Final Report
Setting Priorities for Action Plans
at Los Alamos National Laboratory

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September 30, 1992

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Abstract

This report summarizes work done by Applied Decision Analysis for Los Alamos National Laboratory to develop a method of setting priorities for environmental, safety, and health deficiencies at the Laboratory. The deficiencies were identified by a DOE Tiger Team that visited the Laboratory in the fall of 1991, and by self assessments done by the Laboratory. The steps taken to set priorities for action plans include: identifying and measuring the relevant objectives of Laboratory management; preparing instructions, measurement scales, and scoring forms for assessing the risks associated with the actions; developing software to store and process risk assessments, and combine them with management value assessments to estimate the benefit of implementing each plan; and comparing the benefit measures to cost estimates to identify cost-effective actions.

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Introduction

This report summarizes work done by Applied Decision Analysis (ADA) for Los Alamos National Laboratory (LANL) under Subcontract Number 9-XQ2-Y3837-1 with the University of California. The purpose of this work was to develop a method of setting priorities for environmental, safety, and health (ES&H) deficiencies at Los Alamos. The deficiencies were identified by a DOE Tiger Team that visited LANL in the fall of 1991, and by self assessments done by the Laboratory. ADA did the work described here between early October 1991 and the end of September 1992.

The ADA staff working on this project became part of a Risk Management Team in the Laboratory's Integration and Coordination Office (ICO). During the project, the Risk Management Team produced a variety of documents describing aspects of the action-plan prioritization system. Some of those documents are attached to this report. Rather than attempt to duplicate their contents, this report provides a guide to those documents, and references them whenever appropriate.

Objective of the Project

The statement of work in Subcontract Number 9-XQ2-Y3837-1 describes the objective of the project as follows:

"... develop a multiattribute-based decision support software system and supporting documentation for prioritization of deficiencies identified by the DOE Tiger Team or Laboratory Self-Assessments."

This objective required the Risk Management Team to:

- identify and measure the objectives of Laboratory management that apply to setting action-plan priorities
- prepare instructions, measurement scales, and scoring forms that action-plan authors could use to assess the risks associated with the plans
- develop software to store and process risk assessments, combine them using management tradeoffs, and present the results to LANL management
- help ICO personnel combine the benefit measures derived from risk assessments and management tradeoffs with cost data to identify cost-effective action plans

The Risk Management Team completed all these tasks. It also adapted the prioritization system to help Laboratory personnel set priorities for radiological control actions. The original statement of work did not envision this extension of the prioritization system. However it shows system's potential for supporting a variety of prioritization decisions throughout the Laboratory. The Risk Management Team also extended the system to identify a funding schedule that maximizes benefits subject to a variety of funding constraints. Although this capability has not been used yet, it could prove useful for managing actions taken over several years.

The following sections describe these tasks in more detail. They also direct the reader to information in documents produced during the project and attached to this report.

Identifying the Objectives and Tradeoffs of Laboratory Management

The first step in developing a system for setting action-plan priorities was to identify what Laboratory management hoped to achieve by implementing action plans. During the fall of 1991 the Risk Management Team conducted a series of interviews with Laboratory managers and technical experts. Those interviews, and subsequent reviews by senior management, identified the following set of criteria for evaluating action plans:

- worker health and safety
- public health and safety
- environmental risks
- regulatory compliance, including its effect on Laboratory programs
- efficiency and cost changes
- uncertainty reduction

At first the Risk Management Team considered regulatory compliance and effects on Laboratory programs separately. However the Team found that action-plan authors considered effects on Laboratory programs to be a result of inadequate regulatory compliance. Therefore the Team combined the two criteria in its final reports to management, although they assessed them separately.

The following diagram shows some quantities assessed to measure each criterion. The criteria appear in the upper row of the diagram, with the assessed quantities below them.

The following diagram shows the quantities assessed to measure worker health and safety. Similar assessments measured public health and safety.

Laboratory managers reviewed the evaluation criteria and assessed their relative importance. They also estimated the value of each outcome for each assessed quantity. This produced a set of equations for combining assessed risks into a single benefit figure. The parameters of these equations are called tradeoff weights.

Attachment 1 describes the equations and weights initially used to combine risk assessments into a benefit figure. The Risk Management Team later revised some equations and weights in Attachment 1 based on reviews and reassessments by Laboratory managers. The following paragraphs describe some of these revisions.

One revision occurred because Laboratory environmental experts were unable to specify the exact location of sensitive environmental resources, such as habitats for endangered species. However the experts agreed that it would be reasonable to assume that most action plans could affect all environmental resources near the Laboratory. That assumption may overrate the environmental effects of some action plans, but sensitivity analysis shows that this has little effect on action-plan priorities. Attachment 2 describes the environmental resources near the Laboratory, and the weight assigned to them based on an EPA scale.

A group of Laboratory managers reviewed the scales describing the seriousness of impacts on Laboratory programs. They concluded that the accounting costs shown in Section VI of Attachment 1 did not accurately reflect the cost of temporarily shutting down a Laboratory program. Routine procedures for reassigning work and compensating for lost time make the costs far less than those shown in Attachment 1. The revised values for this scale are:

1. 0
2. \$5,833
3. \$233,333
4. \$5,333,333
5. \$33,333,333

An ICO review team concluded that using a single scale to measure an action plan's efficiency changes was too difficult. The Risk Management Team expanded this measurement into three assessments. The revised assessments are: the number of people affected by an action plan, the portion of their work affected, and the level of efficiency change. These assessments are combined with an average annual labor cost of \$60,000 to estimate the value of efficiency changes.

Attachment 3 is a computer-generated list of the management weights used to combine risk assessments into a single benefit figure for each action plan. Each weight has a short name corresponding to the relevant section of the scoring instructions. Attachment 1 describes the short names. The scoring instructions are described below, and appear in Attachment 5. Attachment 3 shows the final weights used to evaluate action plans. They include all the revisions made by various management review teams.

The most technically challenging part of the prioritization system is evaluating the uncertainty reduction caused by doing an action plan. Attachment 1 describes equations for the value of uncertainty reduction, also called the value of information. The Risk Management Team later revised these equations to overcome some computational problems encountered with the earlier version. Attachment 4 describes the revised equations.

Preparing Risk Measurement Scales and Scoring Forms

After identifying the objectives of Laboratory management and their relative importance, the Risk Management Team prepared a set of measurement scales, scoring instructions, and forms to evaluate action plans. Action-plan authors used the instructions and forms to assess how well a plan addresses each criterion specified by management. For most criteria, the authors made two assessments: one for the risk without implementing a plan, and another for the risk after doing it. The change in risk determines the benefit of implementing the plan.

Attachment 5 contains the instructions and measurement scales given to action plan authors. These instructions were reviewed and tested several times. The final version appears in Attachment 5.

The level of detail in these instructions allowed most authors to respond without further guidance from the Risk Management Team. However the Team learned that written instructions alone are not sufficient to answer all the questions that arise when making these assessments. The Team believes that interactive assessments involving Team members and authors would provide more consistent results than assessments based on the written instructions alone. At a minimum, authors should receive ample training before they make assessments.

Attachment 6 shows the scoring form that action plan authors used to record their estimates. Most action plan authors did not need to fill out the entire form. Screening questions in the instructions directed them to only the relevant sections of the form.

Developing Software to Check and Process Risk-Assessment Data

The Risk Management Team developed a computer database to manage and process the assessments collected on the scoring forms. The database uses commercially-available software that runs on an IBM personal computer. The database software is called Paradox. It permits interactive definition and restructuring of data files, reports, and ad hoc queries. The action plan data is stored in two Paradox data tables: one containing the authors' risk assessments (called ACTPLAN), and one containing the management weights (called WEIGHTS).

Paradox also has its own interpretive programming language, called PAL, that allows it to perform calculations on data that it manages. The Risk Management Team used this language to write programs that process the action plan assessments. Paradox calls its programs "scripts." A Paradox

script is executed by selecting SCRIPT and then PLAY from the main Paradox menu.

Attachment 7 is a listing of the main script for processing action plan data. This program reads data from both data tables (ACTPLAN and WEIGHTS), computes the resulting benefit for each action plan, and stores it back in the ACTPLAN table. Running this script leaves the ACTPLAN table with all of the assessed data and results for each action plan. The ACTPLAN table contains several reports for printing this data.

The Paradox script shown in Attachment 7 does most of the calculations needed to determine a plan's benefit. However, the value of uncertainty reduction requires a computationally-intensive numerical integration. It is more efficient to do this calculation outside Paradox using a compiled language. Attachment 8 is a listing of a program that does this calculation. The program, called MEANMIN, is written and compiled in a language called C. The main Paradox script (ACTMAIN) calls MEANMIN to do the integration whenever necessary.

The Risk Management Team found that it was time-consuming to review the large number of assessments for consistency and plausibility. To simplify this process, the Team wrote another Paradox script. This script, called ACTCHECK, applies a series of tests to the assessments stored in the ACTPLAN data table. The tests highlight missing, unused, and questionable assessments.

Attachment 9 is a listing of the ACTCHECK script. This script reads data from the ACTPLAN and WEIGHTS data tables, and creates a list of potential problems in another table called ACTPROBS. The ACTPROBS table contains a report for printing the problems.

Collecting Action-Plan Risk Assessments and Determining Benefits

The Risk Management Team collected scoring forms for over 200 action plans, often working with action plan authors to resolve any questions they had about the assessment process. The Team then reviewed the scores with several management teams to ensure consistency of estimates across action plans. These reviews resulted in many revisions to the original assessments.

Attachment 10 is a complete listing of the assessments for all action plans. The data in this listing reflect the revisions made during the review process. This attachment also shows the net benefit for each action plan, and

the expected costs of risks associated with each criterion before and after implementing the plan.

Attachment 11 summarizes the results of the assessment and review process. It shows the benefit of doing each action plan. It lists action plans both in decreasing order of their benefits and by number.

Ranking action plans by their benefit is different from prioritizing them. The benefit figures do not include the cost of implementing the plans. The next section describes the process of combining costs and benefits to set priorities.

Several reviewers asked the Risk Management Team which assessments are most important in determining the benefit figures. The Team developed a Paradox report that answers this question. Attachment 12 contains this report. It shows the contribution of each management criterion to an action plan's benefit figure. This report allowed reviewers to concentrate on the most significant assessments for each action plan.

Reviewers also asked the Risk Management Team how action plans compared in terms of each evaluation criterion. For instance, which action plans produced the largest reduction in worker health and safety risks? Attachment 13 shows the action plans' benefits associated with each criterion (worker health and safety, public health and safety, environmental risk, etc.). Each table in Attachment 13 shows the benefit associated with one criterion. The tables are sorted in decreasing order of action-plan benefits. That makes it easy to identify which action plans were more effective in reducing risks associated with each criterion.

The Risk Management Team did a series of sensitivity calculations to find out how action plan benefits depend on the management weights. Surprisingly, changing the management weights by plausible amounts makes little difference in the relative benefits of action plans. Attachment 14 shows how the benefit summary in Attachment 11 would change if various management weights increase or decrease.

Combining Action-Plan Benefits With Costs to Determine Priorities

The last step in the priority setting process is to combine the costs and benefits of action plans. The simplest way to do this is by computing the total cost for each action plan and using it to find the ratio of benefit to cost. If the funds available for action plans are limited by a single constraint, the total benefit is maximized by allocating funds to those plans with the highest

benefit-cost ratio. In this case action plans should be prioritized according to their benefit-cost ratio.

In practice, other considerations affect the priorities attached to action plans. The DOE Tiger Team assigned some action plans to categories that require immediate action. Laboratory management would prefer that other plans start quickly to avoid the problems they address. Also, some action plans can obtain funding from existing or relatively unconstrained sources. Combining these factors with the benefit-cost ratios produced a set of action plan priorities that the Laboratory proposed to DOE. While the Risk Management Team provided data to help Laboratory management deal with these practical considerations, they are beyond the scope of the prioritization system described here.

Attachment 15 is an appendix that the Risk Management Team prepared for the Laboratory's action plan submission to DOE. It contains a management overview of the prioritization process, including a description of the action plan priorities proposed to DOE. It describes the considerations mentioned above in more detail, and summarizes their implications. This was revised several times in response to comments from DOE. The version in Attachment 15 does not reflect all these changes.

Optimizing Action-Plan Resources Over Time and With Multiple Constraints

As mentioned in the preceding section, benefit-cost ratios are applicable only if there is a single constraint on action plan funds. If funds are constrained in more than one year or if funding is available from several constrained sources, a more sophisticated optimization is needed. The Risk Management Team wrote several computer programs to solve this type of optimization problem using an optimization software library developed by IBM. The programs decide how to allocate funds to action plans, over several years and from several constrained sources. The allocation maximizes the net benefit from implementing the plans.

The practical considerations described in the previous section precluded the use of the optimization programs. Issues other than maximizing net benefit governed the timing of funding allocations. However, the optimization programs may still prove useful in scheduling action plans within the constraints imposed by these issues.

Attachment 16 describes the kind of optimization possible with these programs. It shows when to start funding each action plan to maximize benefits while keeping the total costs in every fiscal year below various limits. By delaying some plans, it is possible to keep funding far below the level that would occur if they all start simultaneously. Similar optimizations

can show how to spread the funding for various action plans out over time to achieve similar results.

Adapting the System to Prioritize Radiological Control Actions

Although this project did not envision applying the prioritization system to activities other than action plans, both the Risk Management Team and Laboratory management became interested in doing so. They recognized that parts of the prioritization system were appropriate for addressing other activities in the Laboratory. One Laboratory employee used the action plan instructions and scoring forms to assess other ES&H activities without involving the Risk Management Team. Upon learning of this effort, the Team offered to compute the resulting benefit figures and generate a set of reports. The offer was accepted.

An opportunity for the Risk Management Team to adapt the system to other activities arose when Laboratory staff asked for help in setting priorities for radiological control actions. Only a few weeks were available for this effort, so the Team simplified the system used for prioritizing action plans.

Attachment 17 is a set of instructions and measurement scales for assessing the benefits of radiological control actions. These instructions omit assessments of uncertainty reductions and efficiency and cost changes. The experts believed these assessments were not relevant for the actions under consideration. Also, they agreed that the assessments for health and safety risks could be simplified.

A panel of Laboratory experts made and reviewed all the assessments for 41 radiological control actions in two days. The Risk Management Team adapted the Paradox scripts and data tables to process these assessments. Attachment 18 contains the reports generated by the modified software. The reports include a benefit summary similar to the one produced for action plans. They also include tables showing the assessments, the contribution of each criterion to an action's benefit, and how the actions compared in terms of each criterion.

It is unlikely that the action plan prioritization system can be adapted this quickly to other activities in the Laboratory. The radiological control actions were closely related to actions addressed by some action plans. Laboratory experts dealing with radiological control were willing to accept the action plan criteria and management weights without a critical review. They also agreed to have a few people provide and review the assessments. Other priority-setting activities, such as allocating funds to research projects, could easily involve objectives and issues not addressed in the action plan

prioritization. That would require a more difficult and time-consuming adaptation of the process.

Attachment 1

Summary of Management Weights and Equations Used to Calculate Action Plan Benefits

Los Alamos

NATIONAL LABORATORY

December 16, 1991

TO: Dan Brooks, Lee Merkhofer, Phil Beccue

FROM: Allen Miller

SUBJECT: **Summary of Assessed Weights and Equations for Evaluating LANL Action Plans**

This memorandum summarizes assessed management weights for evaluating action plans. These assessments were conducted by Lee Merkhofer, Dan Brooks, and Allen Miller during the period from Wednesday, November 20, to Friday, November 22. The following LANL managers provided the assessments:

- Jim Jackson, DIR Weights for worker health and safety vs. public health and safety (i.e., worker vs. public value of life); value function for community concern; value functions for urgency of health and safety risks
- John Whetten, ADET Weight for public health and safety (i.e., value of life); value function for severity of health and safety effects; value function for exposure potential
- Fred Morse, ADR Weight and value function for magnitude of impact on environmental resources
- Tom Gunderson, EM
Bob Vocke, EM Weight and value function for magnitude of impact on environmental resources
- Charles Robertson,
ESH CC Weight and value function for regulatory compliance

Assessed Weights and Value Functions

The following paragraphs summarize the results of the assessments. All of the assessments are approximate, and we need to check them after we have had a chance to apply them to the scores provided by the action plan authors. We should be able to focus additional assessments on the important weights as indicated by a sensitivity analysis. In addition, we need to check whether the criteria (attributes) are preferentially independent. We

especially need to check the independence of the criteria for compliance and impact on Laboratory programs.

I. Worker Health and Safety Risks

The assessed value of a statistical life for workers is about \$2.5 million. This corresponds to a value of 4 on the scales describing severity of potential health and safety effects. The *relative* values for those scales are:

1. 1/10,000
2. 1/100
3. 1/10
4. 1

We are assuming that the values for the scales describing potential for exposure are proportional to the probabilities contained in those scales. The same is true of the scales describing likelihood of health and safety effects.

We are assuming that the values for the scales describing population at risk is proportional to the number of people described in those scales.

The values for the scales describing risk urgency are:

1. 1/100
2. 1/50 (to 1/100)
3. 1/20
4. 1/5
5. 1

II. Public Health and Safety Risks

All of the assessed values for public health and safety are the same as those for worker health and safety except the assessed value of a statistical life in the public is about \$5.0 million. This reflects the fact that workers benefit from their work and voluntarily accept the risk. Also workers are trained to avoid risks and have insurance coverage for the risks.

III. Environmental Risks

There was a range of opinion about the value of impact on environmental resources. These values are defined in terms of threats to a single environmental resource, based on a definition of an environmental resource developed by the Environmental Protection Agency. During the assessments, an acre of wetlands was used as an example of one environmental resource. We intend to have Doris Garvey identify the location and type of environmental resources near the Laboratory. We will

use the resulting resource map to total all the resources at risk within the boundaries identified by action-plan authors.

The values for the scales describing the magnitude of impact on environmental resources are listed below. The low numbers were assessed by Fred Morse, and high numbers were assessed by Tom Gunderson and Bob Vocke. Morse assessed tradeoffs based on total statistical fatalities during an unspecified period, while Gunderson and Vocke assessed tradeoffs based on statistical fatalities per year.

1. \$50,000 - \$360,000
2. \$400,000 - \$3,600,000
3. \$3,500,000 - \$25,000,000

We are assuming that the values for the scales describing the likelihood of impact on environmental resources are proportional to the probabilities contained in those scales.

IV. Community Concern

The values for the scales describing community concern are listed below. The property values in those scales will be changed to reflect these assessments.

1. \$0
2. \$100,000
3. \$200,000
4. \$1,250,000
5. \$5,000,000
6. \$10,000,000

V. Regulatory Compliance

The assessed value for the most serious regulatory violation is about \$30 million (i.e., less than ten times the value of a statistical life for the public). The *relative* values for the scales describing seriousness of a violation are listed below, where the value of \$30 million corresponds to a five on those scales.

1. 0 (for practical purposes)
2. 0 (for practical purposes)
3. 1/2,000
4. 1/20 (i.e., between 1/10 and 1/30)
5. 1

We are assuming that the values for the scales describing the likelihood of a violation are proportional to the probabilities contained in those scales.

VI. Impact on Laboratory Programs and Operations

The values for the scales describing the seriousness of impacts on Laboratory programs are given in the table prepared by Mike Stevenson. This table gives a range of values for each impact. Since the values grow exponentially, it is appropriate to use the geometric mean of each range. This produces the following values for these scales.

1. 0
2. \$175,000
3. \$7,000,000
4. \$160,000,000
5. \$1,000,000,000

We are assuming that the values for the scales describing the likelihood of an impact on Laboratory programs are proportional to the probabilities contained in those scales.

We did not assess values for the scale describing an impact on the efficiency of Laboratory operations. However, we should be able to calculate approximate values from the changes in efficiency described in that scale. The Laboratory's annual expenditure for labor is about \$475 million (based on an estimate of a group leader for FIN-4). A value of one on this scale corresponds to a ten percent increase in the labor expenditure for more than three years (i.e., five years). A value of two on this scale corresponds to a ten percent increase in the labor expenditure for one directorate, which is about ten percent of the total budget, for one to three years (i.e., two years). This produces the following values for this scale. Unlike other scales that are assessed before and after an action plan is implemented, this one measures the change. A positive change represents a benefit, and a negative change represents a cost.

1. -\$237,500,000
2. -\$9,500,000
3. 0
4. \$9,500,000
5. \$237,500,000

The value for the cost or benefit of delaying implementation of an action plan is assessed directly. The scoring sheet asks for a positive number to represent benefits and a negative number to represent costs. Like the previous scale, this one measures a change.

VII. The Value of Uncertainty Reduction from Characterization and Data-Gathering Activities

No additional weights or value functions are needed for the scales dealing with uncertainty reduction. We can do a value-of-information

calculation to determine the value of uncertainty reduction, based on the values assessed for health and safety. If necessary, we can add scales to determine the uncertainty in the assessments for magnitude of environmental risk and the number of resources at risk, and then do a similar value-of-information calculation for environmental studies. However that will increase the number of assessments for this section, and it is not clear that we have any action plans that are only studies of environmental risks.

Equations

Each value assessed by an action plan author is described in one part of a section of the instructions and scales. We can represent an assessed value by the numbers of the section and part where the value is described. For example, the assessed value for baseline severity of health and safety effects is *IA1*, and the assessed value for changes in community concern (i.e., the community concern after an action plan is implemented) is *IVA2*. Assessed values and quantities calculated from them are shown in italics.

The weights associated with various scales are represented by sets. The sets are subscripted by the section and part of the instructions to which they apply. For example the set of weights for the relative severity of worker health and safety risks is:

$$w_{IA1} = [1/10,000, 1/100, 1/10, 1]$$

We can reference elements of a set by indexing the name of the set. For the example above:

$$w_{IA1}(1) = 1/10,000$$

$$w_{IA1}(2) = 1/100$$

$$w_{IA1}(3) = 1/10$$

$$w_{IA1}(4) = 1$$

Multiplying a set by a constant produces a new set where each element is multiplied by the constant. For example:

$$\begin{aligned} \text{worker-value-of-life} \times w_{IA1} = & [\text{worker-value-of-life}/10,000, \\ & \text{worker-value-of-life}/100, \text{worker-value-of-life}/10, \\ & \text{worker-value-of-life}] \end{aligned}$$

Sets of weights are converted to values (i.e., scores) by interpolation functions. We will use two interpolation functions, one for linear interpolation and one for exponential interpolation. The exponential interpolation function is used for logarithmic scales. The interpolation functions are defined for integer and real values ranging from one to the number of elements in the set (i.e., the number of levels defined for a scale). They are not defined for values outside this range. The two interpolation functions are:

$$g_{lin}(x, [w_1, \dots, w_n]) = \{w_1 + (w_2 - w_1) \times (x - 1) \text{ for } 1 \leq x < 2, \\ w_2 + (w_3 - w_2) \times (x - 2) \text{ for } 2 \leq x < 3, \dots, \\ w_{n-1} + (w_n - w_{n-1}) \times (x - (n-1)) \text{ for } (n-1) \leq x \leq n, \\ \text{undefined for } x < 1 \text{ or } x > n\}$$

$$g_{exp}(x, [w_1, \dots, w_n]) = \{\exp[\ln(w_1) + [\ln(w_2) - \ln(w_1)] \times (x - 1)] \text{ for } 1 \leq x < 2, \\ \exp[\ln(w_2) + [\ln(w_3) - \ln(w_2)] \times (x - 2)] \text{ for } 2 \leq x < 3, \dots, \\ \exp[\ln(w_{n-1}) + [\ln(w_n) - \ln(w_{n-1})] \times (x - (n-1))] \text{ for } (n-1) \leq x \leq n, \\ \text{undefined for } x < 1 \text{ or } x > n\}$$

I. Worker Health and Safety Risks

$$worker\text{-}value\text{-}of\text{-}life = 2,500,000$$

$$w_{IA1} = [1/10,000, 1/100, 1/10, 1]$$

$$w_{IA2} = w_{IA1}$$

$$w_{IB1} = [1/1,000,000, 1/10,000, 1/100, 1]$$

$$w_{IB2} = w_{IB1}$$

$$w_{IC1} = [1/1,000,000, 1/10,000, 1/100, 1]$$

$$w_{IC2} = w_{IC1}$$

$$w_{ID1} = [3, 30, 300, 8,000^1]$$

$$w_{IC2} = w_{IC1}$$

1

This is approximately the number of workers at the Laboratory.

$$w_{IE1} = [1/100, 1/50, 1/20, 1/5, 1]$$

$$w_{IE2} = w_{IE1}$$

$$I1^2 = g_{\text{exp}}(LA1, \text{worker-value-of-life} \times w_{IA1}) \times g_{\text{exp}}(IB1, w_{IB1}) \times \\ g_{\text{exp}}(IC1, w_{IC1}) \times g_{\text{exp}}(ID1, w_{ID1}) \times g_{\text{exp}}(IE1, w_{IE1})$$

$$I2^3 = g_{\text{exp}}(LA2, \text{worker-value-of-life} \times w_{IA2}) \times g_{\text{exp}}(IB2, w_{IB2}) \times \\ g_{\text{exp}}(IC2, w_{IC2}) \times g_{\text{exp}}(ID2, w_{ID2}) \times g_{\text{exp}}(IE2, w_{IE2})$$

II. Public Health and Safety Risks

$$\text{public-value-of-life} = 5,000,000$$

$$w_{IIA1} = [1/10,000, 1/100, 1/10, 1]$$

$$w_{IIA2} = w_{IIA1}$$

$$w_{IIB1} = [1/1,000,000, 1/10,000, 1/100, 1]$$

$$w_{IIB2} = w_{IIB1}$$

$$w_{IIC1} = [1/1,000,000, 1/10,000, 1/100, 1]$$

$$w_{IIC2} = w_{IIC1}$$

$$w_{IID1} = [3, 30, 300, 18,000^4]$$

$$w_{IIC2} = w_{IIC1}$$

$$w_{IIE1} = [1/100, 1/50, 1/20, 1/5, 1]$$

$$w_{IIE2} = w_{IIE1}$$

-
- 2 Baseline worker health and safety risk
 - 3 Modified worker health and safety risk
 - 4 This is approximately the population of Los Alamos County.

$$III^5 = g_{\exp}(IIA1, \text{public-value-of-life} \times w_{IIA1}) \times g_{\exp}(IIB1, w_{IIB1}) \times g_{\exp}(IIC1, w_{IIC1}) \times g_{\exp}(IID1, w_{IID1}) \times g_{\exp}(IIE1, w_{IIE1})$$

$$III^6 = g_{\exp}(IIA2, \text{public-value-of-life} \times w_{IIA2}) \times g_{\exp}(IIB2, w_{IIB2}) \times g_{\exp}(IIC2, w_{IIC2}) \times g_{\exp}(IID2, w_{IID2}) \times g_{\exp}(IIE2, w_{IIE2})$$

III. Environmental Risks

$$IIIA = \Sigma(\text{environmental resources at risk})^7$$

$$w_{IIB1} = [50,000, 400,000, 3,500,000] \text{ OR } [360,000, 3,600,000, 25,000,000]$$

$$w_{IIB2} = w_{IIB1}$$

$$w_{IIC1} = [1/1,000,000, 1/10,000, 1/100, 1]$$

$$w_{IIC2} = w_{IIC1}$$

$$III^8 = IIIA \times g_{\exp}(IIB1, w_{IIB1}) \times g_{\exp}(IIC1, w_{IIC1})$$

$$III^9 = IIIA \times g_{\exp}(IIB2, w_{IIB2}) \times g_{\exp}(IIC2, w_{IIC2})$$

IV. Community Concern

$$w_{IVA1} = [0, 100,000, 200,000, 1,250,000, 5,000,000, 10,000,000]^{10}$$

5 Baseline public health and safety risk

6 Modified public health and safety risk

7 Environmental resources are valued according to the scale developed by Doris Garvey. The scale will be weighted so that one acre of wetlands corresponds to a value of one.

8 Baseline environmental risk

9 Modified environmental risk

10 We must use linear interpolation with this set of weights because one of them is zero. However, it is clear from the nonzero weights that exponential interpolation would be more appropriate. Perhaps we should assume a very small, but nonzero, value for the first weight so we can use exponential interpolation.

$$w_{IVA2} = w_{IVA1}$$

$$IV1^{11} = g_{lin}(IVA1, w_{IVA1})$$

$$IV2^{12} = g_{lin}(IVA2, w_{IVA2})$$

V. Regulatory Compliance

$$value-of-major-violation = 30,000,000$$

$$w_{VA1} = [0, 0, 1/2,000, 1/20, 1]^{13}$$

$$w_{VA2} = w_{VA1}$$

$$w_{VB1} = [0.05, 0.25, 0.50, 0.75, 0.95]$$

$$w_{VB2} = w_{VB1}$$

$$V1^{14} = g_{lin}(VA1, value-of-major-violation \times w_{VA1}) \times g_{exp}(VB1, w_{VB1})$$

$$V2^{15} = g_{lin}(VA2, value-of-major-violation \times w_{VA2}) \times g_{exp}(VB2, w_{VB2})$$

VI. Impact on Laboratory Programs and Operations

$$w_{VIA1} = [0, 175,000, 7,000,000, 160,000,000, 1,000,000,000]^{16}$$

11 Baseline cost of community concern

12 Modified cost of community concern

13 We must use linear interpolation with this set of weights because some of them are zero. However, it is clear from the nonzero weights that exponential interpolation would be more appropriate. Perhaps we should assume some very small, but nonzero, values for the first two weights so we can use exponential interpolation.

14 Baseline cost of regulatory violation

15 Modified cost of regulatory violation

16 We must use linear interpolation with this set of weights because one of them is zero. However, it is clear from the nonzero weights that exponential interpolation would be more appropriate. Perhaps we should assume a very small, but nonzero, value for the first weight so we can use exponential interpolation.

$$w_{VIA2} = w_{VIA1}$$

$$w_{VIB1} = [0.05, 0.25, 0.50, 0.75, 0.95]$$

$$w_{VIB2} = w_{VIB1}$$

$$VI1^{17} = g_{lin}(VIA1, w_{VIA1}) \times g_{exp}(VIB1, w_{VIB1})$$

$$VI2^{18} = g_{lin}(VIA2, w_{VIA2}) \times g_{exp}(VIB2, w_{VIB2})$$

$$annual-labor-expense = 475,000,000$$

$$w_{VIC} = [-1/2, -1/50, 0, 1/50, 1/2]$$

$$VIC^{*19} = g_{lin}(VIC, annual-labor-expense \times w_{VIC})$$

VII. The Value of Uncertainty Reduction from Characterization and Data-Gathering Activities

The assessments in this section, unlike those in the previous sections, do have a one-to-one relationship to parts of the section (e.g., Part A). This makes it a little harder to assign a unique name to each assessment. We can accomplish this by combining the section number (VII), part number (e.g., A), the part number in the section that contains the original scale²⁰ (e.g., A for Part A1 of Section I), and either L or H to indicate a low or high estimate. For example, *VIIAAL* represents the low estimate for the severity of health and safety effects for workers, *VIIBDH* represents the high estimate for the public population at risk, and *VIICL* is the low estimate for the remediation cost.

