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MLM-MU-92-61-0005

**CAPITAL ASSETS MANAGEMENT PROCESS
(CAMP) PRIORITIZATION EXERCISE
FOR
FY 1994 AND FY 1995 PROJECTS
AT FIELD OFFICE, ALBUQUERQUE**

January 16, 1992

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EG&G MOUND APPLIED TECHNOLOGIES

P.O. BOX 3000

MIAMISBURG, OHIO 45343-3000

513-865-4020

operated for the UNITED STATES DEPARTMENT OF ENERGY

Contract No. DE-AC04-88-DP43495

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**CAPITAL ASSETS MANAGEMENT PROCESS (CAMP)
PRIORITIZATION EXERCISE FOR FY 1994 & FY 1995 PROJECTS
FIELD OFFICE, ALBUQUERQUE**

	<u>TEC</u>	<u>CAMP Rating Score</u>
<u>FY 1994 Projects</u>		
Plant Life Safety Code Upgrades, Phase I	\$ 2.3M	42.25
T-Building Life Safety Code Upgrades	\$ 3.0M	53
Roads and Parking Lot Replacements	\$ 2.2M	52
Emergency Notification System Replacement, (92-D-126)	\$14.7M	58
<u>FY 1995 Projects</u>		
Reconfiguration of Inert Operations (FCAP)	\$ 3.8M	52.5
Steam and Condensate Systems Upgrades, (FCAP)	\$ 7.0M	51.5
Site Drainage Control	\$17.3M	50

January 16, 1992

FCAP.102

PLANT LIFE SAFETY CODE UPGRADES, PHASE I

FY 1994

Project Manager:

Dennis R. Lammlein

Construction Manager:

Penny L. Grierson

Sponsor:

George Courtis

TEC:

\$2,300,000

PLANT LIFE SAFETY CODE UPGRADES, PHASE I

FY 1994

Project Description:

- Building modifications to correct deficiencies —
 - Egress Capacity
 - Egress Arrangement
 - Locks and Latches
 - Signs and Marking of the Means of Egress
 - Protection of the Means of Egress
- Subprojects developed geographically
- Typical floorplan attached
- Includes 15 buildings, covering over 50% of Mound square footage

PLANT LIFE SAFETY CODE UPGRADES, PHASE I FY 1994

Justification:

EG&G Safety Appraisals have noted Life Safety deficiencies in various buildings.

- Compliance with Life Safety Code (NFPA 101) required by DOE Order 6430.1A.
- Buildings do not meet current Life Safety Code.

PLANT LIFE SAFETY CODE UPGRADES, PHASE I

FY 1994

Funding Impacts:

- Project not funded:
 - Buildings will be operated without meeting current Life Safety Codes, thus continuing the potential for a serious accident.

MOUND PRIORITIZATION RATIONALE

PLANT LIFE SAFETY CODE UPGRADES, PHASE I

OVERALL RATING 42.3

HEALTH & SAFETY – 35

- Regulatory compliance – frequent minor violations (NFPA 101)
- Fire protection – standard industrial protection with acceptable risk

ENVIRONMENTAL/WASTE MANAGEMENT – 20

- N/A

SAFEGUARDS & SECURITY – 20

- Minor problems unlikely

PROGRAMMATIC – 40

- Best management practice – many minor concerns
- Physical condition – adequate – meets mission; some corrective maintenance necessary

PLANT LIFE SAFETY CODE UPGRADES, PHASE I

FY 1994

Cost Estimate:

Engineering Design & Inspection at Approximately 15% of Construction Cost	\$250,000
Construction Cost	\$1,690,000
Standard Equipment	\$0
Contingency at Approximately 19% of Construction Cost	<u>\$360,000</u>
Total Project Estimate	\$2,300,000

PLANT LIFE SAFETY CODE UPGRADES, PHASE I

FY 1994

Funding Profile:

