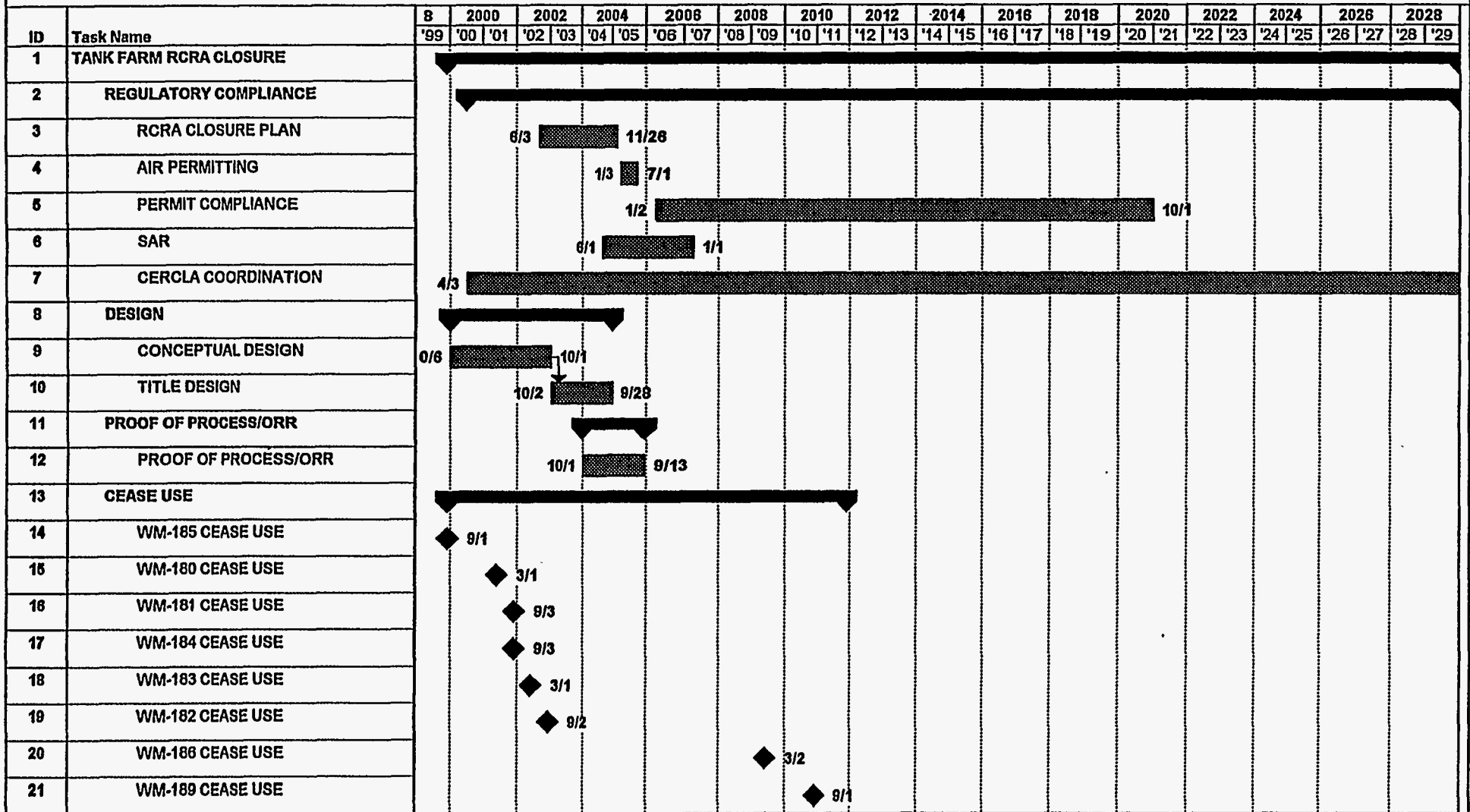
TOTAL PROCUREMENT FEE: \$297,329

TOTAL G&A FEE: \$873,386

TOTAL PIF: \$609,492

***Construction = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

**TANK FARM RCRA CLOSURE
CLOSE TO RCRA LANDFILL STANDARDS
CERCLA FILL**



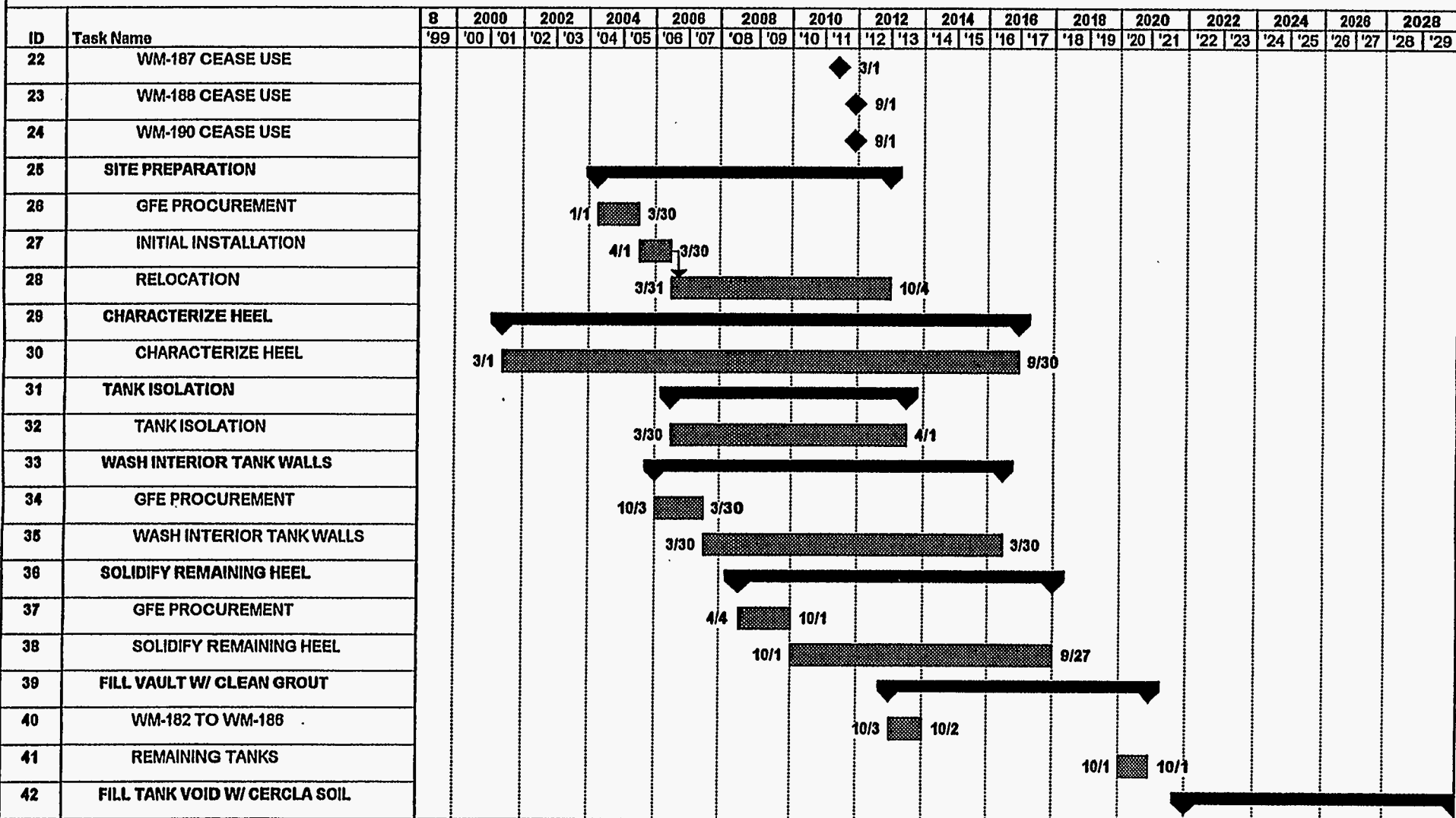
Project: 2408-9.MPP
Date: Fri 1/23/98

Task [Progress bar] Summary [Summary bar] Rolled Up Progress [Summary bar]

Progress [Progress bar] Rolled Up Task [Progress bar]

Milestone [Diamond] Rolled Up Milestone [Diamond]

**TANK FARM RCRA CLOSURE
CLOSE TO RCRA LANDFILL STANDARDS
CERCLA FILL**



Project: 2406-9.MPP
Date: Fri 1/23/98

Task		Summary		Rolled Up Progress	
Progress		Rolled Up Task			
Milestone	◆	Rolled Up Milestone	◇		

**TANK FARM RCRA CLOSURE
CLOSE TO RCRA LANDFILL STANDARDS
CERCLA FILL**

ID	Task Name	8		2000		2002		2004		2006		2008		2010		2012		2014		2016		2018		2020		2022		2024		2026		2028			
		'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29			
43	FILL TANK VOID W/ CERCLA SOIL																																		
44	TURN OVER TO CERCLA																																		

10/4

Project: 2406-9.MPP
Date: Fri 1/23/88

Task



Summary



Rolled Up Progress



Progress



Rolled Up Task



Milestone



Rolled Up Milestone



Option 6

COST ESTIMATE SUMMARY

TANK FARM RCRA CLOSURE CLOSE TO RCRA LANDFILL STANDARDS CLEAN FILL REQUESTOR: B. C. SPAULDING	PLANNING ESTIMATE ESTIMATE # 2406-10 PREPARED BY: R. D. ADAMS	January 23, 1998 CHECKED BY: <i>RDM</i> APPROVED BY: <i>RCS for BCP</i>
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	UNESCALATED COSTS	ESCALATED COSTS
REGULATORY COMPLIANCE	\$2,900,000	\$3,700,000
DESIGN	\$13,200,000	\$14,800,000
PROOF OF PROCESS/ORR	\$5,800,000	\$6,900,000
SITE PREPARATION	\$9,400,000	\$12,200,000
CHARACTERIZE HEEL	\$1,800,000	\$2,300,000
TANK ISOLATION	\$7,700,000	\$10,200,000
WASH INTERIOR TANK WALLS	\$23,400,000	\$31,000,000
SOLIDIFY REMAINING HEEL	\$9,000,000	\$12,400,000
FILL VAULT & TANKS W/ CLEAN GROUT	\$17,500,000	\$28,200,000
TOTAL	\$90,700,000	\$121,700,000

*See the accompanying individual estimates for details.

COST ESTIMATE SUPPORT DATA RECAPITULATION

Project Title: CLOSE TO RCRA LANDFILL STANDARDS Estimator: RDA
 CLEAN FILL

Type of Estimate: PLANNING

Date: 1/23/98

File No: 2406-10-1

Approved By: Boj by KLS

I. **SCOPE OF WORK:** *Brief description of the proposed project.*

This project will provide RCRA closure for the eleven waste storage tanks at the ICPP. The tank heels will be flushed and neutralized. Tank internals will be sprayed to remove solid contamination. The remaining heel will be stabilized with grout. The tanks and vaults will be filled with clean grout. Finally, the tank farm will be turned over to CERCLA to monitor.

II. **BASIS OF THE ESTIMATE:** *Drawings, Design Report, Engineers notes, and/or other documentation upon which the estimate is originated.*

Information contained in draft copies of the fifty percent feasibility report was used to scope the project.

III. **ASSUMPTIONS:** *Condition statements accepted or supposed true without proof or demonstration. An assumption has a direct impact on total estimated cost.*

1. All of the fieldwork will be accomplished by Force Account personnel or operations personnel. LMITCO personnel will design, manage and acquire permits.
2. This estimate is intended to cover project costs from project authorization to turnover. No distinction was made for "color of money".
3. The percentages used for Design, Inspection and, to some extent, Construction Management are slightly lower than those regularly used on an effort of this size. Much of the closure involves repetitive work after filling the first tank with grout.
4. Project Management will maintain a fairly high level of involvement throughout the closure period.

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-10-1

Page 2 of 3

III. ASSUMPTIONS: (Continued)

5. The proposed schedule is:

Design -	2000 to 2005
Solidify Heel-	2005 to 2018
Fill Vault and Tank Voids with Clean Grout:	
WM-182 - 186-	2013 to 2014
Remaining Tanks-	2020 to 2021
6. Temporary construction facilities cover craft change and lunch areas, offices and warehousing.
7. Permitting assumptions: Others will accomplish the EIS. An EA will not be required in addition to the EIS. Delisting of hazards is by others. Post closure monitoring is CERCLA's responsibility.
8. All excavated soil can be reused as backfill within the tank farm.
9. Excavation incorporates shoring to minimize exposure to contaminated dirt.
10. Much of the productivity was based on actual costs incurred on the Tank Farm Upgrades Project.
11. The 'Tank Farm Heel Removal Project' conceptual draft estimate, dated 12/19/94, was used as a reference.
12. Heel, tank and vault grout costs are based on the "sand" grout used in the WCF Deactivation Project.
13. Grout drop tubes can be decontaminated and reused as needed.
14. Grout placement unit labor hours include time for set up and cleaning of grout equipment after each pour.
15. Heel characterization costs represent three sets of samples for each tank.
16. Heel flushing and riser equipment removal costs were confirmed with Dave Machovec.

- Continued on Page 3 -

COST ESTIMATE SUPPORT DATA RECAPITULATION
(CONTINUATION)

File No: 2406-10-1

Page 3 of 3

III. ASSUMPTIONS: (Continued)

17. Mounting/support frames were assumed for each piece of riser equipment to distribute their weight as well as to provide a mounting base.
18. The tank farm area enclosure is sized to cover as many as four tanks at once with traffic lanes around.
19. Heel transfer lines will require shielding from the tanks to the appropriate valve box tie-in.
20. The grout pump will be staged north of tanks 185 & 186.
21. Spare equipment was estimated where needed.

IV. CONTINGENCY GUIDELINE IMPLEMENTATION: *The percentage used For contingency as determined by the contingency allowance guidelines can be altered to reflect the type of construction and conditions that may impact the total estimated cost.*

At this stage of project development, there are still many unanswered questions as to interferences and working conditions. Most of the work will take place in contaminated areas. Many of the pieces of equipment are not standard and require development. The closure schedule depends on tank turnover from operations over several years. The resultant contingency is in the upper range of the percentage suggested in the INEL Cost Estimating Guide.

V. OTHER COMMENTS/CONCERNS SPECIFIC TO THE ESTIMATE:

1. All FY'98 and later projects are to be assessed a Procurement Fee of 3%, a G&A Fee of 23%, and a Performance Incentive Fee (PIF) of 5.5%. See the attached G&A/PIF calculation sheet for the method used to calculate these fees. These fees were applied only to material, equipment and subcontract costs. Labor unit rates used in the estimate already contain these fees.
2. Shielding at or near the tank risers may be a much larger concern than suggested in the report drafts.
3. Comments received from the design review have been incorporated into the estimates. The specific changes include increased QA title III costs, washing arm costs, wet and dry grout placement arm costs, and the removal of redundant work from the "Fill Vault With Clean Grout" estimate. Also, an estimate for Proof of Process/ORR was added.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL REGULATORY COMPLIANCE - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10A1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **13:23:19**

CHECKED BY: *[Signature]*

APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>PERMITTING</u>			>> <u>\$2,172,097</u>
1.1.1	PERMITTING	1,683,796	488,301	2,172,097
<u>1.4</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$282,381</u>
1.4.1	PROJECT MANAGEMENT	218,900	63,481	282,381
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$330,627</u>
1.5.1	G&A/PIF ADDER	256,300	74,327	330,627
1.5.2	PROCUREMENT FEES	25,086	7,275	>> <u>\$32,361</u>
	SUBTOTAL INCLUDING ESCALATION	2,184,082	633,384	>> \$2,817,466
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$882,534
	TOTAL ESTIMATED COST			>> \$3,700,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 769.00%

CONTINGENCY= 31.32%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL REGULATORY COMPLIANCE - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10A1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **13:07:13**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	PERMITTING			>> \$1,683,796
1.1.1	PERMITTING	1,683,796	0	1,683,796
1.4	MANAGEMENT COSTS			>> \$218,900
1.4.1	PROJECT MANAGEMENT	218,900	0	218,900
1.5	G&A/PIF			>> \$256,300
1.5.1	G&A/PIF ADDER	256,300	0	256,300
1.5.2	PROCUREMENT FEES	25,086	0	>> \$25,086
SUBTOTAL INCLUDING ESCALATION		2,184,082	0	>> \$2,184,082
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$715,918
TOTAL ESTIMATED COST				>> \$2,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **769.00%**

CONTINGENCY= **32.78%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
REGULATORY COMPLIANCE

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-10A

PREPARED BY: R. D. ADAMS.

PAGE # 1

DATE 11-Dec-1997

TIME: 08:57:47

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	PERMITTING											
	AIR PERMITTING	1	LOT		LIMITCO	0.000					30,000	30,000
	AIR MONITORS	6	EA			0.000					720,000	720,000
	AIR MONITORING ACTIVITIES	24	MO		Z-1732	2.000	48	2,096				2,096
	AIR MONITORING LAB FEES	8	EA			0.000					16,000	16,000
	RCRA CLOSURE PLAN	2	FTE		Z-1700 LIMITCO	1500.00	3,000	193,980				193,980
	P.E. ACTIVITIES	1	LOT		LIMITCO	0.000					60,000	60,000
	CERCLA COORDINATOR	2	FTE		Z-1700 LIMITCO	1500.00	3,000	193,980				193,980
	REGULATORY AFFAIRS OVERSITE	15	YR		Z-1700 LIMITCO	150.000	2,250	145,485				145,485
	SURVEY PLAT	1	LOT		LIMITCO	0.000					10,000	10,000
	SARR	1	LOT		Z-3170	4500.00	4,500	312,255				312,255
	PERMITTING S/T						12,798	\$847,796			\$836,000	\$1,683,796
1.4.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		218,900				218,900
	Memo: PM @ 13% OF PERMITTING.											
	PROJECT MANAGEMENT S/T						0	\$218,900				\$218,900
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					198,048	198,048
	PIF	1	LOT			0.000					58,252	58,252

Lockheed Martin Idaho Technologies Co.

Rev. 8/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
REGULATORY COMPLIANCE -

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-10A
PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 11-Dec-1997
TIME: 08:57:47
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER											
	G&A/PIF ADDER S/T						0				\$256,300	\$256,300
	PROJECT SUBTOTAL						12,798	\$1,066,696	\$0	\$0	\$1,092,300	\$2,158,996

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 REGULATORY COMPLIANCE - UNESCALATED
 LOCATION 1: INEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-10A1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 13:07:19

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	1,683,796	77.09	0	40	0.00	30.84	27.754%	84.97%	608,299	2,292,095
1.4.1	PROJECT MANAGEMENT	218,900	10.02	5	30	0.50	3.01	2.656%	8.13%	58,213	277,113
1.5.1	G&A/PIF ADDER	256,300	11.73	5	20	0.59	2.35	2.054%	6.29%	45,010	301,310
1.5.2	PROCUREMENT FEES	25,086	1.15	5	20	0.06	0.23	0.201%	0.62%	4,405	29,491
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(9)	(9)
SUBTOTAL		2,184,082	100.00					32.664%			
CALCULATED CONTINGENCY		713,418									
RESULTANT TEC		2,897,500									
ROUNDED TEC		2,900,000									
PROJECT CONTINGENCY		715,918						32.78%			
MANAGEMENT RESERVE		0									
CONTINGENCY		715,918									
TOTAL ESTIMATED COST		2,900,000								715,918	2,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
REGULATORY COMPLIANCE - ESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10A1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **13:23:25**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	PERMITTING	1,683,796	59.76	0	40	0.00	23.91	21.515%	66.40%	585,976	2,269,772
1.4.1	PROJECT MANAGEMENT	218,900	7.77	5	30	0.39	2.33	2.059%	6.35%	56,076	274,976
1.5.1	G&A/PIF ADDER	256,300	9.10	5	20	0.45	1.82	1.592%	4.91%	43,358	299,658
1.5.2	PROCUREMENT FEES	25,086	0.89	5	20	0.04	0.18	0.156%	0.48%	4,244	29,330
	ESCALATION	633,384	22.48	0	35	0.00	7.87	7.081%	21.85%	192,880	826,264
SUBTOTAL		2,817,466	100.00					32.403%			
CALCULATED CONTINGENCY		912,934									
RESULTANT TEC		3,730,400									
ROUNDED TEC		3,700,000									
PROJECT CONTINGENCY		882,534						31.32%			
MANAGEMENT RESERVE		0									
CONTINGENCY		882,534									
TOTAL ESTIMATED COST		3,700,000								882,534	3,700,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
--	--

G&A/PIF ADDER CALCULATION SHEET

PROCUREMENT FEE:

CONSTRUCTION =	\$836,000		
GFE =	\$0		
Subtotal	\$836,000		
 FEE @ 3% =	 \$836,000	 * 0.03 =	 \$25,080

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$836,000		
GFE =	\$0		
PROCUREMENT FEE =	\$25,080		
Subtotal	\$861,080		
 FEE @ 23% =	 \$861,080	 * 0.23 =	 \$198,048

PIF @ 5.5%

CONSTRUCTION =	\$836,000		
GFE =	\$0		
PROCUREMENT FEE =	\$25,080		
G&A =	\$198,048		
Subtotal	\$1,059,128		
 FEE @ 5.5% =	 \$1,059,128	 * 0.055 =	 \$58,252

TOTAL PROCUREMENT FEE: \$25,080

TOTAL G&A FEE: \$198,048

TOTAL PIF: \$58,252

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL DESIGN - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10B1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **15:26:11**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN			>> \$8,245,002
1.1.1	CONCEPTUAL DESIGN	2,147,090	171,767	2,318,857
1.1.2	TITLE DESIGN	5,153,170	772,975	5,926,145
1.2	MANAGEMENT COSTS			>> \$3,033,297
1.2.1	PROJECT MANAGEMENT	2,732,700	300,597	3,033,297
1.5.2	PROCUREMENT FEES	0	0	>> \$0
SUBTOTAL INCLUDING ESCALATION		10,032,960	1,245,339	>> \$11,278,299
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$3,521,701
TOTAL ESTIMATED COST				>> \$14,800,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= *****.***%**
 CONTINGENCY= **31.23%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
DESIGN - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10B1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **15:24:42**

CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN</u>			>> <u>\$7,300,260</u>
1.1.1	CONCEPTUAL DESIGN	2,147,090	0	2,147,090
1.1.2	TITLE DESIGN	5,153,170	0	5,153,170
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$2,732,700</u>
1.2.1	PROJECT MANAGEMENT	2,732,700	0	2,732,700
1.5.2	PROCUREMENT FEES	0	0	>> <u>\$0</u>
	SUBTOTAL INCLUDING ESCALATION	10,032,960	0	>> \$10,032,960
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$3,167,040
	TOTAL ESTIMATED COST			>> \$13,200,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= *****.***%**

CONTINGENCY= **31.57%**

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.1	CONCEPTUAL DESIGN											
Memo:	CONCEPTUAL DESIGN/PROCEDURE DEVELOPMENT @ 5% OF CONSTRUCTION PLUS G.F.E.	1	LOT			0.000		1,951,900				1,951,900
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		195,190				195,190
	CONCEPTUAL DESIGN S/T						0	\$2,147,090				\$2,147,090
1.1.2	TITLE DESIGN											
Memo:	TITLE DESIGN/PROCEDURE DEVELOPMENT @ 12% OF CONSTRUCTION PLUS G.F.E.	1	LOT			0.000		4,684,700				4,684,700
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT			0.000		468,470				468,470
	TITLE DESIGN S/T						0	\$5,153,170				\$5,153,170
1.2.1	PROJECT MANAGEMENT											
Memo:	DESIGN PROJECT MANAGEMENT @ 7% OF CONSTRUCTION PLUS G.F.E.	1	LOT			0.000		2,732,700				2,732,700
	PROJECT MANAGEMENT S/T						0	\$2,732,700				\$2,732,700
	PROJECT SUBTOTAL						0	\$10,032,960	\$0	\$0	\$0	\$10,032,960

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL**
 DESIGN - UNESCALATED
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10B1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **15:24:48**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,147,090	21.40	0	35	0.00	7.49	6.741%	21.40%	677,758	2,824,848
1.1.2	TITLE DESIGN	5,153,170	51.36	0	35	0.00	17.98	16.179%	51.36%	1,626,668	6,779,838
1.2.1	PROJECT MANAGEMENT	2,732,760	27.24	0	35	0.00	9.53	8.580%	27.24%	862,614	3,595,314
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		10,032,960	100.00					31.500%			
CALCULATED CONTINGENCY		3,160,382									
RESULTANT TEC		13,193,342									
ROUNDED TEC		13,200,000									
PROJECT CONTINGENCY		3,167,040						31.57%			
MANAGEMENT RESERVE		0									
CONTINGENCY		3,167,040									
TOTAL ESTIMATED COST		13,200,000								3,167,040	13,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% -- 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% -- 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% -- 20%
 TITLE II 5% -- 15%
 TITLE II/AFC Market Conditions

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.1	CONCEPTUAL DESIGN	2,147,090	19.04	0	35	0.00	6.66	5.997%	19.04%	670,439	2,817,529
1.1.2	TITLE DESIGN	5,153,170	45.69	0	35	0.00	15.99	14.393%	45.69%	1,609,101	6,762,271
1.2.1	PROJECT MANAGEMENT	2,732,700	24.23	0	35	0.00	8.48	7.632%	24.23%	853,298	3,585,998
1.5.2	PROCUREMENT FEES	0	0.00	5	20	0.00	0.00	0.000%	0.00%	0	0
	ESCALATION	1,245,339	11.04	0	35	0.00	3.86	3.478%	11.04%	388,863	1,634,202
SUBTOTAL		11,278,299	100.00					31.500%			
CALCULATED CONTINGENCY		3,552,664									
RESULTANT TEC		14,830,963									
ROUNDED TEC		14,800,000									
PROJECT CONTINGENCY		3,521,701						31.23%			
MANAGEMENT RESERVE		0									
CONTINGENCY		3,521,701									
TOTAL ESTIMATED COST		14,800,000								3,521,701	14,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING	20% - 30%
Experimental/Special Conditions.....	Up to 50%
Conceptual	15% - 25%
Experimental/Special Conditions.....	Up to 40%
TITLE I	10% - 20%
TITLE II	5% - 15%
TITLE II/AFC	Market Conditions

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/86
 PROJECT NAME: **CLOSE TO RCRA STDS - CLEAN FILL
 PROOF OF PROCESS/ORR - ESCALATED**
 LOCATION 1: **INEEL/CPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10CA**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **13:33:53**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$178,500</u>
1.1.2	TITLE III INSPECTION	150,000	28,500	178,500
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> <u>\$702,100</u>
1.2.1	PROJECT MANAGEMENT	390,000	74,100	464,100
1.2.2	CONSTRUCTION MANAGEMENT	200,000	38,000	238,000
<u>1.3</u>	<u>CONSTRUCTION</u>			>> <u>\$3,570,000</u>
1.3.1	GENERAL	3,000,000	570,000	3,570,000
<u>1.5</u>	<u>G&A/PIF</u>			>> <u>\$516,982</u>
1.5.1	G&A/PIF ADDER	434,439	82,543	516,982
1.5.2	PROCUREMENT FEES	90,000	17,100	107,100
	SUBTOTAL INCLUDING ESCALATION	4,264,439	810,243	>> \$5,074,682
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$419,408
	CONTINGENCY			>> \$1,405,910
	TOTAL ESTIMATED COST			>> \$6,900,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= 5.00%

CONTINGENCY= 35.97%

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA STDS - CLEAN FILL
PROOF OF PROCESS/ORR - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10CA**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **13:32:06**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$150,000
1.1.2	TITLE III INSPECTION	150,000	0	150,000
1.2	<u>MANAGEMENT COSTS</u>			>> \$590,000
1.2.1	PROJECT MANAGEMENT	390,000	0	390,000
1.2.2	CONSTRUCTION MANAGEMENT	200,000	0	200,000
1.3	<u>CONSTRUCTION</u>			>> \$3,000,000
1.3.1	GENERAL	3,000,000	0	3,000,000
1.5	<u>G&A/PIF</u>			>> \$434,439
1.5.1	G&A/PIF ADDER	434,439	0	434,439
1.5.2	PROCUREMENT FEES	90,000	0	>> \$90,000
	SUBTOTAL INCLUDING ESCALATION	4,264,439	0	>> \$4,264,439
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$352,444
	CONTINGENCY			>> \$1,183,117
	TOTAL ESTIMATED COST			>> \$5,800,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= **5.00%**
CONTINGENCY= **36.01%**