We are assuming that we can fit lognormal distributions to the low and high estimates. Therefore we need the following equations for lognormal distributions to process the data.

17 Baseline impact on Laboratory programs

18 Modified impact on Laboratory programs

19 Change in efficiency of Laboratory operations

20 We do not need the digit that distinguishes baseline values from those that occur after an action plan is implemented (i.e., changed values). Thus the letter A is sufficient to reference the baseline severity of potential health and safety effects in the section describing worker health and safety risks (Section I). Also, for remediation cost, we do not need to reference a part of another section.

$$f_{\ln}(x, \lambda_x, \sigma_x)^{21} = \exp[-(\ln(x) - \lambda_x)^2 / (2 \times \sigma_x^2)] / (x \times \sigma_x \times (2 \times \pi)^{1/2})$$

$$P_{\ln}^>(x, \lambda_x, \sigma_x)^{22} = (1 - \text{erf}[(\ln(x) - \lambda_x) / (2^{1/2} \times \sigma_x)]) / 2$$

$$\mu(\lambda_x, \sigma_x)^{23} = \exp(\lambda_x + (1/2) \times \sigma_x^2)$$

$$v(\lambda_x, \sigma_x)^{24} = \exp(2 \times \lambda_x + 2 \times \sigma_x^2) - \exp(2 \times \lambda_x + \sigma_x^2)$$

$$\lambda(\mu_x, v_x) = \ln(\mu_x^2 / [v_x + \mu_x^2]^{1/2})$$

$$\sigma(\mu_x, v_x) = [\ln([v_x + \mu_x^2] / \mu_x^2)]^{1/2}$$

$$\lambda^*(x_L, x_H)^{25} = (\ln(x_L) + \ln(x_H)) / 2$$

$$\begin{aligned} \sigma^*(x_L, x_H) &= (\ln(x_H) - \ln(x_L)) / (2 \times 2^{1/2} \times \text{erf}^{-1}(9/10)) \\ &= (\ln(x_H) - \ln(x_L)) / 3.28970725390294 \end{aligned}$$

The value of information about health and safety risk is given by the following equations:²⁶

$$\lambda_{\text{VIIAA}} = \lambda^*(g_{\text{exp}}(\text{VIIAAL}, \text{worker-value-of-life} \times w_{\text{IA1}}), g_{\text{exp}}(\text{VIIAAH}, \text{worker-value-of-life} \times w_{\text{IA1}}))$$

$$\sigma_{\text{VIIAA}} = \sigma^*(g_{\text{exp}}(\text{VIIAAL}, \text{worker-value-of-life} \times w_{\text{IA1}}), g_{\text{exp}}(\text{VIIAAH}, \text{worker-value-of-life} \times w_{\text{IA1}}))$$

$$\lambda_{\text{VIIAB}} = \lambda^*(g_{\text{exp}}(\text{VIIABL}, w_{\text{IB1}}), g_{\text{exp}}(\text{VIIABH}, w_{\text{IB1}}))$$

$$\sigma_{\text{VIIAB}} = \sigma^*(g_{\text{exp}}(\text{VIIABL}, w_{\text{IB1}}), g_{\text{exp}}(\text{VIIABH}, w_{\text{IB1}}))$$

21 The density function of a lognormal distribution. This function is only used in the equation for EV2.

22 The complementary cumulative distribution of a lognormal distribution. This function is only used in the equation for EV2.

23 The mean of a lognormal distribution.

24 The variance of a lognormal distribution.

25 x_L is a low estimate such that there is only one chance in 20 that the value will be less than the estimate. x_H is a high estimate such that there is only one chance in 20 that the value will be greater than the estimate.

26 A separate memorandum describes the derivation of these equations.

$$\lambda_{VIIAC} = \lambda^*(g_{\exp}(VIIACL, w_{IC1}), g_{\exp}(VIIACH, w_{IC1}))$$

$$\sigma_{VIIAC} = \sigma^*(g_{\exp}(VIIACL, w_{IC1}), g_{\exp}(VIIACH, w_{IC1}))$$

$$\lambda_{VIIAD} = \lambda^*(g_{\exp}(VIIADL, w_{ID1}), g_{\exp}(VIIADH, w_{ID1}))$$

$$\sigma_{VIIAD} = \sigma^*(g_{\exp}(VIIADL, w_{ID1}), g_{\exp}(VIIADH, w_{ID1}))$$

$$\lambda_{VIIAE} = \lambda^*(g_{\exp}(VIIAEL, w_{IE1}), g_{\exp}(VIIAEH, w_{IE1}))$$

$$\sigma_{VIIAE} = \sigma^*(g_{\exp}(VIIAEL, w_{IE1}), g_{\exp}(VIIAEH, w_{IE1}))$$

$$\lambda_{VIIA} = \lambda_{VIIAA} + \lambda_{VIIAB} + \lambda_{VIIAC} + \lambda_{VIIAD} + \lambda_{VIIAE}$$

$$\sigma_{VIIA} = (\sigma_{VIIAA}^2 + \sigma_{VIIAB}^2 + \sigma_{VIIAC}^2 + \sigma_{VIIAD}^2 + \sigma_{VIIAE}^2)^{1/2}$$

$$\lambda_{VIIBA} = \lambda^*(g_{\exp}(VIIBAL, \text{public-value-of-life} \times w_{IIA1}), \\ g_{\exp}(VIIBAH, \text{public-value-of-life} \times w_{IIA1}))$$

$$\sigma_{VIIBA} = \sigma^*(g_{\exp}(VIIBAL, \text{public-value-of-life} \times w_{IIA1}), \\ g_{\exp}(VIIBAH, \text{public-value-of-life} \times w_{IIA1}))$$

$$\lambda_{VIIBB} = \lambda^*(g_{\exp}(VIIBBL, w_{IIB1}), g_{\exp}(VIIBBH, w_{IIB1}))$$

$$\sigma_{VIIBB} = \sigma^*(g_{\exp}(VIIBBL, w_{IIB1}), g_{\exp}(VIIBBH, w_{IIB1}))$$

$$\lambda_{VIIBC} = \lambda^*(g_{\exp}(VIIBCL, w_{IIC1}), g_{\exp}(VIIBCH, w_{IIC1}))$$

$$\sigma_{VIIBC} = \sigma^*(g_{\exp}(VIIBCL, w_{IIC1}), g_{\exp}(VIIBCH, w_{IIC1}))$$

$$\lambda_{VIIBD} = \lambda^*(g_{\exp}(VIIBDL, w_{IID1}), g_{\exp}(VIIBDH, w_{IID1}))$$

$$\sigma_{VIIBD} = \sigma^*(g_{\exp}(VIIBDL, w_{IID1}), g_{\exp}(VIIBDH, w_{IID1}))$$

$$\lambda_{VIIBE} = \lambda^*(g_{\exp}(VIIBEL, w_{IIE1}), g_{\exp}(VIIBEH, w_{IIE1}))$$

$$\sigma_{VIIBE} = \sigma^*(g_{\exp}(VIIBEL, w_{IIE1}), g_{\exp}(VIIBEH, w_{IIE1}))$$

$$\lambda_{VIIB} = \lambda_{VIIBA} + \lambda_{VIIBB} + \lambda_{VIIBC} + \lambda_{VIIBD} + \lambda_{VIIBE}$$

$$\sigma_{VIIB} = (\sigma_{VIIBA}^2 + \sigma_{VIIBB}^2 + \sigma_{VIIBC}^2 + \sigma_{VIIBD}^2 + \sigma_{VIIBE}^2)^{1/2}$$

$$\mu_{AB} = \mu(\lambda_{VIIA}, \sigma_{VIIA}) + \mu(\lambda_{VIIB}, \sigma_{VIIB})$$

$$v_{AB} = v(\lambda_{VIIA}, \sigma_{VIIA}) + v(\lambda_{VIIB}, \sigma_{VIIB})$$

$$\lambda_{AB}^{27} = \lambda(\mu_{AB}, v_{AB})$$

$$\sigma_{AB} = \sigma(\mu_{AB}, v_{AB})$$

$$\lambda_{VIIC} = \lambda^*(VIIICL, VIIICH)$$

$$\sigma_{VIIC} = \sigma^*(VIIICL, VIIICH)$$

$$\mu_{VIIC} = \mu(\lambda_{VIIC}, \sigma_{VIIC})$$

$$v_{VIIC} = v(\lambda_{VIIC}, \sigma_{VIIC})$$

$$\lambda_{ABC} = \lambda(I2 + II2 + \mu_{VIIC}, v_{VIIC})$$

$$\sigma_{ABC} = \sigma(I2 + II2 + \mu_{VIIC}, v_{VIIC})$$

$$EV1^{28} = \min(I2 + II2 + \mu_{VIIC}, \mu_{AB})$$

$$EV2^{29} = \int_0^\infty x \times [P_{\ln}^>(x, \lambda_{ABC}, \sigma_{ABC}) \times f_{\ln}(x, \lambda_{AB}, \sigma_{AB}) + P_{\ln}^>(x, \lambda_{AB}, \sigma_{AB}) \times f_{\ln}(x, \lambda_{ABC}, \sigma_{ABC})] dx$$

$$w_{VIID} = [0.95, 0.50, 0.10, 0.05, 0.01]$$

$$f_{VIID} = g_{\exp}(VIID, w_{VIID})$$

$$VII^{30} = (EV1 - EV2) \times f_{VIID}$$

27 This assumes we can approximate the sum of two independent lognormal distributions by another lognormal distribution, where the mean of the sum is the sum of the means and the variance of the sum is the sum of the variances. See *Permanence of the Log-Normal Distribution* by R.L. Mitchell, Journal of the Optical Society of America, Volume 58, No. 9, September 1968.

28 Expected cost without doing the study

29 Expected cost after doing the study, assuming perfect information. There is no closed-form solution for this integral, so we will have to compute it numerically.

30 Approximate expected value of information

The equations above assume that there is no uncertainty in health and safety risks after a study is completed. That assumption is questionable, especially since the last assessment (in Part D) allows an action-plan author to indicate that a study will not eliminate all the uncertainty. However, we can model the remaining uncertainty using the data provided by the action-plan authors. Assume that, after the study, the remaining uncertainty about any of the quantities assessed for health and safety can be described by a lognormal distribution. Also assume that the mean of the distribution equals the value assessed in Sections I or II for the case where the action plan is implemented. Finally assume that the standard deviation of the distribution is value assessed in Part D times the standard deviation of the corresponding baseline distribution. These assumptions lead to the following equations. The equations for *EV1* and *EV2* replace those above. Variables with subscripts ending in 2 refer to distributions describing the remaining uncertainty after a study is completed.

$$\mu_{VIIAA2} = g_{\exp}(IA2, \text{worker-value-of-life} \times w_{IA2})$$

$$v_{VIIAA2} = v(\lambda_{VIIAA}, \sigma_{VIIAA}) \times (f_{VIID})^2$$

$$\lambda_{VIIAA2} = \lambda(\mu_{VIIAA2}, v_{VIIAA2})$$

$$\sigma_{VIIAA2} = \sigma(\mu_{VIIAA2}, v_{VIIAA2})$$

$$\mu_{VIIAB2} = g_{\exp}(IB2, w_{IB2})$$

$$v_{VIIAB2} = v(\lambda_{VIIAB}, \sigma_{VIIAB}) \times (f_{VIID})^2$$

$$\lambda_{VIIAB2} = \lambda(\mu_{VIIAB2}, v_{VIIAB2})$$

$$\sigma_{VIIAB2} = \sigma(\mu_{VIIAB2}, v_{VIIAB2})$$

$$\mu_{VIIAC2} = g_{\exp}(IC2, w_{IC2})$$

$$v_{VIIAC2} = v(\lambda_{VIIAC}, \sigma_{VIIAC}) \times (f_{VIID})^2$$

$$\lambda_{VIIAC2} = \lambda(\mu_{VIIAC2}, v_{VIIAC2})$$

$$\sigma_{VIIAC2} = \sigma(\mu_{VIIAC2}, v_{VIIAC2})$$

$$\mu_{VIIAD2} = g_{\exp}(ID2, w_{ID2})$$

$$v_{VIIAD2} = v(\lambda_{VIIAD}, \sigma_{VIIAD}) \times (f_{VIID})^2$$

$$\lambda_{VIIAD2} = \lambda(\mu_{VIIAD2}, \upsilon_{VIIAD2})$$

$$\sigma_{VIIAD2} = \sigma(\mu_{VIIAD2}, \upsilon_{VIIAD2})$$

$$\mu_{VIIAE2} = g_{\exp}(IE2, w_{IE2})$$

$$\upsilon_{VIIAE2} = \upsilon(\lambda_{VIIAE}, \sigma_{VIIAE}) \times (f_{VIID})^2$$

$$\lambda_{VIIAE2} = \lambda(\mu_{VIIAE2}, \upsilon_{VIIAE2})$$

$$\sigma_{VIIAE2} = \sigma(\mu_{VIIAE2}, \upsilon_{VIIAE2})$$

$$\lambda_{VIIA2} = \lambda_{VIIAA2} + \lambda_{VIIAB2} + \lambda_{VIIAC2} + \lambda_{VIIAD2} + \lambda_{VIIAE2}$$

$$\sigma_{VIIA2} = (\sigma_{VIIAA2}^2 + \sigma_{VIIAB2}^2 + \sigma_{VIIAC2}^2 + \sigma_{VIIAD2}^2 + \sigma_{VIIAE2}^2)^{1/2}$$

$$\mu_{VIIBA2} = g_{\exp}(IIA2, \text{public-value-of-life} \times w_{IIA2})$$

$$\upsilon_{VIIBA2} = \upsilon(\lambda_{VIIBA}, \sigma_{VIIBA}) \times (f_{VIID})^2$$

$$\lambda_{VIIBA2} = \lambda(\mu_{VIIBA2}, \upsilon_{VIIBA2})$$

$$\sigma_{VIIBA2} = \sigma(\mu_{VIIBA2}, \upsilon_{VIIBA2})$$

$$\mu_{VIIBB2} = g_{\exp}(IIB2, w_{IIB2})$$

$$\upsilon_{VIIBB2} = \upsilon(\lambda_{VIIBB}, \sigma_{VIIBB}) \times (f_{VIID})^2$$

$$\lambda_{VIIBB2} = \lambda(\mu_{VIIBB2}, \upsilon_{VIIBB2})$$

$$\sigma_{VIIBB2} = \sigma(\mu_{VIIBB2}, \upsilon_{VIIBB2})$$

$$\mu_{VIIBC2} = g_{\exp}(IIC2, w_{IIC2})$$

$$\upsilon_{VIIBC2} = \upsilon(\lambda_{VIIBC}, \sigma_{VIIBC}) \times (f_{VIID})^2$$

$$\lambda_{VIIBC2} = \lambda(\mu_{VIIBC2}, \upsilon_{VIIBC2})$$

$$\sigma_{VIIBC2} = \sigma(\mu_{VIIBC2}, \upsilon_{VIIBC2})$$

$$\mu_{VIIBD2} = g_{\exp}(IID2, w_{IID2})$$

$$\upsilon_{VIIBD2} = \upsilon(\lambda_{VIIBD}, \sigma_{VIIBD}) \times (f_{VIID})^2$$

$$\lambda_{VIIBD2} = \lambda(\mu_{VIIBD2}, v_{VIIBD2})$$

$$\sigma_{VIIBD2} = \sigma(\mu_{VIIBD2}, v_{VIIBD2})$$

$$\mu_{VIIBE2} = g_{\exp}(IIE2, w_{IIE2})$$

$$v_{VIIBE2} = v(\lambda_{VIIBE}, \sigma_{VIIBE}) \times (f_{VIID})^2$$

$$\lambda_{VIIBE2} = \lambda(\mu_{VIIBE2}, v_{VIIBE2})$$

$$\sigma_{VIIBE2} = \sigma(\mu_{VIIBE2}, v_{VIIBE2})$$

$$\lambda_{VIIB2} = \lambda_{VIIBA2} + \lambda_{VIIBB2} + \lambda_{VIIBC2} + \lambda_{VIIBD2} + \lambda_{VIIBE2}$$

$$\sigma_{VIIB2} = (\sigma_{VIIBA2}^2 + \sigma_{VIIBB2}^2 + \sigma_{VIIBC2}^2 + \sigma_{VIIBD2}^2 + \sigma_{VIIBE2}^2)^{1/2}$$

$$\mu_{ABC2} = \mu(\lambda_{VIIA2}, \sigma_{VIIA2}) + \mu(\lambda_{VIIB2}, \sigma_{VIIB2}) + \mu_{VIIC}$$

$$v_{ABC2} = v(\lambda_{VIIA2}, \sigma_{VIIA2}) + v(\lambda_{VIIB2}, \sigma_{VIIB2}) + v_{VIIC}$$

$$\lambda_{ABC2} = \lambda(\mu_{ABC2}, v_{ABC2})$$

$$\sigma_{ABC2} = \sigma(\mu_{ABC2}, v_{ABC2})$$

$$EV1^{31} = \min(\mu_{ABC2}, \mu_{AB})$$

$$EV2^{32} = \int_0^\infty x \times [P_{\ln}^>(x, \lambda_{ABC2}, \sigma_{ABC2}) \times f_{\ln}(x, \lambda_{AB}, \sigma_{AB}) + P_{\ln}^>(x, \lambda_{AB}, \sigma_{AB}) \times f_{\ln}(x, \lambda_{ABC2}, \sigma_{ABC2})] dx$$

The equation for *VII*, the approximate expected value of information, does not change. However, it now depends on the new values for *EV1* and *EV2* shown above.

31 Expected cost without doing the study. This replaces the previous equation for this variable.

32 Expected cost after doing the study, assuming perfect information. This replaces the previous equation for this variable.

Net Benefit

$$\text{net-benefit} = (I1 + II1 + III1 + IV1 + V1 + VI1) - (I2 + II2 + III2 + IV2 + V2 + VI2) + VIC^* + VID + VII$$

Attachment 2

Description of the Environmental Resources Near Los Alamos National Laboratory

TO: Tom Sanford
FROM: Mary Yang, Allen Miller
DATA: 3/19/92
RE: Environmental Risk Assessment

Currently, 66 of the 191 Action Plans turned into the RMT have scores in the environmental risk section. The responses for the number or location of environmental resources affected are 27 lab-wide effects, 10 with specific TA's or map regions affected, and the rest with missing resources scores.

In order to calculate the number of environmental resources affected by an Action Plan, I contacted Kathy Bennett in EM8 who is the keeper of a database of state and federal endangered and threatened species potentially in Los Alamos and surrounding counties. She gave me a printout of the 44 species in her database. Of the 44 species, only 10 have been found in Los Alamos and surround counties and 2 more that are highly likely to be in the area. (Please see attached chart of endangered and threatened species)

Using the 4 point EPA scale for scoring impacts to the natural environment, (Please see attached scale), we scored the environmental resources as follows:

Bandelier National Monument	= 1 x 4 =	4
3 state endangered species	= 3 x 2 =	6
2 federally endangered species	= 2 x 3 =	6
1 candidate to the federal register	= 1 x 3 =	3
TOTAL		19

Los Alamos County does not meet the EPA definition of one unit of wetland as 75 acres of wetland. Therefore, wetlands were not included in the units of environmental resources.

In the 1990 site development plan found in the Document Resource Center, there are approximately 1000 archeological sites known to exist in the Los Alamos county area. Archeological sites are not part of the EPA scale. Therefore we did not include these sites in the units of environmental resources.

SPECIES.XLS

	Los Alamos &	Nearby Counties	Likely to be in	
	Nearby Counties		LA & Nearby Counties	
State Endangered	3	1	2	
Federal Endangered	2	2		
Candidate for Federal	1	1		
Register				

Federally endangered species: Peregrine falcon
Bald eagle

State endangered species : Jemez mountains salamander
Gramma grass cactus
Wood lily

Candidate for federal register: Northern goshawk

SCALES FOR SCORING BASELINE ENVIRONMENTAL RISK

The following scale* identifies sensitive environmental resources and indicates the score that should be associated with a resource of each type. The scale must be applied to each instance of a sensitive resource that is located wholly or partially within a specified distance of the installation's waste problems. With the exception of surface water resources, apply the scale to each instance of a resource that is within four miles of the installation's waste problems (e.g., within 4 miles of measured level of contamination). In the case of surface water resources, count the resource and apply the scale for each instance in which the resource is located within 15 miles of contamination (e.g., 15 miles from identified points of entry to surface water). If a single resource qualifies for two different scores (e.g., a habitat used by species on both state and federal threatened and endangered species lists), add the scores to obtain the total score for the resource.

1. The environmental resource is:

- State land designated for wildlife or game management
- State designated Scenic or Wild River
- State designated Natural Areas
- Particular areas, relatively small in size, important to the maintenance of unique biotic communities (e.g., prairie pot holes, buffalo wallows, alligator holes, desert springs).

2. The environmental resource is:

- Habitat known to be used by State designated endangered or threatened species
- Habitat known to be used by a species under review as to its Federal endangered or threatened status
- Coastal Barrier (partially developed)
- Federal designated Scenic or Wild River.

* Adapted from U.S. EPA 1990, "Final Hazard Ranking System for Uncontrolled, Hazardous Substance Releases, Final Rule," *Federal Register*.

3. The environmental resource is:

- Habitat known to be used by Federal designated or proposed endangered or threatened species
- Wetlands (freshwater, estuarine or coastal -- assume one instance of a wetlands resource for every 75 acre areal extent of potentially impacted wetlands)
- National Preserve
- National or State Wildlife Refuge
- Unit of the Coastal Barrier Resources System
- Coastal Barrier (undeveloped)
- Federal land designated for protection of natural ecosystems
- Administratively Proposed Federal Wilderness Area
- Spawning areas critical for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters (e.g., concentrated or intense spawning area for anadromous salmon, alewives, shad)
- Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time
- Terrestrial areas utilized for breeding by large or dense aggregations of animals
- National river reach designated as recreational.

4. The environmental resource is:

- Critical habitat for Federal designated endangered or threatened species (defined in 50 CFR 424.02)
- Marine Sanctuary
- National Park
- Designated Federal Wilderness Area
- Areas identified under the Coastal Zone Management Act (defined in State Coastal Zone Management plans)
- Sensitive areas identified under the National Estuary Program (estuary subareas identified in Comprehensive Conservation and Management Plans, pursuant to Section 320 of Clean Water Act, as amended) or Near Coastal Waters Program (Sections 104(b) (3), 304(1), 319, and 320 of Clean Water Act, as amended)
- Critical areas identified under the Clean Lakes Program (identified in States Clean Lake Plans)
- National Monument
- National Seashore Recreational Area
- National Lakeshore Recreational Area.

Attachment 3

**Management Weights
Contained in a Computer Program
to Calculate
Action Plan Benefits**

LANL Action Plan Evaluation
Management Tradeoff Weights

3:35 pm
July 22, 1992

Short name: An_Labor_Ex	Number of levels: 1
Level 1: 60,000.000000	Level 5:
Level 2:	Level 6:
Level 3:	Level 7:
Level 4:	

Short name: VoLife_Pb	Number of levels: 1
Level 1: 5,000,000.000000	Level 5:
Level 2:	Level 6:
Level 3:	Level 7:
Level 4:	

Short name: VoLife_Wk	Number of levels: 1
Level 1: 2,500,000.000000	Level 5:
Level 2:	Level 6:
Level 3:	Level 7:
Level 4:	

Short name: VoViolation	Number of levels: 1
Level 1: 30,000,000.000000	Level 5:
Level 2:	Level 6:
Level 3:	Level 7:
Level 4:	

Short name: W-IA1	Number of levels: 4
Level 1: .000100	Level 5:
Level 2: .010000	Level 6:
Level 3: .100000	Level 7:
Level 4: 1.000000	

Short name: W-IB1	Number of levels: 4
Level 1: .000001	Level 5:
Level 2: .000100	Level 6:
Level 3: .010000	Level 7:
Level 4: 1.000000	

Short name: W-IC1	Number of levels: 4
Level 1: .000001	Level 5:
Level 2: .000100	Level 6:
Level 3: .010000	Level 7:
Level 4: 1.000000	

Short name: W-ID1	Number of levels: 4
Level 1: 3.000000	Level 5:
Level 2: 30.000000	Level 6:
Level 3: 300.000000	Level 7:
Level 4: 8,000.000000	

LANL Action Plan Evaluation
Management Tradeoff Weights

3:35 pm
July 22, 1992

Short name: W-IE1		Number of levels:	5	
Level 1:	.010000	Level 5:		1.000000
Level 2:	.020000	Level 6:		
Level 3:	.050000	Level 7:		
Level 4:	.200000			
Short name: W-IIA1		Number of levels:	4	
Level 1:	.000100	Level 5:		
Level 2:	.010000	Level 6:		
Level 3:	.100000	Level 7:		
Level 4:	1.000000			
Short name: W-IIB1		Number of levels:	4	
Level 1:	.000001	Level 5:		
Level 2:	.000100	Level 6:		
Level 3:	.010000	Level 7:		
Level 4:	1.000000			
Short name: W-IIC1		Number of levels:	4	
Level 1:	.000001	Level 5:		
Level 2:	.000100	Level 6:		
Level 3:	.010000	Level 7:		
Level 4:	1.000000			
Short name: W-IID1		Number of levels:	4	
Level 1:	3.000000	Level 5:		
Level 2:	30.000000	Level 6:		
Level 3:	300.000000	Level 7:		
Level 4:	18,000.000000			
Short name: W-IIE1		Number of levels:	5	
Level 1:	.010000	Level 5:		1.000000
Level 2:	.020000	Level 6:		
Level 3:	.050000	Level 7:		
Level 4:	.200000			
Short name: W-IIIB1		Number of levels:	3	
Level 1:	360,000.000000	Level 5:		
Level 2:	3,600,000.000000	Level 6:		
Level 3:	25,000,000.000000	Level 7:		
Level 4:				
Short name: W-IIIC1		Number of levels:	4	
Level 1:	.000001	Level 5:		
Level 2:	.000100	Level 6:		
Level 3:	.010000	Level 7:		
Level 4:	1.000000			

LANL Action Plan Evaluation
Management Tradeoff Weights

3:35 pm
July 22, 1992

Short name: W-IVA1		Number of levels: 6
Level 1:	0.000000	Level 5: 5,000,000.000000
Level 2:	100,000.000000	Level 6: 10,000,000.000000
Level 3:	200,000.000000	Level 7:
Level 4:	1,250,000.000000	
Short name: W-VA1		Number of levels: 5
Level 1:	0.000000	Level 5: 1.000000
Level 2:	0.000000	Level 6:
Level 3:	.000500	Level 7:
Level 4:	.050000	
Short name: W-VB1		Number of levels: 6
Level 1:	0.000000	Level 5: .750000
Level 2:	.050000	Level 6: .950000
Level 3:	.250000	Level 7:
Level 4:	.500000	
Short name: W-VIA1		Number of levels: 5
Level 1:	0.000000	Level 5: 33,333,333.330000
Level 2:	5,833.330000	Level 6:
Level 3:	233,333.330000	Level 7:
Level 4:	5,333,333.330000	
Short name: W-VIB1		Number of levels: 5
Level 1:	.050000	Level 5: .950000
Level 2:	.250000	Level 6:
Level 3:	.500000	Level 7:
Level 4:	.750000	
Short name: W-VIC1		Number of levels: 4
Level 1:	5.000000	Level 5:
Level 2:	100.000000	Level 6:
Level 3:	1,000.000000	Level 7:
Level 4:	8,000.000000	
Short name: W-VIC2		Number of levels: 4
Level 1:	.010000	Level 5:
Level 2:	.100000	Level 6:
Level 3:	.500000	Level 7:
Level 4:	1.000000	
Short name: W-VIC3		Number of levels: 5
Level 1:	-.250000	Level 5: .250000
Level 2:	-.100000	Level 6:
Level 3:	0.000000	Level 7:
Level 4:	.100000	

LANL Action Plan Evaluation
Management Tradeoff Weights

3:35 pm
July 22, 1992

Short name: W-VIICHi

Level 1: 1.000000
Level 2: 2.000000
Level 3: 5.000000
Level 4:

Number of levels: 3

Level 5:
Level 6:
Level 7:

Short name: W-VIICLo

Level 1: .200000
Level 2: .500000
Level 3: 1.000000
Level 4:

Number of levels: 3

Level 5:
Level 6:
Level 7:

Short name: W-VIID

Level 1: 30,000.000000
Level 2: 300,000.000000
Level 3: 3,000,000.000000
Level 4: 30,000,000.000000

Number of levels: 7

Level 5: 300,000,000.000000
Level 6: 3,000,000,000.000000
Level 7: 30,000,000,000.000000

Short name: W-VIIE

Level 1: .950000
Level 2: .500000
Level 3: .100000
Level 4: .050000

Number of levels: 5

Level 5: .010000
Level 6:
Level 7:

Attachment 4

Revised Equations for Calculating the Value of Uncertainty Reductions

Los Alamos

NATIONAL LABORATORY

April 6, 1992

TO: Dan Brooks, Lee Merkhofer, Phil Beccue, Mary Yang

FROM: Allen Miller

SUBJECT: **Explanation of the Value-of-Information Equations Used to Evaluate LANL Action Plans**

This memorandum describes the equations used to determine the value of uncertainty reduction (i.e., the value of information) from characterization and data-gathering activities. It also explains the derivation of these equations. The equations in this memorandum update those in my memorandum of December 16, 1991, and my draft memorandum of January 15, 1992. The notation used in this memorandum is explained in my earlier memoranda.

The model used to calculate the value of information is represented by the decision tree on the next page. We must first decide whether to conduct a study that will gather information about the uncertainties associated with an action plan and the problem it addresses. For simplicity, we assume the study gives us perfect information about all relevant uncertainties. (We will modify this assumption later.) The value of the information produced by the study is the maximum amount we would be willing to pay for it, or the amount by which our expected value changes when we obtain the information, assuming the study is free. We also assume that the decision maker is not risk averse, so we can measure the outcomes with expected values. In the decision tree, the expected value if we do not conduct the study is *EV1*, and the expected value when we conduct the study is *EV2*.