	<u>Obligations</u>	<u>Costs</u>
FY 1994	\$ 300K	\$ 240K
FY 1995	\$2000K	\$1800K
FY 1996	\$ 0	\$ 260K

PROJECT PLSDU		START	2000/01	PLANT LIFE SHEET CODE UPDATES	PLANNING SCHEDULE		MODE OF		INTERVALS 1 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T-BUILDING LIFE SAFETY CODE UPGRADES

FY 1994

Project Manager: Dennis R. Lammlein

Sponsor: Paul H. Lamberger

TEC:

\$3,000,000

T-BUILDING LIFE SAFETY CODE UPGRADES

FY 1994

Project Description:

Project consists of six elements required to bring T-Building into full compliance with current Life Safety Code Regulations.

- Tunnel Upgrades
 - Reduces potential fire hazard
 - Facilitates personnel exit capacity, travel distance and means of egress in the tunnel
- Smoke Control
 - Provides required ventilation in exit corridors
 - Six air changes per hour

T-BUILDING LIFE SAFETY CODE UPGRADES FY 1994

Project Description (continued):

- Emergency Lighting
 - Upgrades emergency lighting to provide reliable source.
- Elevator Shaft Upgrades
 - Provides for additional smoke detectors and sprinklers.
- Elevator Upgrades
 - Provides elevator control features.
- First Floor Corridors
 - Facilitates personnel exit capacity, travel distance and means of egress in the building proper.

T-BUILDING LIFE SAFETY CODE UPGRADES

FY 1994

Justification:

Technical Safety Appraisal (TSA) noted Life Safety deficiencies in T-Building

- Compliance with Life Safety Code (NFPA 101) required by DOE Order 6430.1A.
- T Building does not meet current Life Safety Code (analyzed by John Sharry – 8/88)
 - Exit capacity
 - Travel distance
 - Means of egress
 - Fire protection
- Conceptual Design Report reviewed by John Sharry (1/91) and found to satisfy all the Life Safety requirements

T-BUILDING LIFE SAFETY CODE UPGRADES FY 1994

Justification (continued):

Life Safety Code Upgrades necessary to ensure safe operation of the T-Building facility

- T-Building usage includes important operations such as:
KYLE, TAWRS, HISS, TEDL, NDT, Safeguards and Calorimetry
- Future plans for T-Building include TERF and NFM

T—BUILDING LIFE SAFETY CODE UPGRADES

FY 1994

Funding Impacts:

- Project not funded:
 - T—Building will be operated without meeting current Life Safety Codes, thus continuing the potential for a serious accident.
 - TSA finding will remain open.
- Partial funding: T—Building will be only partially upgraded.

MOUND PRIORITIZATION RATIONALE T-BUILDING LIFE SAFETY CODE UPGRADES

OVERALL RATING 53

HEALTH & SAFETY — 40

- Regulatory compliance — frequent minor violations (NFPA 101)
- Best management practice — many minor concerns
- Fire protection — standard industrial protection, with acceptable risk

ENVIRONMENTAL/WASTE MANAGEMENT — 20

- N/A

SAFEGUARDS & SECURITY — 30

- Best management practice — some minor concerns

PROGRAMMATIC — 50

- Compliance with orders — frequently in compliance, but serious violations occasionally occur
- Best management practice — some significant concerns

T-BUILDING LIFE SAFETY CODE UPGRADES

FY 1994

Cost Estimate:

Engineering Design & Inspection @ 23.3% \$ 480,000

Construction Cost \$2,060,000

1) Improvements to Land \$ 620,000

2) Building Upgrades \$1,280,000

3) Utilities, including the relocation
of Steam, Condensate, Water &
Waste Lines \$ 40,000

4) Project/Construction Management \$120,000

Standard Equipment \$0

Contingency at 18.3% of Above Cost \$ 460,000

Total Project Estimate \$3,000,000

T-BUILDING LIFE SAFETY CODE UPGRADES

FY 1994

Funding Profile:

	<u>Obligations</u>	<u>Costs</u>
FY 1994	\$ 350K	\$ 300K
FY 1995	\$2650K	\$ 750K
FY 1996	0	\$1730K
FY 1997	0	\$ 220K

T-BUILDING LIFE SAFETY CODE UPGRADES

**ROADS AND PARKING LOT REPLACEMENTS
FY 1994**

PROJECT NUMBER: 94-DA-03

PROJECT MANAGER: D. L. MORGAN

SPONSOR: R. E. BURDG

TEC: \$2,200,000

ROADS AND PARKING LOT REPLACEMENTS

PROJECT DESCRIPTION

The project will upgrade or replace eight sections of roadway and parking areas in the main hill area.

- Complete replacement of roadways
- Scarification, concrete joint repair and asphalt overlay
- Reconstruction of existing drainage structures
- Installation of new drainage structures
- Install new or replacement curbs
- Install new or replacement sidewalks
- Install guardrails, signage and pavement markings

- REMOVE AND REPLACE WITH ASPHALT OVER CONCRETE
- SCARIFY, REPAIR JOINTS, ASPHALT OVERLAY
- REMOVE AND REPLACE WITH FULL DEPTH ASPHALT

PROPOSED ROADWAY IMPROVEMENTS

CONSTRUCTION PERIOD = 209 DAYS

ROADS AND PARKING LOT REPLACEMENTS

PROJECT DESCRIPTION

Upon completion of construction activities, the project will have:

- Upgraded 3.50 miles of roadway
- Replaced or installed 68 drainage structures and 5,100 Ln. Ft. of drainage pipe
- Replaced or installed 14,820 Lf. of 6" concrete barrier curb
- Replaced or installed 3,750 Ln. Ft. of 5' sidewalk
- Installed 650 Ln. Ft. of TYPE 5 guardrail
- Incorporated traffic signage & pavement marking for traffic control and pedestrian safety

ROADS AND PARKING LOT REPLACEMENTS

JUSTIFICATION

Reconstruct numerous segments of Mound's main hill road systems which have reached the end of their design life and are deteriorated beyond reasonable repair

- Correct the inadequate roadway drainage systems
 - Support site drainage upgrades
 - Correction of erosion control problems
- Provide capability to protect pedestrians from roadway traffic
 - Correct tripping and slipping hazards
- Upgrade defective roadway structures
 - Improve product and employee transportation
 - Reduce vehicle maintenance costs

ROADS AND PARKING LOT REPLACEMENTS

DETAILS OF JUSTIFICATION

Design will be in accordance with:

DOE Order 6430.1A — Division 1, 2 and 3

U.S. Department of Transportation "Handbook of Highway
Safety Design and Operating Practices."

Roadway Condition Analysis

1982 Bowser Morner Testing Laboratories Physical Condition
Survey

78 Borings

Classification of existing roadway structures

Storm Drainage Analysis

Inadequate number of drainage structures

Failure of drainage structures (curbs, gutters, catch basins)

Erosion control — during and after construction

Pedestrian Safety Considerations

Sidewalks

Crosswalks

Signage

Handicap curbs

ROADS AND PARKING LOT REPLACEMENTS

IMPACT OF FUNDING DELAY

Project Not Funded: Mound's main hill road systems would continue to deteriorate, ultimately impacting production, increasing safety hazards, and adversely impacting the environment because of uncontrolled storm water run-off.

Partial Funding: Mound would prioritize the individual sections of road to be replaced.