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000	TITLE III INSPECTION Inspection and Overview	1	LOT			0.000		150,000				150,000
	Memo: @ 5% OF CONSTRUCTION PLUS GEE.											
	TITLE III INSPECTION S/T						0	\$150,000				\$150,000
1.2.1	PROJECT MANAGEMENT											
	PM	1	LOT			0.000		390,000				390,000
	Memo: @ 13% OF CONSTRUCTION PLUS GEE.											
	PROJECT MANAGEMENT S/T						0	\$390,000				\$390,000
1.2.2	CONSTRUCTION MANAGEMENT											
	CM	1	LOT			0.000		200,000				200,000
	Memo: @ 10% OF CONSTRUCTION.											
	CONSTRUCTION MANAGEMENT S/T						0	\$200,000				\$200,000
1.3.1	GENERAL											
	MOCKUP AND TESTING	1	LOT			0.000					2,000,000	2,000,000
	ORR & OTHER TEST REPORTS	1	LOT		FA	0.000		1,000,000				1,000,000
					FA							
	GENERAL S/T						0	\$1,000,000			2,000,000	\$3,000,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					250,700	250,700

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA STDS - CLEAN FILL
PROOF OF PROCESS/ORR

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-10CA
PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 23-Jan-1998
TIME: 13:31:20
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					183,739	183,739
	G&A/PIF ADDER S/T						0				\$434,439	\$434,439
	PROJECT SUBTOTAL						0	\$1,740,000	\$0	\$0	\$2,434,439	===== \$4,174,439 =====

CONTINGENCY ANALYSIS

PROJECT NAME: CLOSE TO RCRA STDS - CLEAN FILL
PROOF OF PROCESS/ORR - UNESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-10CA
PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
TIME: 13:32:11

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	3.52	0	40	0.00	1.41	1.266%	3.52%	54,013	204,013
1.2.1	PROJECT MANAGEMENT	390,000	9.15	0	40	0.00	3.66	3.292%	9.15%	140,433	530,433
1.2.2	CONSTRUCTION MANAGEMENT	200,000	4.69	0	40	0.00	1.88	1.688%	4.69%	72,017	272,017
1.3.1	GENERAL	3,000,000	70.35	0	40	0.00	28.14	25.326%	70.35%	1,080,255	4,080,255
1.5.1	G&A/PIF ADDER	434,439	10.19	0	40	0.00	4.07	3.667%	10.19%	156,435	590,874
1.5.2	PROCUREMENT FEES	90,000	2.11	0	40	0.00	0.84	0.760%	2.11%	32,408	122,408
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		4,264,439	100.00					36.000%			
CALCULATED CONTINGENCY		1,535,198									
RESULTANT TEC		5,799,637									
ROUNDED TEC		5,800,000									
PROJECT CONTINGENCY		1,535,561						36.01%			
MANAGEMENT RESERVE		352,444									
CONTINGENCY		1,183,117									
TOTAL ESTIMATED COST		5,800,000								1,535,561	5,800,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA STDS - CLEAN FILL
PROOF OF PROCESS/ORR - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

CONTINGENCY ANALYSIS

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10CA**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **13:33:58**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	150,000	2.96	0	40	0.00	1.18	1.064%	3.02%	55,052	205,052
1.2.1	PROJECT MANAGEMENT	390,000	7.69	0	40	0.00	3.07	2.767%	7.84%	143,134	533,134
1.2.2	CONSTRUCTION MANAGEMENT	200,000	3.94	0	40	0.00	1.58	1.419%	4.02%	73,402	273,402
1.3.1	GENERAL	3,000,000	59.12	0	40	0.00	23.65	21.282%	60.32%	1,101,033	4,101,033
1.5.1	G&A/PIF ADDER	434,439	8.56	0	40	0.00	3.42	3.082%	8.74%	159,444	593,883
1.5.2	PROCUREMENT FEES	90,000	1.77	0	40	0.00	0.71	0.638%	1.81%	33,031	123,031
	ESCALATION	810,243	15.97	0	35	0.00	5.59	5.029%	14.25%	260,222	1,070,465
	SUBTOTAL	5,074,682	100.00					35.282%			
	CALCULATED CONTINGENCY	1,790,425									
	RESULTANT TEC	6,865,107									
	ROUNDED TEC	6,900,000									
	PROJECT CONTINGENCY	1,825,318						35.97%			
	MANAGEMENT RESERVE	419,408									
	CONTINGENCY	1,405,910									
	TOTAL ESTIMATED COST	6,900,000								1,825,318	6,900,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

G&A/PIF ADDER CALCULATION SHEET

2406-10CA

PROCUREMENT FEE:

CONSTRUCTION =	\$3,000,000		
GFE =			
	Subtotal	\$3,000,000	
FEE @ 3% =	\$3,000,000	* 0.03 =	\$90,000

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR			
CEILING * 2 YEARS =	\$1,000,000		
GFE =		\$0	
PROCUREMENT FEE =		\$90,000	
	Subtotal	\$1,090,000	
FEE @ 23% =	\$1,090,000	* 0.23 =	\$250,700

PIF @ 5.5%

CONSTRUCTION =	\$3,000,000		
GFE =		\$0	
PROCUREMENT FEE =		\$90,000	
G&A =		\$250,700	
	Subtotal	\$3,340,700	
FEE @ 5.5% =	\$3,340,700	* 0.055 =	\$183,739

TOTAL PROCUREMENT FEE: \$90,000

TOTAL G&A FEE: \$250,700

TOTAL PIF: \$183,739

COST ESTIMATE SUMMARY

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION - ESCALATED
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO: 2406-10C1
PREPARED BY: R. D. ADAMS
REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
TIME: 14:28:56
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$339,416</u>
1.1.2	TITLE III INSPECTION	255,200	84,216	339,416
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,340,374</u>
1.2.1	PROJECT MANAGEMENT	663,400	218,922	882,322
1.2.2	CONSTRUCTION MANAGEMENT	344,400	113,652	458,052
1.3	<u>CONSTRUCTION</u>			>> <u>\$5,589,032</u>
1.3.1	GENERAL CONDITIONS	1,258,123	415,180	1,673,303
1.3.2	SITWORK	118,825	39,212	158,037
1.3.3	CONCRETE	18,433	6,083	24,516
1.3.13	SPECIAL CONSTRUCTION	1,882,914	621,362	2,504,276
1.3.15	MECHANICAL	549,490	181,332	730,822
1.3.16	ELECTRICAL	374,495	123,583	498,078
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$1,054,053</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	153,153	1,054,053
1.5	<u>G&A/PIF</u>			>> <u>\$701,760</u>
1.5.1	G&A/PIF ADDER	527,639	174,121	701,760
1.5.2	PROCUREMENT FEES	115,332	34,802	<u>\$150,134</u>
	SUBTOTAL INCLUDING ESCALATION	7,009,151	2,165,618	>> <u>\$9,174,769</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$749,498</u>
	CONTINGENCY			>> <u>\$2,275,733</u>
	TOTAL ESTIMATED COST			>> <u>\$12,200,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 32.97%

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION - UNESCALATED**
LOCATION 1: **INEEL/CPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10C1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **14:27:02**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$255,200
1.1.2	TITLE III INSPECTION	255,200	0	255,200
1.2	<u>MANAGEMENT COSTS</u>			>> \$1,007,800
1.2.1	PROJECT MANAGEMENT	663,400	0	663,400
1.2.2	CONSTRUCTION MANAGEMENT	344,400	0	344,400
1.3	<u>CONSTRUCTION</u>			>> \$4,202,280
1.3.1	GENERAL CONDITIONS	1,258,123	0	1,258,123
1.3.2	SITWORK	118,825	0	118,825
1.3.3	CONCRETE	18,433	0	18,433
1.3.13	SPECIAL CONSTRUCTION	1,882,914	0	1,882,914
1.3.15	MECHANICAL	549,490	0	549,490
1.3.16	ELECTRICAL	374,495	0	374,495
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$900,900
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	0	900,900
1.5	<u>G&A/PIF</u>			>> \$527,639
1.5.1	G&A/PIF ADDER	527,639	0	527,639
1.5.2	PROCUREMENT FEES	115,332	0	>> \$115,332
SUBTOTAL INCLUDING ESCALATION		7,009,151	0	>> \$7,009,151
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$574,615
CONTINGENCY				>> \$1,816,234
TOTAL ESTIMATED COST				>> \$9,400,000

PROJECT COST PARAMETERS
EDI AS A % OF CONST. + GFE= **5.00%**
CONTINGENCY= **34.11%**

Lockheed Martin Idaho Technologies Co.

Rev. 6/90

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION**

LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2406-10C1**
PREPARED BY: **R. D. ADAMS**

PAGE # **1**

DATE: **23-Jan-1998**
TIME: **14:25:32**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2 00201000	TITLE III INSPECTION Inspection and Overview Memo: 0.5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		255,200				255,200
	TITLE III INSPECTION S/T						0	\$255,200				\$255,200
1.2.1	PROJECT MANAGEMENT											
	PM Memo: 0.13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		663,400				663,400
	PROJECT MANAGEMENT S/T						0	\$663,400				\$663,400
1.2.2	CONSTRUCTION MANAGEMENT											
	CM Memo: 0.10% OF CONSTRUCTION.	1	LOT			0.000		344,400				344,400
	CONSTRUCTION MANAGEMENT S/T						0	\$344,400				\$344,400
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	1600.00	1,600	80,800				80,800
	MOB/DEMOB	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE FA	64.000	640	33,133				33,133
	SMALL TOOLS & CONSUMABLES	1	LOT	43,700.00		0.000				43,700		43,700
	CRANE SUPPORT	1	LOT		ZF-OE FA	800.000	800	41,416	50,000			91,416
	RAD TENTS	15	EA	5,000.00		0.000				75,000		75,000

Rev. 0/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

PROJECT NO.: 2406-10C1
PREPARED BY: R. D. ADAMS

TIME: 14:26:32

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS MISC. EQUIPMENT	1	LOT			0.000			40,400			40,400
	CLEANUP & MATERIAL HANDLING	16,147	MHRS		ZF-LB FA	0.100	1,615	71,418				71,418
	RADCON TECH SUPPORT	2	FTE		Z-1342	1600.00	3,200	158,080				158,080
	TEMPORARY CONSTRUCTION FACILITIES	1	LOT			0.000					500,000	500,000
	ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	126,053.00		0.000				126,053		126,053
	GENERAL CONDITIONS S/T						8,355	\$410,732	\$90,400	\$244,753	\$500,000	\$1,245,886
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	UTILITY EARTHWORK TRENCH, BACKFILL & STOCKPILE	1,000	CY	1.00	ZF-OE FA	1.850	1,850	95,775	22,000	1,000		118,775
	UTILITY EARTHWORK S/T						1,850	\$95,775	\$22,000	\$1,000		\$118,775
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	PENETRATIONS VALVE BOX PENETRATIONS FOR UTILITIES	5	EA	500.00	ZF-LB FA	50.000	250	11,058	1,250	2,500		14,808

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	PENETRATIONS											
	PENETRATIONS S/T						250	\$11,058	\$1,250	\$2,500		\$14,808
1.3.3.2	VOG BLOWER PAD											
	CONCRETE PAD FOR ENCLOSURE	10	CY		FA	0.000					3,500	3,500
	VOG BLOWER PAD S/T						0				\$3,500	\$3,500
1.3.13	SPECIAL CONSTRUCTION											
	CONTAMINATED EQUIPMENT STORAGE BUNKER	600	SF		ZF-CP FA	0.000					60,000	60,000
	DECON/SIZING AREA W/IN ENCLOSURE	1,500	SF		FA	0.000					75,000	75,000
	VOG BLOWER ENCLOSURE	200	SF		FA	0.000					12,000	12,000
	TANK FARM AREA ENCLOSURE ("SPRUNG" STRUCTURE)	55,000	SF		FA	0.000					1,650,000	1,650,000
	TANK FARM AREA ENCLOSURE RELOCATION	3	EA	2,000.00	ZF-LB FA	600.000	1,800	79,614		6,000		85,614
	SPECIAL CONSTRUCTION S/T						1,800	\$79,614		\$6,000	\$1,797,000	\$1,882,614
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	UTILITIES											
	UTILITY PIPING - ALLOW	1,900	LF	13.00	ZF-PF FA	0.500	950	57,257	2,375	24,700		84,332

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 4

Rev. 8/08

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

PROJECT NO.: 2406-10C1

TIME: 14:25:32

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.1	UTILITIES TEMPORARY UTILITY HOSES & FITTINGS	1	LOT	2,000.00		0.000				2,000		2,000
	UTILITIES S/T						950	\$57,257	\$2,375	\$26,700		\$86,332
1.3.15.2	VOG MOVE & SET UP VOG FILTER SKID	7	EA		ZF-OE	120.000	840	43,487				43,487
	1 HP VOG BLOWERS	2	EA	3,100.00	ZF-SM	40.000	80	4,144		6,200		10,344
	PIPING MAIN	300	LF	80.00	ZF-PF	1.400	420	25,313	1,050	24,000		50,363
	PURCHASE SECONDARY LINE	280	LF	80.00		0.000				22,400		22,400
	INSTALL(MOVE) SECONDARY LINE	370	LF		ZF-PF	1.200	444	26,760	1,110			27,870
	PURCHASE 2"X4" DBL ENCASED CONDENSATE LINE	80	LF	110.00		0.000				8,800		8,800
	INSTALL/MOVE CONDENSATE LINE	80	LF		ZF-PF	2.900	232	13,983	580			14,563
	TAP PLA LINES FOR CONDENSATE	7	EA		ZF-PF	80.000	560	33,751	1,400			35,151
	PURCHASE TANK-TO-SKID 4"X6" DBL ENCASED LINE	300	LF	160.00		0.000				48,000		48,000
	INSTALL/MOVE TANK-TO-SKID DBL ENCASED LINES	830	LF		ZF-PF	3.750	3,113	187,590	7,785			195,376
	VOG S/T						5,689	\$335,028	\$11,925	\$109,400		\$456,354
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-10C1

PREPARED BY: R. D. ADAMS

PAGE # 5

DATE 23-Jan-1998

TIME: 14:25:32

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.2	TEMPORARY POWER											
	HOOK UP CONTROL TRAILERS	1	LOT	20,000.00	ZF-EL FA	250.000	250	13,195		20,000		33,195
	MCC'S & MISC ELEC EQUIPMENT	1	LOT	61,000.00	ZF-EL FA	350.000	350	18,473		61,000		79,473
	CABLE & DUCT	7,000	LF	2.70	ZF-EL FA	0.044	308	16,256		18,900		35,156
	REMOVE & RECONNECT POWER TO VOG EQUIPMENT	7	EA		ZF-EL FA	600.000	4,200	221,676				221,676
	TEMPORARY POWER S/T						5,108	\$269,600		\$99,900		\$369,500
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	VOG SKID W/ FILTERS, DEMISTER, ETC.	2	EA	320,000.00	FA	0.000				640,000		640,000
	MCC/CONTROL/CCTV CONTROL & TRAILER	2	EA	70,000.00	FA	0.000				140,000		140,000
	ADD 10% FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	78,000.00	FA	0.000				78,000		78,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$858,000		\$858,000
1.5.1 00701000	G&A/PIF ADDER											
	G&A	1	LOT			0.000					293,715	293,715
	PIF	1	LOT			0.000					233,924	233,924
	G&A/PIF ADDER S/T						0				\$527,639	\$527,639

Lockheed Martin Idaho Technologies Co.

Rev. 8/96

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION

LOCATION 1: INEEL/ICPP

REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-10C1

PREPARED BY: R. D. ADAMS

PAGE # 6

DATE 23-Jan-1998

TIME: 14:25:32

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
	PROJECT SUBTOTAL						24,001	\$2,522,063	\$127,950	\$1,348,253	\$2,828,139	\$6,826,405

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SITE PREPARATION - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10C1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **14:27:08**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	255,200	3.64	0	40	0.00	1.46	1.311%	3.92%	93,633	348,833
1.2.1	PROJECT MANAGEMENT	663,400	9.46	0	40	0.00	3.79	3.407%	10.18%	243,401	906,801
1.2.2	CONSTRUCTION MANAGEMENT	344,400	4.91	0	40	0.00	1.97	1.769%	5.29%	126,360	470,760
1.3.1	GENERAL CONDITIONS	1,258,123	17.95	0	40	0.00	7.18	6.462%	19.31%	461,604	1,719,727
1.3.2	SITWORK	118,825	1.70	0	40	0.00	0.68	0.610%	1.82%	43,597	162,422
1.3.3	CONCRETE	18,433	0.26	0	40	0.00	0.11	0.095%	0.28%	6,763	25,196
1.3.13	SPECIAL CONSTRUCTION	1,882,914	26.86	0	30	0.00	8.06	7.253%	21.67%	518,129	2,401,043
1.3.15	MECHANICAL	549,490	7.84	0	50	0.00	3.92	3.528%	10.54%	252,009	801,499
1.3.16	ELECTRICAL	374,495	5.34	0	35	0.00	1.87	1.683%	5.03%	120,227	494,722
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	12.85	0	35	0.00	4.50	4.049%	12.10%	289,222	1,190,122
1.5.1	G&A/PIF ADDER	527,639	7.53	0	40	0.00	3.01	2.710%	8.10%	193,590	721,229
1.5.2	PROCUREMENT FEES	115,332	1.65	0	40	0.00	0.66	0.592%	1.77%	42,315	157,647
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(1)	(1)
SUBTOTAL		7,009,151	100.00					33.469%			
CALCULATED CONTINGENCY		2,345,893									
RESULTANT TEC		9,355,044									
ROUNDED TEC		9,400,000									
PROJECT CONTINGENCY		2,390,849						34.11%			
MANAGEMENT RESERVE		574,615									
CONTINGENCY		1,816,234									
TOTAL ESTIMATED COST		9,400,000								2,390,849	9,400,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50%</p> <p>Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40%</p> <p>TITLE I 10% - 20% TITLE II 5% - 15% TITLE III/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL**
 LOCATION 1: **SITE PREPARATION - ESCALATED**
 REQUESTOR: **INEEL/ICPP**
B. C. SPAULDING

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10C1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **14:29:01**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	255,200	2.78	0	40	0.00	1.11	1.001%	3.03%	91,787	346,987
1.2.1	PROJECT MANAGEMENT	663,400	7.23	0	40	0.00	2.89	2.603%	7.89%	238,602	902,002
1.2.2	CONSTRUCTION MANAGEMENT	344,400	3.75	0	40	0.00	1.50	1.351%	4.09%	123,869	468,269
1.3.1	GENERAL CONDITIONS	1,258,123	13.71	0	40	0.00	5.49	4.937%	14.96%	452,504	1,710,627
1.3.2	SITWORK	118,825	1.30	0	40	0.00	0.52	0.466%	1.41%	42,737	161,562
1.3.3	CONCRETE	18,433	0.20	0	40	0.00	0.08	0.072%	0.22%	6,630	25,063
1.3.13	SPECIAL CONSTRUCTION	1,882,914	20.52	0	30	0.00	6.16	5.541%	16.79%	507,915	2,390,829
1.3.15	MECHANICAL	549,490	5.99	0	50	0.00	2.99	2.695%	8.17%	247,041	796,531
1.3.16	ELECTRICAL	374,495	4.08	0	35	0.00	1.43	1.286%	3.90%	117,856	492,351
1.4.1	GOVERNMENT FURNISHED EQUIP.	900,900	9.82	0	35	0.00	3.44	3.093%	9.37%	283,520	1,184,420
1.5.1	G&A/PIF ADDER	527,639	5.75	0	40	0.00	2.30	2.070%	6.27%	189,774	717,413
1.5.2	PROCUREMENT FEES	115,332	1.26	0	40	0.00	0.50	0.453%	1.37%	41,481	156,813
	ESCALATION	2,165,618	23.60	0	35	0.00	8.26	7.435%	22.53%	681,515	2,847,133
SUBTOTAL		9,174,769	100.00					33.004%			
CALCULATED CONTINGENCY		3,028,063									
RESULTANT TEC		12,202,832									
ROUNDED TEC		12,200,000									
PROJECT CONTINGENCY		3,025,231						32.97%			
MANAGEMENT RESERVE		749,498									
CONTINGENCY		2,275,733									
TOTAL ESTIMATED COST		12,200,000								3,025,231	12,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
- Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE III/AFC Market Conditions

1/23/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-10C

PROCUREMENT FEE:

CONSTRUCTION ***=	\$2,943,216		
GFE =	\$900,900		
Subtotal	<u>\$3,844,116</u>		
FEE @ 3% =	\$3,844,116	* 0.03 =	\$115,323

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$500,000 *		
GFE =	\$661,700 **		
PROCUREMENT FEE =	\$115,323		
Subtotal	<u>\$1,277,023</u>		
FEE @ 23% =	\$1,277,023	* 0.23 =	\$293,715

PIF @ 5.5%

CONSTRUCTION =	\$2,943,216		
GFE =	\$900,900		
PROCUREMENT FEE =	\$115,323		
G&A =	\$293,715		
Subtotal	<u>\$4,253,155</u>		
FEE @ 5.5% =	\$4,253,155	* 0.055 =	\$233,924

TOTAL PROCUREMENT FEE: \$115,323

TOTAL G&A FEE: \$293,715

TOTAL PIF: \$233,924

*The \$500,000 ceiling on construction will be imposed since this activity will need to be completed within one year.

**The \$500,000 ceiling on any one contract will be imposed for the two VOG skids.

***Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL CHARACTERIZATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10D1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **15:41:36**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$1,277,100
1.3.1	GENERAL CONDITIONS	990,000	287,100	1,277,100
1.5	G&A/PIF			>> \$391,533
1.5.1	G&A/PIF ADDER	303,514	88,019	391,533
1.5.2	PROCUREMENT FEES	29,700	8,613	>> \$38,313
	SUBTOTAL INCLUDING ESCALATION	1,323,214	383,732	>> \$1,706,946
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$0
	CONTINGENCY			>> \$593,054
	TOTAL ESTIMATED COST			>> \$2,300,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **0.00%**

CONTINGENCY= **34.74%**

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL CHARACTERIZATION - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10D1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **14:32:37**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.3	CONSTRUCTION			>> \$990,000
1.3.1	GENERAL CONDITIONS	990,000	0	990,000
1.5	G&A/PIF			>> \$303,514
1.5.1	G&A/PIF ADDER	303,514	0	303,514
1.5.2	PROCUREMENT FEES	29,700	0	>> \$29,700
SUBTOTAL INCLUDING ESCALATION		1,323,214	0	>> \$1,323,214
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$0
CONTINGENCY				>> \$476,786
TOTAL ESTIMATED COST				>> \$1,800,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **0.00%**
 CONTINGENCY= **36.03%**

DETAILED COST ESTIMATE SHEET

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL CHARACTERIZATION

TYPE OF ESTIMATE: PLANNING

DATE 11-Dec-1997

LOCATION 1: INEEL/ICPP

PROJECT NO.: 2406-10D

TIME: 08:59:53

REQUESTOR: B. C. SPAULDING

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS											
	HEEL CHARACTERIZATION PULL 3 SAMPLER PER TANK X 11 TANKS.	33	EA			0.000					990,000	990,000
	GENERAL CONDITIONS S/T						0				\$990,000	\$990,000
1.5.1 00701000	G&A/PIF ADDER G&A	1	LOT			0.000					234,531	234,531
	PIF	1	LOT			0.000					68,983	68,983
	G&A/PIF ADDER S/T						0				\$303,514	\$303,514
	PROJECT SUBTOTAL						0	\$0	\$0	\$0	\$1,293,514	\$1,293,514

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL CHARACTERIZATION - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10D1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **14:32:42**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	990,000	74.82	0	40	0.00	29.93	26.934%	74.82%	356,721	1,346,721
1.5.1	G&A/PIF ADDER	303,514	22.94	0	40	0.00	9.18	8.258%	22.94%	109,363	412,877
1.5.2	PROCUREMENT FEES	29,700	2.24	0	40	0.00	0.90	0.808%	2.24%	10,702	40,402
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	0	0
SUBTOTAL		1,323,214	100.00					36.000%			
CALCULATED CONTINGENCY		476,357									
RESULTANT TEC		1,799,571									
ROUNDED TEC		1,800,000									
PROJECT CONTINGENCY		476,786						36.03%			
MANAGEMENT RESERVE		0									
CONTINGENCY		476,786									
TOTAL ESTIMATED COST		1,800,000								476,786	1,800,000

<p>CONFIDENCE LEVEL AND ASSUMED RISKS: The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.</p>	<p>CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.</p> <p>PLANNING 20% - 30% Experimental/Special Conditions.....Up to 50% Conceptual 15% - 25% Experimental/Special Conditions.....Up to 40% TITLE I 10% - 20% TITLE II 5% - 15% TITLE II/AFC Market Conditions</p>
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Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL CHARACTERIZATION - ESCALATED**
 LOCATION: **INEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10D1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **15:41:42**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.3.1	GENERAL CONDITIONS	990,000	58.00	0	40	0.00	23.20	20.879%	59.68%	353,910	1,343,910
1.5.1	G&A/PIF ADDER	303,514	17.78	0	40	0.00	7.11	6.401%	18.30%	108,502	412,016
1.5.2	PROCUREMENT FEES	29,700	1.74	0	40	0.00	0.70	0.626%	1.79%	10,617	40,317
	ESCALATION	383,732	22.48	0	35	0.00	7.87	7.081%	20.24%	120,025	503,757
SUBTOTAL		1,706,946	100.00					34.988%			
CALCULATED CONTINGENCY		597,233									
RESULTANT TEC		2,304,179									
ROUNDED TEC		2,300,000									
PROJECT CONTINGENCY		593,054						34.74%			
MANAGEMENT RESERVE		0									
CONTINGENCY		593,054									
TOTAL ESTIMATED COST		2,300,000								593,054	2,300,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90% probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

12/11/97

**G&A/PIF ADDER CALCULATION SHEET
ESTIMATE 2406-10D**

PROCUREMENT FEE:

CONSTRUCTION*** =	\$990,000		
GFE =	\$0		
Subtotal	\$990,000		
FEE @ 3% =	\$990,000	* 0.03 =	\$29,700

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING *# OF YEARS =	\$990,000		
GFE =	\$0		
PROCUREMENT FEE =	\$29,700		
Subtotal	\$1,019,700		
FEE @ 23% =	\$1,019,700	* 0.23 =	\$234,531

PIF @ 5.5%

CONSTRUCTION =	\$990,000		
GFE =	\$0		
PROCUREMENT FEE =	\$29,700		
G&A =	\$234,531		
Subtotal	\$1,254,231		
FEE @ 5.5% =	\$1,254,231	* 0.055 =	\$68,983

TOTAL PROCUREMENT FEE:	\$29,700
TOTAL G&A FEE:	\$234,531
TOTAL PIF:	\$68,983

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 TANK ISOLATION - ESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-10E1
 PREPARED BY: R. D. ADAMS
 REPORT NAME: Cost Estimate Summary

DATE: 23-Jan-1998
 TIME: 14:38:18
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	ENGINEERING, DESIGN AND INSPECTION			>> \$282,226
1.1.2	TITLE III INSPECTION	212,200	70,026	282,226
1.2	MANAGEMENT COSTS			>> \$1,297,947
1.2.1	PROJECT MANAGEMENT	551,600	182,028	733,628
1.2.2	CONSTRUCTION MANAGEMENT	424,300	140,019	564,319
1.3	CONSTRUCTION			>> \$5,643,741
1.3.1	GENERAL CONDITIONS	1,544,535	509,697	2,054,232
1.3.2	SITWORK	225,389	74,378	299,767
1.3.15	MECHANICAL	2,459,556	811,654	3,271,210
1.3.16	ELECTRICAL	13,934	4,598	18,532
1.5	G&A/PIF			>> \$231,316
1.5.1	G&A/PIF ADDER	173,922	57,394	231,316
1.5.2	PROCUREMENT FEES	16,974	5,601	>> \$22,575
	SUBTOTAL INCLUDING ESCALATION	5,622,410	1,855,395	>> \$7,477,805
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$589,763
	CONTINGENCY			>> \$2,132,432
	TOTAL ESTIMATED COST			>> \$10,200,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 36.40%

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL**
TANK ISOLATION - UNESCALATED
 LOCATION 1: **INEEL/ICFP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10E1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **14:36:45**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$212,200</u>
1.1.2	TITLE III INSPECTION	212,200	0	212,200
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$975,900</u>
1.2.1	PROJECT MANAGEMENT	551,600	0	551,600
1.2.2	CONSTRUCTION MANAGEMENT	424,300	0	424,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$4,243,414</u>
1.3.1	GENERAL CONDITIONS	1,544,535	0	1,544,535
1.3.2	SITWORK	225,389	0	225,389
1.3.15	MECHANICAL	2,459,556	0	2,459,556
1.3.16	ELECTRICAL	13,934	0	13,934
1.5	<u>G&A/PIF</u>			>> <u>\$173,922</u>
1.5.1	G&A/PIF ADDER	173,922	0	173,922
1.5.2	PROCUREMENT FEES	16,974	0	>> <u>\$16,974</u>
	SUBTOTAL INCLUDING ESCALATION	5,622,410	0	>> <u>\$5,622,410</u>
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> <u>\$443,431</u>
	CONTINGENCY			>> <u>\$1,634,159</u>
	TOTAL ESTIMATED COST			>> <u>\$7,700,000</u>