When we do not conduct the study, we must decide whether to implement an action plan before resolving any of the uncertainties associated with it. This is shown in the bottom half of the decision tree. Here the decision to implement the action plan immediately follows the alternative of not conducting the study. After we decide whether to implement the action plan, the relevant uncertainties are resolved.

In this model, the uncertainties resolved by the study are the costs of: (1) health and safety effects for workers and the public, (2) environmental impacts, and (3) implementing the action plan. We assume the study produces perfect information about each quantity assessed for worker health and safety: severity of health and safety effect, potential for exposure, likelihood of health and safety effect given exposure, size of the population at risk, and the risk urgency (or timing). The study resolves the same five

quantities for public health and safety. The study also provides perfect information about the value of environmental resources at risk, and the magnitude and likelihood of environmental impacts. Finally the study tells us how much implementing the action plan will cost.

$$C1 = (\text{Worker H\&S Effect} * \text{Worker Exposure Potential} * \text{Worker Likelihood of Effect} * \text{Worker Population} * \text{Worker Urgency}) + (\text{Public H\&S Effect} * \text{Public Exposure Potential} * \text{Public Likelihood of Effect} * \text{Public Population} * \text{Public Urgency}) + (\text{Environmental Resources} * \text{Environmental Impact} * \text{Environmental Likelihood}) + \text{Community Cost} + \text{Regulatory Cost} + \text{Program Cost}$$

$$C2 = \text{Plan Cost} + (\text{Modified Worker H\&S Effect} * \text{Modified Worker Exposure Potential} * \text{Modified Worker Likelihood of Effect} * \text{Modified Worker Population} * \text{Modified Worker Urgency}) + (\text{Modified Public H\&S Effect} * \text{Modified Public Exposure Potential} * \text{Modified Public Likelihood of Effect} * \text{Modified Public Population} * \text{Modified Public Urgency}) + (\text{Modified Environmental Resources} * \text{Modified Environmental Impact} * \text{Environmental Likelihood}) + \text{Modified Community Cost} + \text{Modified Regulatory Cost} + \text{Modified Program Cost} + \text{Efficiency Cost} + \text{Delay Cost}$$

If we do not implement the action plan, the value of the outcome is determined by a set of uncertainties about health and safety effects and environmental impacts, plus the baseline cost of community concern, regulatory violations, and impacts on Laboratory programs. The distributions representing these uncertainties are determined by the low and high estimates in Section VII. If we implement the action plan, it changes the uncertainties. In this case, the value of the outcome is determined by the modified uncertainties, plus the (uncertain) cost of the action plan. We must also include the modified cost of community concern, regulatory violations, and impacts on Laboratory programs, plus the cost of efficiency losses and delays in implementing the action plan. We get the modified distributions by shifting the medians of the unmodified distributions (i.e., those describing uncertainties when the action plan is not implemented) to the estimates in Sections I, II, and III that describe relevant quantities when the action plan is implemented. We assume the modified distributions have the same variances as those that apply when the action plan is not implemented.

If we conduct the study, we get perfect information about every uncertainty, as shown in the top half of the decision tree. Here the decision to implement the action plan is made knowing what the health effects and environmental impacts will be. *EV2* is the expected value over a set of decisions that minimize the cost associated with any combination of outcomes. *EV2* includes the cost of implementing the plan, but not the cost of the study.

The value of perfect information from the study is *EV1* minus *EV2*, the amount by which costs decline when we learn the information and use it to decide whether to implement the action plan. No study will produce perfect information, so we multiply the value of perfect information by an assessment of the study's effectiveness. This yields a rough approximation of the value of imperfect information.

This memorandum introduces some new notation for the quantities assessed and calculated in Section VII.¹ My memorandum of December 16, 1991, assigned a name to each assessment by combining section and part numbers from various parts of the instructions. That produced some short variable names, but they were difficult to interpret. This memorandum uses a longer, but less cryptic, naming system. The names are formed by combining the following abbreviations.

low	An estimate such that there is only 1 chance in 20 that the value is less than the estimate.
-----	--

¹ The Paradox programs use this notation.

high	An estimate such that there is only 1 chance in 20 that the value is greater than the estimate.
work	A quantity related to worker health and safety.
pub	A quantity related to public health and safety.
env	A quantity related to environmental impacts.
effect	The severity of a potential health, safety, or environmental effect.
exp	The potential for exposure to a health or safety risk.
like	The likelihood that a health or safety effect will occur given exposure, or the likelihood that an environmental impact will occur.
pop	The population at risk (i.e., the number of workers or people in the population at risk)
urg	The risk urgency, as measured by the earliest time that people will be exposed to the risk.
area	The value of environmental resources in the area affected by the problem addressed by the action plan.
mod	An uncertainty that has been modified by implementing an action plan. (Quantities without this abbreviation in their names occur when an action plan is not implemented. Quantities with this abbreviation in their names occur when an action plan is implemented.)

For example, *low_work_effect* represents the low estimate for the severity of health and safety effects for workers, *high_pub_pop* represents the high estimate for the public population at risk, and *low_cost* is the low estimate for the remediation cost. As in my previous memoranda, assessed values and quantities calculated from them are shown in italics. However subscripts and the parameters of distributions are not.

We assume that we can fit lognormal distributions to the low and high estimates. Therefore we need the following equations describing lognormal distributions to process the data. All of these equations can be derived from the first one (i.e., the equation for a lognormal distribution).

$$f_{\ln}(x, \lambda_x, \sigma_x)^2 = \exp[-(\ln(x) - \lambda_x)^2 / (2 \times \sigma_x^2)] / (x \times \sigma_x \times (2 \times \pi)^{1/2})$$

$$P_{\ln}^>(x, \lambda_x, \sigma_x)^3 = (1 - \text{erf}[(\ln(x) - \lambda_x) / (2^{1/2} \times \sigma_x)]) / 2$$

$$\mu(\lambda_x, \sigma_x)^4 = \exp(\lambda_x + (1/2) \times \sigma_x^2)$$

$$v(\lambda_x, \sigma_x)^5 = \exp(2 \times \lambda_x + 2 \times \sigma_x^2) - \exp(2 \times \lambda_x + \sigma_x^2)$$

$$\gamma(\lambda_x, \sigma_x)^6 = \exp(3 \times \lambda_x) \times \exp((3/2) \times \sigma_x^2) \times [\exp(3 \times \sigma_x^2) - 3 \times \exp(\sigma_x^2) + 2]$$

The next two equations calculate the parameters of a lognormal distribution from its variance and skew. Since these are central moments, the equations apply to both displaced and undisplaced lognormal distributions.

$$\lambda(v_x, \gamma_x) = \ln([v_x / (b \times (b-1))]^{1/2})$$

$$\sigma(v_x, \gamma_x) = [\ln(b)]^{1/2}$$

where:

$$c = \gamma_x^2 / v_x^3$$

$$a = [c \times (4+c)]^{1/2}$$

$$b = [1 + (c/2) + a]^{1/3} + [1 + (c/2) - a]^{1/3} - 1$$

The next two equations calculate the parameters of a lognormal distribution from its 5 and 95 percent fractiles.

2 The density function of a lognormal distribution. This function is used only in the equation for EV2.

3 The complementary cumulative distribution of a lognormal distribution. This function is used only in the equation for EV2. The function erf() is called the error function.

4 The mean of a lognormal distribution.

5 The variance of a lognormal distribution.

6 The skew of a lognormal distribution.

$$\lambda^*(x_L, x_H)^7 = (\ln(x_L) + \ln(x_H)) / 2$$

$$\begin{aligned}\sigma^*(x_L, x_H) &= (\ln(x_H) - \ln(x_L)) / (2 \times 2^{1/2} \times \text{erf}^{-1}(9/10)) \\ &= (\ln(x_H) - \ln(x_L)) / 3.28970725390294\end{aligned}$$

The next two equations calculate the parameters of a lognormal distribution from its median and variance.

$$\lambda^{**}(x_M)^8 = \ln(x_M)$$

$$\sigma^{**}(x_M, v_x) = [\ln((x_M + [x_M^2 + 4 \times v_x]^{1/2}) / (2 \times x_M))]^{1/2}$$

In addition, we need the following equations for the parameters of distributions formed by combining independent random variables that have lognormal distributions. Assume x and y are independent and have lognormal distributions.

$$f_x(x) = f_{\ln}(x, \lambda_x, \sigma_x)$$

$$f_y(y) = f_{\ln}(y, \lambda_y, \sigma_y)$$

If z equals the product of x and y , the distribution for z is also lognormal.

$$f_z(z) = f_{\ln}(z, \lambda_x + \lambda_y, [\sigma_x^2 + \sigma_y^2]^{1/2})$$

If w equals the sum of x and y , the distribution for w is not lognormal, but we can approximate it with a displaced lognormal distribution. The expected value of w is the sum of the expected values of x and y , the variance of w is the sum of the variances of x and y , and the skew of w is the sum of the skews of x and y . We can approximate the distribution for w by a displaced lognormal distribution with this expected value, variance, and skew. See *Permanence of the Log-Normal Distribution* by R.L. Mitchell, Journal of the Optical Society of America, Volume 58, No. 9, September 1968, for a discussion of the appropriateness of this approximation.

$$\mu_w = \mu_x + \mu_y$$

$$v_w = v_x + v_y$$

⁷ x_L is a low estimate such that there is only one chance in 20 that the value will be less than the estimate. x_H is a high estimate such that there is only one chance in 20 that the value will be greater than the estimate.

⁸ x_M is the median of x . This means that there is one chance in two that x will be less than x_M .

$$\gamma_w = \gamma_x + \gamma_y$$

$$\lambda_w = \lambda(v_w, \gamma_w)$$

$$\sigma_w = \sigma(v_w, \gamma_w)$$

$$\delta_w = \mu_w - \mu(\lambda_w, \sigma_w)$$

$$f_w(w) = f_{ln}(w - \delta_w, \lambda_w, \sigma_w)$$

With these definitions and approximations, we can write the following equations for the value of information produced by the study. Some of the equations apply only when certain risks exist and the study reduces uncertainty about those risks.

If the problem to be studied is a suspected risk to worker health and safety, and the study is likely to provide information that will reduce uncertainty about this risk, the following assessments should exist: *low_work_effect*, *high_work_effect*, *low_work_exp*, *high_work_exp*, *low_work_like*, *high_work_like*, *low_work_pop*, *high_work_pop*, *low_work_urg*, and *high_work_urg*. The following equations give the parameters of the distributions for quantities that determine worker health and safety risks

$$\lambda_{work_effect} = \lambda^*(worker_value_of_life \times g_{exp}(low_work_effect, w_{IA1}), \\ worker_value_of_life \times g_{exp}(high_work_effect, w_{IA1}))$$

$$\sigma_{work_effect} = \sigma^*(worker_value_of_life \times g_{exp}(low_work_effect, w_{IA1}), \\ worker_value_of_life \times g_{exp}(high_work_effect, w_{IA1}))$$

$$\lambda_{work_exp} = \lambda^*(g_{exp}(low_work_exp, w_{IB1}), g_{exp}(high_work_exp, w_{IB1}))$$

$$\sigma_{work_exp} = \sigma^*(g_{exp}(low_work_exp, w_{IB1}), g_{exp}(high_work_exp, w_{IB1}))$$

$$\lambda_{work_like} = \lambda^*(g_{exp}(low_work_like, w_{IC1}), g_{exp}(high_work_like, w_{IC1}))$$

$$\sigma_{work_like} = \sigma^*(g_{exp}(low_work_like, w_{IC1}), g_{exp}(high_work_like, w_{IC1}))$$

$$\lambda_{work_pop} = \lambda^*(g_{exp}(low_work_pop, w_{ID1}), g_{exp}(high_work_pop, w_{ID1}))$$

$$\sigma_{work_pop} = \sigma^*(g_{exp}(low_work_pop, w_{ID1}), g_{exp}(high_work_pop, w_{ID1}))$$

$$\lambda_{work_urg} = \lambda^*(g_{exp}(low_work_urg, w_{IE1}), g_{exp}(high_work_urg, w_{IE1}))$$

$$\sigma_{\text{work_urg}} = \sigma^*(g_{\text{exp}}(\text{low_work_urg}, w_{\text{IE1}}), g_{\text{exp}}(\text{high_work_urg}, w_{\text{IE1}}))$$

$$\lambda_{\text{work_HS}} = \lambda_{\text{work_effect}} + \lambda_{\text{work_exp}} + \lambda_{\text{work_like}} + \lambda_{\text{work_pop}} + \lambda_{\text{work_urg}}$$

$$\sigma_{\text{work_HS}} = (\sigma_{\text{work_effect}}^2 + \sigma_{\text{work_exp}}^2 + \sigma_{\text{work_like}}^2 + \sigma_{\text{work_pop}}^2 + \sigma_{\text{work_urg}}^2)^{1/2}$$

$$\mu_{\text{work_HS}} = \mu(\lambda_{\text{work_HS}}, \sigma_{\text{work_HS}})$$

$$v_{\text{work_HS}} = v(\lambda_{\text{work_HS}}, \sigma_{\text{work_HS}})$$

$$\gamma_{\text{work_HS}} = \gamma(\lambda_{\text{work_HS}}, \sigma_{\text{work_HS}})$$

The last five variables ($\lambda_{\text{work_HS}}$, $\sigma_{\text{work_HS}}$, $\mu_{\text{work_HS}}$, $v_{\text{work_HS}}$, and $\gamma_{\text{work_HS}}$) are the parameters, mean, variance, and skew of the cost of worker health and safety risks when the action plan is not implemented. If the problem to be studied is not a suspected risk to worker health and safety, or the study is not likely to provide information that will reduce uncertainty about this risk, the mean, variance, and skew of the cost of worker health and safety risks are given by the following equations.

$$\mu_{\text{work_HS}} = 11$$

$$v_{\text{work_HS}} = 0$$

$$\gamma_{\text{work_HS}} = 0$$

If the problem to be studied is a suspected risk to public health and safety, and the study is likely to provide information that will reduce uncertainty about this risk, the following assessments should exist: *low_pub_effect*, *high_pub_effect*, *low_pub_exp*, *high_pub_exp*, *low_pub_like*, *high_pub_like*, *low_pub_pop*, *high_pub_pop*, *low_pub_urg*, and *high_pub_urg*. The following equations give the parameters of the distributions for quantities that determine public health and safety risks.

$$\lambda_{\text{pub_effect}} = \lambda^*(\text{public-value-of-life} \times g_{\text{exp}}(\text{low_pub_effect}, w_{\text{IIA1}}), \text{public-value-of-life} \times g_{\text{exp}}(\text{high_pub_effect}, w_{\text{IIA1}}))$$

$$\sigma_{\text{pub_effect}} = \sigma^*(\text{public-value-of-life} \times g_{\text{exp}}(\text{low_pub_effect}, w_{\text{IIA1}}), \text{public-value-of-life} \times g_{\text{exp}}(\text{high_pub_effect}, w_{\text{IIA1}}))$$

$$\lambda_{\text{pub_exp}} = \lambda^*(g_{\text{exp}}(\text{low_pub_exp}, w_{\text{IIB1}}), g_{\text{exp}}(\text{high_pub_exp}, w_{\text{IIB1}}))$$

$$\sigma_{\text{pub_exp}} = \sigma^*(g_{\text{exp}}(\text{low_pub_exp}, w_{\text{IIB1}}), g_{\text{exp}}(\text{high_pub_exp}, w_{\text{IIB1}}))$$

$$\lambda_{\text{pub_like}} = \lambda^*(g_{\text{exp}}(\text{low_pub_like}, w_{\text{IIC1}}), g_{\text{exp}}(\text{high_pub_like}, w_{\text{IIC1}}))$$

$$\sigma_{\text{pub_like}} = \sigma^*(g_{\text{exp}}(\text{low_pub_like}, w_{\text{IIC1}}), g_{\text{exp}}(\text{high_pub_like}, w_{\text{IIC1}}))$$

$$\lambda_{\text{pub_pop}} = \lambda^*(g_{\text{exp}}(\text{low_pub_pop}, w_{\text{IID1}}), g_{\text{exp}}(\text{high_pub_pop}, w_{\text{IID1}}))$$

$$\sigma_{\text{pub_pop}} = \sigma^*(g_{\text{exp}}(\text{low_pub_pop}, w_{\text{IID1}}), g_{\text{exp}}(\text{high_pub_pop}, w_{\text{IID1}}))$$

$$\lambda_{\text{pub_urg}} = \lambda^*(g_{\text{exp}}(\text{low_pub_urg}, w_{\text{IIE1}}), g_{\text{exp}}(\text{high_pub_urg}, w_{\text{IIE1}}))$$

$$\sigma_{\text{pub_urg}} = \sigma^*(g_{\text{exp}}(\text{low_pub_urg}, w_{\text{IIE1}}), g_{\text{exp}}(\text{high_pub_urg}, w_{\text{IIE1}}))$$

$$\lambda_{\text{pub_HS}} = \lambda_{\text{pub_effect}} + \lambda_{\text{pub_exp}} + \lambda_{\text{pub_like}} + \lambda_{\text{pub_pop}} + \lambda_{\text{pub_urg}}$$

$$\sigma_{\text{pub_HS}} = (\sigma_{\text{pub_effect}}^2 + \sigma_{\text{pub_exp}}^2 + \sigma_{\text{pub_like}}^2 + \sigma_{\text{pub_pop}}^2 + \sigma_{\text{pub_urg}}^2)^{1/2}$$

$$\mu_{\text{pub_HS}} = \mu(\lambda_{\text{pub_HS}}, \sigma_{\text{pub_HS}})$$

$$v_{\text{pub_HS}} = v(\lambda_{\text{pub_HS}}, \sigma_{\text{pub_HS}})$$

$$\gamma_{\text{pub_HS}} = \gamma(\lambda_{\text{pub_HS}}, \sigma_{\text{pub_HS}})$$

The last five variables ($\lambda_{\text{pub_HS}}$, $\sigma_{\text{pub_HS}}$, $\mu_{\text{pub_HS}}$, $v_{\text{pub_HS}}$, and $\gamma_{\text{pub_HS}}$) are the parameters, mean, variance, and skew of the cost of public health and safety risks when the action plan is not implemented. If the problem to be studied is not a suspected risk to public health and safety, or the study is not likely to provide information that will reduce uncertainty about this risk, the mean, variance, and skew of the cost of public health and safety risks are given by the following equations.

$$\mu_{\text{pub_HS}} = III$$

$$v_{\text{pub_HS}} = 0$$

$$\gamma_{\text{pub_HS}} = 0$$

If the problem to be studied could produce an adverse impact on the environment, and the study is likely to provide information that will reduce uncertainty about this risk, the following assessments should exist:
low_env_area, *high_env_area*, *low_env_effect*, *high_env_effect*, *low_env_like*,

and *high_env_like*. The following equations give the parameters of the distributions for quantities that determine environmental impacts.

$$w_{VIICLo} = [0.2, 0.5, 1]$$

$$w_{VIICHi} = [1, 2, 5]$$

$$\lambda_{env_area} = \lambda^*(IIIA \times g_{exp}(low_env_area, w_{VIICLo}), \\ IIIA \times g_{exp}(high_env_area, w_{VIICHi}))$$

$$\sigma_{env_area} = \sigma^*(IIIA \times g_{exp}(low_env_area, w_{VIICLo}), \\ IIIA \times g_{exp}(high_env_area, w_{VIICHi}))$$

$$\lambda_{env_effect} = \lambda^*(g_{exp}(low_env_effect, w_{IIIB1}), \\ g_{exp}(high_env_effect, w_{IIIB1}))$$

$$\sigma_{env_effect} = \sigma^*(g_{exp}(low_env_effect, w_{IIIB1}), \\ g_{exp}(high_env_effect, w_{IIIB1}))$$

$$\lambda_{env_like} = \lambda^*(g_{exp}(low_env_like, w_{IIIC1}), g_{exp}(high_env_like, w_{IIIC1}))$$

$$\sigma_{env_like} = \sigma^*(g_{exp}(low_env_like, w_{IIIC1}), g_{exp}(high_env_like, w_{IIIC1}))$$

$$\lambda_{env} = \lambda_{env_area} + \lambda_{env_effect} + \lambda_{env_like}$$

$$\sigma_{env} = (\sigma_{env_area}^2 + \sigma_{env_effect}^2 + \sigma_{env_like}^2)^{1/2}$$

$$\mu_{env} = \mu(\lambda_{env}, \sigma_{env})$$

$$v_{env} = v(\lambda_{env}, \sigma_{env})$$

$$\gamma_{env} = \gamma(\lambda_{env}, \sigma_{env})$$

The last five variables (λ_{env} , σ_{env} , μ_{env} , v_{env} , and γ_{env}) are the parameters, mean, variance, and skew of the cost of environmental impacts when the action plan is not implemented. If the problem to be studied cannot produce an adverse impact on the environment, or the study is not likely to provide information that will reduce uncertainty about this risk, the mean, variance, and skew of the cost of environmental impacts are given by the following equations.

$$\mu_{env} = III1$$

$$v_{\text{env}} = 0$$

$$\gamma_{\text{env}} = 0$$

Now we can determine an approximate distribution for the combined baseline costs of worker and public health and safety risks, environmental impacts, community concern, regulatory compliance, impact on Laboratory operations, efficiency changes, and any extraordinary costs of delaying the action plan.

$$\mu_{\text{VII}} = \mu_{\text{work_HS}} + \mu_{\text{pub_HS}} + \mu_{\text{env}} + IV1 + V1 + VII1 + \max(0, VIC^*) + \max(0, -VID)$$

$$v_{\text{VII}} = v_{\text{work_HS}} + v_{\text{pub_HS}} + v_{\text{env}}$$

$$\gamma_{\text{VII}} = \gamma_{\text{work_HS}} + \gamma_{\text{pub_HS}} + \gamma_{\text{env}}$$

$$\lambda_{\text{VII}}^9 = \lambda(v_{\text{VII}}, \gamma_{\text{VII}})$$

$$\sigma_{\text{VII}} = \sigma(v_{\text{VII}}, \gamma_{\text{VII}})$$

$$\delta_{\text{VII}} = \mu_{\text{VII}} - \mu(\lambda_{\text{VII}}, \sigma_{\text{VII}})$$

The last six variables (μ_{VII} , v_{VII} , γ_{VII} , λ_{VII} , σ_{VII} , and δ_{VII}) are the mean, variance, skew, parameters, and displacement of the distribution for combined costs when the action plan is not implemented.

The equations above all deal with uncertainties that occur when the action plan is not implemented. We can model the uncertainties that occur when the action plan is implemented by using the data in Section VII to get the variances of the distributions, and the data in Sections I, II, and III to get the corresponding medians. We assume that the uncertainties that occur after implementing an action plan can be described by lognormal distributions. We also assume that the median of each distribution equals the relevant value assessed in Section I, II, or III for the case where the action plan is implemented.¹⁰ Finally we assume that implementing the

⁹ This assumes we can approximate the sum of two independent lognormal distributions by a displaced lognormal distribution, where the mean of the sum is the sum of the means, the variance of the sum is the sum of the variances, and the skew of the sum is the sum of the skews.

¹⁰ My earlier memorandum assumed that assessments in Sections I, II, and III equaled the expected values (i.e., means) of the distributions when the action plan is implemented. Equating them to the medians is more appropriate. The median is a point on the cumulative distribution, like the low and high values assessed in Section VII. It is doubtful that any action-plan author viewed the assessments in Sections I, II, and III as averages. Also, the

action plan does not change any of the variances. These assumptions lead to the following equations. Variables with subscripts that start with "mod" (for modified) refer to distributions for uncertainties that occur after an action plan is implemented.

The first set of equations describes the uncertainty in worker health and safety when the action plan is implemented.

$$v_{\text{mod_work_effect}} = v(\lambda_{\text{work_effect}}, \sigma_{\text{work_effect}})$$

$$\lambda_{\text{mod_work_effect}} = \lambda^{**}(\text{worker-value-of-life} \times g_{\text{exp}}(IA2, w_{IA2}))$$

$$\sigma_{\text{mod_work_effect}} = \sigma^{**}(\text{worker-value-of-life} \times g_{\text{exp}}(IA2, w_{IA2}), v_{\text{mod_work_effect}})$$

$$v_{\text{mod_work_exp}} = v(\lambda_{\text{work_exp}}, \sigma_{\text{work_exp}})$$

$$\lambda_{\text{mod_work_exp}} = \lambda^{**}(g_{\text{exp}}(IB2, w_{IB2}))$$

$$\sigma_{\text{mod_work_exp}} = \sigma^{**}(g_{\text{exp}}(IB2, w_{IB2}), v_{\text{mod_work_exp}})$$

$$v_{\text{mod_work_like}} = v(\lambda_{\text{work_like}}, \sigma_{\text{work_like}})$$

$$\lambda_{\text{mod_work_like}} = \lambda^{**}(g_{\text{exp}}(IC2, w_{IC2}))$$

$$\sigma_{\text{mod_work_like}} = \sigma^{**}(g_{\text{exp}}(IC2, w_{IC2}), v_{\text{mod_work_like}})$$

$$v_{\text{mod_work_pop}} = v(\lambda_{\text{work_pop}}, \sigma_{\text{work_pop}})$$

$$\lambda_{\text{mod_work_pop}} = \lambda^{**}(g_{\text{exp}}(ID2, w_{ID2}))$$

$$\sigma_{\text{mod_work_pop}} = \sigma^{**}(g_{\text{exp}}(ID2, w_{ID2}), v_{\text{mod_work_pop}})$$

$$v_{\text{mod_work_urg}} = v(\lambda_{\text{work_urg}}, \sigma_{\text{work_urg}})$$

$$\lambda_{\text{mod_work_urg}} = \lambda^{**}(g_{\text{exp}}(IE2, w_{IE2}))$$

$$\sigma_{\text{mod_work_urg}} = \sigma^{**}(g_{\text{exp}}(IE2, w_{IE2}), v_{\text{mod_work_urg}})$$

expected value of a lognormal distribution can occur above the high estimate when there is a great deal of uncertainty. Reducing that value to a much smaller one assessed in Section I, II, or III can produce some inconsistent results. These inconsistencies do not occur when we interpret the assessments in Sections I, II, and III as medians.

$$\lambda_{\text{mod_work_HS}} = \lambda_{\text{mod_work_effect}} + \lambda_{\text{mod_work_exp}} + \lambda_{\text{mod_work_like}} + \lambda_{\text{mod_work_pop}} + \lambda_{\text{mod_work_urg}}$$

$$\sigma_{\text{mod_work_HS}} = (\sigma_{\text{mod_work_effect}}^2 + \sigma_{\text{mod_work_exp}}^2 + \sigma_{\text{mod_work_like}}^2 + \sigma_{\text{mod_work_pop}}^2 + \sigma_{\text{mod_work_urg}}^2)^{1/2}$$

$$\mu_{\text{mod_work_HS}} = \mu(\lambda_{\text{mod_work_HS}}, \sigma_{\text{mod_work_HS}})$$

$$v_{\text{mod_work_HS}} = v(\lambda_{\text{mod_work_HS}}, \sigma_{\text{mod_work_HS}})$$

$$\gamma_{\text{mod_work_HS}} = \gamma(\lambda_{\text{mod_work_HS}}, \sigma_{\text{mod_work_HS}})$$

The last five variables ($\lambda_{\text{mod_work_HS}}$, $\sigma_{\text{mod_work_HS}}$, $\mu_{\text{mod_work_HS}}$, $v_{\text{mod_work_HS}}$, and $\gamma_{\text{mod_work_HS}}$) are the parameters, mean, variance, and skew of the cost of worker health and safety risks when the action plan is implemented. If the problem to be studied is not a suspected risk to worker health and safety, or the study is not likely to provide information that will reduce uncertainty about this risk, the modified mean, variance, and skew of the cost of worker health and safety risks are given by the following equations.

$$\mu_{\text{mod_work_HS}} = I2$$

$$v_{\text{mod_work_HS}} = 0$$

$$\gamma_{\text{mod_work_HS}} = 0$$

The next set of equations describes the uncertainty in public health and safety when the action plan is implemented.

$$v_{\text{mod_pub_effect}} = v(\lambda_{\text{pub_effect}}, \sigma_{\text{pub_effect}})$$

$$\lambda_{\text{mod_pub_effect}} = \lambda^{**}(\text{public-value-of-life} \times g_{\text{exp}}(IIA2, w_{IIA2}))$$

$$\sigma_{\text{mod_pub_effect}} = \sigma^{**}(\text{public-value-of-life} \times g_{\text{exp}}(IIA2, w_{IIA2}), v_{\text{mod_pub_effect}})$$

$$v_{\text{mod_pub_exp}} = v(\lambda_{\text{pub_exp}}, \sigma_{\text{pub_exp}})$$

$$\lambda_{\text{mod_pub_exp}} = \lambda^{**}(g_{\text{exp}}(IIB2, w_{IIB2}))$$

$$\sigma_{\text{mod_pub_exp}} = \sigma^{**}(g_{\text{exp}}(IIB2, w_{IIB2}), v_{\text{mod_pub_exp}})$$

$$v_{\text{mod_pub_like}} = v(\lambda_{\text{pub_like}}, \sigma_{\text{pub_like}})$$

$$\lambda_{\text{mod_pub_like}} = \lambda^{**}(g_{\text{exp}}(IIC2, w_{IIC2}))$$

$$\sigma_{\text{mod_pub_like}} = \sigma^{**}(g_{\text{exp}}(IIC2, w_{IIC2}), v_{\text{mod_pub_like}})$$

$$v_{\text{mod_pub_pop}} = v(\lambda_{\text{pub_pop}}, \sigma_{\text{pub_pop}})$$

$$\lambda_{\text{mod_pub_pop}} = \lambda^{**}(g_{\text{exp}}(IID2, w_{IID2}))$$

$$\sigma_{\text{mod_pub_pop}} = \sigma^{**}(g_{\text{exp}}(IID2, w_{IID2}), v_{\text{mod_pub_pop}})$$

$$v_{\text{mod_pub_urg}} = v(\lambda_{\text{pub_urg}}, \sigma_{\text{pub_urg}})$$

$$\lambda_{\text{mod_pub_urg}} = \lambda^{**}(g_{\text{exp}}(IIE2, w_{IIE2}))$$

$$\sigma_{\text{mod_pub_urg}} = \sigma^{**}(g_{\text{exp}}(IIE2, w_{IIE2}), v_{\text{mod_pub_urg}})$$

$$\lambda_{\text{mod_pub_HS}} = \lambda_{\text{mod_pub_effect}} + \lambda_{\text{mod_pub_exp}} + \lambda_{\text{mod_pub_like}} + \lambda_{\text{mod_pub_pop}} + \lambda_{\text{mod_pub_urg}}$$

$$\sigma_{\text{mod_pub_HS}} = (\sigma_{\text{mod_pub_effect}}^2 + \sigma_{\text{mod_pub_exp}}^2 + \sigma_{\text{mod_pub_like}}^2 + \sigma_{\text{mod_pub_pop}}^2 + \sigma_{\text{mod_pub_urg}}^2)^{1/2}$$

$$\mu_{\text{mod_pub_HS}} = \mu(\lambda_{\text{mod_pub_HS}}, \sigma_{\text{mod_pub_HS}})$$

$$v_{\text{mod_pub_HS}} = v(\lambda_{\text{mod_pub_HS}}, \sigma_{\text{mod_pub_HS}})$$

$$\gamma_{\text{mod_pub_HS}} = \gamma(\lambda_{\text{mod_pub_HS}}, \sigma_{\text{mod_pub_HS}})$$