MOUND PRIORITIZATION RATIONALE

ROADS & PARKING LOT REPLACEMENTS

OVERALL RATING 52

HEALTH & SAFETY — 50

- Industrial safety — minor injuries frequent

ENVIRONMENTAL/WASTE MANAGEMENT — 20

- N/A

SAFEGUARDS & SECURITY — 40

- Best management practice — many minor concerns; potential problems in actual response situation

PROGRAMMATIC — 20

- Capacity — viable for mission

ROADS AND PARKING LOT REPLACEMENTS

COST ESTIMATE SUMMARY* (DOLLARS IN THOUSANDS)

Engineering, Design, and Inspection (ED&I @ 12.9% of construction cost)		\$ 226
1. Engineering	\$ 136	
2. Inspection	90	
Construction		1,755
1. Improvement to land (roads & parking lots)	1,533	
2. Building	-0-	
3. Utilities	-0-	
4. Special Equipment	-0-	
5. Project Management	222	
Subtotal		1,981
Contingency at 12.2% of above costs		241
Total Estimate Costs (Rounded)		\$ 2,200

ROADS AND PARKING LOT REPLACEMENTS

FUNDING PROFILE*

	<u>\$K</u>	
	<u>Obligations</u>	<u>Costs</u>
FY 1994	700	480
FY 1995	1500	920
FY 1996		800

FCAP, ROADS & PARKING LOTS REPLACEMENTS

Legend
Early CPM

EMERGENCY NOTIFICATION SYSTEM (ENS) REPLACEMENT

FY 1994

Project Number:

92-D-126

Project Manager:

David L. Balsmeyer

Program Manager:

David L. Heitz

TEC:

\$14,700,000

ENS REPLACEMENT

PROJECT DESCRIPTION

The PA and Fire Alarm systems will be integrated into one system.

The new PA system will provide 2,643 speakers, 2,207 strobe lights and 127 amplifiers.

- The new system will be completely documented.
- The new system will be electrically supervised.
- Backup power will be provided.
- RF pagers will be provided for impaired hearing users.

Fire Alarm system will provide:

- New central computers will be installed in Bldgs. 98, 99 & 100.
- 41 command stations will be installed.
- Alarms will be sounded over the PA system.
- UL rated equipment will be used:
 - Addressable Detectors will be located as code requires.
 - Circuitry will be supervised.
 - A 24 volt system will be installed.

Underground cabling will be reused for the PA and fire alarm upgrades.

Radio system – 5 channel trunked system replaces 13 existing systems.

ENS REPLACEMENT

JUSTIFICATION:

PA system must be replaced to inform all personnel of emergencies. The current general paging system is obsolete and undocumented.

- The new system must meet NFPA, DOE & OSHA.
- The new system must be electrically supervised.
- System audio must be heard throughout the plant.

Fire Alarm system needs to be upgraded to add capability & reliability.

- The new system must meet NFPA, DOE & OSHA.
- Primary and back-up central data collection and alarm computers are needed.
- Command stations are needed at critical areas.

Radio system will provide improved communications among users. During emergencies, communications among response groups are unreliable and in some cases non-existent.

ENS REPLACEMENT

DETAILS OF JUSTIFICATION:

Specific codes and DOE Orders dictate ENS improvements.

PA system must be replaced to inform all personnel of emergencies.

- DOE Order 5480.1B — Environmental Safety & Health Program for DOE Operations.
- NFPA 72 Series — Design, Installation, Testing & Maintenance of alarm systems.

Fire alarm system needs to be upgraded to add capability & reliability.

- 29 CFR 1910 — OSHA ● NFPA 72 Series ● DOE Order 5480.7

Radio system will provide improved communications among users.

- Replacing obsolete equipment & consolidating frequencies.
- DOE Order 5480.7 — DOE Fire Protection Program Objectives
- NFPA 1221 — Public Fire Service Communication Systems
- NFPA 473 — Standard for Competencies for ENS Personnel Responding to Hazardous Materials Incidents
- DOE Order 5632.7 — Protective Forces

ENS REPLACEMENT

Other Considerations:

- Security Considerations included in the ENS project.
 - Signal encryption will be evaluated during design.
 - MECS cabling will be modified for ENS signal transmissions.
 - DOE Order 5636.3A, Tech. Surveillance Countermeasures, impacts will be minimized.
- Tiger Team 1989 finding #EP/CF-1 for improved Personnel Accountability will not be implemented with the ENS project.
- Quality Assurance is Levels II & III for the ENS project.
- Energy efficient equipment will be used as it is available.
- Project paybacks are not applicable to the ENS project.
- Five AL sites are coordinating ENS needs in this Line Item.
Mound, ORNL Y-12, Pinellas, Pantex & KC are included.