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= **5.00%**
 CONTINGENCY= **36.95%**

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		212,200				212,200
	TITLE III INSPECTION S/T						0	\$212,200				\$212,200
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		551,600				551,600
	PROJECT MANAGEMENT S/T						0	\$551,600				\$551,600
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		424,300				424,300
	CONSTRUCTION MANAGEMENT S/T						0	\$424,300				\$424,300
1.3.1	GENERAL CONDITIONS SUPERVISION	1	FTE		ZF-SV FA	4656.00	4,656	235,128				235,128
	MOB/DEMOP	1	LOT		ZF-OE FA	500.000	500	25,885				25,885
	TRAINING:	10	FTE		ZF-OE FA	186.000	1,860	96,292				96,292
	SMALL TOOLS & CONSUMABLES	1	LOT	127,920.00		0.000				127,920		127,920
	CRANE SUPPORT	1	LOT		ZF-OE FA	2328.00	2,328	120,417	128,000			248,417
	MISC. EQUIPMENT	1	LOT			0.000			117,650			117,650
	CLEANUP & MATERIAL HANDLING	46,561	MHRS		ZF-LB FA	0.100	4,656	205,939				205,939

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-10E1

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 14:35:53

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS RADCON TECH SUPPORT	2	FTE		Z-1342	4656.00	9,312	460,013				460,013
	ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	19,900.00		0.000				19,900		19,900
	GENERAL CONDITIONS S/T						23,310	\$1,143,674	\$245,650	\$147,820		\$1,537,144
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.3	ISOLATE TANK LINES EXCAVATE, SHORING, STOCKPILE, CLEAN FILL, SHORING	740	CY	50.00	ZF-OE FA	4.000	2,960	153,239	33,300	37,000		223,539
	ISOLATE TANK LINES S/T						2,960	\$153,239	\$33,300	\$37,000		\$223,539
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.2	TANK LINE ISOLATION INITIAL PIPE FLUSHING	11	TANK		Z-5210 EA	800.000	8,800	520,608				520,608
	REMOVE VB COVER & PREPARE FOR ENTRY	77	EA		ZF-OE EA	60.000	4,620	239,177				239,177
	SET UP & REMOVE RAD TENTS	77	EA		ZF-LB EA	160.000	12,320	544,914				544,914
	CUT & CAP TANK LINES IN GLOVE BAGS	165	EA	100.00	ZF-PF EA	65.000	10,725	646,396	26,813	16,500		689,708

Rev. 8/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

TANK ISOLATION

PROJECT NO.: 2406-10E1

TIME: 14:35:53

LOCATION 1: INEEL/ICPP

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

REQUESTOR: B. C. SPAULDING

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LINE ISOLATION CUT & CAP COOLING WATER LINES	540	EA	15.00	ZF-PF FA	3.000	1,620	97,637	4,050	8,100		109,787
	CUT & CAP INSTRUMENT LINES	352	EA	3.00	ZF-PF FA	1.000	352	21,215	880	1,056		23,151
	BOX REMOVED PIPE SECTIONS (ALLOW)	3	BOX	500.00	ZF-PF FA	20.000	60	3,616		1,500		5,116
	PROCESS WASTE BOXES	3	EA		FA	0.000					15,000	15,000
	TANK LINE ISOLATION S/T						38,497	\$2,073,663	\$31,743	\$27,156	\$15,000	\$2,147,462
1.3.15.3	VOG SYSTEM CUT,CAP & TIE-IN VOG LINES	22	EA		ZF-PF FA	100.000	2,200	132,594	5,600			138,094
	CUT & CAP TANK VOG LINES	66	EA	100.00	ZF-PF FA	40.000	2,640	159,113	6,600	6,600		172,313
	VOG SYSTEM S/T						4,840	\$291,707	\$12,100	\$6,600		\$310,407
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TANK ELECTRICAL/INSTRUMENTATION ISOLATION CUT & CAP CONDUIT	132	EA		ZF-EL FA	2.000	264	13,934				13,934
	TANK ELECTRICAL/INSTRUMENTATION ISOLATION S/T						264	\$13,934				\$13,934
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					134,393	134,393

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 TANK ISOLATION
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-10E1
 PREPARED BY: R. D. ADAMS
 DATE 23-Jan-1998
 TIME: 14:35:53
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM.	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.5.1	G&A/PIF ADDER PIF	1	LOT			0.000					39,529	39,529
	G&A/PIF ADDER S/T						0				\$173,922	\$173,922
	PROJECT SUBTOTAL						69.871	\$4,864,218	\$322,793	\$218,576	\$188,922	\$5,594,508

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL TANK ISOLATION - UNESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10E1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **14:36:50**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	3.77	0	35	0.00	1.32	1.189%	3.20%	66,401	278,601
1.2.1	PROJECT MANAGEMENT	551,600	9.81	0	35	0.00	3.43	3.090%	8.31%	172,605	724,205
1.2.2	CONSTRUCTION MANAGEMENT	424,300	7.55	0	35	0.00	2.64	2.377%	6.39%	132,770	557,070
1.3.1	GENERAL CONDITIONS	1,544,535	27.47	0	40	0.00	10.99	9.890%	26.59%	552,355	2,096,890
1.3.2	SITWORK	225,389	4.01	0	45	0.00	1.80	1.624%	4.36%	90,679	316,068
1.3.15	MECHANICAL	2,459,556	43.75	0	45	0.00	19.69	17.717%	47.63%	989,531	3,449,087
1.3.16	ELECTRICAL	13,934	0.25	0	40	0.00	0.10	0.089%	0.24%	4,983	18,917
1.5.1	G&A/PIF ADDER	173,922	3.09	0	40	0.00	1.24	1.114%	2.95%	62,198	236,120
1.5.2	PROCUREMENT FEES	16,974	0.30	0	40	0.00	0.12	0.109%	0.29%	6,070	23,044
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(2)	(2)
SUBTOTAL		5,622,410	100.00					37.198%			
CALCULATED CONTINGENCY		2,091,426									
RESULTANT TEC		7,713,836									
ROUNDED TEC		7,700,000									
PROJECT CONTINGENCY		2,077,590						36.95%			
MANAGEMENT RESERVE		443,431									
CONTINGENCY		1,634,159									
TOTAL ESTIMATED COST		7,700,000								2,077,590	7,700,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL TANK ISOLATION - ESCALATED**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10E1**
 PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
 TIME: **14:38:25**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	212,200	2.84	0	35	0.00	0.99	0.894%	2.50%	68,001	280,201
1.2.1	PROJECT MANAGEMENT	551,600	7.38	0	35	0.00	2.58	2.324%	6.49%	176,763	728,363
1.2.2	CONSTRUCTION MANAGEMENT	424,300	5.67	0	35	0.00	1.99	1.787%	4.99%	135,969	560,269
1.3.1	GENERAL CONDITIONS	1,544,535	20.65	0	40	0.00	8.26	7.436%	20.78%	565,661	2,110,196
1.3.2	SITWORK	225,389	3.01	0	45	0.00	1.36	1.221%	3.41%	92,863	318,252
1.3.15	MECHANICAL	2,459,556	32.89	0	45	0.00	14.80	13.321%	37.23%	1,013,370	3,472,926
1.3.16	ELECTRICAL	13,934	0.19	0	40	0.00	0.07	0.067%	0.19%	5,103	19,037
1.5.1	G&A/PIF ADDER	173,922	2.33	0	40	0.00	0.93	0.837%	2.34%	63,696	237,618
1.5.2	PROCUREMENT FEES	16,974	0.23	0	40	0.00	0.09	0.082%	0.23%	6,216	23,190
	ESCALATION	1,855,395	24.81	0	35	0.00	8.68	7.816%	21.84%	594,553	2,449,948
	SUBTOTAL	7,477,805	100.00					35.784%			
	CALCULATED CONTINGENCY	2,675,875									
	RESULTANT TEC	10,153,680									
	ROUNDED TEC	10,200,000									
	PROJECT CONTINGENCY	2,722,195						36.40%			
	MANAGEMENT RESERVE	589,763									
	CONTINGENCY	2,132,432									
	TOTAL ESTIMATED COST	10,200,000								2,722,195	10,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

12/11/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-10E

PROCUREMENT FEE:

CONSTRUCTION*** =	\$567,297	
GFE =	\$0	
Subtotal	<u>\$567,297</u>	
FEE @ 3% =	\$567,297 * 0.03 =	\$17,019

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$567,297	
GFE =	\$0 **	
PROCUREMENT FEE =	\$17,019	
Subtotal	<u>\$584,316</u>	
FEE @ 23% =	\$584,316 * 0.23 =	\$134,393

PIF @ 5.5%

CONSTRUCTION =	\$567,297	
GFE =	\$0	
PROCUREMENT FEE =	\$17,019	
G&A =	\$134,393	
Subtotal	<u>\$718,709</u>	
FEE @ 5.5% =	\$718,709 * 0.055 =	\$39,529

TOTAL PROCUREMENT FEE: \$17,019

TOTAL G&A FEE: \$134,393

TOTAL PIF: \$39,529

***Construction* = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 WASH INTERIOR TANK WALLS - ESCALATED
 INEEL/ICPP**
 LOCATION 1:
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10F1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **14:55:13**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$882,237</u>
1.1.2	TITLE III INSPECTION	625,700	256,537	882,237
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$3,217,338</u>
1.2.1	PROJECT MANAGEMENT	1,626,900	667,029	2,293,929
1.2.2	CONSTRUCTION MANAGEMENT	654,900	268,509	923,409
1.3	<u>CONSTRUCTION</u>			>> <u>\$9,234,527</u>
1.3.1	GENERAL CONDITIONS	2,153,604	882,978	3,036,582
1.3.2	SITWORK	134,015	54,946	188,961
1.3.4	HEEL	752,895	308,687	1,061,582
1.3.6	SHIELDING	177,285	72,687	249,972
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	454,632	1,563,491
1.3.11	EQUIPMENT	1,190,930	488,281	1,679,211
1.3.15	MECHANICAL	404,696	165,925	570,621
1.3.16	ELECTRICAL	627,026	257,081	884,107
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$7,277,707</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	1,312,373	7,277,707
1.5	<u>G&A/PIF</u>			>> <u>\$1,789,043</u>
1.5.1	G&A/PIF ADDER	1,268,825	520,218	1,789,043
1.5.2	PROCUREMENT FEES	212,749	67,959	280,708
SUBTOTAL INCLUDING ESCALATION		16,903,718	5,777,842	>> \$22,681,560
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,858,199
CONTINGENCY				>> \$6,460,241
TOTAL ESTIMATED COST				>> \$31,000,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **36.67%**

Lockheed Martin Idaho Technologies Co.
Rev. 6/96

COST ESTIMATE SUMMARY

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
WASH INTERIOR TANK WALLS - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10F1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **14:53:17**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$625,700
1.1.2	TITLE III INSPECTION	625,700	0	625,700
1.2	<u>MANAGEMENT COSTS</u>			>> \$2,281,800
1.2.1	PROJECT MANAGEMENT	1,626,900	0	1,626,900
1.2.2	CONSTRUCTION MANAGEMENT	654,900	0	654,900
1.3	<u>CONSTRUCTION</u>			>> \$6,549,310
1.3.1	GENERAL CONDITIONS	2,153,604	0	2,153,604
1.3.2	SITWORK	134,015	0	134,015
1.3.4	HEEL	752,895	0	752,895
1.3.6	SHIELDING	177,285	0	177,285
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	0	1,108,859
1.3.11	EQUIPMENT	1,190,930	0	1,190,930
1.3.15	MECHANICAL	404,696	0	404,696
1.3.16	ELECTRICAL	627,026	0	627,026
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> \$5,965,334
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	0	5,965,334
1.5	<u>G&A/PIF</u>			>> \$1,268,825
1.5.1	G&A/PIF ADDER	1,268,825	0	1,268,825
1.5.2	PROCUREMENT FEES	212,749	0	>> \$212,749
SUBTOTAL INCLUDING ESCALATION		16,903,718	0	>> \$16,903,718
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,399,622
CONTINGENCY				>> \$5,096,660
TOTAL ESTIMATED COST				>> \$23,400,000

PROJECT COST PARAMETERS	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	38.43%

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
WASH INTERIOR TANK WALLS**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO.: **2406-10F1**
PREPARED BY: **R. D. ADAMS**

DATE **23-Jan-1998**
TIME: **14:52:18**
REPORT NAME: **Detail Cost Estimate Sheet**

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		625,700				625,700
	TITLE III INSPECTION S/T						0	\$625,700				\$625,700
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		1,626,900				1,626,900
	PROJECT MANAGEMENT S/T						0	\$1,626,900				\$1,626,900
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		654,900				654,900
	CONSTRUCTION MANAGEMENT S/T						0	\$654,900				\$654,900
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	7100.00	7,100	358,550				358,550
	TRAINING:	10	FTE		ZF-OE FA	276.000	2,760	142,885				142,885
	SMALL TOOLS & CONSUMABLES	1	LOT	177,400.00		0.000				177,400		177,400
	CRANE SUPPORT	1	LOT		ZF-OE FA	3550.00	3,550	183,784	19,500			203,284
	MISC. EQUIPMENT	1	LOT			0.000			186,900			186,900
	CLEANUP & MATERIAL HANDLING	70,961	MHRS		ZF-LB FA	0.100	7,096	313,861				313,861
	RADCON TECH SUPPORT	2	FTE		Z-1342	7100.00	14,200	701,480				701,480

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 0/00
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-10F1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 14:52:18
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	57,500.00		0.000				57,500		57,500
	GENERAL CONDITIONS S/T						34,708	\$1,700,559	\$206,400	\$234,900		\$2,141,859
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS TANK RISERS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	440	CY	50.00	ZF-OE FA	4.000	1,760	91,115	19,800	22,000		132,915
	ACCESS TANK RISERS S/T						1,760	\$91,115	\$19,800	\$22,000		\$132,915
1.3.4	HEEL											
	HEEL S/T						0					
1.3.4.1	HEEL FLUSHING FLUSHES + PAPERWORK(11 TANKS X 9 FLUSHES/TANK)	99	EA		Z-6210 LMITCC	24.000	2,376	140,564				140,564
	HEEL FLUSHING S/T						2,376	\$140,564				\$140,564

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.4.2	HEEL MIXING & REMOVAL INSTALL & REMOVE MOUNTING/SUPPORT FRAME	11	EA		ZF-IW FA	160.000	1,760	84,885				84,885
	INSTALL, MIX, REMOVE & DECON PUMP	11	EA		ZF-OE FA	400.000	4,400	227,788				227,788
	SUBMERSIBLE PUMPS	22	EA	11,000.00	ZF-OE FA	40.000	880	45,558		242,000		287,558
	HEEL MIXING & REMOVAL S/T						7,040	\$358,230		\$242,000		\$600,230
1.3.6	SHIELDING											
	TANK RISER TEMPORARY SHIELDING	44	EA	2,000.00	ZF-IW FA	40.000	1,760	84,885		88,000		172,885
	SHIELDING S/T						1,760	\$84,885		\$88,000		\$172,885
1.3.7	TANK INTERNAL WASHDOWN											
	INSTALL, WASH, REMOVE & DECON ARM(THREE TIMES PER TANK)	33	EA		ZF-OE FA	500.000	16,500	854,205				854,205
	INSTALL & REMOVE SUPPORT/MOUNTING FRAME	33	EA		ZF-IW FA	160.000	5,280	254,654				254,654
	TANK INTERNAL WASHDOWN S/T						21,780	\$1,108,859				\$1,108,859
1.3.11	EQUIPMENT											
	EQUIPMENT S/T						0					

Lockheed Martin Idaho Technologies Co.

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
WASH INTERIOR TANK WALLS

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-10F1

PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 23-Jan-1998

TIME: 14:52:18

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.11.1	EQUIPMENT REMOVAL											
	REMOVE JETS, LIFTS, CORROSION COUPONS, ETC.	44	EA		ZF-PF FA	160.000	7,040	424,301				424,301
	SET UP & REMOVE RAD TENT	44	EA		ZF-LB FA	160.000	7,040	311,379				311,379
	CUT & BOX REMOVED EQUIP.	44	EA	500.00	ZF-PF FA	80.000	3,520	212,150		22,000		234,150
	PROCESS WASTE BOXES	44	EA		FA	0.000					220,000	220,000
	EQUIPMENT REMOVAL S/T						17,600	\$947,830		\$22,000	\$220,000	\$1,189,830
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	HEEL TRANSFER LINES											
	VALVE BOX TIE-IN	11	EA		ZF-PF FA	80.000	880	53,038				53,038
	SET UP & REMOVE RAD TENT	11	EA		ZF-LB FA	160.000	1,760	77,845				77,845
	DBL ENCASE TRANSFER LINE - PURCHASE	150	LF	160.00	ZF-PF FA	0.000				24,000		24,000
	DBL ENCASE TRANSFER LINE - INSTALL	1,100	LF		ZF-PF FA	3.750	4,125	248,614				248,614
	HEEL TRANSFER LINES S/T						6,765	\$379,496		\$24,000		\$403,496
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO PUMP EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	REMOVE & RECONNECT POWER TO WASH DOWN EQUIPMENT	33	EA		ZF-EL FA	120.000	3,960	209,009				209,009
	TEMPORARY POWER S/T						7,920	\$418,018				\$418,018
1.3.16.2	CAMERA & LIGHTING INSTALL VIDEO & LIGHTING SYSTEM	22	EA		ZF-EL FA	80.000	1,760	92,893				92,893
	CAMERA & LIGHTING S/T						1,760	\$92,893				\$92,893
1.3.16.3	RADIATION MONITORING SYSTEM INSTALL & RELOCATE SYSTEM	11	EA		ZF-EL FA	200.000	2,200	116,116				116,116
	RADIATION MONITORING SYSTEM S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE MIXING PUMPS & CONTROLS	3	EA	250,000.00	FA	0.000				750,000		750,000
	PURCHASE MOUNTING/SUPPORT FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE WASHDOWN ARM, SKID & CONTROLS	2	EA	2,000,000.00	FA	0.000				4,000,000		4,000,000
	PURCHASE SUPPORT/MOUNTING FRAME	3	EA	50,000.00	FA	0.000				150,000		150,000
	PURCHASE VIDEO & LIGHTING EQUIPMENT	1	LOT	50,000.00	FA	0.000				50,000		50,000
	PURCHASE MONITORING SYSTEM	1	LOT	40,000.00	FA	0.000				40,000		40,000

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 6

Rev. 6/98

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 WASH INTERIOR TANK WALLS
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-10F1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 14:52:18
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	541,270.00		0.000				541,270		541,270
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$5,681,270		\$5,681,270
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					822,716	822,716
	PIF	1	LOT			0.000					446,109	446,109
	G&A/PIF ADDER S/T						0				\$1,268,825	\$1,268,825
	PROJECT SUBTOTAL						105,667	\$8,346,066	\$226,200	\$6,314,170	\$1,488,825	\$16,375,261

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 WASH INTERIOR TANK WALLS - UNESCALATED
 LOCATION 1: INEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-10F1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 14:53:22

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	625,700	3.70	0	35	0.00	1.30	1.166%	3.02%	196,508	822,208
1.2.1	PROJECT MANAGEMENT	1,626,900	9.62	0	35	0.00	3.37	3.032%	7.87%	510,946	2,137,846
1.2.2	CONSTRUCTION MANAGEMENT	654,900	3.87	0	35	0.00	1.36	1.220%	3.17%	205,678	860,578
1.3.1	GENERAL CONDITIONS	2,153,604	12.74	0	40	0.00	5.10	4.587%	11.90%	772,986	2,926,590
1.3.2	SITework	134,015	0.79	0	45	0.00	0.36	0.321%	0.83%	54,114	188,129
1.3.4	HEEL	752,895	4.45	0	40	0.00	1.78	1.603%	4.16%	270,234	1,023,129
1.3.6	SHIELDING	177,285	1.05	0	40	0.00	0.42	0.378%	0.98%	63,632	240,917
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	6.56	0	40	0.00	2.62	2.362%	6.13%	397,999	1,506,858
1.3.11	EQUIPMENT	1,190,930	7.05	0	40	0.00	2.82	2.536%	6.58%	427,457	1,618,387
1.3.15	MECHANICAL	404,696	2.39	0	45	0.00	1.08	0.970%	2.52%	163,413	568,109
1.3.16	ELECTRICAL	627,026	3.71	0	40	0.00	1.48	1.335%	3.46%	225,056	852,082
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	35.29	0	50	0.00	17.65	15.881%	41.20%	2,676,397	8,641,731
1.5.1	G&A/PIF ADDER	1,268,825	7.51	0	40	0.00	3.00	2.702%	7.01%	455,415	1,724,240
1.5.2	PROCUREMENT FEES	212,749	1.26	0	40	0.00	0.50	0.453%	1.18%	76,361	289,110
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	86	86
SUBTOTAL		16,903,718	100.00					38.546%			
CALCULATED CONTINGENCY		6,515,623									
RESULTANT TEC		23,419,341									
ROUNDED TEC		23,400,000									
PROJECT CONTINGENCY		6,496,282						38.43%			
MANAGEMENT RESERVE		1,399,622									
CONTINGENCY		5,096,660									
TOTAL ESTIMATED COST		23,400,000								6,496,282	23,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING

Experimental/Special Conditions.....Up to 50%

Conceptual 15% - 25%

Experimental/Special Conditions.....Up to 40%

TITLE I 10% - 20%

TITLE II 5% - 15%

TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

Rev. 6/96

CONTINGENCY ANALYSIS

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
WASH INTERIOR TANK WALLS - ESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10F1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **14:55:18**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. Frpm Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	625,700	2.76	0	35	0.00	0.97	0.869%	2.36%	196,687	822,387
1.2.1	PROJECT MANAGEMENT	1,626,900	7.17	0	35	0.00	2.51	2.259%	6.15%	511,412	2,138,312
1.2.2	CONSTRUCTION MANAGEMENT	654,900	2.89	0	35	0.00	1.01	0.910%	2.47%	205,866	860,766
1.3.1	GENERAL CONDITIONS	2,153,604	9.49	0	40	0.00	3.80	3.418%	9.30%	773,692	2,927,296
1.3.2	SITWORK	134,015	0.59	0	45	0.00	0.27	0.239%	0.65%	54,164	188,179
1.3.4	HEEL	752,895	3.32	0	40	0.00	1.33	1.195%	3.25%	270,481	1,023,376
1.3.6	SHIELDING	177,285	0.78	0	40	0.00	0.31	0.281%	0.77%	63,690	240,975
1.3.7	TANK INTERNAL WASHDOWN	1,108,859	4.89	0	40	0.00	1.96	1.760%	4.79%	398,363	1,507,222
1.3.11	EQUIPMENT	1,190,930	5.25	0	40	0.00	2.10	1.890%	5.14%	427,847	1,618,777
1.3.15	MECHANICAL	404,696	1.78	0	45	0.00	0.80	0.723%	1.97%	163,563	568,259
1.3.16	ELECTRICAL	627,026	2.76	0	40	0.00	1.11	0.995%	2.71%	225,262	852,288
1.4.1	GOVERNMENT FURNISHED EQUIP.	5,965,334	26.30	0	50	0.00	13.15	11.835%	32.20%	2,678,842	8,644,176
1.5.1	G&A/PIF ADDER	1,268,825	5.59	0	40	0.00	2.24	2.014%	5.48%	455,831	1,724,656
1.5.2	PROCUREMENT FEES	212,749	0.94	0	40	0.00	0.38	0.338%	0.92%	76,431	289,180
	ESCALATION	5,777,842	25.47	0	35	0.00	8.92	8.024%	21.83%	1,816,309	7,594,151
	SUBTOTAL	22,681,560	100.00					36.751%			
	CALCULATED CONTINGENCY	8,335,643									
	RESULTANT TEC	31,017,203									
	ROUNDED TEC	31,000,000									
	PROJECT CONTINGENCY	8,318,440						36.67%			
	MANAGEMENT RESERVE	1,858,199									
	CONTINGENCY	6,460,241									
	TOTAL ESTIMATED COST	31,000,000								8,318,440	31,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:
The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE
Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.
 PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

1/23/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-10F

PROCUREMENT FEE:

CONSTRUCTION*** =	\$1,110,745
GFE =	\$5,965,334
Subtotal	\$7,076,079

FEE @ 3% = \$7,076,079 * 0.03 = \$212,282

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$1,110,745
GFE =	\$2,254,000
PROCUREMENT FEE =	\$212,282
Subtotal	\$3,577,027

FEE @ 23% = \$3,577,027 * 0.23 = \$822,716

PIF @ 5.5%

CONSTRUCTION =	\$1,110,745
GFE =	\$5,965,334
PROCUREMENT FEE =	\$212,282
G&A =	\$822,716
Subtotal	\$8,111,078

FEE @ 5.5% = \$8,111,078 * 0.055 = \$446,109

TOTAL PROCUREMENT FEE: \$212,282

TOTAL G&A FEE: \$822,716

TOTAL PIF: \$446,109

***Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL**
 SOLIDIFY REMAINING HEEL - ESCALATED
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10G1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **15:08:58**
 CHECKED BY: *[Signature]*
 APPROD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$342,450</u>
1.1.2	TITLE III INSPECTION	228,300	114,150	342,450
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$1,024,200</u>
1.2.1	PROJECT MANAGEMENT	593,500	296,750	890,250
1.2.2	CONSTRUCTION MANAGEMENT	89,300	44,650	133,950
1.3	<u>CONSTRUCTION</u>			>> <u>\$1,338,994</u>
1.3.1	GENERAL CONDITIONS	282,949	141,475	424,424
1.3.3	CONCRETE	413,015	206,507	619,522
1.3.15	MECHANICAL	80,583	40,291	120,874
1.3.16	ELECTRICAL	116,116	58,058	174,174
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$4,884,957</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,672,900	1,212,057	4,884,957
1.5	<u>G&A/PIF</u>			>> <u>\$1,241,106</u>
1.5.1	G&A/PIF ADDER	827,404	413,702	1,241,106
1.5.2	PROCUREMENT FEES	118,705	43,118	<u>\$161,823</u>
	SUBTOTAL INCLUDING ESCALATION	6,422,772	2,570,758	>> \$8,993,530
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$762,688
	CONTINGENCY			>> \$2,643,782
	TOTAL ESTIMATED COST			>> \$12,400,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 6.00%
 CONTINGENCY= 37.88%

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SOLIDIFY REMAINING HEEL - UNESCALATED**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10G1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **15:07:19**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> <u>\$228,300</u>
1.1.2	TITLE III INSPECTION	228,300	0	228,300
1.2	<u>MANAGEMENT COSTS</u>			>> <u>\$682,800</u>
1.2.1	PROJECT MANAGEMENT	593,500	0	593,500
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0	89,300
1.3	<u>CONSTRUCTION</u>			>> <u>\$892,663</u>
1.3.1	GENERAL CONDITIONS	282,949	0	282,949
1.3.3	CONCRETE	413,015	0	413,015
1.3.15	MECHANICAL	80,583	0	80,583
1.3.16	ELECTRICAL	116,116	0	116,116
1.4	<u>GOVERNMENT FURNISHED EQUIP.</u>			>> <u>\$3,672,900</u>
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,672,900	0	3,672,900
1.5	<u>G&A/PIF</u>			>> <u>\$827,404</u>
1.5.1	G&A/PIF ADDER	827,404	0	827,404
1.5.2	PROCUREMENT FEES	118,705	0	>> <u>\$118,705</u>
	SUBTOTAL INCLUDING ESCALATION	6,422,772	0	>> \$6,422,772
	PROJECT CONTINGENCY			
	MANAGEMENT RESERVE			>> \$551,167
	CONTINGENCY			>> \$2,026,061
	TOTAL ESTIMATED COST			>> \$9,000,000

<u>PROJECT COST PARAMETERS</u>	
EDI AS A % OF CONST. + GFE=	5.00%
CONTINGENCY=	40.13%

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING

PROJECT NO.: 2406-10G1

PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998

TIME: 15:05:38

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		228,300				228,300
	TITLE III INSPECTION S/T						0	\$228,300				\$228,300
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE	1	LOT			0.000		593,500				593,500
	PROJECT MANAGEMENT S/T						0	\$593,500				\$593,500
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION	1	LOT			0.000		89,300				89,300
	CONSTRUCTION MANAGEMENT S/T						0	\$89,300				\$89,300
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV FA	820.000	820	41,410				41,410
	TRAINING:	10	FTE		ZF-OE FA	32.000	320	16,566				16,566
	SMALL TOOLS & CONSUMABLES	1	LOT	20,800.00		0.000				20,800		20,800
	CRANE SUPPORT	1	LOT		ZF-OE FA	410.000	410	21,228	22,550			43,776
	MISC. EQUIPMENT	1	LOT			0.000			20,600			20,600
	CLEANUP & MATERIAL HANDLING	8,238	MHRS		ZF-LB FA	0.100	824	36,437				36,437
	RADCON TECH SUPPORT	2	FTE		Z-1342	820.000	1,640	81,016				81,016

Lockheed Martin Idaho Technologies Co.