The last five variables ($\lambda_{\text{mod_pub_HS}}$, $\sigma_{\text{mod_pub_HS}}$, $\mu_{\text{mod_pub_HS}}$, $v_{\text{mod_pub_HS}}$, and $\gamma_{\text{mod_pub_HS}}$) are the parameters, mean, variance, and skew of the cost of public health and safety risks when the action plan is implemented. If the problem to be studied is not a suspected risk to public health and safety, or the study is not likely to provide information that will reduce uncertainty about this risk, the modified mean, variance, and skew of the cost of public health and safety risks are given by the following equations.

$$\mu_{\text{mod_pub_HS}} = II2$$

$$v_{\text{mod_pub_HS}} = 0$$

$$\gamma_{\text{mod_pub_HS}} = 0$$

The next set of equations describes the uncertainty in environmental impacts when the action plan is implemented.

$$\lambda_{\text{mod_env_area}} = \lambda_{\text{env_area}}$$

$$\sigma_{\text{mod_env_area}} = \sigma_{\text{env_area}}$$

$$v_{\text{mod_env_effect}} = v(\lambda_{\text{env_effect}}, \sigma_{\text{env_effect}})$$

$$\lambda_{\text{mod_env_effect}} = \lambda^{**}(g_{\text{exp}}(IIIB2, w_{IIIB2}))$$

$$\sigma_{\text{mod_env_effect}} = \sigma^{**}(g_{\text{exp}}(IIIB2, w_{IIIB2}), v_{\text{mod_env_effect}})$$

$$v_{\text{mod_env_like}} = v(\lambda_{\text{env_like}}, \sigma_{\text{env_like}})$$

$$\lambda_{\text{mod_env_like}} = \lambda^{**}(g_{\text{exp}}(IIIC2, w_{IIIC2}))$$

$$\sigma_{\text{mod_env_like}} = \sigma^{**}(g_{\text{exp}}(IIIC2, w_{IIIC2}), v_{\text{mod_env_like}})$$

$$\lambda_{\text{mod_env}} = \lambda_{\text{mod_env_area}} + \lambda_{\text{mod_env_effect}} + \lambda_{\text{mod_env_like}}$$

$$\sigma_{\text{mod_env}} = (\sigma_{\text{mod_env_area}}^2 + \sigma_{\text{mod_env_effect}}^2 + \sigma_{\text{mod_env_like}}^2)^{1/2}$$

$$\mu_{\text{mod_env}} = \mu(\lambda_{\text{mod_env}}, \sigma_{\text{mod_env}})$$

$$v_{\text{mod_env}} = v(\lambda_{\text{mod_env}}, \sigma_{\text{mod_env}})$$

$$\gamma_{\text{mod_env}} = \gamma(\lambda_{\text{mod_env}}, \sigma_{\text{mod_env}})$$

The last five variables ($\lambda_{\text{mod_env}}$, $\sigma_{\text{mod_env}}$, $\mu_{\text{mod_env}}$, $v_{\text{mod_env}}$, and $\gamma_{\text{mod_env}}$) are the parameters, mean, variance, and skew of the cost of environmental impacts when the action plan is implemented. If the problem to be studied cannot produce an adverse impact on the environment, or the study is not likely to provide information that will reduce uncertainty about this risk, the modified mean, variance, and skew of the cost of environmental impacts are given by the following equations.

$$\mu_{\text{mod_env}} = III2$$

$$v_{\text{mod_env}} = 0$$

$$\gamma_{\text{mod_env}} = 0$$

The following equations describe the uncertainty in the cost of the action plan.

$$w_{\text{cost}} = [30,000, 300,000, 3,000,000, 30,000,000, 300,000,000, 3,000,000,000, 30,000,000,000]$$

$$\lambda_{\text{cost}} = \lambda^*(g_{\text{exp}}(\text{low_cost}, w_{\text{cost}}), g_{\text{exp}}(\text{high_cost}, w_{\text{cost}}))$$

$$\sigma_{\text{cost}} = \sigma^*(g_{\text{exp}}(\text{low_cost}, w_{\text{cost}}), g_{\text{exp}}(\text{high_cost}, w_{\text{cost}}))$$

$$\mu_{\text{cost}} = \mu(\lambda_{\text{cost}}, \sigma_{\text{cost}})$$

$$v_{\text{cost}} = v(\lambda_{\text{cost}}, \sigma_{\text{cost}})$$

$$\gamma_{\text{cost}} = \gamma(\lambda_{\text{cost}}, \sigma_{\text{cost}})$$

Now we can determine an approximate distribution for the combined costs of worker and public health and safety risks, environmental impacts, community concern, regulatory compliance, impact on Laboratory operations, efficiency changes, and any extraordinary costs of delaying the action plan when the action plan is implemented.

$$\mu_{\text{mod_VII}} = \mu_{\text{cost}} + \mu_{\text{mod_work_HS}} + \mu_{\text{mod_pub_HS}} + \mu_{\text{mod_env}} + IV2 + V2 + VI2 + \max(0, -VIC^*) + \max(0, VID)$$

$$v_{\text{mod_VII}} = v_{\text{cost}} + v_{\text{mod_work_HS}} + v_{\text{mod_pub_HS}} + v_{\text{mod_env}}$$

$$\gamma_{\text{mod_VII}} = \gamma_{\text{cost}} + \gamma_{\text{mod_work_HS}} + \gamma_{\text{mod_pub_HS}} + \gamma_{\text{mod_env}}$$

$$\lambda_{\text{mod_VII}} = \lambda(v_{\text{mod_VII}}, \gamma_{\text{mod_VII}})$$

$$\sigma_{\text{mod_VII}} = \sigma(v_{\text{mod_VII}}, \gamma_{\text{mod_VII}})$$

$$\delta_{\text{mod_VII}} = \mu_{\text{mod_VII}} - \mu(\lambda_{\text{mod_VII}}, \sigma_{\text{mod_VII}})$$

The last six variables ($\mu_{\text{mod_VII}}$, $v_{\text{mod_VII}}$, $\gamma_{\text{mod_VII}}$, $\lambda_{\text{mod_VII}}$, $\sigma_{\text{mod_VII}}$, and $\delta_{\text{mod_VII}}$) are the mean, variance, skew, parameters, and displacement of the distribution for combined costs when the action plan is implemented. With these quantities, and the ones for the case where the action plan is not implemented, we can calculate the value of information.

$$EV1^{11} = \min(\mu_{\text{mod_VII}}, \mu_{\text{VII}})$$

$$EV2^{12} = \int_0^\infty x \times [P_{\text{ln}}^>(x - \delta_{\text{mod_VII}}, \lambda_{\text{mod_VII}}, \sigma_{\text{mod_VII}}) \times \\ f_{\text{ln}}(x - \delta_{\text{VII}}, \lambda_{\text{VII}}, \sigma_{\text{VII}}) + \\ P_{\text{ln}}^>(x - \delta_{\text{VII}}, \lambda_{\text{VII}}, \sigma_{\text{VII}}) \times \\ f_{\text{ln}}(x - \delta_{\text{mod_VII}}, \lambda_{\text{mod_VII}}, \sigma_{\text{mod_VII}})] dx$$

$$w_{\text{study_effect}} = [0.95, 0.50, 0.10, 0.05, 0.01]$$

$$VII = (EV1 - EV2) \times g_{\text{exp}}(\text{study_effect}, w_{\text{study_effect}})$$

VII is the approximate value of imperfect information produced by the study. *EV1* minus *EV2* is approximately the value of perfect information.

11 Expected cost without doing the study.

12 Expected cost after doing the study, assuming perfect information. There is no closed-form solution for this integral, so we have to compute it numerically.

Attachment 5

Instructions and Measurement Scales Used to Evaluate Action Plans

January 29, 1992

Instructions and Scales for Evaluating LANL Action Plans

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INTRODUCTION

In addition to writing action plans to address the deficiency findings from the Tiger Team exercise, DOE requires that the Laboratory show that there is an orderly process for implementing the action plans. Since all the action plans cannot be implemented at the same time, they must be prioritized. As part of the prioritization process, each action plan must be evaluated to estimate its effectiveness in addressing the deficiencies covered by the plan.

This document contains step-by-step instructions for making the estimates necessary to evaluate and prioritize LANL action plans. It is designed for use by action-plan authors who have been charged with providing the detailed estimates and professional judgments that serve as the inputs to the action-plan priority system.

In the priority system, your estimates are called "scores". Each score measures a possible motivation for conducting (or not conducting) an action plan. Combinations of the scores measure the benefits of implementing an action plan, including: reducing human health and safety risks, protecting the natural environment, reducing adverse socioeconomic impacts, complying with requirements and orders, reducing adverse impacts on Laboratory programs, improving the efficiency of Laboratory programs and operations, and reducing uncertainties. These action-plan criteria are shown in the following diagram. The major benefit categories are shown at the top, with some of the individual measures below them.

Because there are numerous motivations for conducting action plans, numerous estimates (scores) are required for the evaluation. This document describe how to develop each score. Up to 68 distinct scores may be required for an action plan. However few people, if any, will need to provide every score. A particular score is needed only if the quantity it measures is significant for the evaluation. For instance, roughly half the scores apply only if the action plan is a study designed to reduce uncertainty. Few action-plan authors will need to provide these scores. Each section begins with screening questions to determine whether it is necessary to provide the scores in that section.

Providing a score requires a judgment about what would happen if an action plan is, or is not, implemented. Admittedly, many of the required judgments are difficult. Nevertheless, it is important that you provide these estimates. The only logical way to evaluate and prioritize action plans is to estimate and compare their effects. In the absence of hard data on the consequences and effectiveness of action plans, the best source of information is the professional judgment of those most familiar with the plans. This is the reason that you have been chosen to provide these estimates.

This document contains scales that describe possible consequences of implementing, or not implementing, an action plan. For example, the section that describes worker health and safety risks asks for estimates of the likelihood that people will be exposed to a hazard if an action plan is, or is not, implemented. The scale for this measure has four levels. The descriptions of these levels range from:

"1. Exposure is extremely rare or unlikely. The chances that a typical worker will be exposed in a one-year period are no more than 1 in 1,000,000."

to:

"4. Exposure is assured or almost certain."

You should read the description corresponding to each level on the scale and choose the level that most closely reflects your judgement. The descriptions are numbered. Write the number of the description you selected on the scoring form.

You may provide a score that is not an integer if your estimate lies somewhere between the levels indicated by two descriptions. For example, a score of 2.5 means that your estimate is about half way between the levels indicated by scores of 2 and 3. It could also mean that parts of the descriptions associated with scores of 2 and 3 correspond to your estimate.

You should not assign scores beyond the range defined in the scale. For instance, assign the highest score on the scale if you believe the actual situation will be even more extreme than the description associated with the highest score. Please assign scores for all scales that apply to your action plan. If you do not provide a relevant score (i.e., by leaving it blank), it will be assumed that you believe the quantity measured by the score is not significant for the evaluation.

The scoring instructions are detailed to minimize scoring difficulties. It is impossible, however, to anticipate all of the special circumstances and questions that may arise when scoring action plans. If you encounter difficulties in your attempt to use these instructions please contact your facilitator or the Risk Management Team. The Team will clarify or augment these instructions as needed to address special scoring difficulties. The Risk Management Team's help desk is located in the Scyllac building. The help desk will be open from 9:30 to 11:00 am and 2:00 to 3:30 pm, Monday through Thursday until March 6. Please call 5-6832 if you have a question or would like make an appointment for a meeting.

Please write your scores on the form called *Scoring Form for Evaluating LANL Action Plans*. You will find this form with the other blank data forms. Do **not** return these instructions to your facilitator or write your scores on these instructions.

I. WORKER HEALTH AND SAFETY RISKS

Does the problem addressed by the action plan produce a health or safety risk to workers?

Is the action plan itself perceived to produce a health or safety risk to workers?

If your answer to both questions is No, do not use the instructions or scales for Section I. Skip to Section II on page 8.

Worker health and safety risk is determined by five factors: (a) the severity of the potential health or safety effect, (b) the potential for exposure, (c) the likelihood that the effect occurs given exposure, (d) the number of workers at risk, and (e) the urgency of the risk. A separate scale measures each factor.

If different worker populations experience different risks, you should choose the population that experiences the primary risk of concern. Identifying the primary risk of concern means identifying the single population group that accounts for the majority or the most significant portion of the risk. Consider both the size of the population and the risk experienced by each person when identifying the primary risk of concern. For example, a small risk to a large population of workers may be more significant than a larger risk to a small population. If you

are uncertain about which of several risks represents the primary risk of concern, you may develop separate risk scores for each distinct population. For example, you may develop a set of risk scores for a large population of workers who experience a small risk and a different, small population that experience a relatively higher risk (e.g., workers who implement the action plan). Provide a brief, written description of the risk (i.e., describe the population of workers and the nature of the hazard) that is the basis for each set of scores. Attach this description to the scoring form.

Part A1: Baseline Severity of Potential Health and Safety Effects

Baseline risk is the risk that occurs if the action plan is **not** implemented. Assume that the action plan is **not** implemented and an individual is exposed to the potential source of risk. How severe is the health or safety effect that might result? If different exposure scenarios result in different health or safety effects, assume a typical exposure scenario. If you are uncertain about the severity of potential health and safety effects, assign a score such that the actual effects are equally likely to be above or below the level indicated by your score.

1. Minor effect. Exposures are unlikely to produce more than minor injury and/or temporary discomfort.
2. Moderate effect. Exposures may produce moderate injury or illness, but the effects are not likely to be life threatening or permanent.
3. Serious effect. Exposures may produce permanent debilitating injury or serious long-term illness.
4. Very serious effect. Exposure may produce death.

Part A2: Modified Severity of Health and Safety Effects

Assume the action plan is implemented and an individual is exposed to the potential source of risk. Use the scale in Part A1 to estimate the severity of the health or safety effect that might result. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate of the severity of potential health and safety effects, assign the same score that you did when assessing baseline risk.

Part B1: Baseline Potential for Exposure

Assume the action plan is **not** implemented. Consider a typical worker within the population at risk. How likely is it that this individual will be exposed to the risk source in a manner that could produce the health or safety effect that you indicated in Part A1?

1. Exposure is extremely rare or unlikely. The chances that a typical worker will be exposed in a one-year period are no more than 1 in 1,000,000.

2. Exposure is unlikely. The chances of an exposure occurring during a one-year period are on the order of 1 in 10,000.
3. Exposure is relatively likely. The chances of an exposure occurring during a one-year period are on the order of 1 in 100.
4. Exposure is assured or almost certain.

Part B2: Modified Potential for Exposure

Assume the action plan is implemented. Use the scale in Part B1 to estimate the likelihood that a typical individual will be exposed to the risk source in a manner that could produce the health or safety effect that you indicated in Part A2. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part C1: Baseline Likelihood of Health and Safety Effects

Assume that the action plan is **not** implemented and a worker is exposed. How likely is it that this exposure will produce a health or safety effect of the severity reflected by your score in Part A1?

1. Extremely unlikely. The chances of the health or safety effect resulting from the exposure are no more than 1 chance in 1,000,000.
2. Unlikely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 10,000.
3. Relatively likely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 100.
4. Assured or almost certain. Exposure is virtually certain to produce the health or safety effect of concern.

Part C2: Modified Likelihood of Health and Safety Effects

Assume the action plan is implemented. Use the scale in Part C1 to estimate the likelihood that exposure will produce a health or safety effect of the severity reflected by your score in Part A2. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part D1: Baseline Population at Risk

Assuming that the action plan is **not** implemented, how many workers will be exposed to the risk source? If exposure requires an unlikely, initiating event, how many individuals are likely to be exposed if the event occurs. If exposures may occur frequently or repeatedly, how many individuals are likely to be exposed during a one year period?

1. Very few. No more than 1 to 10 people in all.
2. Small to moderate number. Roughly 10 to 100 people.
3. Large number. Roughly 100 to 1,000 people.
4. Virtually all workers.

Part D2: Modified Population at Risk

Assume the action plan is implemented. Use the scale in Part D1 to estimate how many workers are potentially exposed. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part E1: Baseline Risk Urgency

Assuming that the action plan is **not** implemented and no future actions are taken to reduce the health and safety risk from the problem addressed by the action plan, when will the exposures begin to occur? Specifically, what is your best judgment for the earliest time at which the potential for exposures will be as large as indicated by your score in Part B1?

1. No sooner than 30 years.
2. Within approximately 5 to 30 years.
3. Within approximately 1 to 5 years.
4. Within approximately 1 year.
5. Exposures are occurring now.

Part E2: Modified Risk Urgency

Assume the action plan is implemented. Use the following scale to estimate the earliest time at which the potential for exposures will be as large as indicated by your score in Part B2. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

1. No sooner than 30 years.
2. Within approximately 5 to 30 years.
3. Within approximately 1 to 5 years.
4. Within approximately 1 year.
5. As soon as the action plan is implemented.

II. PUBLIC HEALTH AND SAFETY RISKS

Does the problem addressed by the action plan produce a health or safety risk to members of the public?

Is the action plan itself perceived to produce a health or safety risk to members of the public?

If your answer to both questions is No, do not use the instructions or scales for Section II. Skip to Section III on page 13.

Public health and safety risk is determined by five factors: (a) the severity of the potential health or safety effect, (b) the potential for exposure, (c) the likelihood that the effect occurs given exposure, (d) the size of the population at risk, and (e) the urgency of the risk. A separate scale measures each factor. These scales are similar to those for measuring the health and safety risk to workers.

If different segments of the public experience different risks, you should choose the group of people that experiences the primary risk of concern. Identifying the primary risk of concern means identifying the single group that accounts for the majority or the most significant portion of the risk. Consider both the size of the group and the risk experienced by each person when

identifying the primary risk of concern. For example, a small risk to a large number of people may be more significant than a larger risk to a small group. If you are uncertain about which of several risks represents the primary risk of concern, you may develop separate risk scores for several distinct groups. For example, you may develop a set of risk scores for a large group that experiences a small risk and a different, smaller group that experiences a relatively higher risk. Provide a brief, written description of the risk (i.e., describe the group at risk and the nature of the hazard) that is the basis for each set of scores. Attach this description to the scoring form.

Part A1: Baseline Severity of Health and Safety Effects

Baseline risk is the risk that occurs if the action plan is **not** implemented. Assume that the action plan is **not** implemented and an individual is exposed to the potential source of risk. How severe is the health or safety effect that might result? If different exposure scenarios result in different health or safety effects, assume a typical exposure scenario. If you are uncertain about the severity of potential health and safety effects, assign a score such that the actual effects are equally likely to be above or below the level indicated by your score.

1. Minor effect. Exposures are unlikely to produce more than minor injury and/or temporary discomfort.
2. Moderate effect. Exposures may produce moderate injury or illness, but the effects are not likely to be life threatening or permanent.
3. Serious effect. Exposures may produce permanent debilitating injury or serious long-term illness.
4. Very serious effect. Exposure may produce death.

Part A2: Modified Severity of Health and Safety Effects

Assume the action plan **is** implemented and an individual is exposed to the potential source of risk. Use the scale in Part A1 to estimate the severity of the health or safety effect that might result. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate of the severity of potential health and safety effects, assign the same score that you did when assessing baseline risk.

Part B1: Baseline Potential for Exposure

Assume the action plan is **not** implemented. Consider a typical member of the public within the population at risk. How likely is it that this individual will be exposed to the risk source in a manner that could produce the health or safety effect that you indicated in Part A1?

1. Exposure is extremely rare or unlikely. The chances that a typical worker will be exposed in a one-year period are no more than 1 in 1,000,000.

2. Exposure is unlikely. The chances of an exposure occurring during a one-year period are on the order of 1 in 10,000.
3. Exposure is relatively likely. The chances of an exposure occurring during a one-year period are on the order of 1 in 100.
4. Exposure is assured or almost certain.

Part B2: Modified Potential for Exposure

Assume the action plan is implemented. Use the scale in Part B1 to estimate the likelihood that a typical individual will be exposed to the risk source in a manner that could produce the health or safety effect that you indicated in Part A2. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part C1: Baseline Likelihood of Health and Safety Effects

Assume that the action plan is **not** implemented and a member of the public is exposed. How likely is it that this exposure will produce a health or safety effect of the severity reflected by your score in Part A1?

1. Extremely unlikely. The chances of the health or safety effect resulting from the exposure are no more than 1 chance in 1,000,000.
2. Unlikely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 10,000.
3. Relatively likely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 100.
4. Assured or almost certain. Exposure is virtually certain to produce the health or safety effect of concern.

Part C2: Modified Likelihood of Health and Safety Effects

Assume the action plan is implemented. Use the scale in Part C1 to estimate the likelihood that exposure will produce a health or safety effect of the severity reflected by your score in Part A2. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part D1: Baseline Population at Risk

Assuming that the action plan is **not** implemented, how many members of the public are potentially exposed? If exposure requires an unlikely, initiating event, how many individuals are likely to be exposed if the event occurs. If exposures may occur frequently or repeatedly, how many individuals are likely to be exposed during a one year period?

1. Very few. No more than 1 to 10 people in all.
2. Small to moderate number. Roughly 10 to 100 people.
3. Large number. Roughly 100 to 1,000 people.
4. Very large number. Roughly 1,000 to 10,000 people or more.

Part D2: Modified Population at Risk

Assume the action plan **is** implemented. Use the scale in Part D1 to estimate how many members of the public are potentially exposed. Consider both residual risks from the problem addressed by the action plan and any risks that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part E1: Baseline Risk Urgency

Assuming the action plan is **not** implemented and no future actions are taken to reduce the health and safety risk from the problem addressed by the action plan, when will the exposures begin to occur? Specifically, what is your best judgment for the earliest time at which the potential for exposures will be as large as indicated by your score in Part B1?

1. No sooner than 30 years.
2. Within approximately 5 to 30 years.
3. Within approximately 1 to 5 years.
4. Within approximately 1 year.
5. Exposures are occurring now.

Part D2: Modified Risk Urgency

Assume the action plan **is** implemented. Use the following scale to estimate the earliest time at which the potential for exposures will be as large as indicated by your score in Part B2. Consider both residual risks from the problem addressed by the action plan and any risks that

result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline risk.

1. No sooner than 30 years.
2. Within approximately 5 to 30 years.
3. Within approximately 1 to 5 years.
4. Within approximately 1 year.
5. As soon as the action plan is implemented.

III. ENVIRONMENTAL RISKS

Does the problem to be addressed by the action plan, or the action plan itself, produce the risk of an adverse impact on the natural environment?

If your answer to this question is No, do not use the instructions or scales for Section III. Skip to Section IV on page 16.

Baseline environmental risk is determined by three factors: (a) the area affected, (b) the likelihood that an impact occurs, and (c) the magnitude of the threat or level of damage to the environmental resources within the affected area. A separate scale measures each factor.

Part A: Area Affected

On maps of the Laboratory and adjacent lands, draw a boundary around any area whose environmental quality could be degraded significantly by either the problem addressed by the action plan or the plan itself. If more than one area could be affected, draw a boundary around each area. If the impact requires an initiating event, indicate the area that would be impacted given a typical instance of the initiating event. The maps show several views of the Laboratory. Use whichever maps are most appropriate. You do not need to draw the same boundary on more than one map.

If the problem addressed by the action plan concerns contamination of the environment, your boundary should include, at a minimum, all land within four miles of the problem (e.g., within 4 miles of measured levels of contamination). You should also include in your boundary any surface water located within 15 miles of measured levels of contamination.

Part B1: Baseline Magnitude of Impact on Environmental Resources

The following scale describes the magnitude of the environmental impact potentially resulting from the problem addressed by the action plan. If the impact requires an initiating event, assume the event occurs. Assign the score that best applies when considering, on balance, the various descriptions associated with each score and the implication of these descriptions with regard to the threat posed to sensitive resources. If you are uncertain about the magnitude of environmental impacts, assign a score such that the actual impacts are equally likely to be above or below the level indicated by your score.

Assign the baseline score that reflects your estimate of the impact that, in your judgment, will occur if the action plan is **not** implemented.

1. The problem addressed by the action plan poses a **low threat** to the environment:

- The nature of hazard characteristics and potential environmental pathways are such that there is no credible scenario by which released radioactive or toxic chemicals or other hazards could impact sensitive environmental resources at sufficient levels to cause significant damage.
- At worst, environmental exposures would produce a minor and temporary impact on the environment which would cause no lasting damage.

2. The problem addressed by the action plan poses a **moderate threat** to the environment:

- The nature of the hazard and potential environmental pathways is such that credible scenarios would result in moderate levels of impact to environmental resources that may affect the local abundance of a sensitive species or damage valued (but not unique) historical properties.
- Observations indicate that environmental quality may be decreasing with time. Action to prevent spread of contaminants in toxic concentrations or similar hazard will probably be needed in less than 10 years.
- At worst, environmental exposure would produce a moderate, temporary impact on the environment which would be largely self correcting within about 10 years.

3. The problem addressed by the action plan poses a **high threat** to the environment:

- The nature of the hazard and potential environmental pathways is such that credible scenarios would produce widespread and severely damage to sensitive species or destruction of unique historical properties.

- Observations indicate that environmental quality is rapidly decreasing with time. Action to prevent spread of contaminants in toxic concentrations or similar hazard will probably be needed in less than 5 years.
- Environmental exposures would produce major, permanent damage to the environment.

Part B2: Modified Magnitude of Impact on Environmental Resources

Using the scale in Part B1, estimate the magnitude of the impact on environmental resources that will occur if the action plan is implemented. If the impact requires an initiating event, assume the event occurs. Consider both residual impacts from the problem addressed by the action plan and any impacts that result from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline impact.

Part C1: Baseline Likelihood of Impact on Environmental Resources

Assume that the action plan is **not** implemented. How likely is it that the environmental impact you identified in Part B1 will occur?

1. Extremely unlikely. The chances of the environmental impact are no more than 1 chance in 1,000,000.
2. Unlikely. The chances of the environmental impact are on the order of 1 chance in 10,000.
3. Relatively likely. The chances of the environmental impact are on the order of 1 chance in 100.
4. Assured or almost certain. The environmental impact is virtually certain to occur, or is occurring now.

Part C2: Modified Likelihood of Impact on Environmental Resources

Assume the action plan **is** implemented. Use the scale in Part C1 to estimate the likelihood that environmental impact you identified in Part B2 will occur. Consider both residual impact from the problem addressed by the action plan and any impact that results from implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing the baseline likelihood of impact.

IV. COMMUNITY CONCERN

Level of community concern is an approximate measure of the adverse socioeconomic impacts experienced by a community. Although the level of community concern about a Laboratory problem cannot be measured directly, various factors serve as indicators. Indicators include the frequency and tone of media coverage, the responses taken by political organizations, the extent to which individuals worry about the problem, the level of public trust and Laboratory credibility, whether the problem is perceived as an ethnic or cultural fairness issue, and whether there is evidence of economic losses or opportunity costs to the community.

Is a segment of the public or worker population aware and concerned about the problem addressed by the action plan or the action plan itself? If nothing is done about the problem, are people likely to become concerned during the next three years?

If your answer to both of these questions is No, do not use the instructions or scales for Section IV. Skip to Section V on page 21.

Part A1: Baseline Community Concern

Use the scale below to estimate the level of community concern over the problem to be addressed by the action plan. Assume that the action plan is **not** implemented and estimate the average level of concern that will exist during the next three years. Assign the score that best applies when considering, on balance, the various descriptions associated with each score. For example, if some of the descriptions associated with a score of two fit the problem, and so do some of the descriptions associated with a score of three, assign a score between two and three (e.g., 2.5). If you are uncertain about the level of community concern, assign a score such that the actual level is equally likely to be above or below the level indicated by your score.

1. Community concern will be very low or nonexistent.

- Workers and area residents will demonstrate almost no knowledge of or interest in the problem addressed by the action plan.

2. Community concern will be low.

- The problem addressed by the action plan may occasionally (i.e., several times per year) appear in local news stories.
- There will be little significant discussion of the problem addressed by the action plan at community meetings.
- Nearly all area residents will give the problem addressed by the action plan little thought (as would be indicated, for example, by public opinion poll results).
- Public trust and Laboratory credibility are not seriously threatened.
- If the problem addressed by the action plan is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived only a small number of individual members of the group rather than by the group as a whole. The perceived conflict is likely to be forgotten within a year.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are relatively small (no more than a few thousand dollars).¹

¹ Possible losses include:

- Depressed property values in close proximity to the problem addressed by the action plan (e.g., within five miles)
- Frustrated demands to use contaminated facilities, land, or other resources (e.g., potential site for housing, community college, mall, industry)
- Recreational value losses
- Infrastructure substitution (e.g., alternative water supply)
- Lost opportunities for private use of consumable resources (e.g., agriculture, fishing for personal consumption)

Consider community losses only if someone in the vicinity of the Laboratory has claimed to be suffering significant economic losses or opportunity costs as a result of the presence or perception of the problem addressed by the action plan. If costs occur in each of several years, reflect this by computing total discounted costs assuming a 10% discount rate. You can base your estimate on the amount claimed by those affected by the problem, or you can make your own estimate of the losses if you believe the claims are not realistic.

3. Community concern is moderate.

- Local news media will carry frequent (i.e., greater than monthly) informational articles about the problem addressed by the action plan.
- The problem addressed by the action plan will be frequently discussed at a variety of community and local government meetings.
- Some area residents will have significant concerns, although most residents will give little thought to the problem addressed by the action plan.
- Many area residents who are concerned about the problem may perceive the Laboratory response to be ineffective. Public trust and Laboratory credibility will be tarnished temporarily.
- If the problem addressed by the action plan is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by a significant subset of the group, but not by the group as a whole. The perceived conflict is likely to persist.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of \$200,000 total or \$20,000 annually.