ENS REPLACEMENT

Impacts of Funding Delays:

- Existing outdated emergency notification equipment will
 - be subject to breakdown
 - require increasing maintenance.
 - not provide the needed level of safety.
- Personnel safety will be compromised.
- Mound's PA, fire alarm, and radio systems will not meet NFPA, DOE and OSHA regulations.

MOUND PRIORITIZATION RATIONALE EMERGENCY NOTIFICATION SYSTEM REPLACEMENT

OVERALL RATING 58

HEALTH & SAFETY – 55

- Regulatory compliance – frequently in compliance, but serious violations are possible (NFPA 72)
- Fire protection – fire department response

ENVIRONMENTAL/WASTE MANAGEMENT – 30

- Best management practice – many minor concerns (alarms)

SAFEGUARDS & SECURITY – 45

- Best management practice – some significant concerns – response time

PROGRAMMATIC – 20

- N/A

ENS REPLACEMENT

Cost Estimate (10/22/91)

Engineering, Design and Inspection
at approx. 18% of construction cost

\$ 1,900,000

Construction Cost

10,700,000

Special Facilities

Emergency PA

4,650,000

Radio

3,500,000

Fire Alarm

2,100,000

Construction Management

200,000

Project Management

250,000

Contingency at approx. 17% of above costs

2,100,000

Total Project Estimate

\$ 14,700,000

ENS REPLACEMENT

Funding Profile:

	<u>\$K</u>	
<u>Fiscal Year</u>	<u>Obligations</u>	<u>Costs</u>
FY 1994	1,600	1,100
FY 1995	12,600	1,700
FY 1996	500	11,900

EMERGENCY NOTIFICATION SYSTEM REPLACEMENT

Data Date
11Dec

Legend

RECONFIGURATION OF INERT OPERATIONS

FY 1995

Project Manager:

Dennis L. Morgan

Sponsor:

E. Donald Hill

TEC:

\$\$3,750,000

RECONFIGURATION OF INERT OPERATIONS

Project Description:

Relocate existing inert operation out of DS and E Buildings.

- Provide space for other activities
- Provide new Inert Facilities capable of meeting more stringent quality standards
- Upgrade B—Building to provide a single location for final assembly of inert products

The work within B—Building will consist of four (4) major elements:

- Upgrade central core of B—Building for the Inert Assembly area to house 32 workstations
- Support Functions will be relocated along the east and west sides of B—Building
- Rearrange and upgrade existing office spaces. Add a conference/training room and a break room.
- Option 1: Make the Inert Assembly area a Class 100,000 Clean Room.

RECONFIGURATION OF INERT OPERATIONS

Justification:

- Existing manufacturing facilities have been appraised and determined to be in poor condition and technologically inadequate.
- Existing fragmented manufacturing space requires many products to be transported through several buildings during the manufacturing process.
- Existing facilities cannot provide the clean atmosphere and effective temperature and humidity controls necessary for smaller and more intricate production designs.

RECONFIGURATION OF INERT OPERATIONS

Details of Justification:

- Reconfiguration allows more effective use of space by utilizing Group Technology Concepts in the layout of production processes.
- Manufacturing operations will be more cost effective
 - Less travel time for both material and personnel
 - Reduced Work-in-Process inventory required
 - Reduced downtime costs—ability to easily transfer personnel
 - Less direct supervision required—proximity of work force
 - Reduce cost of quality control
 - Ease of use of Continuous Flow Manufacturing techniques

MOUND PRIORITIZATION RATIONALE RECONFIGURATION OF INERT OPERATIONS

OVERALL RATING 52.5

HEALTH & SAFETY – 20

- Industrial safety – few concerns with occasional minor incidents

ENVIRONMENTAL/WASTE MANAGEMENT – 20

- Waste minimization – process generates relatively little waste

SAFEGUARDS & SECURITY – 45

- Technological base – develops new methodologies to improve/enhance safeguards and security capability and efficiency

PROGRAMMATIC – 50

- Technological base – develops new methodologies to improve/enhance mission capability and efficiency.