Rev. 8/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SOLIDIFY REMAINING HEEL

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-10G1
PREPARED BY: R. D. ADAMS

PAGE # 2

DATE 23-Jan-1998
TIME: 15:05:38

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	20,280.00		0.000				20,280		20,290
	GENERAL CONDITIONS S/T						4,014	\$186,655	\$43,150	\$41,080		\$280,895
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.3	HEEL SOLIDIFICATION GROUT ARM MOUNTING FRAMES	2	EA	50,000.00		0.000				100,000		100,000
	INSTALL & REMOVE MOUNTING FRAMES	22	EA		ZF-IW EA	120.000	2,640	127,327				127,327
	INSTALL & REMOVE TEMPORARY SHIELDING AT RISER	22	EA		ZF-LB FA	80.000	1,760	77,845				77,845
	PLACE WET GROUT	.800	CY	80.00	ZF-OE FA	0.500	400	20,708		64,000		84,708
	PLACE DRY GROUT (ALLOW)	110	CY	80.00	ZF-OE FA	1.000	110	5,695		8,800		14,495
	HEEL SOLIDIFICATION S/T						4,910	\$231,575		\$172,800		\$404,375
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.5	GROUT DELIVERY PIPING PURCHASE PIPE	350	LF	26.64		0.000				9,324		9,324

DETAILED COST ESTIMATE SHEET

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.5	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	2,400	LF		ZF-PF FA	0.470	1,128	67,985	2,808			70,793
	GROUT DELIVERY PIPING S/T						1,128	\$67,985	\$2,808	\$9,324		\$80,117
1.3.16	ELECTRICAL											
	ELECTRICAL S/T						0					
1.3.16.1	TEMPORARY POWER REMOVE & RECONNECT POWER TO WET & DRY GROUT ARMS EQUIPMENT	22	EA		ZF-EL FA	100.000	2,200	116,116				116,116
	TEMPORARY POWER S/T						2,200	\$116,116				\$116,116
1.4.1	GOVERNMENT FURNISHED EQUIP.											
	PURCHASE WET GROUT DELIVERY ARM & CONTROLS	2	EA	800,000.00	FA	0.000				1,600,000		1,600,000
	PURCHASE DRY GROUT DELIVERY ARM & CONTROLS	2	EA	750,000.00	FA	0.000				1,500,000		1,500,000
	PURCHASE GROUT PUMP	1	EA	55,000.00	FA	0.000				55,000		55,000
	PURCHASE AIR COMPRESSOR & MISC CLEANING EQUIP.	1	LOT	25,000.00	FA	0.000				25,000		25,000

Lockheed Martin Idaho Technologies Co.

Rev. 6/88

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SOLIDIFY REMAINING HEEL

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-10G1
PREPARED BY: R. D. ADAMS

PAGE # 4

DATE 23-Jan-1998
TIME: 15:05:38
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.4.1	GOVERNMENT FURNISHED EQUIP. ADD FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	318,000.00		0.000				318,000		318,000
	GOVERNMENT FURNISHED EQUIP. S/T						0			\$3,498,000		\$3,498,000
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					571,994	571,994
	PIF	1	LOT			0.000					255,410	255,410
	G&A/PIF ADDER S/T						0				\$827,404	\$827,404
	PROJECT SUBTOTAL						12,252	\$1,623,430	\$45,958	\$3,721,214	\$827,404	\$6,118,006

Rev. 6/96
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 SOLIDIFY REMAINING HEEL - UNESCALATED
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-10G1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 15:07:25

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	228,300	3.55	0	35	0.00	1.24	1.120%	2.76%	71,137	299,437
1.2.1	PROJECT MANAGEMENT	593,500	9.24	0	35	0.00	3.23	2.911%	7.18%	184,931	778,431
1.2.2	CONSTRUCTION MANAGEMENT	89,300	1.39	0	35	0.00	0.49	0.438%	1.08%	27,825	117,125
1.3.1	GENERAL CONDITIONS	282,949	4.41	0	40	0.00	1.76	1.586%	3.91%	100,760	383,709
1.3.3	CONCRETE	413,015	6.43	0	40	0.00	2.57	2.315%	5.71%	147,078	560,093
1.3.15	MECHANICAL	80,583	1.25	0	45	0.00	0.56	0.508%	1.25%	32,283	112,866
1.3.16	ELECTRICAL	116,116	1.81	0	40	0.00	0.72	0.651%	1.60%	41,350	157,466
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,672,900	57.19	0	50	0.00	28.59	25.734%	63.44%	1,634,935	5,307,835
1.5.1	G&A/PIF ADDER	827,404	12.88	0	40	0.00	5.15	4.638%	11.43%	294,645	1,122,049
1.5.2	PROCUREMENT FEES	118,705	1.85	0	40	0.00	0.74	0.665%	1.64%	42,272	160,977
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	12	12
SUBTOTAL		6,422,772	100.00					40.565%			
CALCULATED CONTINGENCY		2,605,386									
RESULTANT TEC		9,028,158									
ROUNDED TEC		9,000,000									
PROJECT CONTINGENCY		2,577,228						40.13%			
MANAGEMENT RESERVE		551,167									
CONTINGENCY		2,026,061									
TOTAL ESTIMATED COST		9,000,000								2,577,228	9,000,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

- PLANNING 20% - 30%
 - Experimental/Special Conditions.....Up to 50%
 - Conceptual 15% - 25%
 - Experimental/Special Conditions.....Up to 40%
- TITLE I 10% - 20%
- TITLE II 5% - 15%
- TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
SOLIDIFY REMAINING HEEL - ESCALATED**
LOCATION 1: **INEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10G1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **15:09:04**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION									PROJECT CONTINGENCY		SUMMARY
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	228,300	2.54	0	35	0.00	0.89	0.800%	2.11%	71,731	300,031
1.2.1	PROJECT MANAGEMENT	593,500	6.60	0	35	0.00	2.31	2.079%	5.47%	186,474	779,974
1.2.2	CONSTRUCTION MANAGEMENT	89,300	0.99	0	35	0.00	0.35	0.313%	0.82%	28,058	117,358
1.3.1	GENERAL CONDITIONS	282,949	3.15	0	40	0.00	1.26	1.133%	2.98%	101,601	384,550
1.3.3	CONCRETE	413,015	4.59	0	40	0.00	1.84	1.653%	4.35%	148,305	561,320
1.3.15	MECHANICAL	80,583	0.90	0	45	0.00	0.40	0.363%	0.96%	32,553	113,136
1.3.16	ELECTRICAL	116,116	1.29	0	40	0.00	0.52	0.465%	1.22%	41,695	157,811
1.4.1	GOVERNMENT FURNISHED EQUIP.	3,672,900	40.84	0	50	0.00	20.42	18.378%	48.40%	1,648,579	5,321,479
1.5.1	G&A/PIF ADDER	827,404	9.20	0	40	0.00	3.68	3.312%	8.72%	297,104	1,124,508
1.5.2	PROCUREMENT FEES	118,705	1.32	0	40	0.00	0.53	0.475%	1.25%	42,625	161,330
	ESCALATION	2,570,758	28.58	0	35	0.00	10.00	9.004%	23.71%	807,745	3,378,503
	SUBTOTAL	8,993,530	100.00					37.974%			
	CALCULATED CONTINGENCY	3,415,174									
	RESULTANT TEC	12,408,704									
	ROUNDED TEC	12,400,000									
	PROJECT CONTINGENCY	3,406,470						37.88%			
	MANAGEMENT RESERVE	762,688									
	CONTINGENCY	2,643,782									
	TOTAL ESTIMATED COST	12,400,000								3,406,470	12,400,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM-50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%

Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%

TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE III/AFC Market Conditions

1/23/98

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-10G

PROCUREMENT FEE:

CONSTRUCTION*** =	\$280,333		
GFE =	\$3,672,900		
Subtotal	\$3,953,233		
FEE @ 3% =	\$3,953,233	* 0.03 =	\$118,597

G&A @ 23% (with a ceiling of \$500,000 imposed per year)

CONSTRUCTION OR CEILING * # OF YEARS =	\$280,333		
GFE =	\$2,088,000		
PROCUREMENT FEE =	\$118,597		
Subtotal	\$2,486,930		
FEE @ 23% =	\$2,486,930	* 0.23 =	\$571,994

PIF @ 5.5%

CONSTRUCTION =	\$280,333		
GFE =	\$3,672,900		
PROCUREMENT FEE =	\$118,597		
G&A =	\$571,994		
Subtotal	\$4,643,824		
FEE @ 5.5% =	\$4,643,824	* 0.055 =	\$255,410

TOTAL PROCUREMENT FEE: \$118,597

TOTAL G&A FEE: \$571,994

TOTAL PIF: \$255,410

***Construction*= Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96
 PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 FILL VAULT & TANK VOIDS W/ CLEAN GROUT**
 LOCATION 1: **INEEL/ICPP**
 REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
 PROJECT NO: **2406-10H1**
 PREPARED BY: **R. D. ADAMS**
 REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
 TIME: **15:14:56**
 CHECKED BY: *[Signature]*
 APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
1.1	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$702,693
1.1.2	TITLE III INSPECTION	431,100	271,593	702,693
1.2	<u>MANAGEMENT COSTS</u>			>> \$3,232,453
1.2.1	PROJECT MANAGEMENT	1,120,900	706,167	1,827,067
1.2.2	CONSTRUCTION MANAGEMENT	862,200	543,186	1,405,386
1.3	<u>CONSTRUCTION</u>			>> \$14,053,987
1.3.1	GENERAL CONDITIONS	1,818,357	1,145,565	2,963,922
1.3.2	SITWORK	759,751	478,643	1,238,394
1.3.3	CONCRETE	5,353,547	3,372,734	8,726,281
1.3.15	MECHANICAL	690,423	434,967	1,125,390
1.5	<u>G&A/PIF</u>			>> \$2,794,003
1.5.1	G&A/PIF ADDER	1,714,112	1,079,891	2,794,003
1.5.2	PROCUREMENT FEES	168,131	105,922	>> \$274,053
SUBTOTAL INCLUDING ESCALATION		12,918,521	8,138,668	>> \$21,057,189
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,712,204
CONTINGENCY				>> \$5,430,607
TOTAL ESTIMATED COST				>> \$28,200,000

PROJECT COST PARAMETERS

EDI AS A % OF CONST. + GFE= **5.00%**

CONTINGENCY= **33.92%**

Lockheed Martin Idaho Technologies Co.

COST ESTIMATE SUMMARY

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
FILL VAULT & TANK VOIDS W/ CLEAN GROUT**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10H1**
PREPARED BY: **R. D. ADAMS**
REPORT NAME: **Cost Estimate Summary**

DATE: **23-Jan-1998**
TIME: **15:13:12**
CHECKED BY: *[Signature]*
APPRD BY: *[Signature]*

WBS Element	Cost Estimate Element	Total Unescalated	Escalation	Total Incl Escalation
<u>1.1</u>	<u>ENGINEERING, DESIGN AND INSPECTION</u>			>> \$431,100
1.1.2	TITLE III INSPECTION	431,100	0	431,100
<u>1.2</u>	<u>MANAGEMENT COSTS</u>			>> \$1,983,100
1.2.1	PROJECT MANAGEMENT	1,120,900	0	1,120,900
1.2.2	CONSTRUCTION MANAGEMENT	862,200	0	862,200
<u>1.3</u>	<u>CONSTRUCTION</u>			>> \$8,622,078
1.3.1	GENERAL CONDITIONS	1,818,357	0	1,818,357
1.3.2	SITWORK	759,751	0	759,751
1.3.3	CONCRETE	5,353,547	0	5,353,547
1.3.15	MECHANICAL	690,423	0	690,423
<u>1.5</u>	<u>G&A/PIF</u>			>> \$1,714,112
1.5.1	G&A/PIF ADDER	1,714,112	0	1,714,112
1.5.2	PROCUREMENT FEES	168,131	0	>> \$168,131
SUBTOTAL INCLUDING ESCALATION		12,918,521	0	>> \$12,918,521
PROJECT CONTINGENCY				
MANAGEMENT RESERVE				>> \$1,050,432
CONTINGENCY				>> \$3,531,047
TOTAL ESTIMATED COST				>> \$17,500,000

PROJECT COST PARAMETERS
 EDI AS A % OF CONST. + GFE= 5.00%
 CONTINGENCY= 35.46%

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 FILL VAULT & TANK VOIDS W/ CLEAN GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2406-10H1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 15:11:29
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.1.2	TITLE III INSPECTION											
Memo:	INSPECTION/TITLE III TITLE III @ 5% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		431,100				431,100
	TITLE III INSPECTION S/T						0	\$431,100				\$431,100
1.2.1	PROJECT MANAGEMENT											
Memo:	PM PM @ 13% OF CONSTRUCTION PLUS GFE.	1	LOT			0.000		1,120,900				1,120,900
	PROJECT MANAGEMENT S/T						0	\$1,120,900				\$1,120,900
1.2.2	CONSTRUCTION MANAGEMENT											
Memo:	CONSTRUCTION MANAGEMENT CM @ 10% OF CONSTRUCTION.	1	LOT			0.000		862,200				862,200
	CONSTRUCTION MANAGEMENT S/T						0	\$862,200				\$862,200
1.3.1	GENERAL CONDITIONS											
	SUPERVISION	1	FTE		ZF-SV EA	4250.00	4,250	214,825				214,825
	TRAINING:	10	FTE		ZF-OE EA	165.000	1,650	85,421				85,421
	SMALL TOOLS & CONSUMABLES	1	LOT	100,700.00		0.000				100,700		100,700
	CRANE SUPPORT	1	LOT		ZF-OE EA	2125.00	2,125	110,011	116,900			226,911
	MISC. EQUIPMENT	1	LOT			0.000			106,200			106,200
	CLEANUP & MATERIAL HANDLING	42,460	MHRS		ZF-LB EA	0.100	4,246	187,801				187,801
	RADCON TECH SUPPORT	2	FTE		Z-1342	4250.00	8,500	419,900				419,900

Lockheed Martin Idaho Technologies Co.

DETAILED COST ESTIMATE SHEET

PAGE # 2

Rev. 0/80

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
FILL VAULT & TANK VOIDS W/ CLEAN GROUT

TYPE OF ESTIMATE: PLANNING

DATE 23-Jan-1998

LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

PROJECT NO: 2406-10H1

TIME: 16:11:29

PREPARED BY: R. D. ADAMS

REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.1	GENERAL CONDITIONS ADD 10% TO MATERIAL FOR DOE/RW/0333P QUALITY STANDARDS	1	LOT	449,300.00	FA	0.000				449,300		449,300
	GENERAL CONDITIONS S/T						20,771	\$1,017,757	\$223,100	\$550,000		\$1,790,857
1.3.2	SITWORK											
	SITWORK S/T						0					
1.3.2.1	ACCESS VAULT TOP FOR CORE DRILLS EXCAVATE, BACKFILL, STOCKPILE, CLEAN FILL	2,600	CY	50.00	ZF-OE FA	4.000	10,400	538,408	29,250	130,000		697,658
	PLACE GRAVEL AROUND TANK MONITORS	44	EA	20.00	ZF-OE FA	24.000	1,056	54,869		880		55,549
	ACCESS VAULT TOP FOR CORE DRILLS S/T						11,456	\$593,077	\$29,250	\$130,880		\$753,207
1.3.3	CONCRETE											
	CONCRETE S/T						0					
1.3.3.1	TANK VAULT ACCESS HOLES CORE DRILL 18"DIA IN VAULT ROOF	99	EA	1,000.00	ZF-LB FA	100.000	9,900	437,877	148,500	99,000		685,377

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 FILL VAULT & TANK VOIDS W/ CLEAN GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

DETAILED COST ESTIMATE SHEET

TYPE OF ESTIMATE: PLANNING
 PROJECT NO.: 2408-10H1
 PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
 TIME: 15:11:29
 REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.3.1	TANK VAULT ACCESS HOLES SHIELDING AROUND VAULT HOLES	99	EA	5,000.00	ZF-LB FA	24.000	2,376	105,090		495,000		600,090
	TANK VAULT ACCESS HOLES S/T						12,276	\$542,967	\$148,500	\$594,000		\$1,285,467
1.3.3.2	VAULT & TANK GROUTING PURCHASE GROUT DROP TUBE & ACCESSORIES	1,500	LF	20.00	FA	0.000				30,000		30,000
	INSTALL & REMOVE DROP TUBES	2,750	LF		ZF-LB FA	0.500	1,375	60,816				60,816
	GROUT PLACEMENT, CLEANUP	39,080	CY	80.00	ZF-LB FA	0.350	13,678	604,978		3,126,400		3,731,378
	GROUT OVER TANK MONITOR FEET	44	EA	80.00	ZF-OE FA	24.000	1,056	54,669		3,520		58,189
	VAULT & TANK GROUTING S/T						16,109	\$720,463		\$3,159,920		\$3,880,383
1.3.15	MECHANICAL											
	MECHANICAL S/T						0					
1.3.15.1	GROUT DELIVERY PIPING INSTALL, REMOVE & CLEAN PIPE	700	LF		ZF-PF FA	0.470	329	19,829	819			20,648
	GROUT MANIFOLDS & CLEANING SYSTEM	1	LOT	12,500.00	ZF-PF FA	750.000	750	45,203		12,600		57,703
	GROUT DELIVERY PIPING S/T						1,079	\$65,031	\$819	\$12,600		\$78,350
1.3.15.2	TANK LEAK MONITORS & VENTILATION TANK LEAK MONITORS	44	EA	10,000.00	ZF-PF FA	32.000	1,408	84,860		440,000		524,860

Lockheed Martin Idaho Technologies Co.
Rev. 6/88

DETAILED COST ESTIMATE SHEET

PAGE # 4

PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
FILL VAULT & TANK VOIDS W/ CLEAN GROUT
LOCATION 1: INEEL/ICPP
REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
PROJECT NO.: 2406-10H1
PREPARED BY: R. D. ADAMS

DATE 23-Jan-1998
TIME: 15:11:29
REPORT NAME: Detail Cost Estimate Sheet

CODE	DESCRIPTION	QTY	UOM	MATL UNIT COST	CREW SUB	UNIT LAB HOURS	TOTAL LAB HRS	LABOR	CONST. EQUIP.	MAT'L	S/C (OTHER 1)	TOTAL COST
1.3.15.2	TANK LEAK MONITORS & VENTILATION HEPA TEMPORARY VAULT BREATHERS	11	EA	5,000.00	ZF-SM FA	12.000	132	6,838		55,000		61,838
	TANK LEAK MONITORS & VENTILATION S/T						1,540	\$91,698		\$495,000		\$586,698
1.5.1	G&A/PIF ADDER											
00701000	G&A	1	LOT			0.000					1,324,528	1,324,528
	PIF	1	LOT			0.000					389,584	389,584
	G&A/PIF ADDER S/T						0				\$1,714,112	\$1,714,112
	PROJECT SUBTOTAL						63,231	\$5,445,194	\$401,669	\$4,942,300	\$1,714,112	\$12,503,275

Rev. 6/96
 PROJECT NAME: CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
 FILL VAULT & TANK VOIDS W/ CLEAN GROUT
 LOCATION 1: INEEL/ICPP
 REQUESTOR: B. C. SPAULDING

TYPE OF ESTIMATE: PLANNING
 PROJECT NO: 2406-10H1
 PREPARED BY: R. D. ADAMS

DATE: 23-Jan-1998
 TIME: 15:13:17

REPORT NAME: Contingency Analysis

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	431,100	3.34	0	35	0.00	1.17	1.051%	2.95%	135,037	566,137
1.2.1	PROJECT MANAGEMENT	1,120,900	8.68	0	35	0.00	3.04	2.733%	7.66%	351,108	1,472,008
1.2.2	CONSTRUCTION MANAGEMENT	862,200	6.67	0	35	0.00	2.34	2.102%	5.89%	270,073	1,132,273
1.3.1	GENERAL CONDITIONS	1,818,357	14.08	0	40	0.00	5.63	5.067%	14.21%	650,945	2,469,302
1.3.2	SITWORK	759,751	5.88	0	45	0.00	2.65	2.382%	6.68%	305,977	1,065,728
1.3.3	CONCRETE	5,353,547	41.44	0	40	0.00	16.58	14.919%	41.83%	1,916,492	7,270,039
1.3.15	MECHANICAL	690,423	5.34	0	45	0.00	2.40	2.164%	6.07%	278,057	968,480
1.5.1	G&A/PIF ADDER	1,714,112	13.27	0	40	0.00	5.31	4.777%	13.39%	613,627	2,327,739
1.5.2	PROCUREMENT FEES	168,131	1.30	0	40	0.00	0.52	0.463%	1.31%	60,188	228,319
	ESCALATION	0	0.00	0	35	0.00	0.00	0.000%	0.00%	(25)	(25)
SUBTOTAL		12,918,521	100.00					35.664%			
CALCULATED CONTINGENCY		4,607,286									
RESULTANT TEC		17,525,807									
ROUNDED TEC		17,500,000									
PROJECT CONTINGENCY		4,581,479						35.46%			
MANAGEMENT RESERVE		1,050,432									
CONTINGENCY		3,531,047									
TOTAL ESTIMATED COST		17,500,000								4,581,479	17,500,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE

Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
 Experimental/Special Conditions.....Up to 50%
 Conceptual 15% - 25%
 Experimental/Special Conditions.....Up to 40%
 TITLE I 10% - 20%
 TITLE II 5% - 15%
 TITLE II/AFC Market Conditions

Lockheed Martin Idaho Technologies Co.

CONTINGENCY ANALYSIS

Rev. 6/96

PROJECT NAME: **CLOSE TO RCRA LANDFILL STDS - CLEAN FILL
FILL VAULT & TANK VOIDS W/ CLEAN GROUT**
LOCATION 1: **INEEL/ICPP**
REQUESTOR: **B. C. SPAULDING**

TYPE OF ESTIMATE: **PLANNING**
PROJECT NO: **2406-10H1**
PREPARED BY: **R. D. ADAMS**

DATE: **23-Jan-1998**
TIME: **15:15:02**

REPORT NAME: **Contingency Analysis**

PROBABLE % VARIATION								PROJECT CONTINGENCY		SUMMARY	
WBS Element	Cost Estimate Element	Total Cost w/o Contingency	% Total Cost	Prob. % Var. From Est.		Wt. % of Prob.		Contingency	%	Cost	Total Cost by Element
				-	+	-	+				
1.1.2	TITLE III INSPECTION	431,100	2.05	0	35	0.00	0.72	0.645%	1.89%	135,262	566,362
1.2.1	PROJECT MANAGEMENT	1,120,900	5.32	0	35	0.00	1.86	1.677%	4.92%	351,694	1,472,594
1.2.2	CONSTRUCTION MANAGEMENT	862,200	4.09	0	35	0.00	1.43	1.290%	3.79%	270,524	1,132,724
1.3.1	GENERAL CONDITIONS	1,818,357	8.64	0	40	0.00	3.45	3.109%	9.13%	652,033	2,470,390
1.3.2	SITWORK	759,751	3.61	0	45	0.00	1.62	1.461%	4.29%	306,488	1,066,239
1.3.3	CONCRETE	5,353,547	25.42	0	40	0.00	10.17	9.153%	26.88%	1,919,694	7,273,241
1.3.15	MECHANICAL	690,423	3.28	0	45	0.00	1.48	1.328%	3.90%	278,521	968,944
1.5.1	G&A/PIF ADDER	1,714,112	8.14	0	40	0.00	3.26	2.930%	8.61%	614,652	2,328,764
1.5.2	PROCUREMENT FEES	168,131	0.80	0	40	0.00	0.32	0.287%	0.84%	60,289	228,420
	ESCALATION	8,138,668	38.65	0	35	0.00	13.53	12.175%	35.75%	2,553,654	10,692,322
	SUBTOTAL	21,057,189	100.00					34.055%			
	CALCULATED CONTINGENCY	7,170,957									
	RESULTANT TEC	28,228,156									
	ROUNDED TEC	28,200,000									
	PROJECT CONTINGENCY	7,142,811						33.92%			
	MANAGEMENT RESERVE	1,712,204									
	CONTINGENCY	5,430,607									
	TOTAL ESTIMATED COST	28,200,000								7,142,811	28,200,000

CONFIDENCE LEVEL AND ASSUMED RISKS:

The Lockheed Idaho Technologies Co. Cost Estimate Contingency Analysis Model is based on the applied contingency and the assumptions upon which the estimate was predicated. The model is applied with a suggested risk level of 18% and a level of confidence of 90% the estimate will fall within the bid range. The Contingency Analysis is based on a weighted average to provide a 90 % probability of underrun and a 10% probability of overrun.

CONTINGENCY ANALYSIS GUIDE BY TYPE OF ESTIMATE
Guidelines established by DOE/FM 50, Cost Estimating Guide, Vol. 6, Cost Guide, and as presented in the INEL Cost Estimating Guide.