4. Community concern is moderately high.

- There will be occasional (i.e., several times per year) negative coverage of the problem addressed by the action plan in media serving localized areas within the surrounding area.
- Local governmental bodies will initiate some action regarding the problems (such as proclamations or resolutions) and/or single-purpose public groups will form to pressure governmental action related to cleanup.
- Most of the area residents will have some concern about the problem addressed by the action plan.
- Many area residents may perceive the Laboratory response to be somewhat misguided or uninformed. Public trust and Laboratory credibility is likely to be seriously damaged.
- If the problem addressed by the action plan is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by the regional leadership of that group. The perceived conflict is likely to persist for many years.

- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of one million dollars total or \$100,000 annually.

5. Community concern is high.

- Local and regional news coverage, including coverage from media in Santa Fe and Albuquerque, will be frequent (i.e., greater than monthly) and typically negative, and there will be occasional national coverage of the problem addressed by the action plan.
- Small-scale public protests will be common.
- Nearly all the area residents will have some concern about the problem addressed by the action plan, and, for a few, the topic will be among their most serious personal worries.
- Many area residents will perceive the Laboratory response to be seriously inappropriate. Public trust and Laboratory credibility is likely to be seriously and permanently damaged.
- If the problem addressed by the action plan is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by all group members at the regional level. The perceived conflict is likely to persist indefinitely.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of \$5 million total or \$500,000 annually.

6. Community concern is very high.

- Local and regional news coverage, including coverage from media in Santa Fe and Albuquerque, will be frequent (i.e., greater than monthly) and quite negative, and there will be occasional negative national coverage.
- Small-scale public protests will be common and local referenda related to the problem addressed by the action plan will be held; state officials will begin becoming involved.
- Nearly all area residents will have some concern about the problem addressed by the action plan, many will have high concern and, for a few, the topic will be among their most serious personal worries; in addition, the public will begin becoming polarized to the point of threatening constructive communication.

- A large segment of the public will perceive the Laboratory response to be a blatant disregard for public health and safety, or reneging on a promise or commitment of fundamental importance. Public trust and Laboratory credibility is likely to be damaged irreparably.
- If the problem addressed by the action plan is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by all group members at the national level. The perceived conflict is likely to persist indefinitely.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of \$10 million total or \$1 million annually.

Part A2: Modified Community Concern

Using the scale in Part A1, estimate the level of community concern over the problems addressed by the action plan, and the plan itself, assuming the plan is implemented. Consider both residual concern about the problem addressed by the action plan and any concern about implementing the plan. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline public concern.

V. REGULATORY COMPLIANCE

Either the Laboratory or the Tiger Team can find that the Laboratory is in **noncompliance** with the rulings of some local, federal, or regulatory authority. Only that authority, however, has the jurisdictional and legal right to find that the Laboratory is in **violation** of one of the authority's rulings. Findings of noncompliance are not binding, but findings of violations may be.

Could either the problem addressed by the action plan or implementing the plan itself result in allegations of a regulatory violation by the Laboratory or its personnel?

If your answer to this question is No, do not use the instructions or scales for Section V. Skip to Section VI on page 25.

The score for regulatory compliance is determined from two factors: (a) the seriousness of a violation of a regulatory requirement or other commitment, and (b) the likelihood that an allegation of a violation will occur. This set of scales measures the seriousness of not being in compliance in terms of the type and number of violations that could occur, and legal problems they could produce. It does not measure the effect of those violations on Laboratory programs; a separate set of scales measure the impact on Laboratory programs and operations.

Part A1: Baseline Seriousness of Violation

If the action plan is **not** implemented and one or more regulatory violations result during the next three years, which of the following best describes the seriousness of those violations? Assign the score that best applies when considering, on balance, the various descriptions associated with each score. If you are uncertain about the seriousness of a potential violation, assign a score such that the actual seriousness is equally likely to be above or below the level indicated by your

score. If you do not believe a violation will occur during the next three years, assign scores corresponding to the least significant violation in Part A1 and a likelihood of zero in Part B1.

1. The potential regulatory violation is of **minor** significance.

- A slippage will occur in meeting a commitment imposed by any of the following:
 - ◆ A non-legally binding or non-enforceable agreement, such as a Memorandum of Understanding
 - ◆ A non-applicable Federal, State, local, or Tribal law that LANL has agreed to observe as a matter of comity
 - ◆ An internal contractual agreement or commitment
- The violation may be an embarrassment for LANL officials and may be perceived as a breach of promise, but no external regulatory response action is expected.
- Civil/stipulated monetary penalties are very unlikely or impossible.

2. The potential regulatory violation is of **moderate** significance.

- A slippage will occur in meeting a **generally non-enforceable obligation**² imposed by any of the following:
 - ◆ A DOE request
 - ◆ An obligation generally not subject to formal enforcement actions under a major environmental statute, regulation, Indian Tribe ordinance or resolution
- Regulatory agencies are likely to take informal response actions to said violations, such as telephone calls or meetings. A formal written statement or notification of a violation is unlikely.
- Civil/stipulated monetary penalties are generally not associated with violations of this nature.

3. The potential regulatory violations are of **major** significance.

² In this context, obligation refers to a timetable, deadline, or schedule included as part of the terms and conditions of a binding agreement or order, or any provision of a standard, regulation, or requirement that is objectively defined.

- A slippage will occur in meeting **one or more enforceable obligations** within the next three years imposed by any of the following:
 - An enforceable statutory requirement under a major environmental statute, regulation, or Indian Treaty
 - ◆ A DOE order
 - A signed civil judicial enforcement action, such as a court order
- Civil/stipulated monetary penalties are likely.
- An administrative notification action by a regulatory agency is almost certain (e.g., Notice of Violation or Non-Compliance), and an initial escalated regulatory response action is likely.

4. The potential regulatory violations are of **very major** significance.

- Numerous enforceable obligations (roughly 100) will be missed within the next three years, and the obligations correspond to numerous separate regulated units. In addition, these slippages produce irreversible, long-term regulatory consequences in the next three years.
- The problem results in a Tiger Team category-II finding of noncompliance with a DOE order.
- Civil/Stipulated monetary penalties are certain and will likely be a very significant fraction of action plan costs (e.g., 25%).
- An escalated regulatory response action of a most serious nature is almost certain (e.g., injunctive relief by Federal district courts).

5. The potential regulatory violations are of the **most serious** significance.

- The problem results in a Tiger Team category-I finding.
- The conditions necessary to qualify for a score of at least a 3 are met, plus it is estimated that regulatory agencies will respond to the violation by formally charging that LANL is responsible for reckless and knowing failure to take mandated actions necessary to prevent an imminent and substantial endangerment to public health, welfare, or the environment.

Part A2: Modified Seriousness of Violation

Assume that the action plan is implemented. Also assume that the problem addressed by the action plan, or the actions required by the plan, result in allegations of regulatory violations during the next three years (i.e., allegations of regulatory violations occur even though the action plan is implemented). Use the scale in Part A1 to estimate the seriousness of those violations. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline seriousness of a violation. If you do not believe a violation will occur after the action plan is implemented, assign scores corresponding to the least significant violation in Part A2 and a likelihood of zero in Part B2.

Part B1: Baseline Likelihood of Allegations of a Violation

Assume the action plan is **not** implemented. Use the following scale to estimate the probability that an allegation of a regulatory violation will occur that corresponds to your score in Part A1. Select the statement that best approximates your judgment regarding the likelihood that there will be allegations of regulatory violations.

1. We are certain to comply with all applicable regulatory requirements. The likelihood of a violation is extremely unlikely (i.e., the probability is essentially zero).
2. We are on track with applicable regulatory requirements. It is unlikely (probability less than 10%) that any regulatory requirement will not be met.
3. There is technical and/or programmatic uncertainty over whether we will meet all regulatory requirements; however, the odds are low (probability about 25%) that the problem will lead to one or more allegations of violations.
4. The odds are roughly even (probability about 50%) that the problem will lead to one or more allegations of violations.
5. The odds are high (probability about 75%) that the problem will lead to one or more allegations of violations.
6. It is almost certain (probability greater than 90%) that the problem will lead to one or more allegations of violations.

Part B2: Modified Likelihood of Allegations of a Violation

Assume the action plan is implemented. Use the scale in Part B1 to estimate the probability that an allegation of a regulatory violation will occur that corresponds to your score in Part A2. Consider both the remaining potential for an allegation resulting from the problem addressed by the action plan and the possibility that implementing the plan could itself lead to an allegation. If implementing the action plan does not alter your estimate, assign the same score that you did when assessing baseline likelihood of a violation.

VI. IMPACT ON LABORATORY PROGRAMS AND OPERATIONS

Impact on Laboratory Programs

Could either the problem addressed by the action plan or implementing the plan itself result in an adverse impact on Laboratory programs, such as temporarily shutting down a Laboratory facility or reducing the size or number of existing programs?

If your answer to this question is No, do not use the instructions or scales for impact on Laboratory programs (Parts A1, A2, B1, and B2). Skip to the instructions for impact on the efficiency of Laboratory operations (Parts C1, C2, and C3) on page 29.

The score for impact on Laboratory programs is determined from two factors: (a) the seriousness of the impact that the problem addressed by an action plan will have on Laboratory programs and (b) the likelihood of the impact. The score for impact on the efficiency of Laboratory operations is assessed separately using a different scale.

Part A1: Baseline Seriousness of Impact on Laboratory Programs

If an action plan is not implemented (i.e., it is delayed), there may be an adverse impact on Laboratory programs (e.g., critical equipment working incorrectly), or a collateral impact on other programs (e.g., drainage contaminating measurements in another operation). It may also result in regulatory curtailment of a program. These effects are measured by the following scale. This scale does not measure the efficiency of Laboratory operations, which is the concern of the scale in Part C. Also, this scale does not measure the effects of non-compliance other than curtailment of Laboratory programs; those effects are measured by a separate set of scales.

The following table summarizes the scale for level of impact on Laboratory programs. The scale measures impacts in terms of shutting down major facilities, especially TA-55 and the Central Computing Facility (CCF). Other facilities and sites are included as examples.

Examples of Impacts on Laboratory Programs

Level of Impact	Approximate Cost	Duration of Shutdown					
		1 Day	1 Week	1 Month	3 Month	1 Year	>3 Year (Permanent)
Significant	\$100 - 300K	TA-55 CCF TA-50 Bldg 1	LAMPF (Ops) CMR Phermex	LANSCE HRL		SM-40 Basement	5 Light Labs 10 Offices
Major	\$2 - 25M		TA-55 CCF TA-50 Bldg 1	LAMPF (Ops) CMR Phermex	LANSCE HRL TA-46 TA-35 TA-48	LACEF	SM-40 Basement ICF
				TA-55 CCF TA-50 Bldg 1	CMR Phermex	LANSCE HRL TA-46 TA-35 TA-48	LACEF TA-21 West TA-33 TA-35 Bldg 27 Sigma
Very Major	\$50 - 500M				TA-55 CCF Weapons Tests TA-50 Bldg 1	LAMPF CMR Phermex	LANSCE HRL TA-46 TA-35 TA-48
						TA-55 CCF Weapons Tests TA-50 Bldg 1	LAMPF CMR Phermex
Critical	>\$500M						TA-55 CCF Weapons Tests TA-50 Bldg 1

If the action plan is **not** implemented and the problem addressed by an action plan results in a potentially adverse impact on Laboratory programs, which of the following best describes the **seriousness** of that impact? Assign the score that best applies when considering, on balance, the descriptions associated with each score. If you are uncertain about the seriousness of potential impacts on Laboratory programs, assign a score such that the actual seriousness is equally likely to be above or below the level indicated by your score.

1. The deficiency has **no adverse impact** on Laboratory programs and operations.
 - There is no noticeable impact on existing programs of interest
 - A reduction occurs in either the size or number of programs for which the Laboratory has:
 - ◆ no desire to continue participation
 - no expertise to continue participation

2. The deficiency has a **significant adverse impact** on Laboratory programs and operations.
 - The equivalent of a one-day shutdown of TA-55 or CCF, a one-week shutdown of LAMPF or CMR Building, or a permanent shutdown of 10 offices (see the preceding table)
 - A small one-to-three-year reduction in the size or number of existing **division-level** programs (or of desired new programs at the division level) for which there is both existing expertise and a clear desire to perform.
3. The deficiency has a **major adverse impact** on Laboratory programs and operations.
 - The equivalent of a one-week to one-month shutdown of TA-55, a one-to-three-month shutdown of the CMR Building, or a permanent loss of ICF or TA-33 or Sigma Building (see the preceding table)
 - A 3 year reduction in the size or number of existing **director-level** programs (or of desired new programs at the director level) that support and enhance long-term Laboratory mission objectives, and for which there is existing expertise.
4. The deficiency has a **very major adverse impact** on Laboratory programs and operations.
 - The equivalent of a three-month to one-year shutdown of TA-55 or CCF or weapons tests, a one-to-three-year shutdown of CMR or LAMPF, or a permanent loss of HRL or LANSCE or TA-48 (see the preceding table)
 - There is a permanent reduction in the size and/or number of existing **Laboratory-wide** programs (or of desired new Laboratory-wide programs) that are of national importance and support maintenance of an outstanding base in science and technology.
5. The deficiency has a **critical adverse impact** on Laboratory programs and operations:
 - The equivalent of a permanent loss of TA-55 or CCF or weapons tests (see the preceding table)

- The loss of a program (new or existing) which is sufficiently important to alter the direction and identity of the Laboratory and its mission,³ or to threaten the existence of the Laboratory.

Part A2: Modified Seriousness of Impact on Laboratory Programs

Assume that the action plan is implemented. If the problem addressed by the action plan could still affect Laboratory programs, or the actions required to implement the plan result in a potentially adverse impact on Laboratory programs, estimate the seriousness of those impacts using the scale in Part A1. Consider both the remaining potential for an impact resulting from a partially-resolved problem and the possibility that implementing the plan could lead to an impact.

Part B1: Baseline Likelihood of Impact on Laboratory Programs

Assume the action plan is not implemented. Use the following scale to estimate the probability that the problem addressed by the action plan will result in an adverse impact on Laboratory programs. This impact involves delaying or canceling Laboratory programs, as described in Part A1. It does not measure changes in the efficiency of Laboratory operations, which is described in Part C. Indicate which of the following statements best approximates your judgment regarding the likelihood that the problem addressed by the action plan will result in an adverse impact on laboratory programs.

1. It is unlikely (probability less than 10%) that the problem, if not corrected soon, will lead to adverse impacts.
2. The odds are low (probability about 25%) that the problem, if not corrected soon, will lead to adverse impacts.
3. The odds are roughly even (probability about 50%) that the problem, if not corrected soon, will lead to adverse impacts.
4. The odds are high (probability about 75%) that the problem, if not corrected soon, will lead to adverse impacts.

³ Los Alamos National Laboratory mission and goals:

- The application of scientific and engineering capabilities to solving problems of national importance, primarily in nuclear weapons technology
- Strong support of basic science in selected disciplines to help maintain an outstanding science and technology base
- Maintain a leading position in a broad range of scientific and technical fields necessary to accomplish these objectives

5. It is almost certain (probability greater than 90%) that the problem, if not corrected soon, will lead to adverse impacts.

Part B2: Modified Likelihood of Impact on Laboratory Programs

Assume that the action plan is implemented. Use the scale in Part B1 to estimate the probability that a problem partially addressed by the action plan, **or** the actions required to implement plan, will result in an adverse impact on Laboratory programs. Consider both the remaining potential for an impact resulting from a partially-resolved problem and the possibility that implementing the plan could lead to an impact.

Impact on the Efficiency of Laboratory Operations

Could implementing the action plan affect the efficiency of Laboratory operations?

If your answer to this question is No, do not use the instructions or scales for impact on the efficiency of Laboratory operations (Parts C1, C2, and C3). Skip to the instructions for estimating the cost or benefit of delaying the implementation of the action plan (Part D) on page 31.

An impact on the efficiency of Laboratory operations is determined by three factors: (a) the number of people experiencing a change in efficiency, (b) the portion of their work that is affected, and (c) the level of efficiency change. This scale does **not** measure adverse impact on Laboratory programs, which is addressed by the scale in Part A1.

In previous sections you estimated most values twice: once assuming that an action plan is not implemented and once assuming that it is. Here you should make one estimate of the efficiency **change** that occurs when an action plan is implemented. This avoids the problem of trying to measure absolute levels of efficiency. However it means that the changes can range from adverse to beneficial.

Part C1: The Number of People Affected

Which of the following categories best describes the number of people engaged in Laboratory operations whose efficiency will be affected by the action plan?

1. 10 or less.
 2. About 100.
 3. About 1000.
 4. All Laboratory personnel.
-

Part C2: The Portion of Work Affected

Do the people identified above spend a large fraction of their time on the affected operations? Specifically, what percentage of their work time is consumed by the operations whose efficiency will be affected?

1. About 1 percent of their time is spent on impacted operations.
2. About 10 percent of their time is spent on impacted operations.
3. About 50 percent of their time is spent on impacted operations.
4. Nearly 100 percent of their time is spent on impacted operations.

Part C3: Level of Efficiency Change

Which of the following categories best describes the nature and magnitude of the efficiency changes that will occur when the action plan is implemented. These changes apply only to the people identified in Part C1 and the portion of their work identified in Part C2. If the efficiency level varies with time, estimate the average efficiency change over the next three years. Assign a score that best applies when considering on balance the descriptions associated with each score.

1. The action plan has an **adverse impact** on the efficiency of Laboratory operations.
 - For the same level of staffing and resources, there is a decrease in efficiency of about 25% (i.e., it takes six and a quarter days to get five days of work done).
 - For the same level of staffing and resources, there is a significant decrease in the quality of work and staff morale, and an increase in management overtime and required oversight. Job dissatisfaction is apparent from a higher absentee rate, a greater number of job-related complaints to management, and increased use of Laboratory counseling and medical facilities.
2. The action plan has a **minor adverse effect** on the efficiency of Laboratory operations.
 - For the same level of staffing and resources, there is a decrease in efficiency of about 10% (i.e., it takes five and a half days to get five days of work done).
 - For the same level of staffing and resources, there is a minor decrease in the quality of work and staff morale, and an increase in management overtime and required oversight. Job dissatisfaction exists but is not easily noticed from a higher absentee rate, a greater number of job-related complaints to management, and increased use of Laboratory counseling and medical facilities.

3. The action plan has a **no significant effect** on the efficiency of Laboratory operations. There is no noticeable change in:
- Productivity
 - The quality of work
 - Staff morale
 - Requirements for management oversight
4. The action plan has a **minor beneficial effect** on the efficiency of Laboratory operations.
- For the same level of staffing and resources, there is an increase in efficiency of about 10% (i.e., it takes five days to get five and a half days of work done).
 - For the same level of staffing and resources, there is a minor increase in the quality of work and staff morale, and a decrease in management overtime and required oversight. Job satisfaction increases but is not easily noticed from a lower absentee rate, a smaller number of job-related complaints to management, and decreased use of Laboratory counseling and medical facilities.
5. The action plan has a **major beneficial impact** on the efficiency of Laboratory operations.
- For the same level of staffing and resources, there is an increase in efficiency of about 25% (i.e., it takes five days to get six and a quarter days of work done).
 - For the same level of staffing and resources, there is a significant improvement in the quality of work and staff morale, and a decrease in management overtime and required oversight. Increased job satisfaction is apparent from a lower absentee rate, a smaller number of job-related complaints to management, and decreased use of Laboratory counseling and medical facilities.

Part D: Cost or Benefit of Delaying Implementation of the Action Plan

Will delaying implementation of the action plan cause an extraordinary increase or decrease in the cost of implementing it, in addition to normal price inflation? For example, delaying implementation of the action plan might allow contamination to spread significantly, thus increasing the scope of remedial action. Alternatively, the cost of remedial action might drop significantly if the action is delayed until a new technology is available.

If your answer to this question is No, do not estimate the cost or benefit of delaying implementation of the action plan (Part D). Skip to the instructions for estimating requirements for limited resources (Part E) on page 32.

If your answer to the question is Yes, how much will the cost change? Do not include normal price inflation in this estimate. For purposes of making this estimate, assume that implementation of the action plan will be delayed one or more years, but not more than five years.

Part E: Requirements for Limited Resources

Does the action plan require any resources that may be difficult to acquire?

If your answer to this question is No, do not identify limited resources (Part E). Skip to Section VII on page 33.

If your answer to the question is Yes, please identify these resources and estimate how much of them will be needed during each year of the action plan. Examples of resources that may be limited include:

- Skilled labor (e.g., hydrologists)
- Specialized equipment (e.g., drilling equipment)
- Specialized materials and supplies (e.g., degradable solvents)

VII. THE VALUE OF UNCERTAINTY REDUCTION FROM CHARACTERIZATION AND DATA-GATHERING ACTIVITIES

Is the action plan a characterization study or other data-gathering exercise (i.e., a paper study) designed to collect information for a future remediation decision, but not intended to make any physical changes needed to correct a problem?

If your answer to this question is No, do not use the instructions and scales for Section VII. If your answer is No, you are done.

Use these instructions and scales to assess the value of uncertainty reduction from characterization studies (paper studies) concerned with health and safety risks or environmental risks. This value is derived from three types of assessments: high and low estimates indicating the level of uncertainty about baseline risks, high and low estimates of the costs of future actions to reduce the risks, and high and low estimates of the effectiveness of the characterization activity.

Part A: Uncertainty in Worker Health and Safety Risks

Is the problem to be studied a suspected risk to worker health and safety? Is the characterization study likely to provide information that will reduce uncertainty about this risk?

If your answer to either of these questions is No, do not use the instructions or scales for estimating uncertainty in worker health and safety risks (Part A). Skip to the instructions for estimating uncertainty in public health and safety risks (Part B) on page 35.

Assume the action is **not** implemented. Use the scales in Section I (worker health and safety risks) to develop high and low (90% confidence interval) baseline risk scores for the problem to be addressed by the study. The following paragraphs explain how you should arrive at your low

and high scores for each of the scales for worker health and safety. In general, your low score for each scale should be such that you believe there is only 1 chance in 20 that the actual value will be less than that indicated by your score. Similarly, your high score for each scale should be such that you believe there is only 1 chance in 20 that the actual value will be greater than that indicated by your score.

Your estimates in this section should be consistent with the estimates you made in Section I (worker health and safety risks). In particular, your low estimate in this section should represent a value that is less than or equal to the value you estimated in Section I. Similarly, your high estimate in this section should represent a value that is greater than or equal to the value you estimated in Section I.

Severity of Potential Health and Safety Effects

Assume an individual is exposed to the potential source of risk. Use the scale in Part A1 of Section I (page 4) to indicate your uncertainty about the severity of the health effect that might result. If there is little or no uncertainty about the severity of the effect, your low and high scores should be the same. Otherwise, assign a low score to represent the least serious effect that is likely (1 chance in 20) and a high score to represent the most serious effect that is likely (1 chance in 20).

Potential for Exposure

Consider a typical worker within the population at risk. Use the scale in Part B1 of Section I (page 4) to indicate your uncertainty about the frequency with which this individual would be exposed to the risk source? If there is little or no uncertainty about the frequency of exposure, your low and high scores should be the same. Otherwise, assign a low score to represent the lowest frequency that is likely (1 chance in 20) and a high score to represent the highest frequency that is likely (1 chance in 20).

Likelihood of Health and Safety Effects

With what frequency will an exposure produce a health or safety effect of a severity within the range you assigned above? Use the scale in Part C1 of Section I (page 5) to indicate your uncertainty about the frequency with which an exposure produces a health or safety effect. If there is little or no uncertainty about the frequency with which such an effect will occur, your low and high scores should be the same. Otherwise, assign a low score to represent the lowest frequency that is likely (1 chance in 20) and a high score to represent the highest frequency that is likely (1 chance in 20).

Population at Risk

How many workers are potentially exposed? If exposure requires an unlikely, initiating event, how many individuals are likely to be exposed if the event occurs. If exposures occur frequently or repeatedly, how many individuals are likely to be exposed during a one-year period? Use the

scale in Part D1 of Section I (page 6) to indicate your uncertainty about the number of workers potentially exposed. If there is little or no uncertainty about the population at risk, your low and high scores should be the same. Otherwise, assign a low score to represent the lowest population at risk that is likely (1 chance in 20) and a high score to represent the highest population at risk (1 chance in 20) that is likely.

Risk Urgency

How soon will the exposures begin to occur? Specifically, what is your estimate of the earliest time at which the likelihood of exposures will reach the range you assigned above. Use the scale in Part E1 of Section I (page 6) to indicate your uncertainty about the time at which exposures would occur. If there is little or no uncertainty about timing, your low and high scores should be the same. Otherwise, assign a low score to represent the soonest timing that is likely (1 chance in 20) and a high score to represent the latest timing that is likely (1 chance in 20).

Part B: Uncertainty in Public Health and Safety Risks

Is the problem to be studied a suspected risk to public health and safety? Is the characterization study likely to provide information that will reduce uncertainty about this risk?

If your answer to either of these questions is No, do not use the instructions or scales for estimating uncertainty in public health and safety risks (Part B). Skip to the instructions for estimating uncertainty in environmental risks (Part C) on page 36.

Assume the action is **not** implemented. Use the scales in Section II (public health and safety risks) to develop high and low (90% confidence interval) baseline risk scores for the problem to be addressed by the study. For guidance on how to arrive at your low and high scores, substitute 'public health and safety' for 'worker health and safety' in the explanations in Part A. In general, your low score for each scale should be such that you believe there is only 1 chance in 20 that the actual value will be less than that indicated by score. Similarly, your high score for each scale should be such that you believe there is only 1 chance in 20 that the actual value will be greater than that indicated by your score.

You should estimate high and low scores for each of the following quantities:

- Severity of potential health and safety effects
- Potential for exposure
- Likelihood of health and safety effects
- Population at risk
- Risk urgency

Part C: Uncertainty in Environmental Risks

Does the problem to be studied produce the risk of an adverse impact on the natural environment? Is the characterization study likely to provide information that will reduce uncertainty about this risk?

If your answer to either of these questions is No, do not use the instructions or scales for estimating uncertainty in environmental risks (Part C). Skip to the instructions for estimating uncertainty in remediation cost (Part D) on page 37.

Assume the action is **not** implemented. Use the scales in Section III (environmental risks) to develop high and low (90% confidence interval) baseline risk scores for the problem to be addressed by the study. The following paragraphs explain how you should arrive at your low and high scores for each of the scales for environmental risks. In general, your low score for each scale should be such that you believe there is only 1 chance in 20 that the actual value will be less than that indicated by your score. Similarly, your high score for each scale should be such that you believe there is only 1 chance in 20 that the actual value will be greater than that indicated by your score.

Environmental Resources at Risk

Use the following scales to indicate your uncertainty about the environmental resources at risk. In Part A of Section III (page 13) you drew one or more boundaries on a map to identify the resources potentially affected by the problem to be studied. If you are uncertain about the resources at risk, how much smaller or larger could they be? Make high and low estimates of the value of the resources at risk, using the value of the resources contained in the boundary you drew earlier as a reference point.

For most environmental risks, there should be little uncertainty about which resources are at risk. If this is the case, your low and high scores should both correspond to a value of 1. This means that the value of the resources at risk are unlikely to differ from value of those enclosed in the boundary you drew in Section III. However for certain action plans, the resources at risk may be difficult to identify. For example, there could be uncertainty about the routes used to transport hazardous materials.

Relative to the value of the resources contained in the boundary you drew in Section III, assign a score to represent the lowest likely value of the environmental resources at risk.

1. 1/5
2. 1/2
3. 1

Relative to the value of the resources contained in the boundary you drew in Section III, assign a score to represent the highest likely value of the environmental resources at risk.

1. 1
2. 2
3. 5

Magnitude of Impact on Environmental Resources

Assume the environment is exposed to the risk that is the subject of the study. Use the scale in Part B1 of Section III (page 14) to indicate your uncertainty about the magnitude of the impact that might result. If there is little or no uncertainty about the magnitude of the impact, your low and high scores should be the same. Otherwise, assign a low score to represent the least serious impact that is likely (1 chance in 20) and a high score to represent the most serious impact that is likely (1 chance in 20).

Likelihood of Impact on Environmental Resources

Do you expect the study to change your estimate of the likelihood of an environmental impact? If so, how much higher or lower could your estimate be after the study is completed? Use the scale in Part C1 of Section III (page 15) to indicate how the study could affect the likelihood of the environmental impact. If you do not expect the study to change your estimate, your low and high scores should be the same. Otherwise, assign a low score to represent the lowest likelihood of an impact after the study (1 chance in 20) and a high score to represent the highest likelihood of an impact after the study (1 chance in 20).

Part D: Uncertainty in the Remediation Cost

Roughly, how much will it cost if remediation is required for the problem to be studied by the action plan? Provide low and high (90% confidence interval) estimates to indicate the range of uncertainty about ultimate remediation costs. Your low estimate should be a dollar amount such that you believe there is only 1 chance in 20 that actual remediation costs will be less than this dollar amount. Similarly, your high estimate should be a dollar amount such that you believe there is only 1 chance in 20 that actual remediation costs will be greater than this dollar amount. Be sure to establish an uncertainty range that is sufficiently wide to account for any uncertainties associated with the selection of a remediation technology.

Use the following scale to indicate the high and low estimates that best reflect your professional opinion.

1. Between \$10K and \$100K
2. Between \$100K and \$1M
3. Between \$1M and \$10M

4. Between \$10M and \$100M
5. Between \$100M and \$1B
6. Between \$1B and \$10B
7. Between \$10B and \$100B

Part E: Effectiveness of the Study

Assuming that the characterization study is implemented as specified in the action plan, how effective will the study be in reducing the uncertainty about health and safety risks, environmental risks, and cleanup costs?

When estimating the effectiveness of the characterization study in resolving risk uncertainties, consider the uncertainties you estimated for each of the factors identified in Parts A, B, C, and D. In other words, when considering all of the uncertainties described by your high and low estimates, what fraction of them will be eliminated by the study?

Choose the effectiveness estimate and associated statement below that best reflects your professional opinion.

1. 90-100% The characterization study will be fully effective (on the order of 90% or more). Nearly all critical uncertainties regarding the risks, preferred remediation approach, and cleanup costs will be completely eliminated.
2. 50% The characterization study will significantly reduce uncertainties (on the order of 50%).
3. 10% The characterization study will be partially effective (on the order of 10%). Existing uncertainties regarding risk and cost will be reduced, but substantial uncertainties will remain.
4. 5% The characterization study will be slightly effective (on the order of 5%).
5. 1% The characterization study will have a minor effect on reducing uncertainties (on the order of 1%). The risks being produced, the preferred remediation approach, or the ultimate cleanup costs will still be largely unknown even after the study is complete.