RECONFIGURATION OF INERT OPERATIONS

Cost Breakdown:

A. ED&I @ 17.5%		\$ 470K
B. Construction		2,680K
1. Asbestos Removal	90K	
2. Building Upgrades	1,920K	
3. Utilities	0K	
4. Project Management	220K	
5. Construction Management	180K	
6. Option 1	270K	
C. Contingency @ 19.0%		<u>600K</u>
TOTAL		\$3,750K

RECONFIGURATION OF INERT OPERATIONS

Funding Profile:

	<u>Obligations</u>	<u>Costs</u>
FY 1995	\$ 500K	\$ 450K
FY 1996	\$3250K	\$2200K
FY 1997	0	\$1100K

STEAM AND CONDENSATE SYSTEMS UPGRADES

FY 1995

Project Number:

88D-122(95-XX)

Project Manager:

Richard L. Bauer

Project Sponsor:

Larraine A. Kapka

TEC:

\$7,000,000

STEAM AND CONDENSATE SYSTEMS UPGRADES

Project Description:

Continuous and reliable steam service will be achieved by:

- Increasing installed steam generating capacity
- Replacement of undersized and deteriorated steam and condensate piping
- Replacement of deteriorated piping insulation

STEAM AND CONDENSATE SYSTEMS UPGRADES

Project Description (cont'd):

Increasing installed steam generating capacity involves:

- Replacement of existing Boiler No. 1 (70,000 PPH capacity) with new 85,000 PPH Boiler (same as boiler no. 2)
- Energy efficient combustion control (O_2 , CO Control)
- Feed Water Economizer
- Installation of new 30,000 PPH Boiler No. 3
- Provides "firm" steam generating capacity
- Efficient summer load operation

STEAM AND CONDENSATE SYSTEMS UPGRADES

Project Description (cont'd):

Increasing installed steam generating capacity involves:

- Construction of 2600 s.f. Building Addition
 - Necessary to accommodate boilers
 - Relocation and expansion of Control Room

STEAM AND CONDENSATE SYSTEMS UPGRADES

Project Description (cont'd):

Replacement of deteriorated piping and insulation includes:

- Steam and condensate piping and insulation
- Steam and condensate insulation
- Water softener piping

STEAM AND CONDENSATE SYSTEMS UPGRADES

Justification:

- Non-Compliance to DOE Order 6430.1A
- Requirement for a continuous and reliable steam generation and distribution system serving the plant site
- Increased Square Footage since 1983
- Deteriorated Equipment, Piping and Insulation

STEAM AND CONDENSATE SYSTEMS UPGRADES

Details of Justification:

- DOE Order 6430.1A Section 1555-1.2 requires:

"Sufficient capacity shall be furnished to permit one boiler to be down for inspection maintenance, or on standby, while the boiler(s) maintain normal operations."

STEAM AND CONDENSATE SYSTEMS UPGRADES

Details of Justification:

- Continuous and reliable steam system

A reduction of steam pressure/flow attributed to failure of one boiler during peak load would likely result in:

- Frozen steam preheat coils
- Frozen water/fire lines within buildings
- Damage to buildings and equipment

STEAM AND CONDENSATE SYSTEMS UPGRADES.