PLANNING 20% - 30%
Experimental/Special Conditions.....Up to 50%
Conceptual 15% - 25%
Experimental/Special Conditions.....Up to 40%
TITLE I 10% - 20%
TITLE II 5% - 15%
TITLE II/AFC Market Conditions

12/11/97

G&A/PIF ADDER CALCULATION SHEET ESTIMATE 2406-10H

PROCUREMENT FEE:

CONSTRUCTION*** =	\$5,591,084	
GFE =	\$0	
Subtotal	\$5,591,084	
FEE @ 3% =	\$5,591,084 * 0.03 =	\$167,733

G&A @ 23% (with a ceiling of \$500,000 imposed per year

CONSTRUCTION OR CEILING * # OF YEARS =	\$5,591,084	
GFE =	\$0	
PROCUREMENT FEE =	\$167,733	
Subtotal	\$5,758,817	
FEE @ 23% =	\$5,758,817 * 0.23 =	\$1,324,528

PIF @ 5.5%

CONSTRUCTION =	\$5,591,084	
GFE =	\$0	
PROCUREMENT FEE =	\$167,733	
G&A =	\$1,324,528	
Subtotal	\$7,083,344	
FEE @ 5.5% =	\$7,083,344 * 0.055 =	\$389,584

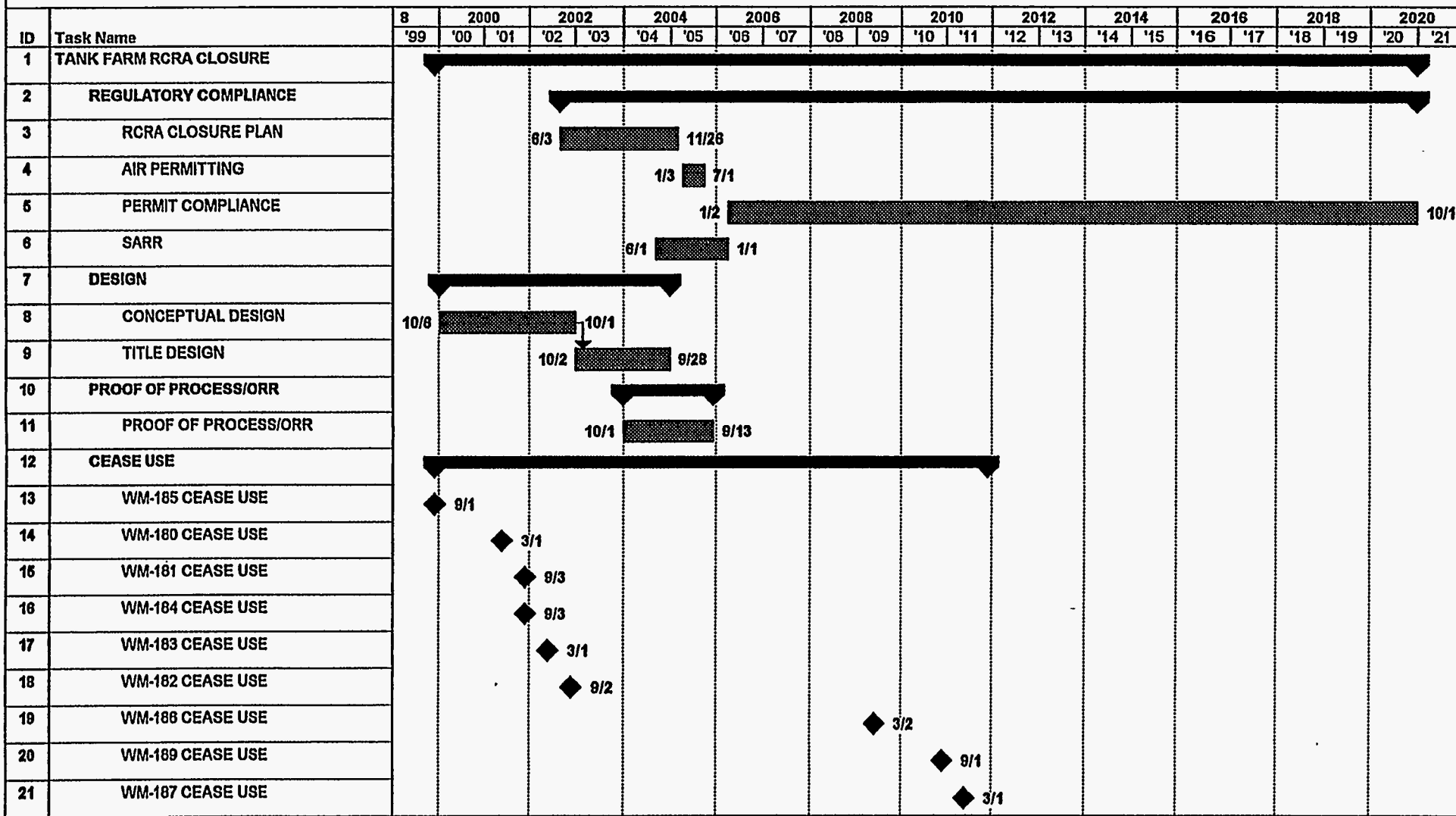
TOTAL PROCUREMENT FEE: \$167,733

TOTAL G&A FEE: \$1,324,528

TOTAL PIF: \$389,584

***Construction = Equipment+Material+Subcontracts only. Labor rates used already have G&A & PIF included.

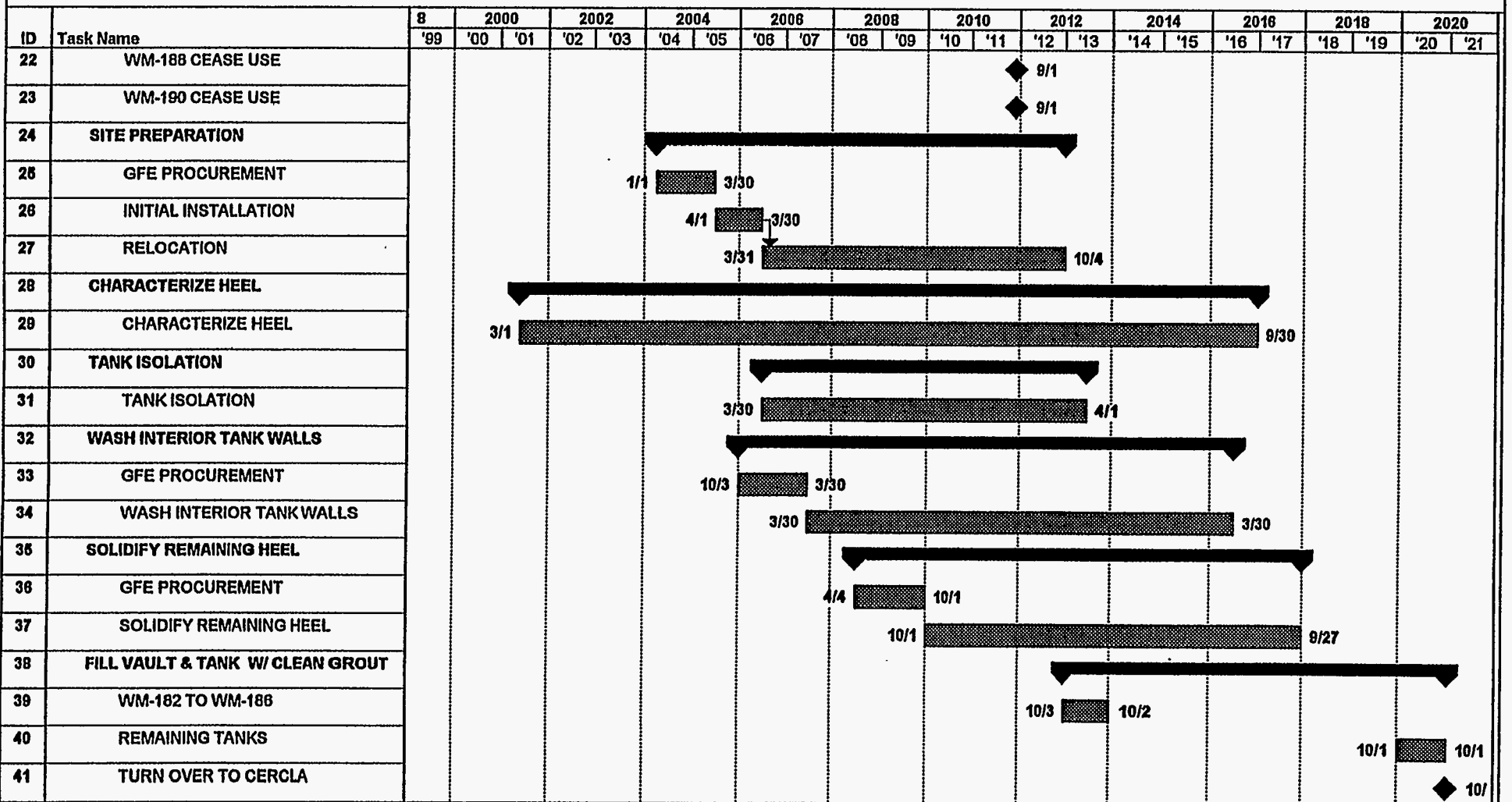
**TANK FARM RCRA CLOSURE
CLOSE TO RCRA LANDFILL STANDARDS
CLEAN FILL**



Project: 2406-10.MPP
Date: Fri 1/23/98



**TANK FARM RCRA CLOSURE
CLOSE TO RCRA LANDFILL STANDARDS
CLEAN FILL**



Project: 2406-10.MPP
Date: Fri 1/23/98



**Life Cycle Cost and Yearly
Cash Flow Estimates**



Lockheed Martin Idaho Technologies Company
INTERDEPARTMENTAL COMMUNICATION

Date: January 28, 1998
To: Bryan Spaulding MS 3765 6-8633
From: R. I. Turk/M.M. Plum MS 3875 6-3611
Subject: ECONOMIC AND LIFE CYCLE ANALYSIS CONDUCTED FOR THE TANK FARM FACILITY RCRA CLOSURE OPTIONS – RJT-10-98 REV. 8

Purpose:

As requested an Economic and Life-Cycle Cost (LCC) has been conducted to evaluate the proposed TANK FARM FACILITY RCRA CLOSURE OPTIONS. Each option proposes a different method for the closure of eleven waste storage tanks and the eight vaults at ICPP

- Option one:** Total Removal, Clean Closure
- Option two:** Risk-Based Clean Closure, LLW fill
- Option three:** Risk-Based Clean Closure, CERCLA fill
- Option four:** Close to RCRA Landfill Standards, LLW fill
- Option five:** Close to RCRA Landfill Standards, CERCLA fill
- Option six:** Close to RCRA Landfill Standards, Clean fill

Option one will not require CERCLA monitoring after closure activities because all contaminants have been removed to non-detectable levels. Options two through six will be turned over to CERCLA for monitoring after completion because contaminants will remain on the site.

This economic analysis is based on information provided by B. Spaulding, Lee Toutt, Max Christensen, David McAllister, Brent Helm and other team members. R. D. Adams and F. P. Hanson provided cost estimates for the various options.

Methodology:

The Economic Evaluation assumed a maximum 35-year period, (2003-2036) since this is the estimated time required to complete all of the anticipated remediation activities. If monitoring will be required after closure, the analysis assumed CERCLA would provide this service at no cost. The LCC is identified for each alternative by evaluating the initial development, construction, operating and post operating costs over the life-cycle. A discounted LCC analysis assumes a current dollar basis, discounted to 1998 using a 6.30% annual discount rate per the Office of Management and Budget (OMB) Circular A-94. All costs are conservatively discounted assuming the end-of-year convention.

Assumptions:

The scope of work and requirements of all related activities are vague at this time. Facility and processing costs are typically taken from reference cost estimates of similar scope; however, projects of this magnitude are not available. All costs are assumed to be reasonable for the purposes of the estimate and reflect historical experience associated with DD&D work at the INEEL.

The LCC analysis has been generated to match the division provided by cost estimating. These costs include Permitting, Direct and Indirect Construction, G&A, Performance Incentive Fee (PIF), Procurement fee, Engineering, Inspection, Project Management, Construction Management, Escalation and Contingency costs.

Option one assumes the project will provide total removal of heels, tanks, and vaults with soils being removed to a depth of 50 feet. All utilities will be removed. The entire area will be backfilled and compacted following demolition.

Options two through six utilize various methods for closure where some residual contamination will remain. Options two and three assume Risked Based Clean Closure with either LLW or CERCLA fill. Options four, five, and six assume closure to RCRA Landfill Standards with either LLW, CERCLA, or Clean fill. Options two through six assumes a decommissioning cost equal to 2% of closure activities (unescalated) cost, decontamination costs equal to 5% of closure activities (unescalated) cost, and demolition costs equal to 1% of closure activities (unescalated) cost. Option one assumed closure without DD&D costs due to the area would be inherently returned the site to a green-field status.

Results:

Option one: \$ 985 million.
Option two: \$ 91 million.
Option three: \$ 98 million.
Option four: \$ 82 million
Option five: \$ 91 million.
Option six: \$ 65 million.

(LCC reported in 1998 discounted dollars)

Attachments:

cc: R. J. Turk File

Option 1

OPTION 1 Total Removal Clean Closure Life-Cycle Cost (LCC) Analysis	financial year counting year Escalation Factor	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
		1	2	3	4	5	6	7	8	9	10
		1.024	1.053	1.082	1.112	1.144	1.178	1.209	1.242	1.277	1.313
		all costs are in 1,000's									
Closure Operation Activities											
Closure Activities for RCRA Total Removal (unescalated)											
Permitting & Oversight											157
Process Development						1,087	1,087	1,087	1,087	1,087	1,102
Institutional Controls										1,144	1,144
Treatability Studies											
Site Preparation Sub-Contract											
Soil Removal											
Site Preparation by LMTCO											
Soil Stabilization											
Soil Removal & D & D Activities											
Waste Disposal											
Post Excavation Activities											
Debris Cleaning Facility											
Land Disposal Site											
Sub-Total Closure Activities (unescalated) for RCRA Only		0	0	0	0	1,087	1,087	1,087	1,087	4,233	2,403
plus escalation for RCRA Total Removal		0	0	0	0	2,549	2,549	2,549	2,549	5,431	3,083
plus management reserve for RCRA Total Removal		0	0	0	0	401	401	401	401	655	485
plus contingency for RCRA Total Removal		0	0	0	0	1,100	1,100	1,100	1,100	2,344	1,331
Total Cost for RCRA Total Removal Clean Closure including escalation, mgt reserve, & contingency		0	0	0	0	6,038	6,038	6,038	6,038	12,662	7,302
PLUS Closure Activities for CERCLA WAG 3 Soil Removal THAT INCLUDE ESCALATION, MGT RESERVE, & CONTINGENCY											
Institutional Controls						3,393	3,393	3,393	3,393	3,393	10,511
Treatability Studies										12,165	12,165
Initial Phased Remedies											
Site Preparation by LMTCO											
Soil Removal & D & D Activities											
Waste Disposal											
Post Excavation Activities											
Total Cost for CERCLA WAG 3 Soil Removal including escalation, mgt reserve & contingency		0	0	0	0	3,393	3,393	3,393	3,393	26,069	22,676
Total Cost for Closure Activities		0	0	0	0	9,431	9,431	9,431	9,431	38,932	29,978
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgt reserve, & contingency		0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements											
Operation Activities are included in Closure Operation Activities above											
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated) Total Removal Clean Closure Only		0	0	0	0	1,087	1,087	1,087	1,087	4,233	2,403
Cumulative Total LCC (unescalated)		0	0	0	0	1,087	3,074	5,061	7,048	12,181	14,584
Total Cost (w/ escalation, mgt reserve, & contingency)		0	0	0	0	9,431	9,431	9,431	9,431	38,932	29,978
Cumulative Total LCC (escalated)		0	0	0	0	9,431	18,862	28,293	37,724	76,655	108,634
discount factor @ OMB discount rate of 8.30% for escalated costs		1.063	1.130	1.201	1.277	1.357	1.443	1.534	1.630	1.733	1.842
Discounted Annual Cost		0	0	0	0	6,948	6,537	6,149	5,785	22,465	16,273
Cumulative Discounted LCC		0	0	0	0	6,948	13,485	19,634	25,419	47,884	64,157

**OPTION 1 Total Removal Clean Closure
Life-Cycle Cost (LCC) Analysis**

fiscal year
counting year
Escalation Factor

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	11	12	13	14	15	16	17	18	19	20
	1.350	1.387	1.428	1.468	1.507	1.550	1.593	1.638	1.683	1.730
	all costs are in 1,000's									
Closure Operation Activities										
Closure Activities for RCRA Total Removal (unescalated)										
Permitting & Oversight	157	157	157	157	157	157	157	157	157	157
Process Development										
Institutional Controls	1,102									
Treatability Studies	1,144									
S&E Preparation Sub-Contract	7,244	7,244	7,244	7,244						
Soil Removal		13,783	13,783	13,783	13,783	13,783	13,783	13,783	13,783	13,783
S&E Preparation by LMTCO										
Soil Stabilization										
Soil Removal & D & D Activities										
Waste Disposal										
Post Excavation Activities										
Debris Cleaning Facility										
Land Disposal Site										
Sub-Total Closure Activities (unescalated) for RCRA Only	9,647	21,184	21,184	21,184	13,940	13,940	13,940	13,940	13,940	13,940
plus escalation for RCRA Total Removal	12,377	27,177	27,177	27,177	17,884	17,884	17,884	17,884	17,884	17,884
plus management reserve for RCRA Total Removal	1,948	4,278	4,278	4,278	2,815	2,815	2,815	2,815	2,815	2,815
plus contingency for RCRA Total Removal	5,342	11,731	11,731	11,731	7,719	7,719	7,719	7,719	7,719	7,719
Total Cost for RCRA Total Removal Clean Closure including escalation, mgt reserve, & contingency	29,314	64,370	64,370	64,370	42,358	42,358	42,358	42,358	42,358	42,358
PLUS Closure Activities for CERCLA WAG 3 Soil Removal THAT INCLUDE ESCALATION, MGT RESERVE, & CONTINGENCY										
Institutional Controls	10,511									
Treatability Studies	12,165									
Initial Phased Remedies										
S&E Preparation by LMTCO										
Soil Removal & D & D Activities										
Waste Disposal										
Post Excavation Activities										
Total Cost for CERCLA WAG 3 Soil Removal including escalation, mgt reserve & contingency	22,676	0	0	0	0	0	0	0	0	0
Total Cost for Closure Activities	51,990	64,370	64,370	64,370	42,358	42,358	42,358	42,358	42,358	42,358
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Operation Activities are included in Closure Operation Activities above										
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated) Total Removal Clean Closure Only	9,647	21,184	21,184	21,184	13,940	13,940	13,940	13,940	13,940	13,940
Cumulative Total LCC (unescalated)	24,231	45,415	66,599	87,783	101,723	115,663	129,603	143,542	157,482	171,422
Total Cost (w/ escalation, mgt reserve, & contingency)	51,990	64,370	64,370	64,370	42,358	42,358	42,358	42,358	42,358	42,358
Cumulative Total LCC (escalated)	158,824	222,984	287,353	351,733	394,091	438,448	478,806	521,164	563,521	605,879
discount factor @ OMB discount rate of 6.30% for escalated costs	1.958	2.062	2.213	2.352	2.500	2.658	2.825	3.003	3.193	3.394
Discounted Annual Cost	26,549	30,923	29,090	27,368	18,941	15,937	14,892	14,104	13,268	12,481
Cumulative Discounted LCC	90,707	121,630	150,720	178,088	195,027	210,964	225,958	240,060	253,328	265,809

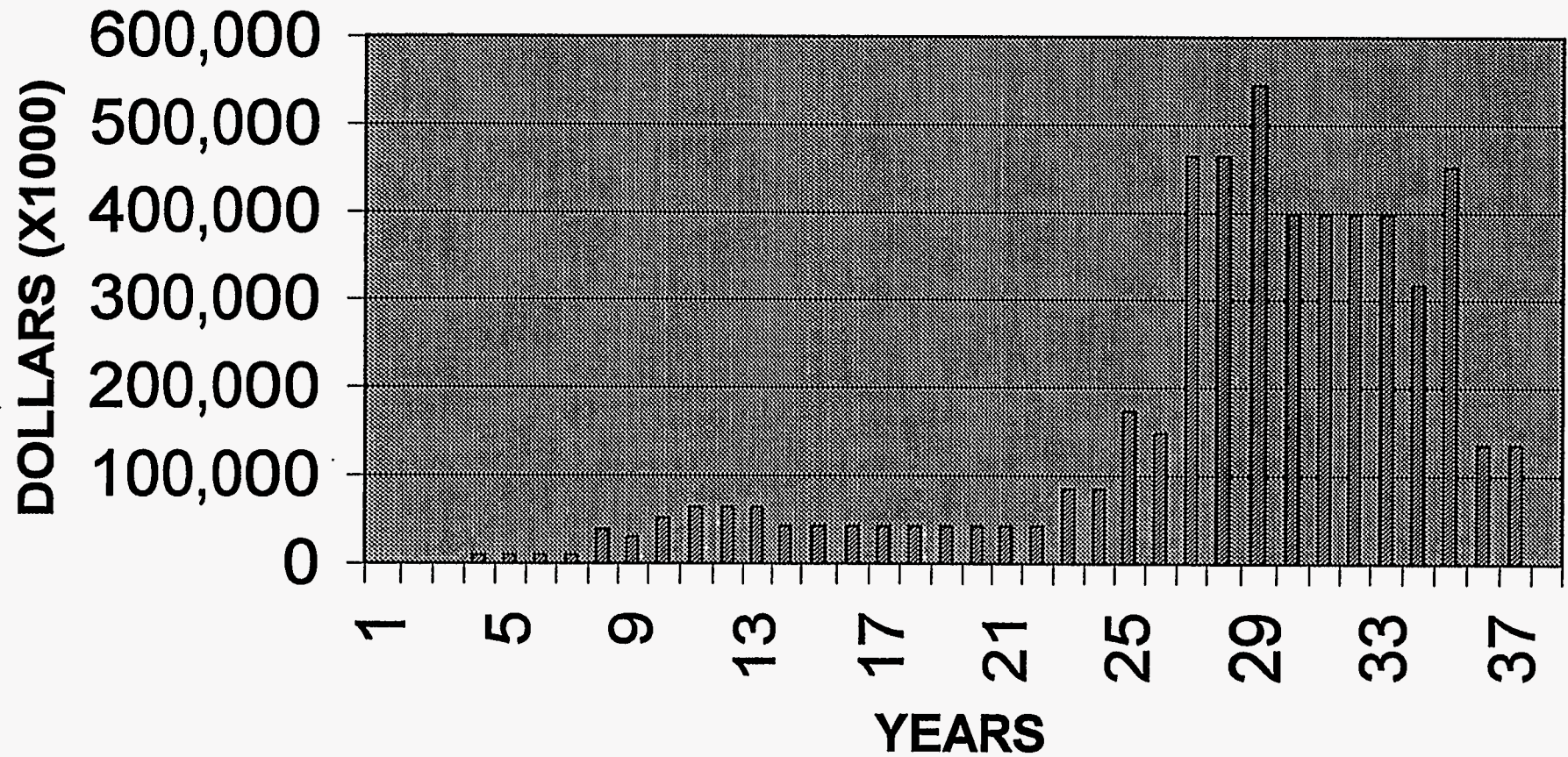
OPTION 1 Total Removal Clean Closure Life-Cycle Cost (LCC) Analysis	fiscal year counting year Escalation Factor	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
		21	22	23	24	25	26	27	28	29	30	
		1.779	1.829	1.890	1.933	1.987	2.042	2.100	2.158	2.219	2.281	
		all costs are in 1,000's										
Closure Operation Activities												
Closure Activities for RCRA Total Removal (unescalated)												
Permitting & Oversight		157	157	157	157	157	157	157	157	157	157	
Process Development												
Institutional Controls												
Treatability Studies												
Site Preparation Sub-Contract												
Soil Removal		13,783	13,783	13,783	13,783	13,783	13,783					
Soil Preparation by LMTCO							7,398					
Soil Stabilization								34,339	34,339	34,339	34,339	
Soil Removal & D & D Activities									48,618	48,618	48,618	
Waste Disposal											17,471	
Post Excavation Activities												
Debris Cleaning Facility					10,906	10,906	10,906	10,906	10,906	10,906	10,906	
Land Disposal Site					3,302	3,302	3,302	3,302	3,302	3,302	3,302	
Sub-Total Closure Activities (unescalated) for RCRA Only		13,940	13,940	13,940	28,147	28,147	35,545	48,703	65,321	65,321	112,792	
plus escalation for RCRA Total Removal		17,864	17,864	17,864	36,111	36,111	45,002	62,483	122,291	122,291	144,705	
plus management reserve for RCRA Total Removal		2,815	2,815	2,815	5,684	5,684	7,178	9,635	19,249	19,249	22,777	
plus contingency for RCRA Total Removal		7,719	7,719	7,719	15,587	15,587	19,683	26,969	62,784	62,784	62,458	
Total Cost for RCRA Total Removal Clean Closure including escalation, mgt reserve, & contingency		42,358	42,358	42,358	85,529	85,529	108,008	147,991	289,645	289,645	342,732	
PLUS Closure Activities for CERCLA WAG 3 Soil Removal THAT INCLUDE ESCALATION, MGT RESERVE, & CONTINGENCY												
Institutional Controls												
Treatability Studies												
Initial Phased Remedies												
Site Preparation by LMTCO							65,293					
Soil Removal & D & D Activities									175,064	175,064	175,064	
Waste Disposal											27,846	
Post Excavation Activities												
Total Cost for CERCLA WAG 3 Soil Removal including escalation, mgt reserve & contingency		0	0	0	0	0	65,293	0	175,064	175,064	202,910	
Total Cost for Closure Activities		42,358	42,358	42,358	85,529	85,529	173,301	147,991	464,709	464,709	545,642	
Operations												
Operation Activities are included in Closure Operation Activities above												
Total Operations including escalation, mgt reserve, & contingency		0	0	0	0	0	0	0	0	0	0	
Post Operations to Greenfield Site Requirements												
Operation Activities are included in Closure Operation Activities above												
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0	0	
Total Cost (unescalated) Total Removal Clean Closure Only		13,940	13,940	13,940	28,147	28,147	35,545	48,703	65,321	65,321	112,792	
Cumulative Total LCC (unescalated)		185,362	199,302	213,241	241,389	269,536	305,082	353,785	449,106	544,428	657,220	
Total Cost (w/ escalation, mgt reserve, & contingency)		42,358	42,358	42,358	85,529	85,529	173,301	147,991	464,709	464,709	545,642	
Cumulative Total LCC (escalated)		648,238	690,594	732,952	818,481	904,010	1,077,311	1,225,302	1,690,011	2,154,720	2,700,383	
discount factor @ OMS discount rate of 6.30% for escalated costs		3.007	3.835	4.076	4.333	4.606	4.896	5.205	5.533	5.881	6.252	
Discounted Annual Cost		11,742	11,046	10,391	10,739	10,569	35,395	28,434	83,994	79,016	87,279	
Cumulative Discounted LCC		277,551	288,597	298,988	318,726	337,295	372,690	401,124	485,118	564,134	651,413	

**OPTION 1 Total Removal Clean Closure
Life-Cycle Cost (LCC) Analysis**

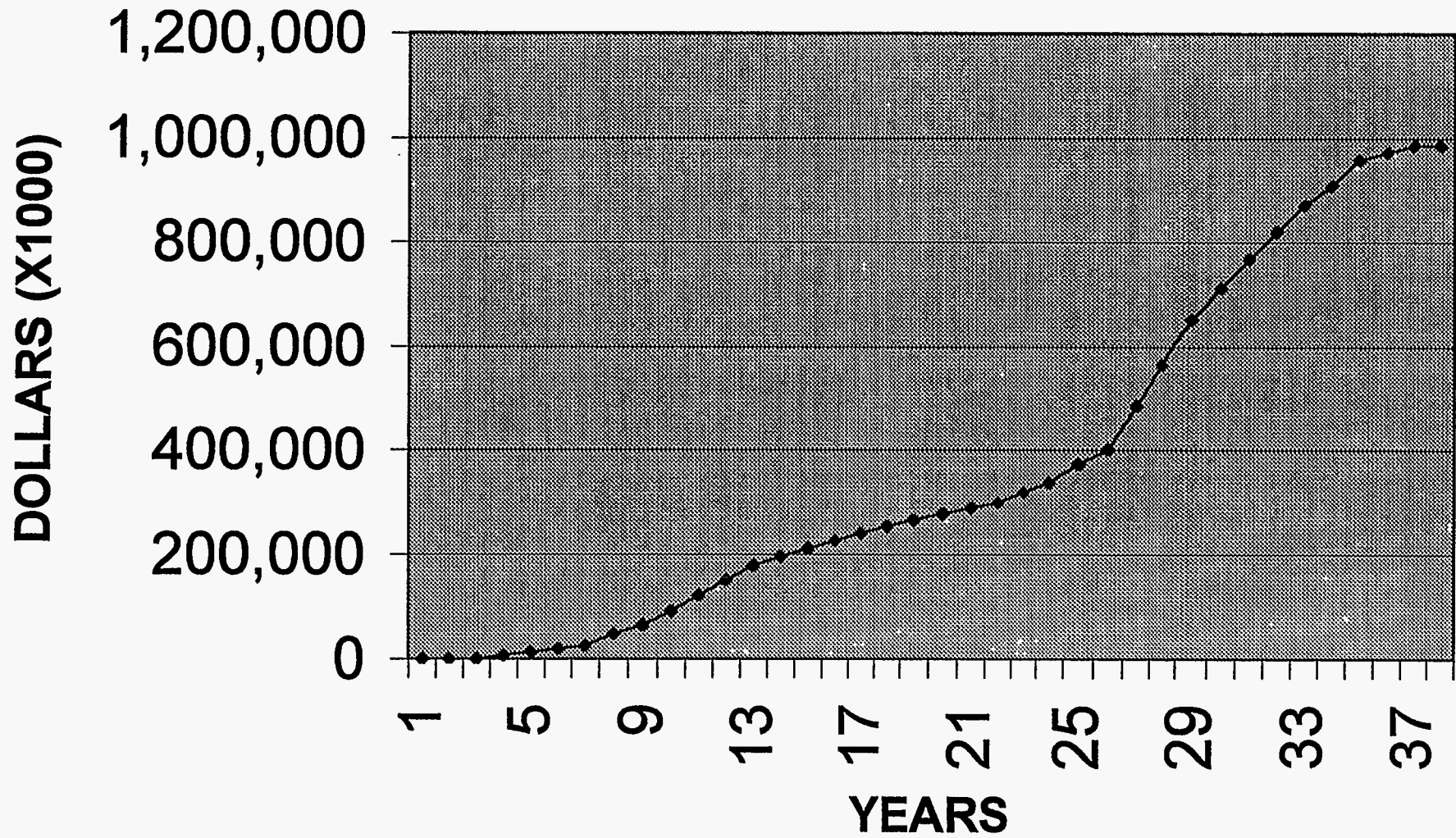
fiscal year
counting year
Escalation Factor