Attachment 6

Scoring Form
Used to Evaluate
Action Plans

Scoring Form for Evaluating LANL Action Plans

Number of action plan

Name of action plan

Name of evaluator

Date of evaluation

I. Worker Health and Safety Risk

Does the problem addressed by the action plan produce a health or safety risk to workers? ☐ Yes ☐ No

Is the action plan itself perceived to produce a health or safety risk to workers? ☐ Yes ☐ No

Part A1: Baseline severity of health and safety effects 1 to 4

Part A2: Modified severity of health and safety effects 1 to 4

Part B1: Baseline potential for exposure 1 to 4

Part B2: Modified potential for exposure 1 to 4

Part C1: Baseline likelihood of health and safety effects 1 to 4

Part C2: Modified likelihood of health and safety effects 1 to 4

Part D1: Baseline population at risk 1 to 4

Part D2: Modified population at risk 1 to 4

Part E1: Baseline risk urgency 1 to 5

Part E2: Modified risk urgency 1 to 5

II. Public Health and Safety Risk

Does the problem addressed by the action plan produce a health or safety risk to members of the public? ☐ Yes ☐ No

Is the action plan itself perceived to produce a health or safety risk to members of the public? ☐ Yes ☐ No

Part A1: Baseline severity of health and safety effects 1 to 4

Part A2: Modified severity of health and safety effects 1 to 4

Part B1: Baseline potential for exposure 1 to 4

Part B2: Modified potential for exposure 1 to 4

Part C1: Baseline likelihood of health and safety effects 1 to 4

Part C2: Modified likelihood of health and safety effects 1 to 4

Part D1: Baseline population at risk	<input type="text"/>	1 to 4
Part D2: Modified population at risk	<input type="text"/>	1 to 4
Part E1: Baseline risk urgency	<input type="text"/>	1 to 5
Part E2: Modified risk urgency	<input type="text"/>	1 to 5

III. Environmental Risk

Does the problem to be addressed by the action plan, or the action plan itself, produce the risk of an adverse impact on the natural environment?

☐ Yes ☐ No

Part A: Area affected (*Please use attached maps.*)

Part B1: Baseline magnitude of impact on environmental resources 1 to 3

Part B2: Modified magnitude of impact on environmental resources 1 to 3

Part C1: Baseline likelihood of impact on environmental resources 1 to 4

Part C2: Modified likelihood of impact on environmental resources 1 to 4

IV. Community Concern

Is a segment of the public or worker population aware and concerned about the problem addressed by the action plan, or the action plan itself?

☐ Yes ☐ No

If nothing is done about the problem, are people likely to become concerned during the next three years?

☐ Yes ☐ No

Part A1: Baseline community concern 1 to 6

Part A2: Modified community concern 1 to 6

V. Regulatory Compliance

Could either the problem addressed by the action plan or implementing the plan itself result in allegations of a regulatory violation by the Laboratory or its personnel?

☐ Yes ☐ No

Part A1: Baseline seriousness of violation 1 to 5

Part A2: Modified seriousness of violation 1 to 5

Part B1: Baseline likelihood of allegations of a violation 1 to 6

Part B2: Modified likelihood of allegations of a violation 1 to 6

VI. Impact on Laboratory Programs and Operations

Could either the problem addressed by the action plan or implementing the plan itself result in an adverse impact on Laboratory programs, such as temporarily shutting down a Laboratory facility or reducing the size or number of existing programs?

☐ Yes ☐ No

Part A1: Baseline seriousness of impact on Laboratory programs

1 to 5

Part A2: Modified seriousness of impact on Laboratory programs

1 to 5

Part B1: Baseline likelihood of impact on Laboratory programs

1 to 5

Part B2: Modified likelihood of impact on Laboratory programs

1 to 5

Could implementing the action plan affect the efficiency of Laboratory operations?

☐ Yes ☐ No

Part C1: The number of people affected

1 to 4

Part C2: The portion of work affected

1 to 4

Part C3: Level of efficiency change

1 to 5

Will delaying implementation of the action plan cause a significant increase or decrease in the cost of implementing it, in addition to normal price inflation?

☐ Yes ☐ No

Part D: Cost or benefit of delaying implementation of the action plan

benefit (+) or cost (-)

Does the action plan require any resources that may be difficult to acquire?

☐ Yes ☐ No

Part E: Requirements for limited resources

Resources	Amount	Years When Needed

VII. The Value of Uncertainty Reduction from Characterization and Data-Gathering Activities

Is the action plan a characterization study or other data-gathering exercise (i.e., a paper study) designed to collect information for a future remediation decision, but not intended to make any physical changes needed to correct a problem?

☐ Yes ☐ No

Part A: Uncertainty in worker health and safety risks

Is the problem to be studied a suspected risk to worker health and safety?

☐ Yes ☐ No

Is the characterization study likely to provide information that will reduce uncertainty about this risk?

☐ Yes ☐ No

Severity of health and safety effects

Low estimate

1 to 4

High estimate

1 to 4

Potential for exposure

Low estimate

1 to 4

High estimate

1 to 4

Likelihood of health and safety effects

Low estimate

1 to 4

High estimate

1 to 4

Population at risk

Low estimate

1 to 4

High estimate

1 to 4

Risk urgency

Low estimate

1 to 5

High estimate

1 to 5

Part B: Uncertainty in public health and safety risks

Is the problem to be studied a suspected risk to public health and safety?

☐ Yes ☐ No

Is the characterization study likely to provide information that will reduce uncertainty about this risk?

☐ Yes ☐ No

Severity of health and safety effects

Low estimate

1 to 4

High estimate

1 to 4

Potential for exposure

Low estimate

1 to 4

High estimate

1 to 4

Likelihood of health and safety effects

Low estimate 1 to 4

High estimate 1 to 4

Population at risk

Low estimate 1 to 4

High estimate 1 to 4

Risk urgency

Low estimate 1 to 5

High estimate 1 to 5

Part C: Uncertainty in environmental risks

Does the problem to be studied produce the risk of an adverse impact on the natural environment? ☐ Yes ☐ No

Is the characterization study likely to provide information that will reduce uncertainty about this risk? ☐ Yes ☐ No

Environmental resources at risk

Low estimate 1 to 3

High estimate 1 to 3

Magnitude of impact on environmental resources

Low estimate 1 to 3

High estimate 1 to 3

Likelihood of impact on environmental resources

Low estimate 1 to 4

High estimate 1 to 4

Part D: Uncertainty in remediation cost

Low estimate 1 to 7

High estimate 1 to 7

Part E: Effectiveness of the characterization or monitoring activities

1 to 5

Attachment 7

Listing of a Paradox Script That Calculates Action Plan Benefits


```

;*** TIGER TEAM ACTION PLAN PRIORITY SYSTEM *****
** Filenames: "ACTMAIN.SC" "ACTPLAN.DB" "WEIGHTS.DB"
** Phil Beccue, Allen Miller, Applied Decision Analysis
;*** Version 2.1
;*****

```

```

proc glin(x,Desc)
;*****
;** This routine performs linear interpolation on the variable x. **
;** It looks in the table for the row with the appropriate weights, **
;** then calculates the interpolated value and puts it in "val". **
;*****
origtable = table()
moveto [Weights->Description] ;*** now current image is Weights
locate Desc
if retval="False" then
val = blanknum()
@ 0, 0
clear eol
?? "ERROR! ",Desc," is not in the Weights table." ?
beep
sleep 10000
return val
endif
copytoarray r
if x<1 or x>r[3] then ;*** error checking
val = blanknum()
@ 0, 0
clear eol
?? "ERROR! The scored value ",x," is out of range for ",Desc,"." ?
beep
sleep 10000
else
i=1
while x>=i
if x=i then
val = r[i+3]
else if x<i+1 then
indx = i+3
val= r[indx] + (r[indx+1]-r[indx])*(x-i)
endif
endif
i = i+1
endwhile
endif
moveto origtable ;*** back to Actplan table
return val
endproc

```

```

proc gexp(x,Desc)
;*****
;** This routine performs exponential interpolation on the variable x.**
;** It looks in the table for the row with the appropriate weights, **
;** then calculates the interpolated value and puts it in "val". **
;*****
origtable = table()
moveto [Weights->Description] ;*** now current image is Weights

```

```

locate Desc
if retval="False" then
    val = blanknum()
    @ 0, 0
    clear eol
    ?? "ERROR!  ",Desc," is not in the Weights table." ?
    beep
    sleep 10000
    return val
endif
copytoarray r
if x<1 or x>r[3] then                                ;*** error checking
    val = blanknum()
    @ 0, 0
    clear eol
    ?? "ERROR! The scored value ",x," is out of range for ",Desc,"." ?
    beep
    sleep 10000
else
    i=1
    while x>=i
        if x=i then
            val = r[i+3]
        else if x<i+1 then
            indx = i+3
            val = exp(ln(r[indx]) + (ln(r[indx+1])-ln(r[indx]))*(x-i))
        endif
        endif
        i = i+1
    endwhile
endif
moveto origtable                                    ;*** back to Actplan table
return val
endproc

;procedure to calculate the mean of a lognormal from its parameters
proc mean(lam,sig)
    return exp(lam + sig*sig/2)
endproc

;procedure to calculate the variance of a lognormal from its parameters
proc var(lam,sig)
    return exp(2*lam + 2*sig*sig) - exp(2*lam + sig*sig)
endproc

;procedure to calculate the skew of a lognormal from its parameters
proc skew(lam,sig)
    private sig2
    sig2 = sig*sig
    return exp(3*lam) * exp((3/2)*sig2) * (exp(3*sig2) - 3*exp(sig2) + 2)
endproc

;procedure to calculate lambda for a lognormal from its mean and variance
proc lam(mean,var)
    private mean2
    mean2 = mean*mean
    return ln(mean2/sqrt(var + mean2))

```


endproc

```
procedure to calculate sigma for a lognormal from its mean and variance
proc sig(mean,var)
  private mean2
  mean2 = mean*mean
  return sqrt(ln((var + mean2)/mean2))
endproc
```

```
;procedure to calculate lambda for a lognormal from its 0.05 and 0.95 fractiles
proc lamfrac(xlow,xhigh)
  return (ln(xlow) + ln(xhigh))/2
endproc
```

```
;procedure to calculate sigma for a lognormal from its 0.05 and 0.95 fractiles
proc sigfrac(xlow,xhigh)
  return abs((ln(xhigh) - ln(xlow)))/3.28970725390294
endproc
```

```
;procedure to calculate lambda for a lognormal from its median
proc lammed(med)
  return ln(med)
endproc
```

```
;procedure to calculate sigma for a lognormal from its median and variance
proc sigmed(med,var)
  return sqrt(ln((med+sqrt(med*med+4*var))/(2*med)))
endproc
```

```
;procedure to calculate lambda for a lognormal from its variance and skew
proc lamsk(mean,var,skew)
  private a,b,c
  if var>0 and skew<>0 then
    c = (skew*skew)/(var*var*var);
    a = sqrt(c*(4+c))/2
    b = pow(1+c/2+a,1/3) + pow(1+c/2-a,1/3) -1
    return ln(sqrt(var/(b*(b-1))))
  else if mean>0 then
    return ln(mean)
  else
    return 0
  endif
endif
endproc
```

```
;procedure to calculate sigma for a lognormal from its variance and skew
proc sigsk(var,skew)
  private a,b,c
  if var>0 then
    c = (skew*skew)/(var*var*var);
    a = sqrt(c*(4+c))/2
    b = pow(1+c/2+a,1/3) + pow(1+c/2-a,1/3) -1
    return sqrt(ln(b))
  else
    return 0
  endif
endif
endproc
```

```
*****
```

```
clearall
view "Weights"
edit "Actplan"
```

```
;*** current image is Actplan
```

```
k = 0 ;*** counter for records in Actplan
scan ;*** step through each record in Actplan
```

```
    ; display counter
    if mod(k,10)=0 then
        @ 24, 0
        clear eol
    endif
    k = k+1
    ?? " "+strval(k)+" "
```

```
;*** Calculate net benefit for Section I ***;
```

```
if isblank([I-Problem?]) or isblank([I-ActPlan?]) then
```

```
    [@I-1] = blanknum()
```

```
    [@I-2] = blanknum()
```

```
else if [I-Problem?]<>"yes" and [I-ActPlan?]<>"yes" then
```

```
    [@I-1] = 0
```

```
    [@I-2] = 0
```

```
else if isblank([I-A1]) or isblank([I-A2]) or isblank([I-B1]) or
isblank([I-B2]) or isblank([I-C1]) or isblank([I-C2]) or
isblank([I-D1]) or isblank([I-D2]) or isblank([I-E1]) or
isblank([I-E2]) then
```

```
    [@I-1] = blanknum()
```

```
    [@I-2] = blanknum()
```

```
else
```

```
    [@I-1] = glin(1,"VoLife Wk")*gexp([I-A1],"W-IA1")*
```

```
    gexp([I-B1],"W-IB1")*gexp([I-C1],"W-IC1")*
```

```
    gexp([I-D1],"W-ID1")*gexp([I-E1],"W-IE1")
```

```
    [@I-2] = glin(1,"VoLife Wk")*gexp([I-A2],"W-IA1")*
```

```
    gexp([I-B2],"W-IB1")*gexp([I-C2],"W-IC1")*
```

```
    gexp([I-D2],"W-ID1")*gexp([I-E2],"W-IE1")
```

```
endif
```

```
endif
```

```
endif
```

```
;*** Calculate net benefit for Section II ***;
```

```
if isblank([II-Problem?]) or isblank([II-ActPlan?]) then
```

```
    [@II-1] = blanknum()
```

```
    [@II-2] = blanknum()
```

```
else if [II-Problem?]<>"yes" and [II-ActPlan?]<>"yes" then
```

```
    [@II-1] = 0
```

```
    [@II-2] = 0
```

```
else if isblank([II-A1]) or isblank([II-A2]) or isblank([II-B1]) or
isblank([II-B2]) or isblank([II-C1]) or isblank([II-C2]) or
isblank([II-D1]) or isblank([II-D2]) or isblank([II-E1]) or
isblank([II-E2]) then
```

```
    [@II-1] = blanknum()
```

```
    [@II-2] = blanknum()
```

```
else
```

```
    [@II-1] = glin(1,"VoLife Pb")*gexp([II-A1],"W-IIA1")*
```

```
    gexp([II-B1],"W-IIB1")*gexp([II-C1],"W-IIC1")*
```

```
        gexp([II-D1], "W-IID1") * gexp([II-E1], "W-IIE1")
    [@II-2] = glin(1, "VoLife Pb") * gexp([II-A2], "W-IIA1") *
        gexp([II-B2], "W-IIB1") * gexp([II-C2], "W-IIC1") *
        gexp([II-D2], "W-IID1") * gexp([II-E2], "W-IIE1")
endif
endif
endif

;*** Calculate net benefit for Section III ***;
if isblank([III-Probplan?]) then
    [@III-1] = blanknum()
    [@III-2] = blanknum()
else if [III-ProbPlan?] <> "yes" then
    [@III-1] = 0
    [@III-2] = 0
else if isblank([III-A]) or isblank([III-B1]) or isblank([III-B2]) or
    isblank([III-C1]) or isblank([III-C2]) then
    [@III-1] = blanknum()
    [@III-2] = blanknum()
else
    ; The following equation divides by 4 since 4 is the top of the scale
    [@III-1] = ([III-A]/4) * gexp([III-B1], "W-IIIB1") *
        gexp([III-C1], "W-IIIC1")
    [@III-2] = ([III-A]/4) * gexp([III-B2], "W-IIIB1") *
        gexp([III-C2], "W-IIIC1")
endif
endif
endif

;*** Calculate net benefit for Section IV ***;
if isblank([IV-AwareNow?]) or isblank([IV-Aware3yr?]) then
    [@IV-1] = blanknum()
    [@IV-2] = blanknum()
else if [IV-AwareNow?] <> "yes" and [IV-Aware3yr?] <> "yes" then
    [@IV-1] = 0
    [@IV-2] = 0
else if isblank([IV-A1]) or isblank([IV-A2]) then
    [@IV-1] = blanknum()
    [@IV-2] = blanknum()
else
    [@IV-1] = glin([IV-A1], "W-IVA1")
    [@IV-2] = glin([IV-A2], "W-IVA1")
endif
endif
endif

;*** Calculate net benefit for Section V ***;
if isblank([V-ProbPlan?]) then
    [@V-1] = blanknum()
    [@V-2] = blanknum()
else if [V-ProbPlan?] <> "yes" then
    [@V-1] = 0
    [@V-2] = 0
else if isblank([V-A1]) or isblank([V-A2]) or
    isblank([V-B1]) or isblank([V-B2]) then
    [@V-1] = blanknum()
    [@V-2] = blanknum()
endif
```

```
else
    [@V-1] = glin(1,"VoViolation")*glin([V-A1],"W-VA1")*
        glin([V-B1],"W-VB1")
    [@V-2] = glin(1,"VoViolation")*glin([V-A2],"W-VA1")*
        glin([V-B2],"W-VB1")
endif
endif
endif

;*** Calculate net benefit for Section VI, Parts A,B ***;
if isblank([VI-ProbPlan?]) then
    [@VI-1] = blanknum()
    [@VI-2] = blanknum()
else if [VI-ProbPlan?]<>"yes" then
    [@VI-1] = 0
    [@VI-2] = 0
else if isblank([VI-A1]) or isblank([VI-A2]) or isblank([VI-B1]) or
    isblank([VI-B2]) then
    [@VI-1] = blanknum()
    [@VI-2] = blanknum()
else
    [@VI-1] = glin([VI-A1],"W-VIA1")*gexp([VI-B1],"W-VIB1")
    [@VI-2] = glin([VI-A2],"W-VIA1")*gexp([VI-B2],"W-VIB1")
endif
endif
endif

;*** Calculate net benefit for Section VI, Part C ***;
if isblank([VI-Effcncy?]) then
    [@VI-C] = blanknum()
else if [VI-Effcncy?]<>"yes" then
    [@VI-C] = 0
else if isblank([VI-C1]) or isblank([VI-C2]) or isblank([VI-C3]) then
    [@VI-C] = blanknum()
else
    ;The following equation multiplies the annual labor expense by 3
    ;because we consider efficiency changes over a 3-year period.
    [@VI-C] = 3*glin(1,"An Labor Ex")*gexp([VI-C1],"W-VIC1")*
        gexp([VI-C2],"W-VIC2")*glin([VI-C3],"W-VIC3")
endif
endif
endif

;*** Calculate net benefit for Section VI, Part D ***;
if isblank([VI-Delay?]) then
    [@VI-D] = blanknum()
else if [VI-Delay?]<>"yes" then
    [@VI-D] = 0
else if isblank([VI-D]) then
    [@VI-D] = blanknum()
else
    [@VI-D] = [VI-D]
endif
endif
endif

;*** Calculate net benefit for Section VII ***;
```

```
if isblank([VII-Study?]) then
  [@VII] = blanknum()
else if [VII-Study?]<>"yes" then
  [@VII] = 0
else if isblank([VII-RiskWork?]) or isblank([VII-InfoWork?]) or
  isblank([VII-RiskPub?]) or isblank([VII-InfoPub?]) or
  isblank([VII-RiskEnv?]) or isblank([VII-InfoEnv?]) then
  [@VII] = blanknum()
else if [VII-RiskWork?]="yes" and [VII-InfoWork?]="yes" and
  (isblank([VII-A-SevLo]) or isblank([VII-A-SevHi]) or
  isblank([VII-A-PotLo]) or isblank([VII-A-PotHi]) or
  isblank([VII-A-LikLo]) or isblank([VII-A-LikHi]) or
  isblank([VII-A-PopLo]) or isblank([VII-A-PopHi]) or
  isblank([VII-A-RskLo]) or isblank([VII-A-RskHi]) or
  isblank([I-Problem?]) or isblank([I-ActPlan?]) or
  ([I-Problem?]<>"yes" and [I-ActPlan?]<>"yes") or
  isblank([I-A2]) or isblank([I-B2]) or isblank([I-C2]) or
  isblank([I-D2]) or isblank([I-E2])) then
  [@VII] = blanknum()
else if not ([VII-RiskWork?]="yes" and [VII-InfoWork?]="yes") and
  (isblank([@I-1]) or isblank([@I-2])) then
  [@VII] = blanknum()
else if [VII-RiskPub?]="yes" and [VII-InfoPub?]="yes" and
  (isblank([VII-B-SevLo]) or isblank([VII-B-SevHi]) or
  isblank([VII-B-PotLo]) or isblank([VII-B-PotHi]) or
  isblank([VII-B-LikLo]) or isblank([VII-B-LikHi]) or
  isblank([VII-B-PopLo]) or isblank([VII-B-PopHi]) or
  isblank([VII-B-RskLo]) or isblank([VII-B-RskHi]) or
  isblank([II-Problem?]) or isblank([II-ActPlan?]) or
  ([II-Problem?]<>"yes" and [II-ActPlan?]<>"yes") or
  isblank([II-A2]) or isblank([II-B2]) or isblank([II-C2]) or
  isblank([II-D2]) or isblank([II-E2])) then
  [@VII] = blanknum()
else if not ([VII-RiskPub?]="yes" and [VII-InfoPub?]="yes") and
  (isblank([@II-1]) or isblank([@II-2])) then
  [@VII] = blanknum()
else if [VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes" and
  (isblank([VII-C-AreaLo]) or isblank([VII-C-AreaHi]) or
  isblank([VII-C-MagLo]) or isblank([VII-C-MagHi]) or
  isblank([VII-C-LikLo]) or isblank([VII-C-LikHi]) or
  isblank([III-ProbPlan?]) or [III-ProbPlan?]<>"yes" or
  isblank([III-A]) or isblank([III-B2]) or isblank([III-C2]) or
  [III-A]<=0) then
  [@VII] = blanknum()
else if not ([VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes") and
  (isblank([@III-1]) or isblank([@III-2])) then
  [@VII] = blanknum()
else if isblank([VII-D-Lo]) or isblank([VII-D-Hi]) or isblank([VII-E]) then
  [@VII] = blanknum()
else if isblank([@IV-1]) or isblank([@IV-2]) or isblank([@V-1]) or
  isblank([@V-2]) or isblank([@VI-1]) or isblank([@VI-2]) or
  isblank([@VI-C]) or isblank([@VI-D]) then
  [@VII] = blanknum()
else
  ; calculate the value of information
  ; determine distributions if action plan is not implemented
  if [VII-RiskWork?]="yes" and [VII-InfoWork?]="yes" then
```

```

lam_work_effect =
    lamfrac(glin(1,"VoLife_Wk")*gexp([VII-A-SevLo],"W-IA1"),
    glin(1,"VoLife_Wk")*gexp([VII-A-SevHi],"W-IA1"))
sig_work_effect =
    sigfrac(glin(1,"VoLife_Wk")*gexp([VII-A-SevLo],"W-IA1"),
    glin(1,"VoLife_Wk")*gexp([VII-A-SevHi],"W-IA1"))
lam_work_exp = lamfrac(gexp([VII-A-PotLo],"W-IB1"),
    gexp([VII-A-PotHi],"W-IB1"))
sig_work_exp = sigfrac(gexp([VII-A-PotLo],"W-IB1"),
    gexp([VII-A-PotHi],"W-IB1"))
lam_work_like = lamfrac(gexp([VII-A-LikLo],"W-IC1"),
    gexp([VII-A-LikHi],"W-IC1"))
sig_work_like = sigfrac(gexp([VII-A-LikLo],"W-IC1"),
    gexp([VII-A-LikHi],"W-IC1"))
lam_work_pop = lamfrac(gexp([VII-A-PopLo],"W-ID1"),
    gexp([VII-A-PopHi],"W-ID1"))
sig_work_pop = sigfrac(gexp([VII-A-PopLo],"W-ID1"),
    gexp([VII-A-PopHi],"W-ID1"))
lam_work_urg = lamfrac(gexp([VII-A-RskLo],"W-IE1"),
    gexp([VII-A-RskHi],"W-IE1"))
sig_work_urg = sigfrac(gexp([VII-A-RskLo],"W-IE1"),
    gexp([VII-A-RskHi],"W-IE1"))
lam_work_HS = lam_work_effect + lam_work_exp + lam_work_like +
    lam_work_pop + lam_work_urg
sig_work_HS = sqrt(sig_work_effect*sig_work_effect +
    sig_work_exp*sig_work_exp + sig_work_like*sig_work_like +
    sig_work_pop*sig_work_pop + sig_work_urg*sig_work_urg)
mean_work_HS = mean(lam_work_HS, sig_work_HS)
var_work_HS = var(lam_work_HS, sig_work_HS)
skew_work_HS = skew(lam_work_HS, sig_work_HS)
else
    mean_work_HS = [@I-1]
    var_work_HS = 0
    skew_work_HS = 0
endif
if [VII-RiskPub?]="yes" and [VII-InfoPub?]="yes" then
    lam_pub_effect =
        lamfrac(glin(1,"VoLife_Pb")*gexp([VII-B-SevLo],"W-IIA1"),
        glin(1,"VoLife_Pb")*gexp([VII-B-SevHi],"W-IIA1"))
    sig_pub_effect =
        sigfrac(glin(1,"VoLife_Pb")*gexp([VII-B-SevLo],"W-IIA1"),
        glin(1,"VoLife_Pb")*gexp([VII-B-SevHi],"W-IIA1"))
    lam_pub_exp = lamfrac(gexp([VII-B-PotLo],"W-IIB1"),
        gexp([VII-B-PotHi],"W-IIB1"))
    sig_pub_exp = sigfrac(gexp([VII-B-PotLo],"W-IIB1"),
        gexp([VII-B-PotHi],"W-IIB1"))
    lam_pub_like = lamfrac(gexp([VII-B-LikLo],"W-IIC1"),
        gexp([VII-B-LikHi],"W-IIC1"))
    sig_pub_like = sigfrac(gexp([VII-B-LikLo],"W-IIC1"),
        gexp([VII-B-LikHi],"W-IIC1"))
    lam_pub_pop = lamfrac(gexp([VII-B-PopLo],"W-IID1"),
        gexp([VII-B-PopHi],"W-IID1"))
    sig_pub_pop = sigfrac(gexp([VII-B-PopLo],"W-IID1"),
        gexp([VII-B-PopHi],"W-IID1"))
    lam_pub_urg = lamfrac(gexp([VII-B-RskLo],"W-IIE1"),
        gexp([VII-B-RskHi],"W-IIE1"))
    sig_pub_urg = sigfrac(gexp([VII-B-RskLo],"W-IIE1"),

```



```

    gexp([VII-B-RskHi], "W-IIIE1"))
lam_pub_HS = lam_pub_effect + lam_pub_exp + lam_pub_like +
    lam_pub_pop + lam_pub_urg
sig_pub_HS = sqrt(sig_pub_effect*sig_pub_effect +
    sig_pub_exp*sig_pub_exp + sig_pub_like*sig_pub_like +
    sig_pub_pop*sig_pub_pop + sig_pub_urg*sig_pub_urg)
mean_pub_HS = mean(lam_pub_HS, sig_pub_HS)
var_pub_HS = var(lam_pub_HS, sig_pub_HS)
skew_pub_HS = skew(lam_pub_HS, sig_pub_HS)
else
    mean_pub_HS = [@II-1]
    var_pub_HS = 0
    skew_pub_HS = 0
endif
if [VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes" then
    lam_env_area =
        lamfrac(([@III-A]/4)*gexp([VII-C-AreaLo], "W-VIICLo"),
        ([@III-A]/4)*gexp([VII-C-AreaHi], "W-VIICHi"))
    sig_env_area =
        sigfrac(([@III-A]/4)*gexp([VII-C-AreaLo], "W-VIICLo"),
        ([@III-A]/4)*gexp([VII-C-AreaHi], "W-VIICHi"))
    lam_env_effect = lamfrac(gexp([VII-C-MagLo], "W-IIIB1"),
        gexp([VII-C-MagHi], "W-IIIB1"))
    sig_env_effect = sigfrac(gexp([VII-C-MagLo], "W-IIIB1"),
        gexp([VII-C-MagHi], "W-IIIB1"))
    lam_env_like = lamfrac(gexp([VII-C-LikLo], "W-IIIC1"),
        gexp([VII-C-LikHi], "W-IIIC1"))
    sig_env_like = sigfrac(gexp([VII-C-LikLo], "W-IIIC1"),
        gexp([VII-C-LikHi], "W-IIIC1"))
    lam_env = lam_env_area + lam_env_effect + lam_env_like
    sig_env = sqrt(sig_env_area*sig_env_area +
        sig_env_effect*sig_env_effect + sig_env_like*sig_env_like)
    mean_env = mean(lam_env, sig_env)
    var_env = var(lam_env, sig_env)
    skew_env = skew(lam_env, sig_env)
else
    mean_env = [@III-1]
    var_env = 0
    skew_env = 0
endif
mean_VII = mean_work_HS + mean_pub_HS + mean_env + [@IV-1] +
    [@V-1] + [@VI-1] + max(0, [@VI-C]) + max(0, -[@VI-D])
var_VII = var_work_HS + var_pub_HS + var_env
skew_VII = skew_work_HS + skew_pub_HS + skew_env
lam_VII = lamsk(mean_VII, var_VII, skew_VII)
sig_VII = sigsk(var_VII, skew_VII)
del_VII = mean_VII - mean(lam_VII, sig_VII)
; determine modified distributions if action plan is implemented
if [VII-RiskWork?]="yes" and [VII-InfoWork?]="yes" then
    var_mod_work_effect = var(lam_work_effect, sig_work_effect)
    lam_mod_work_effect = lammed(glin(1, "VoLife_Wk")*gexp([I-A2],
        "W-IA1"))
    sig_mod_work_effect = sigmed(glin(1, "VoLife_Wk")*gexp([I-A2],
        "W-IA1"), var_mod_work_effect)
    var_mod_work_exp = var(lam_work_exp, sig_work_exp)
    lam_mod_work_exp = lammed(gexp([I-B2], "W-IB1"))
    sig_mod_work_exp = sigmed(gexp([I-B2], "W-IB1"), var_mod_work_exp)