Details of Justification:

● Increased Square Footage Since 1983

<u>Const'n.</u>	<u>Building</u>	<u>Function</u>
1983	3 ADD'N	TEST PREP. & STORAGE FACILITY
1984	GP 1 ADD'N	FIRING RANGE
1984	63 ADD'N	LAB/OFFICES
1984	89	DETONATOR STORG
1984	105	PARTS MACHINING
1986	98	CENTRAL FIRE STA.
1986	OSE	OFFICES
1986	40 ADD'N	PRINT SHOP
1986	COS	LAB/OFFICES
1986	99	SECURITY OPERA. FAC.
1987	102	PROC. SUPP. BD D&D
1987	ECTF	EXPLOSIVE COMPONENT TEST FAC
1987	49 ADD'N	TIMER FAB.
1988	E ADD'N	LABORATORIES

Total Add'l SF of 280,000

20% Increase in Area

STEAM AND CONDENSATE SYSTEMS UPGRADES

Details of Justification:

- Deteriorated Equipment, Piping and Insulation
- Boiler No. 1, manufactured in 1970, has experienced normal deterioration.
- Condensate piping installed since 1949 has corroded from the inside and outside of the pipe.
- Piping insulation has deteriorated exposing steam and condensate.

STEAM & CONDENSATE SYSTEMS UPGRADES

Impacts of Funding Delays:

- Operate the site without firm steam capacity and risk operational impact to production buildings

T, 50, R, SW, 38 & HH

Potential catastrophic building damage

- Continue to repair equipment and piping as it fails

MOUND PRIORITIZATION RATIONALE STEAM & CONDENSATE SYSTEMS UPGRADES

OVERALL RATING 51.5

HEALTH & SAFETY — 35

- **Best management practice — minor safety concerns**

ENVIRONMENTAL/WASTE MANAGEMENT — 20

- **Consistently in compliance; any violations extremely unlikely**

SAFEGUARDS & SECURITY — 20

- **N/A**

PROGRAMMATIC — 50

- **Compliance with orders — redundant capacity unavailable**
- **Physical condition — poor, operation/mission threatened**

STEAM AND CONDENSATE SYSTEMS UPGRADES

Cost Estimate

Engineering, Design and Inspection at approx. 15% of construction cost		\$ 790,000
Construction Cost		5,210,000
Building	600,000	
Boilers	1,350,000	
Instrumentation	600,000	
Utilities	2,460,000	
Project Management	200,000	
Contingency at approx. 17% of above cost		<u>1,000,000</u>
Total Project Estimate		\$7,000,000

STEAM & CONDENSATE SYSTEMS UPGRADES

Funding Profile:

	<u>Obligations</u>	<u>Costs</u>
FY 1995	2,600	1,200
FY 1996	4,400	4,300
FY 1997	---	1,500

SITE DRAINAGE CONTROL

FY 1995

Project Manager: Duane L. Woods

Project Sponsor: Charles S. Friedman

TEC: \$17,300,000

SITE DRAINAGE CONTROL

Project Description:

Eliminate uncontrolled stormwater leaving site.

- Stormwater leaves the site unsampled and uncontained from three significant areas of the developed portion of the site.
- Curbs, berms, and culvert piping will be installed to collect and redirect stormwater to where it may be monitored and sampled.

SITE DRAINAGE CONTROL

Project Description:

Upgrade stormwater surface control management system.

- Storm sewers, curbs, and channels will be installed to reduce stormwater flow over unpaved areas.

SITE DRAINAGE CONTROL

Project Description:

Upgrade the main drainage channel to improve flow and to reduce erosion.

- The channel will be aligned and straightened to improve flow.
- A concrete liner will be installed to reduce erosion.
- The liner will also reduce ground water recharge.

SITE DRAINAGE CONTROL

Project Description:

Upgrade and expand existing stormwater containment basin for increased containment and settling.

- Existing basins will be cleaned.
- Sediment will be disposed of as low level radioactive waste.
- The Overflow Pond will be expanded to contain run-off from the developed property equivalent to a 100-year storm event.

SITE DRAINAGE CONTROL

Project Description:

Correct drainage related safety problems.

- Subsurface drainage will be installed in the large employee parking lot.