	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total Cost	
	31	32	33	34	35	36	37	38	39		
	2.345	2.410	2.478	2.547	2.610	2.692	2.767	2.845	2.924		
	all costs are in 1,000's										
Closure Operation Activities											
Closure Activities for RCRA Total Removal (unescalated)											
Permitting & Oversight	157	157	157	157	157	157	157	157	157	4,550	
Process Development										9,935	
Institutional Controls										3,307	
Treatability Studies										3,431	
Site Preparation Sub-Contract										26,977	
Hesi Removal										206,740	
Site Preparation by LMITCO										7,398	
Soil Stabilization										137,355	
Soil Removal & D & D Activities	48,818	48,818	48,818	48,818	48,818	48,818				419,562	
Waste Disposal	17,471	17,471	17,471	17,471	17,471					87,355	
Post Excavation Activities						12,042	12,042	12,042		36,125	
Debris Cleaning Facility										75,341	
Land Disposal Site										23,112	
Sub-Total Closure Activities (unescalated) for RCRA Only	64,246	64,246	64,246	64,246	64,775	58,817	12,199	12,199	0	1,044,194	
plus escalation for RCRA Total Removal	82,423	82,423	82,423	82,423	80,009	75,458	15,050	15,050	0	1,339,828	
plus management reserve for RCRA Total Removal	12,974	12,974	12,974	12,974	9,448	11,877	2,463	2,463	0	210,960	
plus contingency for RCRA Total Removal	35,878	35,878	35,878	35,878	25,902	32,570	6,755	6,755	0	678,218	
Total Cost for RCRA Total Removal Clean Closure including escalation, mgt reserve, & contingency	195,219	195,219	195,219	195,219	142,132	178,721	37,067	37,067	0	3,172,900	
PLUS Closure Activities for CERCLA WAG 3 Soil Removal THAT INCLUDE ESCALATION, MGT RESERVE, & CONTINGENCY											
Institutional Controls										16,968	
Treatability Studies										31,533	
Initial Phased Remedies										39,495	
Site Preparation by LMITCO										85,293	
Soil Removal & D & D Activities	175,064	175,064	175,064	175,064	175,064	175,064				1,575,579	
Waste Disposal	27,846	27,846	27,846	27,846						139,228	
Post Excavation Activities						97,821	97,821	97,821		293,462	
Total Cost for CERCLA WAG 3 Soil Removal including escalation, mgt reserve & contingency	202,910	202,910	202,910	202,910	175,064	272,885	97,821	97,821	0	2,156,556	
Total Cost for Closure Activities	398,129	398,129	398,129	398,129	317,196	451,606	134,888	134,888	0	5,331,456	
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0	
Post Operations to Greenfield Site Requirements											
Operation Activities are included in Closure Operation Activities above										0	
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0	
Total Cost (unescalated) Total Removal Clean Closure Only	64,246	64,246	64,246	64,246	46,775	58,817	12,199	12,199	0	1,044,194	
Cumulative Total LCC (unescalated)	721,467	785,713	849,959	914,205	980,980	1,019,797	1,031,906	1,044,194	1,044,194		
Total Cost (w/ escalation, mgt reserve, & contingency)	398,129	398,129	398,129	398,129	317,196	451,606	134,888	134,888	0	5,331,456	
Cumulative Total LCC (escalated)	3,098,492	3,498,821	3,894,750	4,292,879	4,610,075	5,081,681	5,196,568	5,331,456	5,331,456		
discount factor @ OMB discount rate of 6.30% for escalated costs	6.645	7.064	7.509	7.982	8.485	9.020	9.588	10.192	10.834		
Discounted Annual Cost	59,909	58,358	53,018	49,878	37,382	50,068	14,068	13,235	0	965,320	
Cumulative Discounted LCC	711,322	787,881	820,899	870,575	907,958	958,026	972,094	985,320	985,320		

TOTAL ANNUAL COST (escalated) TANK FARM CLOSURE OPTION 1



CUMULATIVE DISCOUNTED LCC TANK FARM CLOSURE OPTION 1



Option 2

OPTION 2 Risked Based Clean Closure LLW FIII
Life-Cycle Cost (LCC) Analysis

fiscal year
counting year
Escalation Factor

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	1	2	3	4	5	6	7	8	9	10
	1.024	1.053	1.082	1.112	1.144	1.178	1.209	1.242	1.277	1.313
all costs are in 1,000's										
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance		358	358	358	358	358	358	358	358	358
Design		2,328	2,328	2,328	2,328	2,328	2,328			
Profit of Process / ORR						2,132	2,132			
Site Preparation							3,540	3,540		
Characterize Heel									285	285
Tank Isolation									511	511
Wash Interior Tank Walls									1,579	1,579
Solidify Remaining Heel										544
Clean Vaults										
Fill Vault Voids w/ Clean Grout										
Fill Tank Voids w/ Class-C Grout										
Sub-Total Closure Activities (unescalated)	0	2,685	2,685	2,685	2,685	4,817	8,357	3,897	2,711	3,255
plus escalation of	0	1,081	1,081	1,081	1,081	1,903	3,302	1,540	1,071	1,288
plus management reserve of	0	234	234	234	234	419	727	339	238	283
plus contingency of	0	1,081	1,081	1,081	1,081	1,839	3,364	1,568	1,091	1,310
Total Closure Activity Cost including escalation, mgt reserve & contingency	0	5,080	5,080	5,080	5,080	9,078	15,750	7,343	5,110	6,134
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission		2.00% of Closure Activities (unescalated)								
Decontamination		5.00% of Closure Activities (unescalated)								
Demolition		1.00% of Closure Activities (unescalated)								
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	0	0	0	0
plus Escalation	0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @ 30.0%	0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)	0	2,685	2,685	2,685	2,685	4,817	8,357	3,897	2,711	3,255
Cumulative Total LCC (unescalated)	0	2,685	5,369	8,054	10,739	15,556	23,913	27,809	30,521	33,776
Total Cost (w/ escalation, mgt reserve, & contingency)	0	5,080	5,080	5,080	5,080	9,078	15,750	7,343	5,110	6,134
Cumulative Total LCC (escalated)	0	5,080	10,119	15,179	20,238	29,316	45,066	52,410	57,519	63,653
discount factor @ OMB discount rate of 6.30% for escalated costs	1.053	1.130	1.201	1.277	1.357	1.443	1.534	1.630	1.733	1.842
Discounted Annual Cost	0	4,478	4,212	3,963	3,728	3,292	2,922	2,570	2,248	1,948
Cumulative Discounted LCC	0	4,478	8,690	12,653	16,380	22,672	32,642	37,446	40,395	43,724

**OPTION 2 Risked Based Clean Closure LLW Fill
Life-Cycle Cost (LCC) Analysis**

financial year
counting year
Escalation Factor

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	11	12	13	14	15	16	17	18	19	20
	1.350	1.387	1.420	1.460	1.507	1.550	1.593	1.638	1.683	1.730
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance	350	350	350	350	350	350	350	350	350	350
Design										
Proof of Process / ORR										
SRS Preparation										
Characterize Heel	205	205	205	205	205	205	205	205		
Tank Isolation	511	511	511	511	511	511	511	511	511	
Wash Interior Tank Walls	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570	
Solidify Remaining Heel	544	544	544	544	544	544	544	544	544	544
Clean Vaults		941	941	941	941	941	941	941	941	941
FWM Vault Voids w/ Clean Grout		518	518	518	518	518	518	518	518	518
FWM Tank Voids w/ Class-C Grout			1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Sub-Total Closure Activities (unescalated)	3,255	4,714	5,750	5,750	5,750	5,750	5,750	5,750	5,404	3,404
plus escalation of	1,298	1,963	2,275	2,275	2,275	2,275	2,275	2,275	2,171	1,345
plus management reserve of	283	410	501	501	501	501	501	501	478	298
plus contingency of	1,310	1,897	2,318	2,318	2,318	2,318	2,318	2,318	2,211	1,370
Total Closure Activity Cost including escalation, mgmt reserve & contingency	6,134	8,884	10,853	10,853	10,853	10,853	10,853	10,853	10,354	6,415
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgmt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission		2.00% of Closure Activities (unescalated)								
Decontamination		5.00% of Closure Activities (unescalated)								
Demolition		1.00% of Closure Activities (unescalated)								
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	0	0	0	0
plus escalation	0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @ 30.0%	0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)	3,255	4,714	5,750	5,750	5,750	5,750	5,750	5,750	5,404	3,404
Cumulative Total LCC (unescalated)	37,030	41,744	47,503	53,262	59,021	64,779	70,538	76,297	81,781	85,195
Total Cost (w/ escalation, mgmt reserve, & contingency)	6,134	8,884	10,853	10,853	10,853	10,853	10,853	10,853	10,354	6,415
Cumulative Total LCC (escalated)	69,787	78,672	88,526	100,378	111,231	122,084	132,937	143,790	154,144	160,559
discount factor @ OMB discount rate of 6.30% for escalated costs	1,958	2,982	2,213	2,352	2,500	2,658	2,825	3,003	3,183	3,384
Discounted Annual Cost	3,132	4,288	4,905	4,614	4,341	4,083	3,841	3,614	3,243	1,890
Cumulative Discounted LCC	45,857	51,125	55,030	60,644	64,984	69,068	72,908	76,523	79,786	81,656

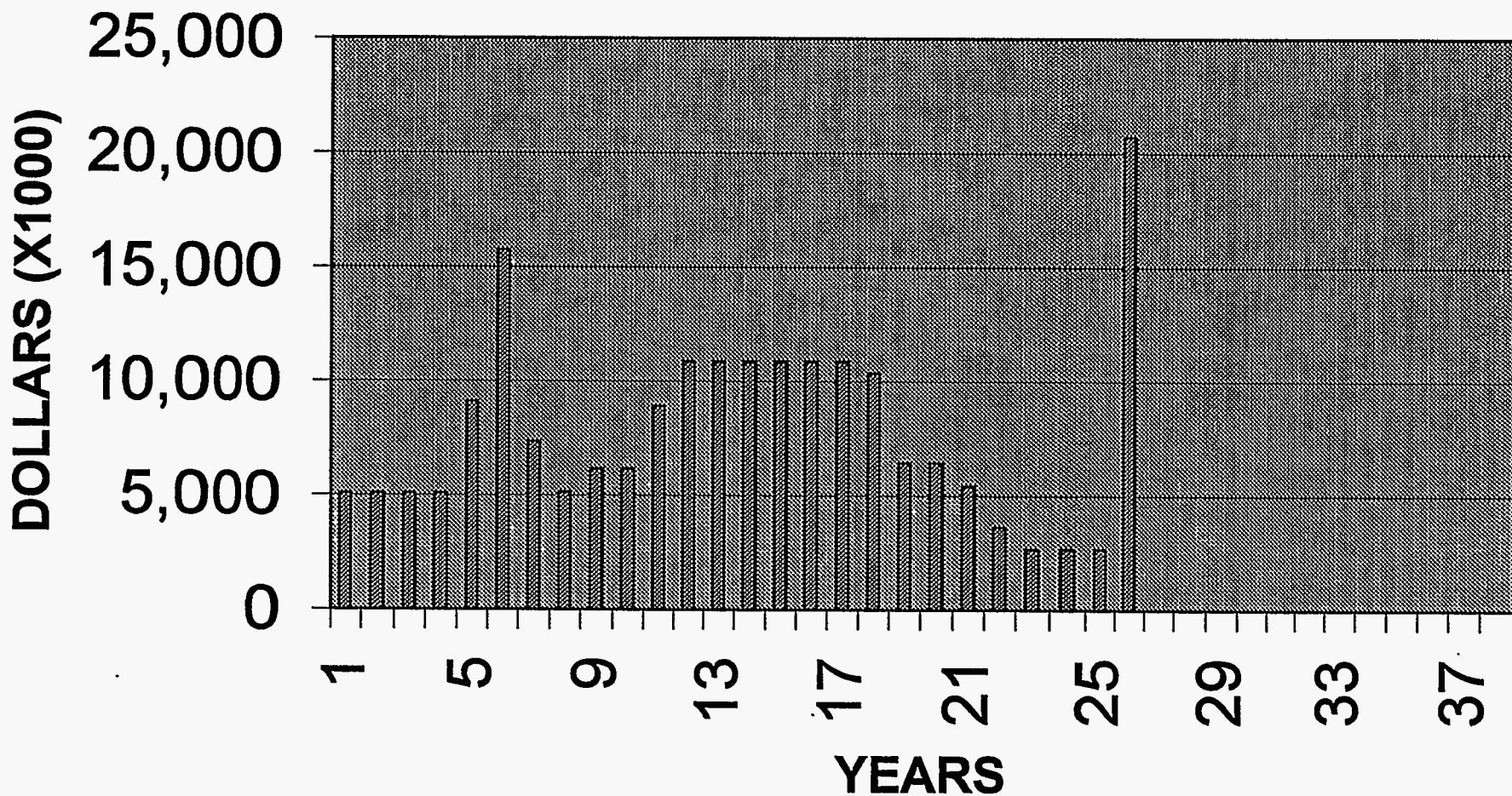
OPTION 2 Risked Based Clean Closure LLW Fill
Life-Cycle Cost (LCC) Analysis

fiscal year
counting year
Escalation Factor

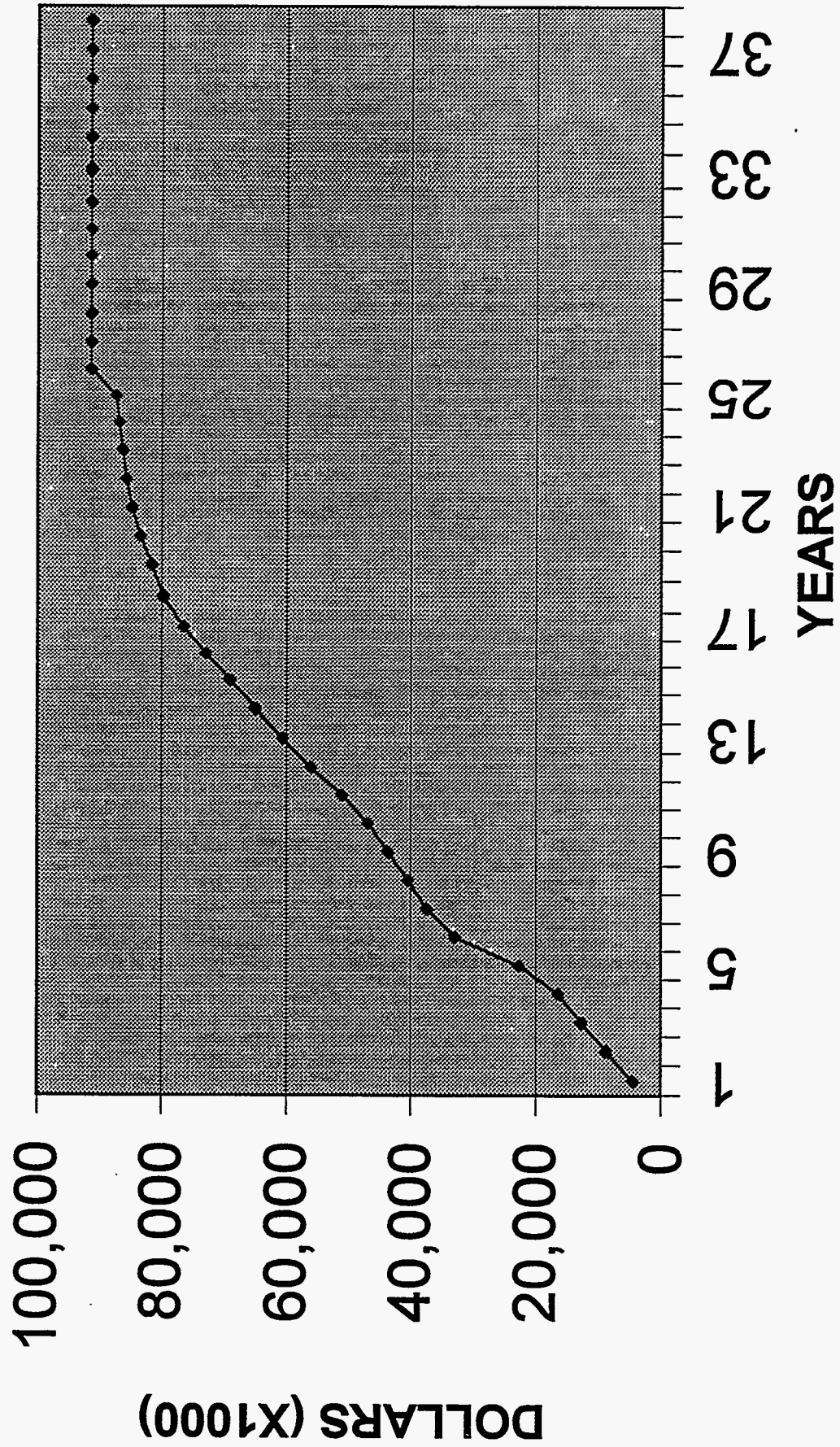
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	21	22	23	24	25	26	27	28	29	30
	1.778	1.829	1.880	1.933	1.987	2.042	2.100	2.158	2.219	2.281
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance	358	358	358	358	358	358				
Design										
Proof of Process / ORR										
Site Preparation										
Characterize Heel										
Tank Isolation										
Wash Interior Tank Walls										
Solidify Remaining Heel	544									
Clean Vaults	941	941								
Fill Vault Voids w/ Clean Grout	518	518	518							
Fill Tank Voids w/ Class-C Grout	1,045	1,045	1,045	1,045	1,045	1,045				
Sub-Total Closure Activities (unescalated)	3,404	2,980	1,919	1,401	1,401	1,401	0	0	0	0
plus escalation of	1,345	1,130	758	553	553	553	0	0	0	0
plus management reserve of	298	249	187	122	122	122	0	0	0	0
plus contingency of	1,370	1,151	772	564	564	564	0	0	0	0
Total Closure Activity Cost including escalation, mgt reserve & contingency	6,415	5,390	3,616	2,640	2,640	2,640	0	0	0	0
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission		2.00% of Closure Activities (unescalated)					488	488	488	488
Decontamination		5.00% of Closure Activities (unescalated)					1,220	1,220	1,220	1,220
Demolition		1.00% of Closure Activities (unescalated)					244	244	244	244
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	1,952	1,952	1,952	1,952
plus Escalation	0	0	0	0	0	0	2,034	2,148	2,281	2,378
plus Post-Operations Contingency @	30.0%						1,198	1,229	1,284	1,299
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	5,182	5,327	5,478	5,620
Total Cost (unescalated)	3,404	2,980	1,919	1,401	1,401	1,401	1,952	1,952	1,952	1,952
Cumulative Total LCC (unescalated)	68,599	91,459	93,378	94,778	96,179	97,580	99,532	101,483	103,435	105,386
Total Cost (w/ escalation, mgt reserve, & contingency)	6,415	5,390	3,616	2,640	2,640	2,640	5,182	5,327	5,478	5,620
Cumulative Total LCC (escalated)	168,074	172,364	178,980	178,820	181,260	183,900	189,082	194,408	199,884	205,513
discount factor @ OMB discount rate of	3.607	3.835	4.078	4.333	4.608	4.898	5.205	5.533	5.881	6.252
Discounted Annual Cost	1,778	1,406	887	609	573	539	506	483	461	440
Cumulative Discounted LCC	83,434	84,840	85,727	86,338	86,910	87,449	88,444	89,407	90,338	91,239

OPTION 2 Risked Based Clean Closure LLW Fill		2029	2030	2031	2032	2033	2034	2035	2036	2037	Total
Life-Cycle Cost (LCC) Analysis		31	32	33	34	35	36	37	38	39	Cost
fiscal year counting year Escalation Factor		2,345	2,410	2,476	2,547	2,619	2,692	2,767	2,845	2,924	
all costs are in 1,000's											
Closure Operation Activities											
Unescalated Closure Activities											
Regulatory Compliance											
Design											
Proof of Process / ORR											
Site Preparation											
Characterize Heel											
Tank Isolation											
Wash Interior Tank Walls											
Solidly Remaining Heel											
Clean Vaults											
FH Vault Voids w/ Clean Grout											
FH Tank Voids w/ Class-C Grout											
Sub-Total Closure Activities (unescalated)											
plus escalation of											
plus management reserve of											
plus contingency of											
Total Closure Activity Cost including escalation, mgt reserve & contingency											
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgt reserve, & contingency											
Post Operations to Greenfield Site Requirements											
Decommission 2.00% of Closure Activities (unescalated)											
Decontamination 5.00% of Closure Activities (unescalated)											
Demolition 1.00% of Closure Activities (unescalated)											
Sub-Total Post-Operations (unescalated)											
plus Escalation											
plus Post-Operations Contingency @ 30.0%											
Total Post-Operations (w/ escalation & contingency)											
Total Cost (unescalated)											
Cumulative Total LCC (unescalated)											
Total Cost (w/ escalation, mgt reserve, & contingency)											
Cumulative Total LCC (escalated)											
discount factor @ OMB discount rate of 6.30% for escalated costs											
Discounted Annual Cost											
Cumulative Discounted LCC											

TOTAL ANNUAL COST (escalated) TANK FARM CLOSURE OPTION 2



**CUMULATIVE DISCOUNTED LCC
TANK FARM CLOSURE OPTION 2**



Option 3

OPTION 3 Risked Based Clean Closure CERCLA FIII
Life-Cycle Cost (LCC) Analysis

fiscal year
 counting year
 Escalation Factor

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	1	2	3	4	5	6	7	8	9	10
	1.024	1.053	1.082	1.112	1.144	1.178	1.209	1.242	1.277	1.313
all costs are in 1,000's										
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance		308	308	308	308	308	308	308	308	308
Design		2,974	2,974	2,974	2,974	2,974	2,974	2,974	2,974	2,974
Prof of Process / ORR						2,132	2,132			
Site Preparation						803	803	803	803	803
Characterize Heel			185	185	185	185	185	185	185	185
Tank Isolation								703	703	703
Wash Interior Tank Walls								1,630	1,630	1,630
Solidify Remaining Heel										644
Clean Vaults										
Fill Vault Voids w/ Clean Grout										
Fill Tank Voids w/ CERCLA Fill										
Sub-Total Closure Activities (unescalated)	0	3,280	3,448	3,448	3,448	6,381	3,407	3,607	3,607	4,252
plus escalation of	0	1,614	1,695	1,695	1,695	3,140	1,678	1,775	1,775	2,092
plus management reserve of	0	311	327	327	327	605	323	342	342	403
plus contingency of	0	1,409	1,490	1,490	1,490	2,742	1,484	1,650	1,650	1,827
Total Closure Activity Cost including escalation, mgt reserve & contingency	0	6,615	6,948	6,948	6,948	12,867	6,870	7,274	7,274	8,574
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission		2.00% of Closure Activities (unescalated)								
Decontamination		5.00% of Closure Activities (unescalated)								
Demolition		1.00% of Closure Activities (unescalated)								
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	0	0	0	0
plus Escalation	0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @	0	30.0%	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)	0	3,280	3,448	3,448	3,448	6,381	3,407	3,607	3,607	4,252
Cumulative Total LCC (unescalated)	0	3,280	6,726	10,172	13,618	19,999	23,405	27,013	30,620	34,872
Total Cost (w/ escalation, mgt reserve, & contingency)	0	6,615	6,948	6,948	6,948	12,867	6,870	7,274	7,274	8,574
Cumulative Total LCC (escalated)	0	6,615	13,563	20,512	27,460	40,328	47,197	54,472	61,746	70,320
discount factor @ OMB discount rate of	1.003	1.130	1.201	1.277	1.357	1.443	1.534	1.630	1.733	1.842
Discounted Annual Cost	0	5,854	5,785	5,442	5,119	8,918	4,479	4,462	4,198	4,854
Cumulative Discounted LCC	0	5,854	11,639	17,081	22,200	31,119	35,598	40,060	44,257	48,812

**OPTION 3 Risked Based Clean Closure CERCLA FIII
Life-Cycle Cost (LCC) Analysis**

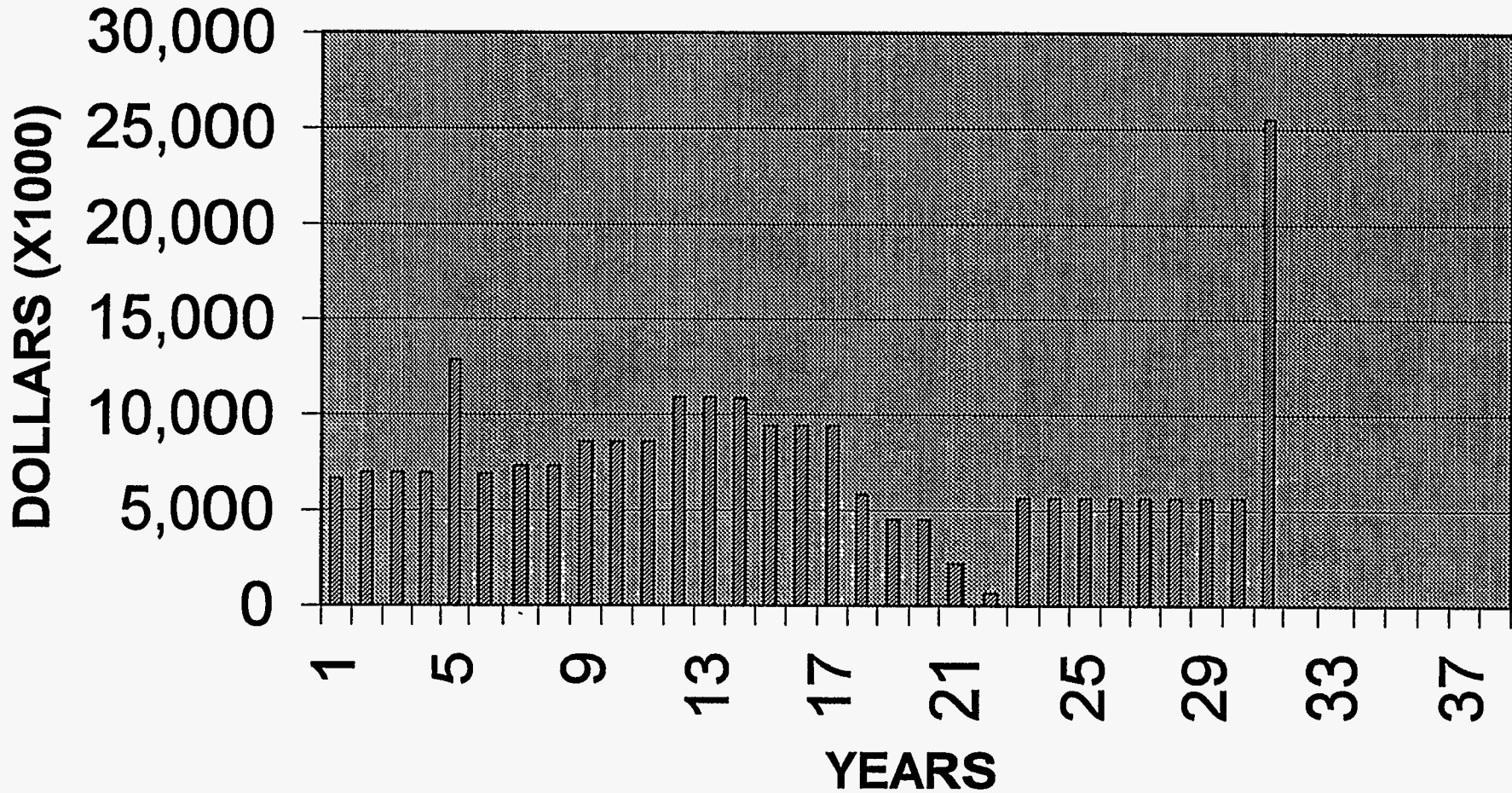
fiscal year
counting year
Escalation Factor

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	11	12	13	14	15	16	17	18	19	20
	1.350	1.387	1.428	1.468	1.507	1.550	1.593	1.638	1.683	1.730
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance	308	308	308	308	308	308	308	308	308	308
Design										
Prof't of Process / ORR										
Site Preparation	803	803	803	803						
Characterize Heel	165	165	165	165	165	165	165	165		
Tank Isolation	703	703	703	703	703	703				
Wash Inferior Tank Walls	1,630	1,630	1,630	1,630	1,630	1,630	1,630	1,630		
Solidify Remaining Heel	644	644	644	644	644	644	644	644	644	
Clean Vaults			1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
FM Vault Voids w/ Clean Grout					774	774	774	774	774	774
FM Tank Voids w/ CERCLA FM										
Sub-Total Closure Activities (unescalated)	4,252	4,252	5,402	5,402	5,373	4,670	4,670	4,670	2,875	2,230
plus escalation of	2,092	2,092	2,658	2,658	2,644	2,298	2,298	2,298	1,414	1,097
plus management reserve of	403	403	512	512	509	443	443	443	273	211
plus contingency of	1,827	1,827	2,321	2,321	2,308	2,008	2,008	2,008	1,235	958
Total Closure Activity Cost including escalation, mgmt reserve & contingency	8,574	8,574	10,894	10,894	10,835	9,417	9,417	9,417	5,797	4,497
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgmt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission	2.00% of Closure Activities (unescalated)									
Decontamination	5.00% of Closure Activities (unescalated)									
Demolition	1.00% of Closure Activities (unescalated)									
Sub-Total Post-Operations (unescalated)		0	0	0	0	0	0	0	0	0
plus Escalation		0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @ 30.0%		0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0
Total Cost (Unescalated)	4,252	4,252	5,402	5,402	5,373	4,670	4,670	4,670	2,875	2,230
Cumulative Total LCC (unescalated)	39,124	43,375	48,778	54,180	59,553	64,223	68,893	73,563	78,438	78,668
Total Cost (w/ escalation, mgmt reserve, & contingency)	8,574	8,574	10,894	10,894	10,835	9,417	9,417	9,417	5,797	4,497
Cumulative Total LCC (escalated)	78,894	87,497	98,381	109,255	120,090	129,607	138,924	148,341	154,138	158,835
discount factor @ OMB discount rate of 6.30%	1,958	2,092	2,213	2,352	2,800	2,658	2,825	3,003	3,193	3,394
Discounted Annual Cost	4,378	4,119	4,923	4,631	4,333	3,643	3,333	3,136	1,816	1,325
Cumulative Discounted LCC	53,290	57,406	82,332	86,983	71,297	74,840	78,173	81,309	83,124	84,448