```



```

var_mod_work_like = var(lam_work_like,sig_work_like)
lam_mod_work_like = lammed(gexp([I-C2],"W-IC1"))
sig_mod_work_like = sigmed(gexp([I-C2],"W-IC1"), var_mod_work_like)
var_mod_work_pop = var(lam_work_pop,sig_work_pop)
lam_mod_work_pop = lammed(gexp([I-D2],"W-ID1"))
sig_mod_work_pop = sigmed(gexp([I-D2],"W-ID1"), var_mod_work_pop)
var_mod_work_urg = var(lam_work_urg,sig_work_urg)
lam_mod_work_urg = lammed(gexp([I-E2],"W-IE1"))
sig_mod_work_urg = sigmed(gexp([I-E2],"W-IE1"), var_mod_work_urg)
lam_mod_work_HS = lam_mod_work_effect + lam_mod_work_exp +
    lam_mod_work_like + lam_mod_work_pop + lam_mod_work_urg
sig_mod_work_HS = sqrt(sig_mod_work_effect*sig_mod_work_effect +
    sig_mod_work_exp*sig_mod_work_exp +
    sig_mod_work_like*sig_mod_work_like +
    sig_mod_work_pop*sig_mod_work_pop +
    sig_mod_work_urg*sig_mod_work_urg)
mean_mod_work_HS = mean(lam_mod_work_HS, sig_mod_work_HS)
var_mod_work_HS = var(lam_mod_work_HS, sig_mod_work_HS)
skew_mod_work_HS = skew(lam_mod_work_HS, sig_mod_work_HS)
else
    mean_mod_work_HS = [I-2]
    var_mod_work_HS = 0
    skew_mod_work_HS = 0
endif
if [VII-RiskPub?]="yes" and [VII-InfoPub?]="yes" then
    var_mod_pub_effect = var(lam_pub_effect,sig_pub_effect)
    lam_mod_pub_effect = lammed(glin(1,"VoLife_Pb")*gexp([II-A2],
        "W-IIA1"))
    sig_mod_pub_effect = sigmed(glin(1,"VoLife_Pb")*gexp([II-A2],
        "W-IIA1"), var_mod_pub_effect)
    var_mod_pub_exp = var(lam_pub_exp,sig_pub_exp)
    lam_mod_pub_exp = lammed(gexp([II-B2],"W-IIB1"))
    sig_mod_pub_exp = sigmed(gexp([II-B2],"W-IIB1"), var_mod_pub_exp)
    var_mod_pub_like = var(lam_pub_like,sig_pub_like)
    lam_mod_pub_like = lammed(gexp([II-C2],"W-IIC1"))
    sig_mod_pub_like = sigmed(gexp([II-C2],"W-IIC1"), var_mod_pub_like)
    var_mod_pub_pop = var(lam_pub_pop,sig_pub_pop)
    lam_mod_pub_pop = lammed(gexp([II-D2],"W-IID1"))
    sig_mod_pub_pop = sigmed(gexp([II-D2],"W-IID1"), var_mod_pub_pop)
    var_mod_pub_urg = var(lam_pub_urg,sig_pub_urg)
    lam_mod_pub_urg = lammed(gexp([II-E2],"W-IIIE1"))
    sig_mod_pub_urg = sigmed(gexp([II-E2],"W-IIIE1"), var_mod_pub_urg)
    lam_mod_pub_HS = lam_mod_pub_effect + lam_mod_pub_exp +
        lam_mod_pub_like + lam_mod_pub_pop + lam_mod_pub_urg
    sig_mod_pub_HS = sqrt(sig_mod_pub_effect*sig_mod_pub_effect +
        sig_mod_pub_exp*sig_mod_pub_exp +
        sig_mod_pub_like*sig_mod_pub_like +
        sig_mod_pub_pop*sig_mod_pub_pop +
        sig_mod_pub_urg*sig_mod_pub_urg)
    mean_mod_pub_HS = mean(lam_mod_pub_HS, sig_mod_pub_HS)
    var_mod_pub_HS = var(lam_mod_pub_HS, sig_mod_pub_HS)
    skew_mod_pub_HS = skew(lam_mod_pub_HS, sig_mod_pub_HS)
else
    mean_mod_pub_HS = [II-2]
    var_mod_pub_HS = 0
    skew_mod_pub_HS = 0
endif

```

```

if [VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes" then
    lam_mod_env_area = lam_env_area
    sig_mod_env_area = sig_env_area
    var_mod_env_effect = var(lam_env_effect, sig_env_effect)
    lam_mod_env_effect = lammed(gexp([III-B2], "W-IIIB1"))
    sig_mod_env_effect = sigmed(gexp([III-B2], "W-IIIB1"),
        var_mod_env_effect)
    var_mod_env_like = var(lam_env_like, sig_env_like)
    lam_mod_env_like = lammed(gexp([III-C2], "W-IIIC1"))
    sig_mod_env_like = sigmed(gexp([III-C2], "W-IIIC1"),
        var_mod_env_like)
    lam_mod_env = lam_mod_env_area + lam_mod_env_effect +
        lam_mod_env_like
    sig_mod_env = sqrt(sig_mod_env_area*sig_mod_env_area +
        sig_mod_env_effect*sig_mod_env_effect +
        sig_mod_env_like*sig_mod_env_like)
    mean_mod_env = mean(lam_mod_env, sig_mod_env)
    var_mod_env = var(lam_mod_env, sig_mod_env)
    skew_mod_env = skew(lam_mod_env, sig_mod_env)
else
    mean_mod_env = [@III-2]
    var_mod_env = 0
    skew_mod_env = 0
endif
; determine distribution for cost
lam_cost = lamfrac(gexp([VII-D-Lo], "W-VIID"),
    gexp([VII-D-Hi], "W-VIID"))
sig_cost = sigfrac(gexp([VII-D-Lo], "W-VIID"),
    gexp([VII-D-Hi], "W-VIID"))
mean_cost = mean(lam_cost, sig_cost)
var_cost = var(lam_cost, sig_cost)
skew_cost = skew(lam_cost, sig_cost)
mean_mod_VII = mean_mod_work_HS + mean_mod_pub_HS + mean_mod_env +
    mean_cost + [@IV-2] + [@V-2] + [@VI-2] + max(0, -[@VI-C]) +
    max(0, [@VI-D])
var_mod_VII = var_mod_work_HS + var_mod_pub_HS + var_mod_env +
    var_cost
skew_mod_VII = skew_mod_work_HS + skew_mod_pub_HS + skew_mod_env +
    skew_cost
lam_mod_VII = lamsk(mean_mod_VII, var_mod_VII, skew_mod_VII)
sig_mod_VII = sigsk(var_mod_VII, skew_mod_VII)
del_mod_VII = mean_mod_VII - mean(lam_mod_VII, sig_mod_VII)
EV1 = min(mean_VII, mean_mod_VII)
run norefresh "meanmin "+strval(lam_VII)+" "+strval(sig_VII)+" "+
    strval(del_VII)+" "+strval(lam_mod_VII)+" "+strval(sig_mod_VII)+
    " "+strval(del_mod_VII)
play "meanmin"
EV2 = meanmin
if isblank(EV2) then
    ; This indicates an error in meanmin.
    [@VII] = blanknum()
    @ 0, 0
    clear eol
    ?? "ERROR in meanmin(): " + meanerr ?
    beep
    sleep 10000
else

```

```
;*** move to the next record
```

Attachment 8

Listing of a C Program That Does a Numerical Integration Needed to Determine the Value of Uncertainty Reduction


```
/* Program to run meanmin.c from the command line */
```

```
    nclude <stdio.h>
#include <stdlib.h>
```

```
double meanmin(double lamx, double sigx, double delx, double lamy,
double sigy, double dely);
```

```
void mmerror(char *error_text);
```

```
FILE *out_file;
```

```
void main(int argc, char **argv)
```

```
{
    double lamx, sigx, delx, lamy, sigy, dely, mean;
    int i;
    /* open the output file */
    out_file = fopen("meanmin.sc", "w");
    if(out_file==NULL)
        exit(1);
    /* get lamx, sigx, delx, lamy, sigy, and dely from the argument list */
    if(argc<7)
        mmerror("Too few command line arguments for meanmin");
    i = sscanf(++argv, "%lf", &lamx);
    if(i!=1)
        mmerror("First command line argument is not a valid number");
    i = sscanf(++argv, "%lf", &sigx);
    if((i!=1) || (sigx<0.0))
        mmerror("Second command line argument is not a non-negative number");
    i = sscanf(++argv, "%lf", &delx);
    if(i!=1)
        mmerror("Third command line argument is not a valid number");
    i = sscanf(++argv, "%lf", &lamy);
    if(i!=1)
        mmerror("Fourth command line argument is not a valid number");
    i = sscanf(++argv, "%lf", &sigy);
    if((i!=1) || (sigy<0.0))
        mmerror("Fifth command line argument is not a non-negative number");
    i = sscanf(++argv, "%lf", &dely);
    if(i!=1)
        mmerror("Sixth command line argument is not a valid number");
    mean = meanmin(lamx, sigx, delx, lamy, sigy, dely);
    fprintf(out_file, "meanmin = %20.10g\n", mean);
}
```

```
void mmerror(char *error_text)
```

```
{
    fprintf(out_file, "meanmin = blanknum()\n");
    fprintf(out_file, "meanerr = \"%s\"\n", error_text);
    exit(1);
}
```



```
/* meanmin.c - a subroutine to integrate the density function for the minimum
   of two independent random variables with lognormal distributions */
```

```
#include <stdio.h>
#include <math.h>
#include <malloc.h>
```

```
#define PI 3.1415926
```

```
double meanmin(double lamx, double sigx, double delx, double lamy,
               double sigy, double dely);
double intmin(double lamx, double sigx, double delx, double lamy,
               double sigy, double dely);
double normf(double x, double lam, double sig);
double normcf(double x, double lam, double sig);
double erf(double x);
double lamf(double mean, double var);
double sigf(double mean, double var);
double meanf(double lam, double sig);
double varf(double lam, double sig);
double skewf(double lam, double sig);
double lamsk(double mean, double var, double skew);
double sigsk(double var, double skew);
```

```
void mmerror(char *error_text);
```

```
static double expterm(double lamx, double sigx, double delx, double lamy,
                     double sigy, double dely);
static double consterm(double lamx, double sigx, double delx, double lamy,
                     double sigy, double dely);
static double fmin(double z, double lamx, double sigx, double delx,
                  double lamy, double sigy, double dely);
static double expfmin(double z, double lamx, double sigx, double delx,
                    double lamy, double sigy, double dely);
static double qromo(double (*func)(double, double, double, double, double,
double, double), double a, double b, double (*choose)(double(*) (double,
double, double, double, double, double, double), double, double, int,
double, double, double, double, double, double), double lamx,
double sigx, double delx, double lamy, double sigy, double dely);
static double midpnt(double (*func)(double, double, double, double, double,
double, double, double), double a, double b, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely);
static double midinf(double (*funkt)(double, double, double, double, double,
double, double, double), double aa, double bb, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely);
static double midexp(double (*funkt)(double, double, double, double, double,
double, double, double), double aa, double bb, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely);
static double midsql(double (*funkt)(double, double, double, double, double,
double, double, double), double aa, double bb, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely);
static void polint(double *xa, double *ya, int n, double x, double *y,
                  double *dy);
static double *vector(int nl, int nh);
static void free_vector(double *v, int nl, int nh);
```

```
/* meanmin calculates the expected value of the minimum
```



```

of two independent, displaced lognormals given their parameters */
double meanmin(double lamx, double sigx, double delx, double lamy,
double sigy, double dely)
{
double ax,ay,i1,i2,i3,i4;
if (sigx>0 && sigy>0)
{
/* exp term with cumulative of y */
i1 = expterm(lamx, sigx, delx, lamy, sigy, dely);
/* constant term with cumulative of y */
i2 = delx * consterm(lamx, sigx, delx, lamy, sigy, dely);
/* exp term with cumulative of x */
i3 = expterm(lamy, sigy, dely, lamx, sigx, delx);
/* constant term with cumulative of x */
i4 = dely * consterm(lamy, sigy, dely, lamx, sigx, delx);
return i1+i2+i3+i4;
}
else if (sigx>0 && sigy==0)
{
ay = meanf(lamy,sigy) + dely;
if (ay>delx)
return exp(lamx+sigx*sigx/2) * normcf(log(ay-delx),
lamx+sigx*sigx,sigx) + delx * normcf(log(ay-delx),lamx,sigx) +
ay * (1.0-normcf(log(ay-delx),lamx,sigx));
else
return ay;
}
else if (sigx==0 && sigy>0)
{
ax = meanf(lamx,sigx) + delx;
if (ax>dely)
return exp(lamy+sigy*sigy/2) * normcf(log(ax-dely),
lamy+sigy*sigy,sigy) + dely * normcf(log(ax-dely),lamy,sigy) +
ax * (1.0-normcf(log(ax-dely),lamy,sigy));
else
return ax;
}
else if (sigx==0 && sigy==0)
{
ax = meanf(lamx,sigx) + delx;
ay = meanf(lamy,sigy) + dely;
return (ax<ay)?ax:ay;
}
else
mmerror("meanmin() called with negative standard deviation");
}

/* intmin calculates the integral of the distribution of the
minimum of two independent, displaced lognormals given their parameters */
double intmin(double lamx, double sigx, double delx, double lamy,
double sigy, double dely)
{
double i1,i2;
if (sigx>0 && sigy>0)
{
/* term with cumulative of y */
i1 = consterm(lamx, sigx, delx, lamy, sigy, dely);

```

```

    /* term with cumulative of x */
    i2 = consterm(lamy, sigy, dely, lamx, sigx, delx);
    return i1+i2;
}
else
    return 1.0;
}

/* expterm computes a term in the integral that contains exp(z) */
/* lamx, sigx, and delx refer to the distribution */
/* lamy, sigy, and dely refer to the cumulative distribution */
/* sigx and sigy must be positive */
static double expterm(double lamx, double sigx, double delx, double lamy,
    double sigy, double dely)
{
    double lamshift, ax, bx, ay, by, b, ea, eb, i;
    /* exp term with cumulative of y */
    lamshift = lamx + sigx*sigx;
    ax = lamshift-5.0*sigx;
    bx = lamshift+5.0*sigx;
    ea = exp(lamy-5.0*sigy)+dely-delx;
    if(ea>0)
        ay = log(ea);
    eb = exp(lamy+5.0*sigy)+dely-delx;
    if(eb>0)
    {
        by = log(eb);
        b = (bx<by)?bx:by;
    }
    if (eb<=0||ax>=by)
        i = 0.0;
    else if (ea>0&&bx<=ay)
    {
        i = meanf(lamx, sigx);
        if (delx>dely)
            i = i*(1.0-normcdf(log(delx-dely), lamy, sigy));
    }
    else
        i = qromo(expfmin, ax, b, midpnt, lamx, sigx, delx,
            lamy, sigy, dely);
    return i;
}

/* consterm computes a constant term in the integral */
/* lamx, sigx, and delx refer to the distribution */
/* lamy, sigy, and dely refer to the cumulative distribution */
/* sigx and sigy must be positive */
static double consterm(double lamx, double sigx, double delx, double lamy,
    double sigy, double dely)
{
    double ax, bx, ay, by, b, ea, eb, i;
    ax = lamx-5.0*sigx;
    bx = lamx+5.0*sigx;
    ea = exp(lamy-5.0*sigy)+dely-delx;
    if(ea>0)
        ay = log(ea);
    eb = exp(lamy+5.0*sigy)+dely-delx;

```

```

if (eb>0)
{
    by = log(eb);
    b = (bx<by)?bx:by;
}
if (eb<=0||ax>=by)
    i = 0.0;
else if (ea>0&&bx<=ay)
{
    if (delx>dely)
        i = (1.0-normcf(log(delx-dely),lamy,sigy));
    else
        i = 1.0;
}
else
    i = qromo(fmin, ax, b, midpnt, lamx, sigx, delx,
        lamy, sigy, dely);
return i;
}

```

/* normf is the normal distribution */

```

double normf(double x, double lam, double sig)
{
    double xx;
    xx = x-lam;
    return (double) exp(-(xx*xx)/(2.0*sig*sig))/(sig*sqrt(2.0*PI));
}

```

/* normcf is the normal cumulative distribution */

```

double normcf(double x, double lam, double sig)
{
    return (double) (1+erf((x-lam)/(sig*sqrt(2.0))))/2.0;
}

```

/* erf is the error function */

```

double erf(double x)
{
    double t,z,ans;
    z=fabs(x);
    t=1.0/(1.0+0.5*z);
    ans=t*exp(-z*z-1.26551223+t*(1.00002368+t*(0.37409196+t*(0.09678418+
        t*(-0.18628806+t*(0.27886807+t*(-1.13520398+t*(1.48851587+
        t*(-0.82215223+t*0.17087277))))))));
    return x >= 0.0 ? 1.0-ans : ans-1.0;
}

```

/* lamf computes lambda from the mean and variance
of a lognormal distribution */

```

double lamf(double mean, double var)
{
    return (double) log((mean*mean)/sqrt(var+mean*mean));
}

```

sigf computes sigma from the mean and variance
of a lognormal distribution */

```

double sigf(double mean, double var)
{

```

```
return (double) sqrt(log((var+mean*mean)/(mean*mean)));
}
```

```
/* meanf computes the mean from the parameters
of a lognormal distribution */
```

```
double meanf(double lam, double sig)
{
return (double) exp(lam + sig*sig/2.0);
}
```

```
/* varf computes the variance from the parameters
of a lognormal distribution */
```

```
double varf(double lam, double sig)
{
return (double) exp(2.0*lam + 2.0*sig*sig) - exp(2.0*lam + sig*sig);
}
```

```
/* skewf computes the skew from the parameters
of a lognormal distribution */
```

```
double skewf(double lam, double sig)
{
double sig2;
sig2 = sig*sig;
return (double) exp(3.0*lam) * exp((3.0/2.0)*sig2) *
(exp(3.0*sig2) - 3.0*exp(sig2) + 2.0);
}
```

```
/* lamsk computes lambda from the variance and skew
of a lognormal distribution */
```

```
double lamsk(double mean, double var, double skew)
{
double a,b,c;
if(var>0.0 && skew!=0.0)
{
c = (skew*skew)/(var*var*var);
a = sqrt(c*(4.0+c))/2.0;
b = pow(1.0+c/2+a,1.0/3.0) + pow(1.0+c/2-a,1.0/3.0) - 1.0;
return log(sqrt(var/(b*(b-1.0))));
}
else if(mean>0.0)
return log(mean);
else
return 0.0;
}
```

```
/* sigsk computes sigma from the variance and skew
of a lognormal distribution */
```

```
double sigsk(double var, double skew)
{
double a,b,c;
if(var>0.0)
{
c = (skew*skew)/(var*var*var);
a = sqrt(c*(4.0+c))/2.0;
b = pow(1.0+c/2+a,1.0/3.0) + pow(1.0+c/2-a,1.0/3.0) - 1.0;
return sqrt(log(b));
}
```

```
    else
        return 0.0;
    }

/* fmin is half of the distribution for the minimum of two
   independent displaced normals */
/* lamx, sigx, and delx refer to the distribution */
/* lamy, sigy, and dely refer to the cumulative distribution */
static double fmin(double z, double lamx, double sigx, double delx,
    double lamy, double sigy, double dely)
{
    double u,v;
    u = exp(z)+delx-dely;
    if(u>0)
        v = 1.0-normcf(log(u),lamy,sigy);
    else
        v = 1.0;
    return (double) normf(z,lamx,sigx) * v;
}

/* expfmin is the exp(z) times half of the distribution for the minimum
   of two independent normals */
static double expfmin(double z, double lamx, double sigx, double delx,
    double lamy, double sigy, double dely)
{
    return (double) exp(z)*fmin(z,lamx,sigx,delx,lamy,sigy,dely);
}

. gromo performs Romberg integration on an open interval */
#define EPS 1.0e-6
#define JMAX 14
#define JMAXP JMAX+1
#define K 5
static double gromo(double (*func)(double, double, double, double, double,
    double, double), double a, double b, double (*choose)(double*)(double,
    double, double, double, double, double, double), double, double, int,
    double, double, double, double, double, double), double lamx,
    double sigx, double delx, double lamy, double sigy, double dely)
{
    int j;
    double ss,dss,h[JMAXP+1],s[JMAXP+1];
    h[1]=1.0;
    for (j=1;j<=JMAX;j++)
    {
        s[j]=(*choose)(func,a,b,j,lamx,sigx,delx,lamy,sigy,dely);
        if (j >= K)
        {
            polint(&h[j-K],&s[j-K],K,0.0,&ss,&dss);
            if (fabs(dss) < EPS*fabs(ss)) return ss;
        }
        s[j+1]=s[j];
        h[j+1]=h[j]/9.0;
    }
    mmerror("Too many steps in routine gromo");
}
#undef EPS
#undef JMAX
```

```
#undef JMAXP
#undef K
```

```
/* midpnt is a subroutine for gromo used to integrate functions that have
no singularities and finite limits of integration */
```

```
#define FUNC(x) ((*func)((x),lamx,sigx,delx,lamy,sigy,dely))
```

```
static double midpnt(double (*func)(double, double, double, double,
double, double, double), double a, double b, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely)
```

```
{
double x, tnm, sum, del, ddel;
static double s;
static int it;
int j;
if (n == 1)
{
it=1;
return (s=(b-a)*FUNC(0.5*(a+b)));
}
```

```
else
{
tnm=it;
del=(b-a)/(3.0*tnm);
ddel=del+del;
x=a+0.5*del;
sum=0.0;
for (j=1;j<=it;j++)
{
sum += FUNC(x);
x += ddel;
sum += FUNC(x);
x += del;
}
it *= 3;
s=(s+(b-a)*sum/tnm)/3.0;
return s;
}
```

```
#undef FUNC
```

```
/* midinf is a subroutine for gromo used to integrate functions that have
no singularities and one infinite limit of integration */
```

```
#define FUNC(x) ((*funk)(1.0/(x),lamx,sigx,delx,lamy,sigy,dely)/((x)*(x)))
```

```
static double midinf(double (*funk)(double, double, double, double,
double, double, double), double aa, double bb, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely)
```

```
{
/* aa and bb must have the same sign. */
/* aa can be as large and negative as the computer allows, or
bb can be as large and positive as the computer allows. */
double x,tnm,sum,del,ddel,b,a;
static double s;
static int it;
int j;
b=1.0/aa;
a=1.0/bb;
if (n == 1)
```

```

    {
        it=1;
        return (s=(b-a)*FUNC(0.5*(a+b)));
    }
else
    {
        tnm=it;
        del=(b-a)/(3.0*tnm);
        ddel=del+del;
        x=a+0.5*del;
        sum=0.0;
        for (j=1;j<=it;j++)
            {
                sum += FUNC(x);
                x += ddel;
                sum += FUNC(x);
                x += del;
            }
        it *= 3;
        return (s=(s+(b-a)*sum/tnm)/3.0);
    }
}
#undef FUNC

/* midexp is a subroutine for gromo used to integrate functions that decrease
   exponentially as the argument approaches infinity */
#define FUNC(x) ((*funk)(-log(x),lamx,sigx,delx,lamy,sigy,dely)/(x))
/* tic double midexp(double (*funk)(double, double, double, double,
( double, double, double), double aa, double bb, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely)
{
    /* bb is assumed to be infinite, and the value passed is not used. */
    double x,tnm,sum,del,ddel,b,a;
    static double s;
    static int it;
    int j;
    b=exp(-aa);
    a=0.0;
    if (n == 1)
    {
        it=1;
        return (s=(b-a)*FUNC(0.5*(a+b)));
    }
else
    {
        tnm=it;
        del=(b-a)/(3.0*tnm);
        ddel=del+del;
        x=a+0.5*del;
        sum=0.0;
        for (j=1;j<=it;j++)
            {
                sum += FUNC(x);
                x += ddel;
                sum += FUNC(x);
                x += del;
            }
    }
}

```



```
    it *= 3;
    return (s=(s+(b-a)*sum/tnm)/3.0);
}
```

```
}
#undef FUNC
```

```
/* midsq1 is a subroutine for gromo used to integrate functions that have
   a singularity at their lower limit */
```

```
#define FUNC(x) (2.0*(x)*(*funk)(aa+(x)*(x),lamx,sigx,delx,lamy,sigy,dely))
```

```
static double midsq1(double (*funk)(double, double, double, double,
double, double, double), double aa, double bb, int n, double lamx,
double sigx, double delx, double lamy, double sigy, double dely)
```

```
{
    double x,tnm,sum,del,ddel,b,a;
    static double s;
    static int it;
    int j;
    b=sqrt(bb-aa);
    a=0.0;
    if (n == 1)
    {
        it=1;
        return (s=(b-a)*FUNC(0.5*(a+b)));
    }
```

```
else
{
    tnm=it;
    del=(b-a)/(3.0*tnm);
    ddel=del+del;
    x=a+0.5*del;
    sum=0.0;
    for (j=1;j<=it;j++)
    {
        sum += FUNC(x);
        x += ddel;
        sum += FUNC(x);
        x += del;
    }
    it *= 3;
    return (s=(s+(b-a)*sum/tnm)/3.0);
}
```

```
}
#undef FUNC
```

```
/* polint is a subroutine for gromo that does polynomial interpolation and
   extrapolation */
```

```
static void polint(double *xa, double *ya, int n, double x, double *y,
double *dy)
```

```
{
    int i,m,ns=1;
    double den,dif,dift,ho,hp,w;
    double *c,*d;
    dif=fabs(x-xa[1]);
    c=vector(1,n);
    d=vector(1,n);
    for (i=1;i<=n;i++)
    {
```

```
    if ((dift=fabs(x-xa[i])) < dif)
    {
        ns=i;
        dif=dift;
    }
    c[i]=ya[i];
    d[i]=ya[i];
}
*y=ya[ns--];
for (m=1;m<n;m++)
{
    for (i=1;i<=n-m;i++)
    {
        ho=xa[i]-x;
        hp=xa[i+m]-x;
        w=c[i+1]-d[i];
        if ( (den=ho-hp) == 0.0)
            mmerror("Error in routine polint");
        den=w/den;
        d[i]=hp*den;
        c[i]=ho*den;
    }
    *y += (*dy=(2*ns < (n-m) ? c[ns+1] : d[ns--]));
}
free_vector(d,1,n);
free_vector(c,1,n);
}
```

```
( vector allocates space for a one-dimensional vector */
static double *vector(int nl, int nh)
{
    double *v;
    v=(double *)malloc((unsigned) (nh-nl+1)*sizeof(double));
    if (!v)
        mmerror("Allocation failure in routine vector");
    return v-nl;
}
```

```
/* free_vector frees space allocated by vector */
static void free_vector(double *v, int nl, int nh)
{
    free((char*) (v+nl));
}
```


Attachment 9

Listing of a Paradox Script That Checks Action Plan Assessments


```
; script to check for problems with actplan data
```

```
procedure to add a record to the actprobs table
```

```
; This procedure assumes the record with a problem is the current record.
```

```
proc addprob(probmsg)
  array r[4]
  r[1] = "Actprobs"
  r[2] = [Action Plan #]
  r[3] = [Action Plan Name]
  r[4] = probmsg
  origtable = table()
  moveto "actprobs"
  moveto record nrecords(table())
  if not firsttime then
    down
  endif
  firsttime = false
  copyfromarray r
  moveto origtable
endproc
```

```
proc glin(x,Desc)
;*****
;** This routine performs linear interpolation on the variable x.      **
;** It looks in the table for the row with the appropriate weights,    **
;** then calculates the interpolated value and puts it in "val".        **
;*****
  origtable = table()
  moveto [Weights->Description] ;*** now current image is Weights
  locate Desc
  if retval="False" then
    val = blanknum()
    @ 0, 0
    clear eol
    ?? "ERROR! ",Desc," is not in the Weights table." ?
    beep
    sleep 10000
    return val
  endif
  copytoarray r
  if x<1 or x>r[3] then ;*** error checking
    val = blanknum()
    @ 0, 0
    clear eol
    ?? "ERROR! The scored value ",x," is out of range for ",Desc,"." ?
    beep
    sleep 10000
  else
    i=1
    while x>=i
      if x=i then
        val = r[i+3]
      else if x<i+1 then
        indx = i+3
        val= r[indx] + (r[indx+1]-r[indx])*(x-i)
      endif
    endwhile
  endif
endproc
```

```

        i = i+1
    endwhile
endif
moveto origtable          ;*** back to Actplan table
return val
endproc

proc gexp(x,Desc)
;*****
;** This routine performs exponential interpolation on the variable x.**
;** It looks in the table for the row with the appropriate weights, **
;** then calculates the interpolated value and puts it in "val". **
;*****
    origtable = table()
    moveto [Weights->Description]      ;*** now current image is Weights
    locate Desc
    if retval="False" then
        val = blanknum()
        @ 0, 0
        clear eol
        ?? "ERROR! ",Desc," is not in the Weights table." ?
        beep
        sleep 10000
        return val
    endif
    copytoarray r
    if x<1 or x>r[3] then                ;*** error checking
        val = blanknum()
        @ 0, 0
        clear eol
        ?? "ERROR! The scored value ",x," is out of range for ",Desc,"." ?
        beep
        sleep 10000
    else
        i=1
        while x>=i
            if x=i then
                val = r[i+3]
            else if x<i+1 then
                indx = i+3
                val = exp(ln(r[indx]) + (ln(r[indx+1])-ln(r[indx]))*(x-i))
            endif
            endif
            i = i+1
        endwhile
    endif
    moveto origtable          ;*** back to Actplan table
    return val
endproc

;*****;

; clear the actprobs table
Query

Actprobs |
delete |

```



```

|
|

endquery
do_it!

clearall
view "Weights"
view "Actprobs"
edit "Actplan"

maxdeath = 1
firsttime = true
k = 0
scan
    ; display counter
    if mod(k,10)=0 then
        @ 24, 0
        clear eol
    endif
    k = k+1
    ?? " "+strval(k)+" "

    ; check Section I
    if isblank([I-Problem?]) or isblank([I-ActPlan?]) then
        addprob("Missing answers to the yes/no questions in Section I")
    else if ([I-Problem?]="yes" or [I-ActPlan?]="yes") then
        if isblank([I-A1]) or isblank([I-A2]) or isblank([I-B1]) or
            isblank([I-B2]) or isblank([I-C1]) or isblank([I-C2]) or
            isblank([I-D1]) or isblank([I-D2]) or isblank([I-E1]) or
            isblank([I-E2]) then
            addprob("Missing assessments in Section I")
        else
            if [I-A1]=[I-A2] and [I-B1]=[I-B2] and [I-C1]=[I-C2] and
                [I-D1]=[I-D2] and [I-E1]=[I-E2] then
                addprob("Unchanged assessments in Section I")
            endif
            if [I-A1]<>[I-A2] then
                addprob("Assessments in Section I => "+
                    "change in severity of worker H&S effects")
            endif
            x = gexp([I-A1], "W-IA1")*gexp([I-B1], "W-IB1")*
                gexp([I-C1], "W-IC1")*gexp([I-D1], "W-ID1")*
                gexp([I-E1], "W-IE1")
            if x>maxdeath then
                addprob("Baseline assessments in Section I => "+strval(x)+
                    " deaths.")
            endif
            x = gexp([I-A2], "W-IA1")*gexp([I-B2], "W-IB1")*
                gexp([I-C2], "W-IC1")*gexp([I-D2], "W-ID1")*
                gexp([I-E2], "W-IE1")
            if x>maxdeath then
                addprob("Modified assessments in Section I => "+strval(x)+
                    " deaths.")
            endif
        endif
    endif
else if ([I-Problem?]<>"yes" and [I-ActPlan?]<>"yes") and