SITE DRAINAGE CONTROL

PROJECT LOCATION

SITE DRAINAGE CONTROL

Justification:

- Reduce Amount of Radioactive Material Moving Off-site.
- Comply with DOE ALARA Guidelines.

SITE DRAINAGE CONTROL

Details of Justification:

Reduce Amount of Radioactive Material
Moving Off-site.

- Uncontrolled stormwater erodes plutonium containing soil carrying it off-site.
- Stormwater containment allows plutonium containing soil to settle out on-site.

SITE DRAINAGE CONTROL

Details of Justification:

Comply with DOE ALARA Guidelines.

- DOE Order 5400.5, "Radiation Protection of the Public and the Environment" requires that radioactive discharge be reduced to a level that is "As Low As Reasonably Achievable."
- Allowing present condition to continue does not meet ALARA.

SITE DRAINAGE CONTROL

Impacts of Funding:

Not Funded:

The site may be in violation of DOE
Order 5480.xx ALARA requirements.

Partial Funding:

Lower priority elements would be left
undone.

MOUND PRIORITIZATION RATIONALE

SITE DRAINAGE CONTROL

OVERALL RATING 50

HEALTH & SAFETY — 20

- N/A

ENVIRONMENTAL/WASTE MANAGEMENT — 50

- Regulatory compliance — generally in compliance, but potential serious violations are possible (erosion of known contaminated areas).

SAFEGUARDS & SECURITY — 20

- N/A

PROGRAMMATIC — 20

- N/A

SITE DRAINAGE CONTROL

Cost Estimate Summary (\$000)

Engineering, Design & Inspection (6% of construction)	\$ 800
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Construction..	\$13,300
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A. Site Improvements	\$3,900
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B. Contaminated Soil Disposal	\$9,400
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Standard Equipment	0
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Project & Construction Management	300
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Contingency (20% of Above)	<u>2,900</u>
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Total Project Estimate	\$17,300
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SITE DRAINAGE CONTROL

Funding Profile:

	\$K	
	Obligations	Costs
FY 1995	900	500
FY 1996	0	400
FY 1997	15,400	13,300
FY 1998	<u>1,000</u>	<u>3,100</u>
	17,300	17,300

SITE DRAINAGE CONTROL

- 240 NEPA (EA)
- 098 KDO - COMPLETE IN 1986
- 245 SUBMIT TO DOE
- 100 DES. CRIT. PREP. A/E SELECTION & NEGOTIATION
- 225 PROJECT MANAGEMENT
- 102 K01
- 105 PROJECT AUTHORIZATION
- 110 AWARD DESIGN CONTRACT
- 115 UNANTICIPATED REQUIREMENTS
- 120 HYDRAULIC/HYDROLOGY STUDY
- 125 GEOLOGIC STUDY
- 130 STABILITY OF OVERFLOW POND
- 135 UNDERGROUND UTILITY MAPPING
- 140 HYDROGEOLOGICAL STUDY OF MAIN PARKING LOT
- 145 BEGIN DESIGN
- 150 TITLE I DESIGN
- 155 TITLE I REVIEW
- 160 UNANTICIPATED REQUIREMENTS
- 162 K02
- 175 TITLE II DESIGN
- 165 PERMIT TO INSTALL
- 180 TITLE II REVIEW
- 185 UNANTICIPATED REQUIREMENTS
- 190 CONSTRUCTION BIDDING
- 195 OPEN BIDS
- 197 K03
- 200 CONSTRUCTION CONTRACT AWARD
- 170 RECEIVE PTI
- 201 BEGIN CONTAMINATED SOIL REMOVAL
- 202 REMOVAL OF CONTAMINATED SOIL
- 210 BEGIN CONSTRUCTION
- 215 CONSTRUCTION
- 216 UNANTICIPATED REQUIREMENTS
- 220 COMPLETE CONSTRUCTION
- 230 UNANTICIPATED REQUIREMENTS
- 232 K04
- 235 BEGIN OPERATION

Legend

Early CPU