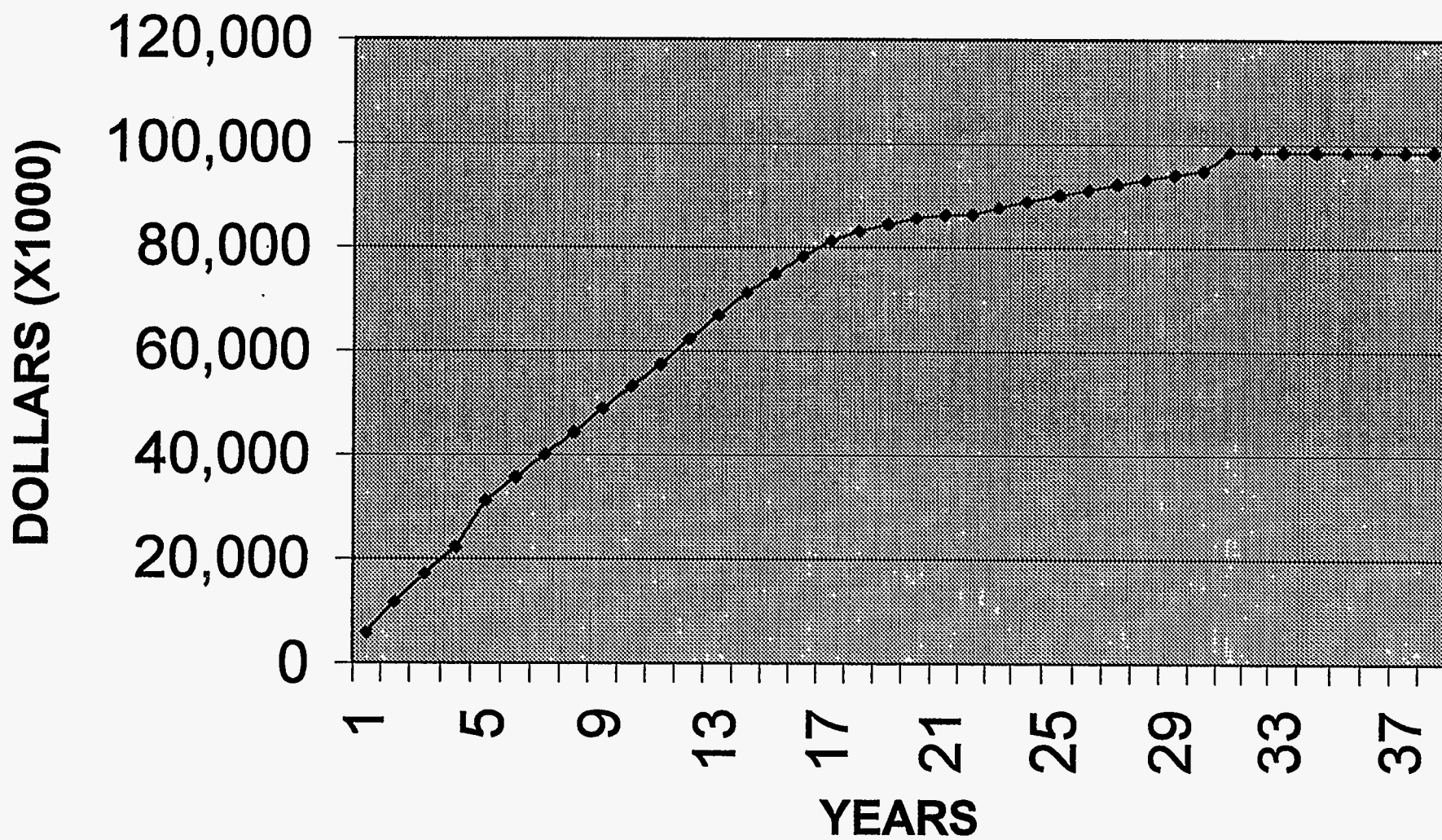
OPTION 3 Risked Based Clean Closure CERCLA Fill		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Life-Cycle Cost (LCC) Analysis		21	22	23	24	25	26	27	28	29	30	
fiscal year												
counting year												
Escalation Factor												
		1.779	1.829	1.880	1.933	1.987	2.042	2.100	2.158	2.219	2.281	
		all costs are in 1,000's										
Closure Operation Activities												
Unescalated Closure Activities												
Regulatory Compliance Design		308	308	308	308	308	308	308	308	308	308	
Profit of Process / ORR												
Site Preparation												
Characterize Heel												
Tank Isolation												
Wash Interior Tank Walls												
Solidify Remaining Heel												
Clean Vaults		1,151										
FMI Vault Voids w/ Clean Grout		774	774									
FMI Tank Voids w/ CERCLA FMI					2,476	2,476	2,476	2,476	2,476	2,476	2,476	
Sub-Total Closure Activities (unescalated)		2,230	1,080	308	2,782	2,782	2,782	2,782	2,782	2,782	2,782	
plus escalation of		1,097	531	151	1,369	1,369	1,369	1,369	1,369	1,369	1,369	
plus management reserve of		211	102	29	294	294	294	294	294	294	294	
plus contingency of		958	484	131	1,195	1,195	1,195	1,195	1,195	1,195	1,195	
Total Closure Activity Cost including escalation, mgt reserve & contingency		4,497	2,177	617	5,609	5,609	5,609	5,609	5,609	5,609	5,609	
Operations												
Operation Activities are included in Closure Operation Activities above												
Total Operations including escalation, mgt reserve, & contingency		0	0	0	0	0	0	0	0	0	0	
Post Operations to Greenfield Site Requirements												
Decommission	2.00% of Closure Activities (unescalated)											
Decontamination	5.00% of Closure Activities (unescalated)											
Demolition	1.00% of Closure Activities (unescalated)											
Sub-Total Post-Operations (unescalated)		0	0	0	0	0	0	0	0	0	0	
plus Escalation		0	0	0	0	0	0	0	0	0	0	
plus Post-Operations Contingency @	30.0%	0	0	0	0	0	0	0	0	0	0	
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0	0	
Total Cost (unescalated)		2,230	1,080	308	2,782	2,782	2,782	2,782	2,782	2,782	2,782	
Cumulative Total LCC (unescalated)		80,898	81,977	82,283	85,065	87,847	90,628	93,410	96,192	98,973	101,755	
Total Cost (w/ escalation, mgt reserve, & contingency)		4,497	2,177	617	5,609	5,609	5,609	5,609	5,609	5,609	5,609	
Cumulative Total LCC (escalated)		163,132	165,309	165,927	171,536	177,145	182,754	188,363	193,972	199,582	205,191	
discount factor @ OMB discount rate of	6.30%	3.607	3.835	4.076	4.333	4.606	4.896	5.205	5.533	5.881	6.252	
Discounted Annual Cost		1,247	588	151	1,294	1,218	1,146	1,078	1,014	954	897	
Cumulative Discounted LCC		85,698	86,264	86,415	87,710	89,928	90,073	91,151	92,165	93,118	94,016	

OPTION 3 Risked Based Clean Closure CERCLA Fill		2020	2030	2031	2032	2033	2034	2035	2036	2037	Total
Life-Cycle Cost (LCC) Analysis		31	32	33	34	35	36	37	38	39	Cost
fiscal year counting year Escalation Factor		2,345	2,410	2,478	2,547	2,619	2,692	2,767	2,845	2,924	
all costs are in 1,000's											
Closure Operation Activities											
Unescalated Closure Activities											
Regulatory Compliance											
Design											
Profit of Process / ORR											
Site Preparation											
Characterize Heel											
Tank Isolation											
Wash Interior Tank Walls											
Solidify Remaining Heel											
Clean Vault											
FIM Vault Voids w/ Clean Grout											
FIM Tank Voids w/ CERCLA FIM											
Sub-Total Closure Activities (unescalated)											
plus escalation of											
plus management reserve of											
plus contingency of											
Total Closure Activity Cost including escalation, mgmt reserve & contingency											
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgmt reserve, & contingency											
Post Operations to Greenfield Site Requirements											
Decommission 2.00% of Closure Activities (unescalated)											
Decontamination 5.00% of Closure Activities (unescalated)											
Demolition 1.00% of Closure Activities (unescalated)											
Sub-Total Post-Operations (unescalated)											
plus escalation											
plus Post-Operations Contingency @ 30.0%											
Total Post-Operations (w/ escalation & contingency)											
Total Cost (unescalated)											
Cumulative Total LCC (unescalated)											
Total Cost (w/ escalation, mgmt reserve, & contingency)											
Cumulative Total LCC (escalated)											
discount factor @ DMB discount rate of 6.30% for escalated costs											
Discounted Annual Cost											
Cumulative Discounted LCC											

TOTAL ANNUAL COST (escalated) TANK FARM CLOSURE OPTION 3



CUMULATIVE DISCOUNTED LCC TANK FARM CLOSURE OPTION 3



Option 4

Real year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2020
Real year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2020
Life-cycle Cost (LCC) Analysis	11	12	13	14	15	16	17	18	19	20
counting year	11	12	13	14	15	16	17	18	19	20
Discount Factor	1.350	1.387	1.428	1.468	1.507	1.550	1.583	1.638	1.683	1.730
Unescalated Closure Activities	356	356	356	356	356	356	356	356	356	356
Regulatory Compliance	0	0	0	0	0	0	0	0	0	0
Design	0	0	0	0	0	0	0	0	0	0
Print of Process / OPR	0	0	0	0	0	0	0	0	0	0
Site Preparation	132	132	132	132	132	132	132	132	132	132
Characterize Heat	511	511	511	511	511	511	511	511	511	511
Tank Isolation	468	468	468	468	468	468	468	468	468	468
Wash Reflector Tank Walls	1,537	1,537	1,537	1,537	1,537	1,537	1,537	1,537	1,537	1,537
Sloppy Remaining Heat	0	0	0	0	0	0	0	0	0	0
Clean Vapors	0	0	0	0	0	0	0	0	0	0
FM Tank Voids w/ Clean Groud	832	832	832	832	832	832	832	832	832	832
FM Tank Voids w/ Class C Groud	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Sub-Total Closure Activities (unescalated)	3,004	3,004	3,004	3,004	3,004	3,004	3,004	3,004	3,004	3,004
plus escalation of	1,161	1,161	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025
plus management reserve of	290	290	431	431	431	431	431	431	431	431
plus contingency of	1,213	1,213	2,011	2,011	2,011	2,011	2,011	2,011	2,011	2,011
Total Closure Activity Cost including escalation, mgt reserve & contingency	5,638	5,638	6,348	6,348	6,348	6,348	6,348	6,348	6,348	6,348
Operations	0	0	0	0	0	0	0	0	0	0
Operation Activities are included in Closure Operation Activities above	0	0	0	0	0	0	0	0	0	0
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Pork Operations to Greenfield Site Requirements	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Demomation	0	0	0	0	0	0	0	0	0	0
2.00% of Closure Activities (unescalated)	0	0	0	0	0	0	0	0	0	0
5.00% of Closure Activities (unescalated)	0	0	0	0	0	0	0	0	0	0
1.00% of Closure Activities (unescalated)	0	0	0	0	0	0	0	0	0	0
Sub-Total Pork-Operations (unescalated)	0	0	0	0	0	0	0	0	0	0
plus Escalation	0	0	0	0	0	0	0	0	0	0
plus Pork-Operations Contingency @ 30.0%	0	0	0	0	0	0	0	0	0	0
Total Pork-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)	3,004	3,004	4,981	4,981	4,981	4,981	4,981	4,981	4,981	4,981
Cumulative Total LCC (unescalated)	35,924	39,928	43,909	48,991	48,991	53,972	58,953	63,935	68,916	73,898
Total Cost (w/ escalation, mgt reserve, & contingency)	5,638	6,348	6,348	6,348	6,348	6,348	6,348	6,348	6,348	6,348
Cumulative Total LCC (escalated)	87,416	79,054	82,402	81,750	81,750	101,998	110,446	119,795	129,143	138,243
Discount factor @ OMB discount rate of 0.30%	1,859	2,082	2,213	2,352	2,500	2,658	2,817	3,003	3,113	3,193
Cumulative Total LCC (escalated)	2,879	2,709	4,225	3,874	3,739	3,517	3,209	3,003	2,950	2,850
Discounted Annual Cost	44,895	47,404	51,828	55,903	59,341	62,859	66,197	69,290	72,130	73,878
Cumulative Discounted LCC	1,549	3,394	143,499	5,257	76,460	2,801	4,849	73,665	76,460	79,257

all costs are in 1,000's

OPTION 4 Close to RCRA Landfill Site LLW Fill
Life-Cycle Cost (LCC) Analysis

fiscal year
 counting year
 Escalation Factor

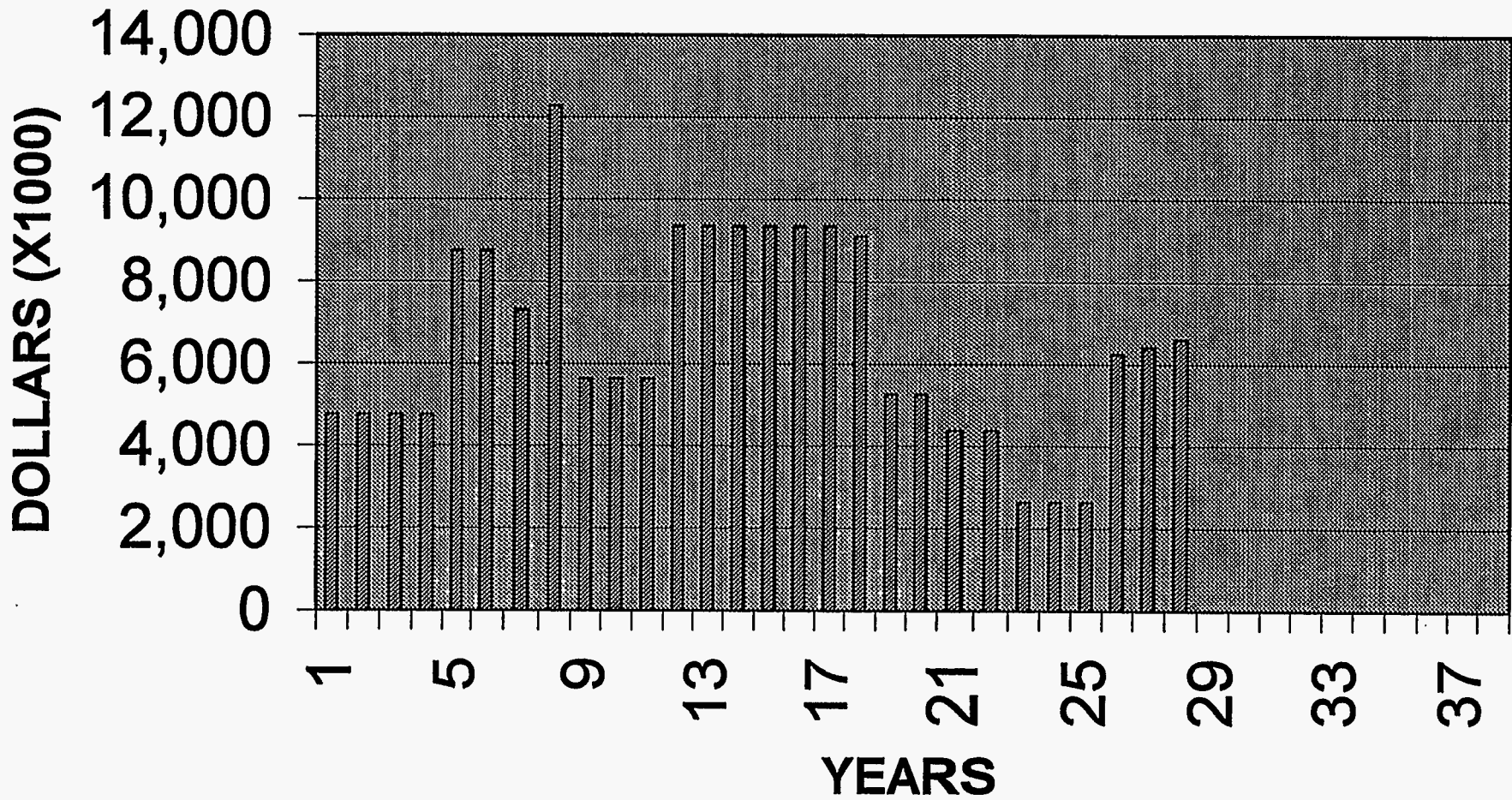
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	21	22	23	24	25	26	27	28	29	30
	1.779	1.829	1.880	1.933	1.987	2.042	2.100	2.158	2.219	2.281
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance Design	356	356	356	356	356	356				
Profit of Process / ORR Site Preparation										
Characterize Heel Tank Isolation										
Wash Interior Tank Walls										
Solidify Remaining Heel Clean Vaults	468									
Fill Vault Voids w/ Clean Grout	0	0	0							
Fill Tank Voids w/ Class C Grout	932	932	932							
Sub-Total Closure Activities (unescalated)	1,045	1,045	1,045	1,045	1,045	1,045				
plus escalation of	2,601	2,333	2,333	1,401	1,401	1,401	0	0	0	0
plus management reserve of	1,063	902	902	541	541	541	0	0	0	0
plus contingency of	243	202	202	121	121	121	0	0	0	0
Total Closure Activity Cost including escalation, mgt reserve & contingency	1,131	942	942	565	565	565	0	0	0	0
	5,257	4,379	4,379	2,629	2,629	2,629	0	0	0	0
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission 2.00% of Closure Activities (unescalated)							294	294	294	294
Decontamination 5.00% of Closure Activities (unescalated)							734	734	734	734
Demolition 1.00% of Closure Activities (unescalated)							147	147	147	147
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	1,175	1,175	1,175	1,175
plus Escalation	0	0	0	0	0	0	1,225	1,292	1,361	1,432
plus Post-Operations Contingency @ 30.0%	0	0	0	0	0	0	720	740	761	782
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	3,120	3,207	3,297	3,390
Total Cost (unescalated)	2,601	2,333	2,333	1,401	1,401	1,401	1,175	1,175	1,175	1,175
Cumulative Total LCC (unescalated)	79,267	81,001	83,034	85,335	86,736	88,136	89,312	90,487	91,662	92,837
Total Cost (w/ escalation, mgt reserve, & contingency)	5,257	4,379	4,379	2,629	2,629	2,629	3,120	3,207	3,297	3,390
Cumulative Total LCC (escalated)	149,756	153,135	157,513	160,142	162,771	165,400	168,520	171,728	175,025	178,414
discount factor @ OMB discount rate of 0.30% for escalated costs	3,607	3,635	4,076	4,333	4,606	4,896	5,205	5,533	5,881	6,252
Discounted Annual Cost	1,457	1,142	1,074	607	571	537	509	580	561	542
Cumulative Discounted LCC	75,137	76,278	77,353	77,959	78,530	79,067	79,668	80,246	80,807	81,349

OPTION 4 Close to RCRA Landfill Site LLW Fill
Life-Cycle Cost (LCC) Analysis

fiscal year
counting year
Escalation Factor

	2020	2030	2031	2032	2033	2034	2035	2036	2037	Total Cost
	31	32	33	34	35	36	37	38	39	
	2,345	2,410	2,478	2,547	2,619	2,692	2,767	2,845	2,924	
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance										6,908
Design										13,074
Profit of Process / O&R										4,284
Site Preparation										7,078
Characterize Host										1,323
Tank Isolation										6,622
Wash Interior Tank Walls										18,004
Soil Remaining Host										6,083
Clean Vaults										0
Fill Vault Voids w/ Clean Grout										10,256
Fill Tank Voids w/ Class C Grout										14,624
Sub-Total Closure Activities (unescalated)	0	0	0	0	0	0	0	0	0	89,136
plus escalation of	0	0	0	0	0	0	0	0	0	34,080
plus management reserve of	0	0	0	0	0	0	0	0	0	7,631
plus contingency of	0	0	0	0	0	0	0	0	0	35,673
Total Closure Activity Cost including escalation, mgt reserve & contingency	0	0	0	0	0	0	0	0	0	165,400
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission	2.00% of Closure Activities (unescalated)	294	294							1,763
Decontamination	5.00% of Closure Activities (unescalated)	734	734							4,407
Demolition	1.00% of Closure Activities (unescalated)	147	147							861
Sub-Total Post-Operations (unescalated)		1,175	1,175	0	0	0	0	0	0	7,031
plus Escalation		1,505	1,580	0	0	0	0	0	0	8,396
plus Post-Operations Contingency @ 30.0%		804	827	0	0	0	0	0	0	4,634
Total Post-Operations (w/ escalation & contingency)		3,484	3,582	0	0	0	0	0	0	20,081
Total Cost (unescalated)		1,175	1,175	0	0	0	0	0	0	95,187
Cumulative Total LCC (unescalated)		94,012	95,187	95,187	95,187	95,187	95,187	95,187	95,187	
Total Cost (w/ escalation, mgt reserve, & contingency)		3,484	3,582	0	0	0	0	0	0	165,481
Cumulative Total LCC (escalated)		181,899	165,481	165,481	165,481	165,481	165,481	165,481	165,481	
discount factor @ OMB discount rate of 6.30% for escalated costs		6,848	7,064	7,509	7,962	8,495	9,020	9,588	10,192	10,834
Discounted Annual Cost		524	507	0	0	0	0	0	0	0
Cumulative Discounted LCC		81,873	82,380	82,380	82,380	82,380	82,380	82,380	82,380	82,380

TOTAL ANNUAL COST (escalated) TANK FARM CLOSURE OPTION 4



Option 5

OPTION 5 Close to RCRA Landfill Stds CERCLA III Life-Cycle Cost (LCC) Analysis	fiscal year counting year Escalation Factor	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
		1	2	3	4	5	6	7	8	9	10
		1.024	1.053	1.082	1.112	1.144	1.176	1.209	1.242	1.277	1.313
		all costs are in 1,000's									
Closure Operation Activities											
Unescalated Closure Activities											
Regulatory Compliance			283	283	283	283	283	283	283	283	283
Design			2,718	2,718	2,718	2,718	2,718				
Profit of Process / ORR							2,957	2,957			
Site Preparation							771	771	771	771	771
Characterize Heel				83	83	83	83	83	83	83	83
Tank Isolation									703	703	703
Wash Interior Tank Walls									1,537	1,537	1,537
Soility Remaining Heel											644
Clean Vaults											
FBI Vault Voids w/ Clean Grout											
FBI Tank Voids w/ CERCLA Soil											
Sub-Total Closure Activities (unescalated)		0	2,999	3,082	3,082	3,082	6,810	4,094	3,378	3,378	4,021
plus escalation of		0	1,527	1,569	1,569	1,569	3,486	2,084	1,719	1,719	2,047
plus management reserve of		0	294	302	302	302	608	402	331	331	305
plus contingency of		0	1,315	1,351	1,351	1,351	2,986	1,785	1,480	1,480	1,703
Total Closure Activity Cost including escalation, mgt reserve & contingency		0	6,135	6,304	6,304	6,304	13,931	8,375	6,907	6,907	8,225
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgt reserve, & contingency		0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements											
Decommission	2.00% of Closure Activities (unescalated)										
Decontamination	5.00% of Closure Activities (unescalated)										
Demolition	1.00% of Closure Activities (unescalated)										
Sub-Total Post-Operations (unescalated)		0	0	0	0	0	0	0	0	0	0
plus Escalation		0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @ 30.0%		0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)		0	2,999	3,082	3,082	3,082	6,810	4,094	3,378	3,378	4,021
Cumulative Total LCC (unescalated)		0	2,999	6,081	9,163	12,245	19,056	23,150	26,528	29,903	33,924
Total Cost (w/ escalation, mgt reserve, & contingency)		0	6,135	6,304	6,304	6,304	13,931	8,375	6,907	6,907	8,225
Cumulative Total LCC (escalated)		0	6,135	12,439	18,743	25,048	38,978	47,353	54,260	61,167	69,391
discount factor @ OMB discount rate of 6.30% for escalated costs		1.063	1.130	1.201	1.277	1.357	1.443	1.534	1.630	1.733	1.842
Discounted Annual Cost		0	5,429	5,248	4,937	4,645	4,256	3,881	3,526	3,195	2,885
Cumulative Discounted LCC		0	5,429	10,678	15,615	20,260	24,516	28,397	31,923	35,118	38,003

OPTION 5 Close to RCRA Landfill Sids CERCLA Fill		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Life-Cycle Cost (LCC) Analysis		11	12	13	14	15	16	17	18	19	20
fical year counting year Escalation Factor		1.350	1.387	1.426	1.466	1.507	1.550	1.593	1.638	1.683	1.730
all costs are in 1,000's											
Closure Operation Activities											
Unescalated Closure Activities											
Regulatory Compliance Design		283	283	283	283	283	283	283	283	283	283
Profit of Process / ORR											
Site Preparation		771	771	771	771						
Characterize Heel		83	83	83	83	83	83	83	83		
Tank Isolation		703	703	703	703	703	703				
Wash Interior Tank Walls		1,537	1,537	1,537	1,537	1,537	1,537	1,537	1,537		
Solidify Remaining Heel		644	644	644	644	644	644	644	644	644	
Clean Vaults				0	0	0	0	0	0	0	0
FH Vault Voids w/ Clean Grout						1,282	1,282	1,282	1,282	1,282	1,282
FH Tank Voids w/ CERCLA Soil										1,282	1,282
Sub-Total Closure Activities (unescalated)		4,021	4,021	4,021	4,021	4,632	3,829	3,829	3,829	2,209	1,565
plus escalation of		2,047	2,047	2,047	2,047	2,307	1,949	1,949	1,949	1,125	797
plus management reserve of		395	395	395	395	445	376	376	376	217	154
plus contingency of		1,763	1,763	1,763	1,763	1,987	1,679	1,679	1,679	969	696
Total Closure Activity Cost including escalation, mgmt reserve & contingency		8,225	8,225	8,225	8,225	9,270	7,832	7,832	7,832	4,519	3,201
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgmt reserve, & contingency		0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements											
Decommission 2.00% of Closure Activities (unescalated)											
Decontamination 5.00% of Closure Activities (unescalated)											
Demolition 1.00% of Closure Activities (unescalated)											
Sub-Total Post-Operations (unescalated)		0	0	0	0	0	0	0	0	0	0
plus Escalation		0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @ 30.0%		0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)		4,021	4,021	4,021	4,021	4,632	3,829	3,829	3,829	2,209	1,565
Cumulative Total LCC (unescalated)		37,945	41,965	45,986	50,007	54,038	58,069	62,197	66,025	69,235	69,800
Total Cost (w/ escalation, mgmt reserve, & contingency)		8,225	8,225	8,225	8,225	9,270	7,832	7,832	7,832	4,519	3,201
Cumulative Total LCC (escalated)		77,616	85,841	94,066	102,290	111,560	119,392	127,224	135,056	139,575	142,777
discount factor @ OMB discount rate of 6.30%		1.958	2.082	2.213	2.352	2.500	2.658	2.825	3.003	3.193	3.394
Discounted Annual Cost		4,200	3,851	3,717	3,497	3,707	2,947	2,772	2,606	1,416	943
Cumulative Discounted LCC		52,263	56,214	59,931	63,428	67,135	70,062	72,854	75,481	76,877	77,820

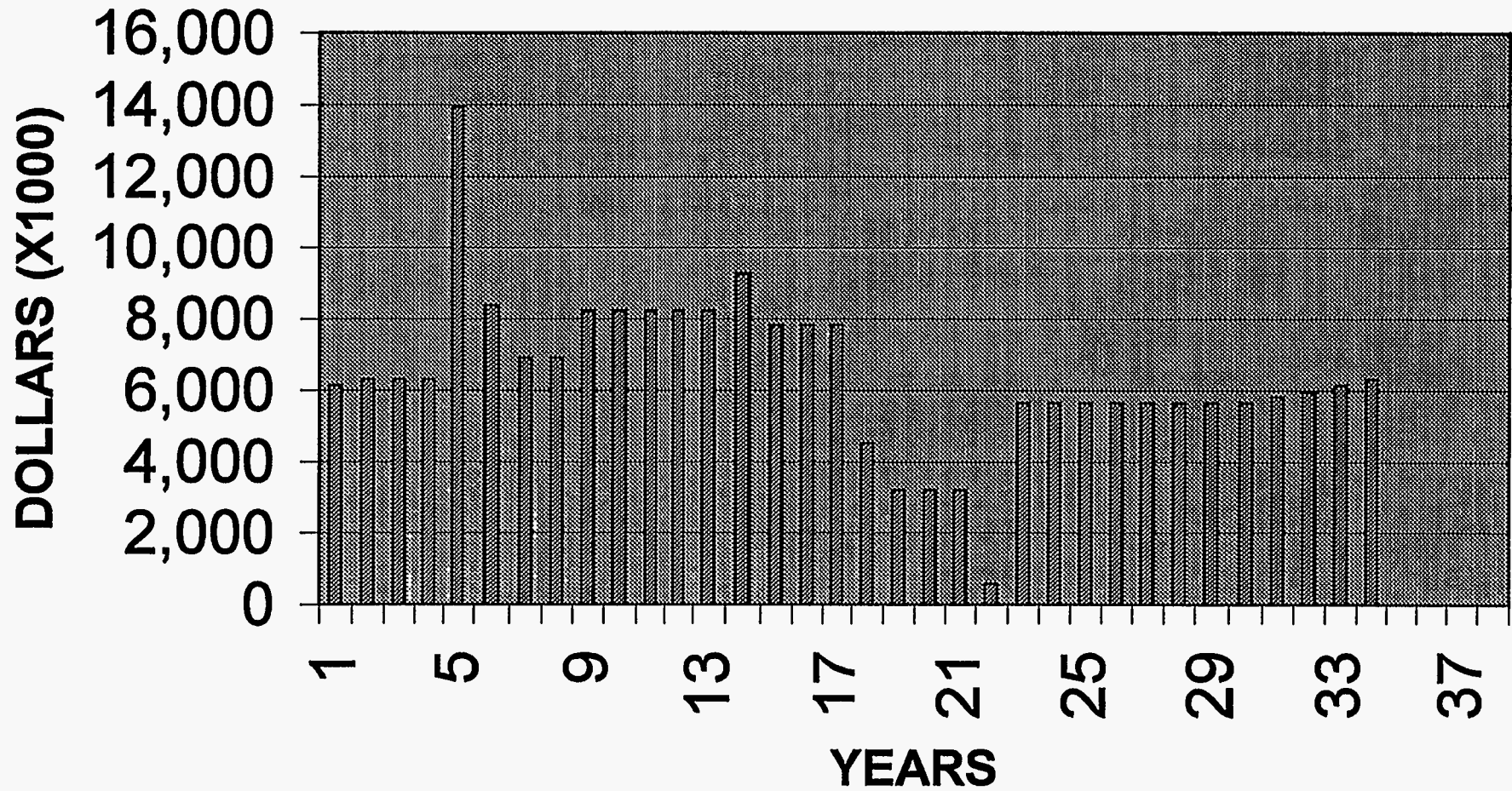
OPTION 5 Close to RCRA Landfill Sids CERCLA FIII
Life-Cycle Cost (LCC) Analysis

fical year
 counting year
 Escalation Factor

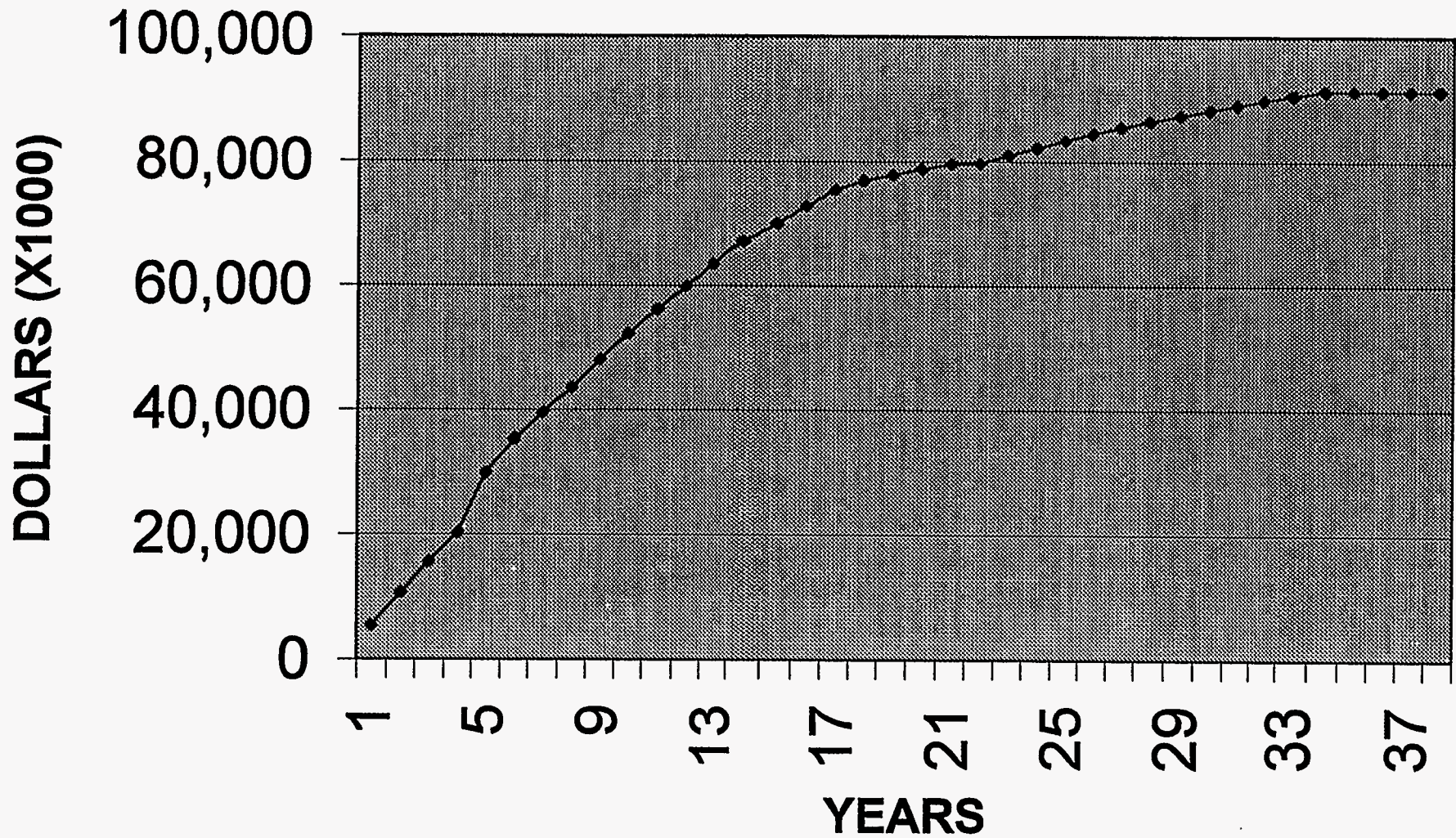
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	21	22	23	24	25	26	27	28	29	30
	1.779	1.829	1.880	1.933	1.987	2.042	2.100	2.158	2.219	2.281
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance	283	283	283	283	283	283	283	283	283	283
Design										
Prof of Process / ORR										
Site Preparation										
Characterize Heel										
Tank Isolation										
Wash Interior Tank Walls										
Solidify Remaining Heel										
Clean Vaults	0	0	0							
FIM Vault Voids w/ Clean Grout	1,282	1,282								
FIM Tank Voids w/ CERCLA Soil				2,476	2,476	2,476	2,476	2,476	2,476	2,476
Sub-Total Closure Activities (unescalated)	1,565	1,565	283	2,759	2,759	2,759	2,759	2,759	2,759	2,759
plus escalation of	797	797	144	1,404	1,404	1,404	1,404	1,404	1,404	1,404
plus management reserve of	154	154	28	271	271	271	271	271	271	271
plus contingency of	686	686	124	1,209	1,209	1,209	1,209	1,209	1,209	1,209
Total Closure Activity Cost including escalation, mgt reserve & contingency	3,201	3,201	579	5,643	5,643	5,643	5,643	5,643	5,643	5,643
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission		2.00% of Closure Activities (unescalated)								
Decontamination		5.00% of Closure Activities (unescalated)								
Demolition		1.00% of Closure Activities (unescalated)								
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	0	0	0	0
plus Escalation	0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @	0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)	1,565	1,565	283	2,759	2,759	2,759	2,759	2,759	2,759	2,759
Cumulative Total LCC (unescalated)	71,385	72,930	73,213	75,972	78,730	81,489	84,247	87,006	89,765	92,523
Total Cost (w/ escalation, mgt reserve, & contingency)	3,201	3,201	579	5,643	5,643	5,643	5,643	5,643	5,643	5,643
Cumulative Total LCC (escalated)	145,978	149,179	149,758	155,401	161,044	166,686	172,329	177,972	183,615	189,257
discount factor @ OMB discount rate of	3.607	3.835	4.076	4.333	4.606	4.896	5.205	5.533	5.881	6.252
Discounted Annual Cost	887	835	142	1,302	1,225	1,152	1,084	1,020	959	903
Cumulative Discounted LCC	78,708	79,543	79,695	80,987	82,212	83,384	84,449	85,488	86,426	87,331

OPTION 5 Close to RCRA Landfill Stds CERCLA Fill		fiscal year	2029	2030	2031	2032	2033	2034	2035	2036	2037	Total
Life-Cycle Cost (LCC) Analysis		counting year	31	32	33	34	35	36	37	38	39	Cost
		Escalation Factor	2.345	2.410	2.478	2.547	2.619	2.692	2.767	2.845	2.924	
all costs are in 1,000's												
Closure Operation Activities												
Unescalated Closure Activities												
Regulatory Compliance Design			283									8,490
Proof of Process / ORR												13,591
Site Preparation												5,914
Characterize Heel												6,942
Tank Isolation												1,323
Wash Interior Tank Walls												5,822
Solidify Remaining Heel												16,904
Clean Vaults												6,444
FH Vault Voids w/ Clean Grout												0
FH Tank Voids w/ CERCLA Soil			2,478									10,256
Sub-Total Closure Activities (unescalated)			2,759	0	0	0	0	0	0	0	0	19,805
plus escalation of			1,404	0	0	0	0	0	0	0	0	95,282
plus management reserve of			271	0	0	0	0	0	0	0	0	48,496
plus contingency of			1,209	0	0	0	0	0	0	0	0	9,350
Total Closure Activity Cost including escalation, mgt reserve & contingency			5,643	0	0	0	0	0	0	0	0	41,772
Operations												
Operation Activities are included in Closure Operation Activities above												
Total Operations including escalation, mgt reserve, & contingency			0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements												
Decommission 2.00% of Closure Activities (unescalated)				476	476	476	476					1,906
Decontamination 5.00% of Closure Activities (unescalated)				1,191	1,191	1,191	1,191					4,784
Demolition 1.00% of Closure Activities (unescalated)				238	238	238	238					953
Sub-Total Post-Operations (unescalated)			0	1,906	1,906	1,906	1,906	0	0	0	0	7,623
plus Escalation			0	2,583	2,698	2,818	2,949	0	0	0	0	11,015
plus Post-Operations Contingency @ 30.0%			0	1,340	1,378	1,417	1,456	0	0	0	0	5,591
Total Post-Operations (w/ escalation & contingency)			0	5,809	5,671	6,139	6,310	0	0	0	0	24,229
Total Cost (unescalated)			2,759	1,906	1,906	1,906	1,906	0	0	0	0	102,904
Cumulative Total LCC (unescalated)			95,282	97,187	99,093	100,999	102,904	102,904	102,904	102,904	102,904	
Total Cost (w/ escalation, mgt reserve, & contingency)			5,643	5,809	5,671	6,139	6,310	0	0	0	0	219,129
Cumulative Total LCC (escalated)			194,900	200,709	206,680	212,618	218,129	219,129	219,129	219,129	219,129	
discount factor @ OMB discount rate of 0.30% for escalated costs			6,648	7,064	7,509	7,982	8,485	9,020	9,588	10,192	10,834	
Discounted Annual Cost			849	822	785	769	744	0	0	0	0	91,310
Cumulative Discounted LCC			88,180	89,002	89,797	90,568	91,310	91,310	91,310	91,310	91,310	

TOTAL ANNUAL COST (escalated) TANK FARM CLOSURE OPTION 5



CUMULATIVE DISCOUNTED LCC TANK FARM CLOSURE OPTION 5



Option 6

OPTION 6 Close to RCRA Landfill Site Clean Fill
Life-Cycle Cost (LCC) Analysis

fiscal year
 counting year
 Escalation Factor

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	1	2	3	4	5	6	7	8	9	10
	1.024	1.053	1.082	1.112	1.144	1.176	1.209	1.242	1.277	1.313
	all costs are in 1,000's									
Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance		2,007	2,007	2,007	2,007	2,007	2,007	2,007	2,007	2,007
Design				115	115	115	115	115	115	115
Profit of Process / ORR						2,132	2,132	2,132	2,132	2,132
Site Preparation						779	779	779	779	779
Characterize Heel			83	83	83	83	83	83	83	83
Tank Isolation								703	703	703
Wash Interior Tank Walls							1,537	1,537	1,537	1,537
Solidify Remaining Heel										642
Clean Vaults										
FIM Vault Voids w/ Clean Grout										
FIM Tank Voids w/ CERCLA Soil										
Sub-Total Closure Activities (unescalated)	0	2,007	2,089	2,204	2,204	5,115	3,109	3,216	3,216	3,658
plus escalation of	0	710	739	780	780	1,809	1,999	1,137	1,137	1,364
plus management reserve of	0	183	191	201	201	487	284	294	294	352
plus contingency of	0	763	794	838	838	1,944	1,182	1,222	1,222	1,487
Total Closure Activity Cost including escalation, mgt reserve & contingency	0	3,662	3,813	4,023	4,023	9,336	5,674	5,869	5,869	7,042
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission		2.00%	of Closure Activities (unescalated)							
Decontamination		5.00%	of Closure Activities (unescalated)							
Demolition		1.00%	of Closure Activities (unescalated)							
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	0	0	0	0
plus Escalation	0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @	0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)	0	2,007	2,089	2,204	2,204	5,115	3,109	3,216	3,216	3,658
Cumulative Total LCC (unescalated)	0	2,007	4,096	6,300	8,504	13,620	16,728	19,944	23,160	27,018
Total Cost (w/ escalation, mgt reserve, & contingency)	0	3,662	3,813	4,023	4,023	9,336	5,674	5,869	5,869	7,042
Cumulative Total LCC (escalated)	0	3,662	7,475	11,498	15,521	24,857	30,531	36,400	42,270	49,311
discount factor @ OMB discount rate of	0.03%	for escalated costs								
Discounted Annual Cost	0	3,241	3,175	3,151	2,964	2,471	3,699	3,600	3,387	3,822
Cumulative Discounted LCC	0	3,241	6,416	9,566	12,530	19,001	22,700	26,301	29,686	33,510

OPTION 6 Close to RCRA Landfill Site Clean Fill Life-Cycle Cost (LCC) Analysis	fiscal year counting year Escalation Factor	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
		11	12	13	14	15	16	17	18	19	20
		1,350	1,367	1,426	1,468	1,507	1,550	1,593	1,638	1,683	1,730
		all costs are in 1,000's									
Closure Operation Activities											
Unescalated Closure Activities											
Regulatory Compliance Design		115	115	115	115	115	115	115	115	115	115
Profit of Process / ORR											
Site Preparation		779	779	779	779						
Characterize Heel		83	83	83	83	83	83	83	83		
Tank Isolation		703	703	703	703	703					
Wash Interior Tank Walls		1,537	1,537	1,537	1,537	1,537	1,537	1,537	1,537		
Solidity Remaining Heel		642	642	642	642	642	642	642	642	642	
Clean Vaults				0	0	0	0	0	0	0	0
FM Vault Voids w/ Clean Grout						1,615	1,615	1,615	1,615	1,615	1,615
FM Tank Voids w/ CERCLA Soil						0	0	0	0	0	0
Sub-Total Closure Activities (unescalated)		3,858	3,858	3,858	3,858	4,694	3,991	3,991	3,991	2,372	1,730
plus escalation of		1,364	1,364	1,364	1,364	1,660	1,412	1,412	1,412	839	612
plus management reserve of		352	352	352	352	429	385	385	385	217	159
plus contingency of		1,487	1,487	1,487	1,487	1,784	1,517	1,517	1,517	902	657
Total Closure Activity Cost including escalation, mgt reserve & contingency		7,042	7,042	7,042	7,042	8,567	7,285	7,285	7,285	4,329	3,157
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgt reserve, & contingency		0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements											
Decommission	2.00% of Closure Activities (unescalated)										
Decontamination	5.00% of Closure Activities (unescalated)										
Demolition	1.00% of Closure Activities (unescalated)										
Sub-Total Post-Operations (unescalated)		0	0	0	0	0	0	0	0	0	0
plus Escalation		0	0	0	0	0	0	0	0	0	0
plus Post-Operations Contingency @ 30.0%		0	0	0	0	0	0	0	0	0	0
Total Post-Operations (w/ escalation & contingency)		0	0	0	0	0	0	0	0	0	0
Total Cost (unescalated)		3,858	3,858	3,858	3,858	4,694	3,991	3,991	3,991	2,372	1,730
Cumulative Total LCC (unescalated)		30,877	34,735	38,593	42,451	47,148	61,137	55,128	60,120	61,492	63,222
Total Cost (w/ escalation, mgt reserve, & contingency)		7,042	7,042	7,042	7,042	8,567	7,285	7,285	7,285	4,329	3,157
Cumulative Total LCC (escalated)		59,353	63,395	70,438	77,478	86,045	93,330	100,615	107,900	112,229	115,386
discount factor @ OMB discount rate of 6.30% for escalated costs		1,958	2,082	2,213	2,352	2,500	2,658	2,825	3,003	3,193	3,394
Discounted Annual Cost		3,596	3,383	3,182	2,994	3,427	2,741	2,578	2,426	1,356	830
Cumulative Discounted LCC		37,106	40,489	43,671	46,665	50,091	52,832	55,410	57,836	59,192	60,122

OPTION 8 Close to RCRA Landfill Stds Clean Fill Life-Cycle Cost (LCC) Analysis	fiscal year counting year Escalation Factor	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		21	22	23	24	25	26	27	28	29	30
		1.779	1.829	1.880	1.933	1.987	2.042	2.100	2.158	2.219	2.281
		all costs are in 1,000's									
Closure Operation Activities											
Unescalated Closure Activities											
Regulatory Compliance		115	115								
Design											
Prof of Process / ORR											
Site Preparation											
Characterize Heel											
Tank Isolation											
Wash Interior Tank Walls											
Solidify Remaining Heel											
Clean Vaults		0	0	0							
FM Vault Voids w/ Clean Grout		1,615	1,615								
FM Tank Voids w/ CERCLA Soil		0	0	0	0	0	0	0	0	0	0
Sub-Total Closure Activities (unescalated)		1,730	1,730	0	0	0	0	0	0	0	0
plus escalation of		612	612	0	0	0	0	0	0	0	0
plus management reserve of		158	158	0	0	0	0	0	0	0	0
plus contingency of		657	657	0	0	0	0	0	0	0	0
Total Closure Activity Cost including escalation, mgt reserve & contingency		3,157	3,157	0	0	0	0	0	0	0	0
Operations											
Operation Activities are included in Closure Operation Activities above											
Total Operations including escalation, mgt reserve, & contingency		0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements											
Decommission	2.00% of Closure Activities (unescalated)			333	333	333	333				
Decontamination	5.00% of Closure Activities (unescalated)			834	834	834	834				
Demolition	1.00% of Closure Activities (unescalated)			107	107	107	107				
Sub-Total Post-Operations (unescalated)		0	0	1,334	1,334	1,334	1,334	0	0	0	0
plus Escalation		0	0	1,105	1,174	1,244	1,319	0	0	0	0
plus Post-Operations Contingency @ 30.0%		0	0	732	752	773	795	0	0	0	0
Total Post-Operations (w/ escalation & contingency)		0	0	3,171	3,258	3,351	3,444	0	0	0	0
Total Cost (unescalated)		1,730	1,730	1,334	1,334	1,334	1,334	0	0	0	0
Cumulative Total LCC (unescalated)		64,952	66,681	68,015	69,349	70,682	72,016	72,016	72,016	72,016	72,016
Total Cost (w/ escalation, mgt reserve, & contingency)		3,157	3,157	3,171	3,259	3,351	3,444	0	0	0	0
Cumulative Total LCC (escalated)		118,543	121,700	124,871	128,130	131,480	134,925	134,925	134,925	134,925	134,925
discount factor @ OMB discount rate of 6.30%	for escalated costs	3.607	3.835	4.076	4.333	4.606	4.898	5.205	5.533	5.881	6.252
Discounted Annual Cost		875	823	778	752	727	703	0	0	0	0
Cumulative Discounted LCC		60,996	61,821	62,599	63,351	64,078	64,782	64,782	64,782	64,782	64,782

OPTION 6 Close to RCRA Landfill Site Clean Fill
Life-Cycle Cost (LCC) Analysis

fiscal year
 counting year
 Escalation Factor

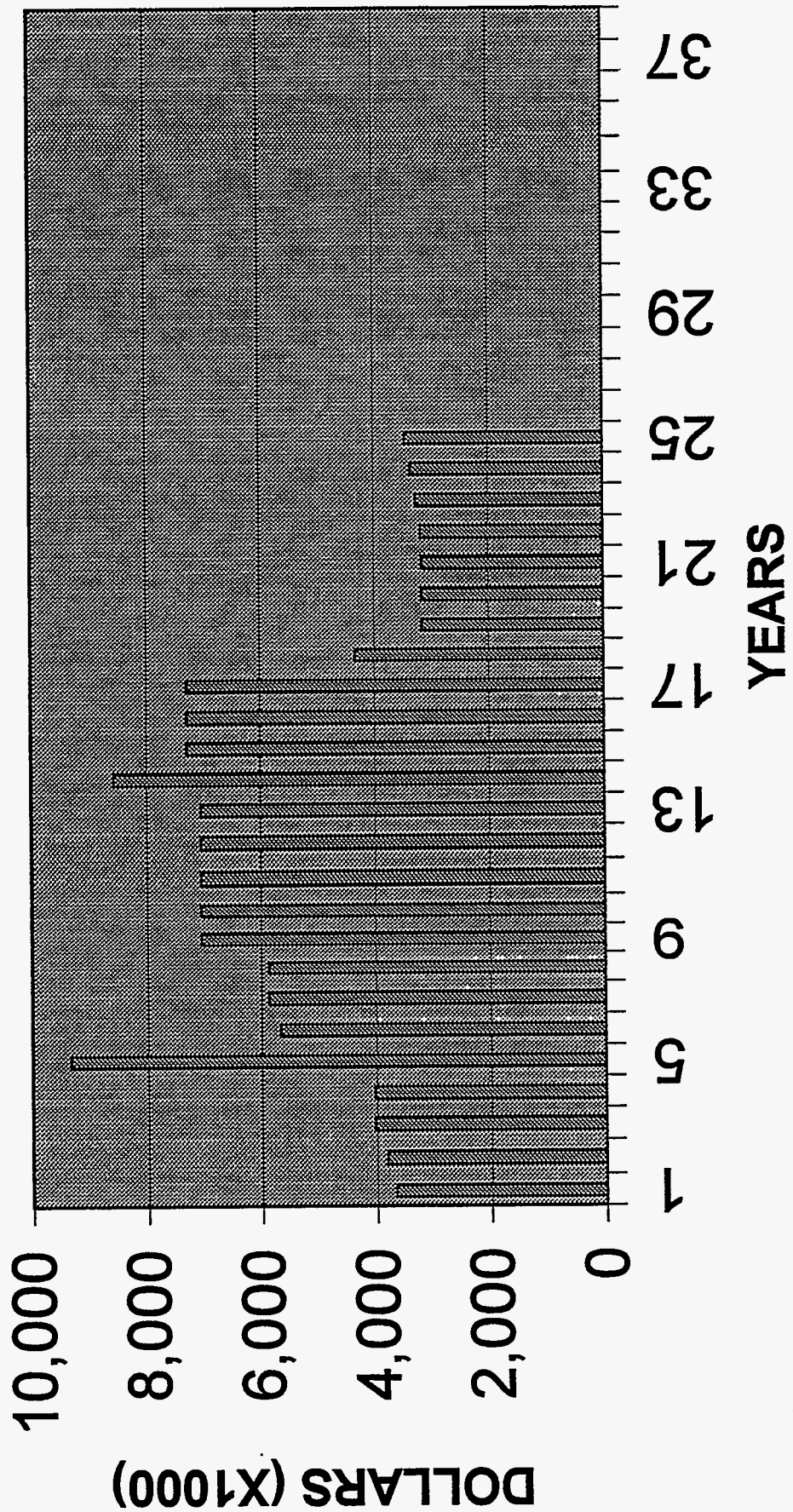
2020	2030	2031	2032	2033	2034	2035	2036	2037
31	32	33	34	35	36	37	38	39
2.345	2.410	2.478	2.547	2.619	2.692	2.767	2.845	2.924

all costs are in 1,000's

Total
 Cost

Closure Operation Activities										
Unescalated Closure Activities										
Regulatory Compliance										2,184
Design										10,033
Proof of Process / ORR										4,264
Site Preparation										7,000
Characterize Heel										1,323
Tank Isolation										5,622
Wash Interior Tank Walls										16,904
Solidify Remaining Heel										6,423
Clean Vaults										0
Fill Vault Voids w/ Clean Grout										12,010
Fill Tank Voids w/ CERCLA Soil										0
Sub-Total Closure Activities (unescalated)	0	0	0	0	0	0	0	0	0	66,691
plus escalation of	0	0	0	0	0	0	0	0	0	23,581
plus management reserve of	0	0	0	0	0	0	0	0	0	6,092
plus contingency of	0	0	0	0	0	0	0	0	0	25,346
Total Closure Activity Cost including escalation, mgmt reserve & contingency	0	0	0	0	0	0	0	0	0	121,700
Operations										
Operation Activities are included in Closure Operation Activities above										
Total Operations including escalation, mgmt reserve, & contingency	0	0	0	0	0	0	0	0	0	0
Post Operations to Greenfield Site Requirements										
Decommission	2.00%	of Closure Activities (unescalated)								1,334
Decontamination	5.00%	of Closure Activities (unescalated)								3,334
Demolition	1.00%	of Closure Activities (unescalated)								607
Sub-Total Post-Operations (unescalated)	0	0	0	0	0	0	0	0	0	5,335
plus Escalation	0	0	0	0	0	0	0	0	0	4,838
plus Post-Operations Contingency @	30.0%	0	0	0	0	0	0	0	0	3,052
Total Post-Operations (w/ escalation & contingency)	0	0	0	0	0	0	0	0	0	13,225
Total Cost (unescalated)	0	0	0	0	0	0	0	0	0	72,016
Cumulative Total LCC (unescalated)	72,016	72,016	72,016	72,016	72,016	72,016	72,016	72,016	72,016	72,016
Total Cost (w/ escalation, mgmt reserve, & contingency)	0	0	0	0	0	0	0	0	0	134,925
Cumulative Total LCC (escalated)	134,925	134,925	134,925	134,925	134,925	134,925	134,925	134,925	134,925	134,925
discount factor @ OMB discount rate of	6.30%	for escalated costs								
Discounted Annual Cost	6,478	7,064	7,500	7,962	8,485	9,020	9,588	10,192	10,834	64,782
Discounted Annual Cost	0	0	0	0	0	0	0	0	0	
Cumulative Discounted LCC	64,782	64,782	64,782	64,782	64,782	64,782	64,782	64,782	64,782	64,782

**TOTAL ANNUAL COST (escalated)
TANK FARM CLOSURE OPTION 6**



CUMULATIVE DISCOUNTED LCC TANK FARM CLOSURE OPTION 6