```

```
not (isblank([I-A1]) and isblank([I-A2]) and isblank([I-B1]) and
isblank([I-B2]) and isblank([I-C1]) and isblank([I-C2]) and
isblank([I-D1]) and isblank([I-D2]) and isblank([I-E1]) and
isblank([I-E2])) then
  addprob("Unused assessments in Section I")
endif
endif
endif

; check Section II
if isblank([II-Problem?]) or isblank([II-ActPlan?]) then
  addprob("Missing answers to the yes/no questions in Section II")
else if ([II-Problem?]="yes" or [II-ActPlan?]="yes") then
  if isblank([II-A1]) or isblank([II-A2]) or isblank([II-B1]) or
    isblank([II-B2]) or isblank([II-C1]) or isblank([II-C2]) or
    isblank([II-D1]) or isblank([II-D2]) or isblank([II-E1]) or
    isblank([II-E2]) then
    addprob("Missing assessments in Section II")
  else
    if [II-A1]=[II-A2] and [II-B1]=[II-B2] and [II-C1]=[II-C2] and
      [II-D1]=[II-D2] and [II-E1]=[II-E2] then
      addprob("Unchanged assessments in Section II")
    endif
    if [II-A1]<>[II-A2] then
      addprob("Assessments in Section II => "+
        "change in severity of public H&S effects")
    endif
    x = gexp([II-A1],"W-IIA1")*gexp([II-B1],"W-IIB1")*
      gexp([II-C1],"W-IIC1")*gexp([II-D1],"W-IID1")*
      gexp([II-E1],"W-IIIE1")
    if x>maxdeath then
      addprob("Baseline assessments in Section II => "+strval(x)+
        " deaths.")
    endif
    x = gexp([II-A2],"W-IIA1")*gexp([II-B2],"W-IIB1")*
      gexp([II-C2],"W-IIC1")*gexp([II-D2],"W-IID1")*
      gexp([II-E2],"W-IIIE1")
    if x>maxdeath then
      addprob("Modified assessments in Section II => "+strval(x)+
        " deaths.")
    endif
  endif
endif
else if ([II-Problem?]<>"yes" and [II-ActPlan?]<>"yes") and
  not (isblank([II-A1]) and isblank([II-A2]) and isblank([II-B1]) and
isblank([II-B2]) and isblank([II-C1]) and isblank([II-C2]) and
isblank([II-D1]) and isblank([II-D2]) and isblank([II-E1]) and
isblank([II-E2])) then
  addprob("Unused assessments in Section II")
endif
endif
endif

; check Section III
if isblank([III-Probplan?]) then
  addprob("Missing answer to the yes/no question in Section III")
else if [III-ProbPlan?]="yes" then
  if isblank([III-A]) or isblank([III-B1]) or isblank([III-B2]) or
```

```
        isblank([III-C1]) or isblank([III-C2]) then
            addprob("Missing assessments in Section III")
        else if [III-B1]=[III-B2] and [III-C1]=[III-C2] then
            addprob("Unchanged assessments in Section III")
        endif
    endif
else if [III-ProbPlan?]<>"yes" and
    not (isblank([III-A]) and isblank([III-B1]) and isblank([III-B2]) and
        isblank([III-C1]) and isblank([III-C2])) then
    addprob("Unused assessments in Section III")
endif
endif
endif

; check Section IV
if isblank([IV-AwareNow?]) or isblank([IV-Aware3yr?]) then
    addprob("Missing answers to the yes/no questions in Section IV")
else if ([IV-AwareNow?]="yes" or [IV-Aware3yr?]="yes") then
    if isblank([IV-A1]) or isblank([IV-A2]) then
        addprob("Missing assessments in Section IV")
    else
        if [IV-A1]=[IV-A2] then
            addprob("Unchanged assessments in Section IV")
        endif
        if [IV-A1]>=4 and [IV-A1]-[IV-A2]>=2 then
            addprob("Assessments in Section IV => "+
                "major reduction in public concern")
        endif
    endif
else if [IV-AwareNow?]<>"yes" and [IV-Aware3yr?]<>"yes" and
    not (isblank([IV-A1]) and isblank([IV-A2])) then
    addprob("Unused assessments in Section IV")
endif
endif
endif

; check Section V
if isblank([V-ProbPlan?]) then
    addprob("Missing answer to the yes/no question in Section V")
else if [V-ProbPlan?]="yes" then
    if isblank([V-A1]) or isblank([V-A2]) or
        isblank([V-B1]) or isblank([V-B2]) then
        addprob("Missing assessments in Section V")
    else
        if [V-A1]=[V-A2] and [V-B1]=[V-B2] then
            addprob("Unchanged assessments in Section V")
        endif
        if [V-A2]>=4 and [V-B2]>=3 then
            addprob("Modified assessments in Section V => "+
                "major regulatory violation")
        endif
    endif
else if [V-ProbPlan?]<>"yes" and
    not (isblank([V-A1]) and isblank([V-A2]) and
        isblank([V-B1]) and isblank([V-B2])) then
    addprob("Unused assessments in Section V")
endif
```

```
endif
endif

; check Section VI, Parts A and B
if isblank([VI-ProbPlan?]) then
    addprob("Missing answer to the yes/no question in Section VI, " +
        "Parts A and B")
else if [VI-ProbPlan?]="yes" then
    if isblank([VI-A1]) or isblank([VI-A2]) or isblank([VI-B1]) or
        isblank([VI-B2]) then
        addprob("Missing assessments in Section VI, Parts A and B")
    else
        if [VI-A1]=[VI-A2] and [VI-B1]=[VI-B2] then
            addprob("Unchanged assessments in Section VI, Parts A and B")
        endif
        x = glin([VI-A1], "W-VIA1") * gexp([VI-B1], "W-VIB1")
        if x >= 10.0e6 then
            addprob("Baseline assessments in Section VI, A/B => $" +
                strval(x/1.0e6) + " million impact")
        endif
        x = glin([VI-A2], "W-VIA1") * gexp([VI-B2], "W-VIB1")
        if x >= 10.0e6 then
            addprob("Modified assessments in Section VI, A/B => $" +
                strval(x/1.0e6) + " million impact")
        endif
    endif
endif
else if [VI-ProbPlan?] <> "yes" and
    not (isblank([VI-A1]) and isblank([VI-A2]) and isblank([VI-B1]) and
        isblank([VI-B2])) then
    addprob("Unused assessments in Section VI, Parts A and B")
endif
endif
endif

; check Section VI, Part C
if isblank([VI-Effcncy?]) then
    addprob("Missing answer to the yes/no question in Section VI, Part C")
else if [VI-Effcncy?]="yes" then
    if (isblank([VI-C1]) or isblank([VI-C2]) or isblank([VI-C3])) then
        addprob("Missing assessments in Section VI, Part C")
    else
        x = 3 * glin(1, "An Labor Ex") * gexp([VI-C1], "W-VIC1") *
            gexp([VI-C2], "W-VIC2") * glin([VI-C3], "W-VIC3")
        if abs(x) >= 10.0e6 then
            addprob("Assessments in Section VI, Part C => $" +
                strval(x/1.0e6) + " million impact")
        endif
    endif
endif
else if [VI-Effcncy?] <> "yes" and
    not (isblank([VI-C1]) and isblank([VI-C2]) and isblank([VI-C3])) then
    addprob("Unused assessments in Section VI, Part C")
endif
endif
endif

; check Section VI, Part D
if isblank([VI-Delay?]) then
```

```
    addprob("Missing answer to the yes/no question in Section VI, Part D")
else if [VI-Delay?]="yes" and
    isblank([VI-D]) then
    addprob("Missing assessments in Section VI, Part D")
else if [VI-Delay?]<>"yes" and
    not isblank([VI-D]) then
    addprob("Unused assessments in Section VI, Part D")
endif
endif
endif

; check Section VII
if isblank([VII-Study?]) then
    addprob("Missing answer to the first yes/no question in Section VII")
else if [VII-Study?]="yes" then
    if isblank([VII-RiskWork?]) or isblank([VII-InfoWork?]) or
        isblank([VII-RiskPub?]) or isblank([VII-InfoPub?]) or
        isblank([VII-RiskEnv?]) or isblank([VII-InfoEnv?]) then
        addprob("Missing answers to secondary yes/no questions " +
            "in Section VII")
    else
        if ([VII-RiskWork?]="yes" and [VII-InfoWork?]="yes") and
            (isblank([VII-A-SevLo]) or isblank([VII-A-SevHi]) or
            isblank([VII-A-PotLo]) or isblank([VII-A-PotHi]) or
            isblank([VII-A-LikLo]) or isblank([VII-A-LikHi]) or
            isblank([VII-A-PopLo]) or isblank([VII-A-PopHi]) or
            isblank([VII-A-RskLo]) or isblank([VII-A-RskHi])) then
            addprob("Missing assessments in Section VII, Part A")
        endif
        if ([VII-RiskWork?]="yes" and [VII-InfoWork?]="yes") and
            (([I-Problem?]<>"yes" and [I-ActPlan?]<>"yes") or
            isblank([I-A2]) or isblank([I-B2]) or isblank([I-C2]) or
            isblank([I-D2]) or isblank([I-E2])) then
            addprob("Missing assessments in Section I needed for " +
                "Section VII, Part A")
        endif
        if not ([VII-RiskWork?]="yes" and [VII-InfoWork?]="yes") and
            (isblank([@I-1]) or isblank([@I-2])) then
            addprob("Missing results in Section I needed for " +
                "Section VII, Part A")
        endif
        if not ([VII-RiskWork?]="yes" and [VII-InfoWork?]="yes") and
            not (isblank([VII-A-SevLo]) and isblank([VII-A-SevHi]) and
            isblank([VII-A-PotLo]) and isblank([VII-A-PotHi]) and
            isblank([VII-A-LikLo]) and isblank([VII-A-LikHi]) and
            isblank([VII-A-PopLo]) and isblank([VII-A-PopHi]) and
            isblank([VII-A-RskLo]) and isblank([VII-A-RskHi])) then
            addprob("Unused assessments in Section VII, Part A")
        endif
        if ([VII-RiskWork?]="yes" and [VII-InfoWork?]="yes") and
            not (isblank([VII-A-SevLo]) or isblank([VII-A-SevHi]) or
            isblank([VII-A-PotLo]) or isblank([VII-A-PotHi]) or
            isblank([VII-A-LikLo]) or isblank([VII-A-LikHi]) or
            isblank([VII-A-PopLo]) or isblank([VII-A-PopHi]) or
            isblank([VII-A-RskLo]) or isblank([VII-A-RskHi]) or
            isblank([I-A2]) or isblank([I-B2]) or isblank([I-C2]) or
            isblank([I-D2]) or isblank([I-E2])) then
```

```
if ([I-A2]<[VII-A-SevLo] or [I-A2]>[VII-A-SevHi] or
    [I-B2]<[VII-A-PotLo] or [I-B2]>[VII-A-PotHi] or
    [I-C2]<[VII-A-LikLo] or [I-C2]>[VII-A-LikHi] or
    [I-D2]<[VII-A-PopLo] or [I-D2]>[VII-A-PopHi] or
    [I-E2]<[VII-A-RskLo] or [I-E2]>[VII-A-RskHi]) then
    addprob("Assessments in Section I inconsistent with " +
        "ranges in Section VII, Part A")
endif
endif
if ([VII-RiskPub?]="yes" and [VII-InfoPub?]="yes") and
    (isblank([VII-B-SevLo]) or isblank([VII-B-SevHi]) or
    isblank([VII-B-PotLo]) or isblank([VII-B-PotHi]) or
    isblank([VII-B-LikLo]) or isblank([VII-B-LikHi]) or
    isblank([VII-B-PopLo]) or isblank([VII-B-PopHi]) or
    isblank([VII-B-RskLo]) or isblank([VII-B-RskHi])) then
    addprob("Missing assessments in Section VII, Part B")
endif
if ([VII-RiskPub?]="yes" and [VII-InfoPub?]="yes") and
    (([II-Problem?]<>"yes" and [II-ActPlan?]<>"yes") or
    isblank([II-A2]) or isblank([II-B2]) or isblank([II-C2]) or
    isblank([II-D2]) or isblank([II-E2])) then
    addprob("Missing assessments in Section II needed for " +
        "Section VII, Part B")
endif
if not ([VII-RiskPub?]="yes" and [VII-InfoPub?]="yes") and
    (isblank([@II-1]) or isblank([@II-2])) then
    addprob("Missing results in Section II needed for " +
        "Section VII, Part B")
endif
if not ([VII-RiskPub?]="yes" and [VII-InfoPub?]="yes") and
    not (isblank([VII-B-SevLo]) and isblank([VII-B-SevHi]) and
    isblank([VII-B-PotLo]) and isblank([VII-B-PotHi]) and
    isblank([VII-B-LikLo]) and isblank([VII-B-LikHi]) and
    isblank([VII-B-PopLo]) and isblank([VII-B-PopHi]) and
    isblank([VII-B-RskLo]) and isblank([VII-B-RskHi])) then
    addprob("Unused assessments in Section VII, Part B")
endif
if ([VII-RiskPub?]="yes" and [VII-InfoPub?]="yes") and
    not (isblank([VII-B-SevLo]) or isblank([VII-B-SevHi]) or
    isblank([VII-B-PotLo]) or isblank([VII-B-PotHi]) or
    isblank([VII-B-LikLo]) or isblank([VII-B-LikHi]) or
    isblank([VII-B-PopLo]) or isblank([VII-B-PopHi]) or
    isblank([VII-B-RskLo]) or isblank([VII-B-RskHi]) or
    isblank([II-A2]) or isblank([II-B2]) or isblank([II-C2]) or
    isblank([II-D2]) or isblank([II-E2])) then
    if ([II-A2]<[VII-B-SevLo] or [II-A2]>[VII-B-SevHi] or
        [II-B2]<[VII-B-PotLo] or [II-B2]>[VII-B-PotHi] or
        [II-C2]<[VII-B-LikLo] or [II-C2]>[VII-B-LikHi] or
        [II-D2]<[VII-B-PopLo] or [II-D2]>[VII-B-PopHi] or
        [II-E2]<[VII-B-RskLo] or [II-E2]>[VII-B-RskHi]) then
        addprob("Assessments in Section II inconsistent with " +
            "ranges in Section VII, Part B")
    endif
endif
endif
if ([VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes") and
    (isblank([VII-C-AreaLo]) or isblank([VII-C-AreaHi]) or
    isblank([VII-C-MagLo]) or isblank([VII-C-MagHi]) or
```

```
        isblank([VII-C-LikLo]) or isblank([VII-C-LikHi])) then
            addprob("Missing assessments in Section VII, Part C")
        endif
        if ([VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes") and
            (isblank([III-ProbPlan?]) or [III-ProbPlan?]<>"yes" or
            isblank([III-A]) or isblank([III-B2]) or isblank([III-C2]))
            then
                addprob("Missing assessments in Section III needed for " +
                    "Section VII, Part C")
            endif
            if not ([VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes") and
                (isblank([@III-1]) or isblank([@III-2])) then
                    addprob("Missing results in Section III needed for " +
                        "Section VII, Part C")
                endif
                if not ([VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes") and
                    not (isblank([VII-C-AreaLo]) and isblank([VII-C-AreaHi]) and
                    isblank([VII-C-MagLo]) and isblank([VII-C-MagHi]) and
                    isblank([VII-C-LikLo]) and isblank([VII-C-LikHi])) then
                        addprob("Unused assessments in Section VII, Part C")
                    endif
                    if ([VII-RiskEnv?]="yes" and [VII-InfoEnv?]="yes") and
                        not (isblank([VII-C-AreaLo]) or isblank([VII-C-AreaHi]) or
                        isblank([VII-C-MagLo]) or isblank([VII-C-MagHi]) or
                        isblank([VII-C-LikLo]) or isblank([VII-C-LikHi]) or
                        isblank([III-ProbPlan?]) or [III-ProbPlan?]<>"yes" or
                        isblank([III-A]) or isblank([III-B2]) or isblank([III-C2]))
                            then
                                if ([III-B2]<[VII-C-MagLo] or [III-B2]>[VII-C-MagHi] or
                                    [III-C2]<[VII-C-LikLo] or [III-C2]>[VII-C-LikHi]) then
                                    addprob("Assessments in Section III inconsistent with " +
                                        "ranges in Section VII, Part C")
                                endif
                            endif
                        endif
                    endif
                if isblank([VII-D-Lo]) or isblank([VII-D-Hi]) or isblank([VII-E]) then
                    addprob("Missing assessments in Section VII, Parts D and/or E")
                endif
            else
                ; answer to first yes/no question is no
                if not (isblank([VII-RiskWork?]) and isblank([VII-InfoWork?]) and
                    isblank([VII-RiskPub?]) and isblank([VII-InfoPub?]) and
                    isblank([VII-RiskEnv?]) and isblank([VII-InfoEnv?])) then
                    addprob("Unused answers to secondary yes/no questions " +
                        "in Section VII")
                endif
                if not (isblank([VII-A-SevLo]) and isblank([VII-A-SevHi]) and
                    isblank([VII-A-PotLo]) and isblank([VII-A-PotHi]) and
                    isblank([VII-A-LikLo]) and isblank([VII-A-LikHi]) and
                    isblank([VII-A-PopLo]) and isblank([VII-A-PopHi]) and
                    isblank([VII-A-RskLo]) and isblank([VII-A-RskHi])) then
                    addprob("Unused assessments in Section VII, Part A")
                endif
                if not (isblank([VII-B-SevLo]) and isblank([VII-B-SevHi]) and
                    isblank([VII-B-PotLo]) and isblank([VII-B-PotHi]) and
                    isblank([VII-B-LikLo]) and isblank([VII-B-LikHi]) and
                    isblank([VII-B-PopLo]) and isblank([VII-B-PopHi]) and
```



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        isblank([VII-B-RskLo]) and isblank([VII-B-RskHi])) then
            addprob("Unused assessments in Section VII, Part B")
        endif
        if not (isblank([VII-C-AreaLo]) and isblank([VII-C-AreaHi]) and
            isblank([VII-C-MagLo]) and isblank([VII-C-MagHi]) and
            isblank([VII-C-LikLo]) and isblank([VII-C-LikHi])) then
            addprob("Unused assessments in Section VII, Part C")
        endif
        if not (isblank([VII-D-Lo]) and isblank([VII-D-Hi]) and
            isblank([VII-E])) then
            addprob("Unused assessments in Section VII, Parts D and/or E")
        endif
    endif
endif
endif

endscan

do_it!
moveto "actprobs"
```

Attachment 10

Listing of All Action Plan Assessments and Benefits

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AS-01
Action Plan Name: Aviation Safety
Evaluator: C. Ramsey
Date of Evaluation: 2/04/92
Last Review: 3/19/92

Net Benefit: -86
(x1,000)

Last Update: 3/19/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1: 1.0	A1: 3.0	A1:	RiskW?
A2:	A2:		A2: 2.0	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
						B-LikLo
					@VI-D:-	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		RskEnv?
0	0	0	0	14		InfEnv?
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		C-ResLo
0	0	0	100	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AX-01
Action Plan Name: Sigma Complex Drainage System
Evaluator: Joe Mitchell
Date of Evaluation:
Last Review: 3/09/92

Net Benefit:
(x1,000)

Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 2.0 B1: 2.0 B2: 1.5 C1: 3.0 C2: 2.0 D1: 1.0 D2: 1.0 E1: 4.0 E2: 2.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 3.0 A2: 3.0 B1: 6.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 0 @IV-2: 0	@V-1: - 14 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AX-02 Net Benefit: 0
Action Plan Name: Uninterruptable Power System at TA-55 (x1,000)
Evaluator: Richard Stallings
Date of Evaluation: 2/08/92
Last Review: 3/09/92 Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW? no
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		B-RskLo
0	0	0	0	0		B-RskHi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		RskEnv? no
0	0	0	0	0		InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AX-03

Net Benefit:

Action Plan Name: Audible Alarm for Zone 2 Ventilation at TA-55

(x1,000)

Evaluator: Richard Stallings

Date of Evaluation: 2/10/92

Last Review: 3/09/92

Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1: 1.5	A1:	A:	A1:	A1:	A1:	RiskW?
A2: 1.0	A2:		A2:	A2:	A2:	InfoW?
B1: 1.5	B1:	B1:		B1:	B1:	A-SevLo
B2: 1.0	B2:	B2:		B2:	B2:	A-SevHi
C1: 2.0	C1:	C1:				A-PotLo
C2: 1.0	C2:	C2:			@VI-1:-	A-PotHi
D1: 2.0	D1:				0	A-LikLo
D2: 1.0	D2:				@VI-2:	A-LikHi
E1: 5.0	E1:				0	A-PopLo
E2: 5.0	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
					@VI-D:-	B-LikHi
					0	B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

2:47 pm
July 22, 1992

Action Plan #:	C-AX-04	Net Benefit:	1
Action Plan Name:	Auxiliary Systems Off-Normal Conditions		(x1,000)
Evaluator:	James D. Little		
Date of Evaluation:	2/14/92		
Last Review:	3/09/92	Last Update:	3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 2.0 E2: 1.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 3.0 A2: 3.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 3.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 200	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AX-05
Action Plan Name: Accumulation of Radioactive Waste at TA-55
Evaluator: Carol L. Sohn
Date of Evaluation: 2/17/92
Last Review: 4/15/92
Net Benefit:
(x1,000)
Last Update: 4/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? yes	Prob? no Plan? no	Prob? yes	Now? no 3yr? yes	Prob? no	Prob? yes	Study? no
A1: 1.0 A2: 1.0 B1: 3.0 B2: 4.0 C1: 1.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 3.0 E2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0	A1: 3.0 A2: 1.0	A1: A2: B1: B2:	A1: 3.0 A2: 1.5 B1: 5.0 B2: 2.0 @VI-1: - 222 @VI-2: 1 Eff? no C1: C2: C3: @VI-C: - 0 Delay?yes D: 0 @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AX-06
Action Plan Name: Plutonium in TA-55 Zone 1 Exhaust Ducts
Evaluator: D. Post
Date of Evaluation: 2/17/92
Last Review: 3/09/92

Net Benefit: 0
(x1,000)

Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
					@VI-D:-	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-AX-07

Net Benefit:

Action Plan Name: High Efficiency Particulate Air Filters

(x1,000)

Evaluator: Scott Salisbury

Date of Evaluation: 2/12/92

Last Review: 3/09/92

Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 2.0	A1: 3.0	A1:	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 4.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	100	8		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-CS-01 Net Benefit: 0
Action Plan Name: Laboratory Nuclear Criticality Safety Committee (x1,000)
Evaluator: Joel Williams
Date of Evaluation: 2/20/92
Last Review: 3/12/92 Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1: 1.0	A1: 1.0	A: 19	A1: 1.0	A1: 2.0	A1: 2.0	RiskW?
A2: 1.0	A2: 1.0		A2: 1.0	A2: 1.0	A2: 1.0	InfoW?
B1: 1.0	B1: 1.0	B1: 1.0		B1: 2.0	B1: 2.0	A-SevLo
B2: 1.0	B2: 1.0	B2: 1.0		B2: 1.0	B2:	A-SevHi
C1: 1.0	C1: 1.0	C1: 1.0				A-PotLo
C2: 1.0	C2: 1.0	C2: 1.0			@VI-1:-	A-PotHi
D1: 3.0	D1: 1.0				0	A-LikLo
D2: 3.0	D2: 1.0				@VI-2:	A-LikHi
E1: 1.0	E1: 1.0				0	A-PopLo
E2: 1.0	E2: 1.0					A-PopHi
					Eff? no	A-RskLo
					C1: 2.0	A-RskHi
					C2: 2.0	RskPub?
					C3: 2.0	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	0	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-CS-02
Action Plan Name: TA-55 Safety Committee
Evaluator: Peter Wallace
Date of Evaluation: 2/12/92
Last Review: 3/12/92

Net Benefit:
(x1,000)

Last Update: 3/12/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? no Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? no 3yr? no	----- Prob? no	----- Prob? no	----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: A2: B1: B2:	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-CS-03
Action Plan Name: Criticality Safety Evaluations
Evaluator: Thomas McLaughlin
Date of Evaluation: 2/10/92
Last Review: 3/12/92

Net Benefit: 15
(x1,000)

Last Update: 3/12/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 1.5 B2: 1.0 C1: 3.9 C2: 3.9 D1: 1.2 D2: 1.2 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.2 A2: 1.1	A1: 3.0 A2: 1.1 B1: 4.0 B2: 1.1	A1: 1.3 A2: 1.1 B1: 2.0 B2: 1.2 @VI-1: - 0 @VI-2: 0 Eff? yes C1: 1.0 C2: 1.5 C3: 2.0 @VI-C: - -3 Delay?no D: @VI-D: - 0 Resources? no	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 20	@V-1: - 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 10	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-CS-04
Action Plan Name: Operating Procedures and Criticality Safety
Evaluator: Gerald Schrieber
Date of Evaluation: 2/25/92
Last Review: 3/12/92

Net Benefit: J
(x1,000)

Last Update: 3/12/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 1.2 B2: 1.0 C1: 4.0 C2: 4.0 D1: 1.5 D2: 1.5 E1: 1.0 E2: 1.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-CS-05
Action Plan Name: Organization and Administration
Evaluator: J.A. Schlesser
Date of Evaluation: 3/02/92
Last Review: 3/12/92

Net Benefit: 50
(x1,000)

Last Update: 3/12/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1:	A1:	A:	A1: 1.5	A1: 2.0	A1:	RiskW? no
A2:	A2:		A2: 1.0	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub? no
					C3:	InfPub? no
						B-SevLo
					@VI-C:-	B-SevHi
					0	B-PotLo
						B-PotHi
					Delay?no	B-LikLo
					D:	B-LikHi
						B-PopLo
					@VI-D:-	B-PopHi
					0	B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	50	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EA-01
Action Plan Name: Comprehensive Safety Review for Experiments
Evaluator: K.C. Kim
Date of Evaluation: 2/12/92
Last Review: 3/12/92
Net Benefit: (x1,000)
Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 3.0 B1: 2.5 B2: 1.2 C1: 3.5 C2: 3.5 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0	A1: 2.5 A2: 2.5 B1: 4.5 B2: 2.0 @VI-1: - 101 @VI-2: - 30 Eff? no C1: 2.0 C2: 2.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 8	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EA-02 Net Benefit: 25
Action Plan Name: Conduct of Ops in Multi-User Experiment Facilities (x1,000)
Evaluator: J. Hansen
Date of Evaluation: 2/13/92
Last Review: 3/12/92 Last Update: 3/12/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 2.0 A2: 2.0 B1: 2.0 B2: 1.5 C1: 4.0 C2: 4.0 D1: 3.2 D2: 3.2 E1: 5.0 E2: 5.0	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 4.0 C2: 4.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 2.0 B1: 1.0 B2: 1.0 @VI-1: - 12 @VI-2: 0 Eff? no C1: 3.0 C2: 2.0 C3: 4.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? no InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low 2.0 D-Hi 3.0 E 5.0 @VII: 0
@I-1: - 1	@II-1: - 1	@III-1: - 0	@IV-1: - 0	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-01

Action Plan Name: Environmental Surveillance

Evaluator: Bruce Gallaher

Date of Evaluation: 2/12/92

Last Review: 3/03/92

Net Benefit:

800
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? yes
A1: 1.0 A2: 1.0 B1: 1.0 B2: 3.0 C1: 1.0 C2: 3.0 D1: 1.0 D2: 1.0 E1: 1.0 E2: 1.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 2.0 C1: 1.0 C2: 2.0	A1: 3.5 A2: 2.0	A1: 3.0 A2: 2.0 B1: 6.0 B2: 4.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? yes InfoW? yes A-SevLo 1.0 A-SevHi 1.0 A-PotLo 2.0 A-PotHi 3.0 A-LikLo 1.0 A-LikHi 2.0 A-PopLo 2.0 A-PopHi 3.0 A-RskLo 5.0 A-RskHi 5.0 RskPub? no InfPub? r B-SevLo 1. B-SevHi 2.0 B-PotLo 2.0 B-PotHi 3.0 B-LikLo 1.0 B-LikHi 2.0 B-PopLo 3.0 B-PopHi 4.0 B-RskLo 5.0 B-RskHi 5.0 RskEnv? yes InfEnv? yes C-ResLo 1.0 C-ResHi 1.0 C-MagLo 1.0 C-MagHi 2.0 C-LikLo 4.0 C-LikHi 4.0 D-Low 3.0 D-Hi 4.0 E 2.0 @VII: 2
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 2	@IV-1: - 725 @IV-2: 100	@V-1: - 14 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-02 Net Benefit: 737
Action Plan Name: NDPES Permit and Clean Water Act Compliance (x1,000)
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 4/30/92 Last Update: 5/01/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1:	A1:	A: 19	A1: 3.5	A1: 2.5	A1: 2.0	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1: 2.0		B1: 6.0	B1: 3.5	A-SevLo
B2:	B2:	B2: 1.0		B2: 3.5	B2: 1.0	A-SevHi
C1:	C1:	C1: 2.0				A-PotLo
C2:	C2:	C2: 1.0				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				4	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D:-	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	2	725	7		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-03
Action Plan Name: Environmental Restoration
Evaluator: Larry Maassen
Date of Evaluation: 2/13/92
Last Review: 3/03/92

Net Benefit: 1,100
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 4.0	A1: 3.0	A1:	RiskW? no
A2:	A2:		A2: 2.5	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 2.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub? no
					C3:	InfPub? n
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	1,250	1		
@I-2: -	@II-2: -	@III-2: -	@IV-2: -	@V-2: -		
0	0	0	150	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-04 Net Benefit: 4,047
Action Plan Name: Waste Characterization, Certification, and Segrega (x1,000)
Evaluator: Stan Zygmunt
Date of Evaluation: 2/12/92
Last Review: 4/30/92 Last Update: 6/23/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 2.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 4.0 E2: 3.0	A1: 4.0 A2: 2.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 2.0 D1: 3.0 D2: 3.0 E1: 4.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 4.0 A2: 2.0	A1: 3.5 A2: 1.0 B1: 4.0 B2: 1.0	A1: 4.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 2,667 @VI-2: 0 Eff? yes C1: 3.0 C2: 1.0 C3: 2.0 @VI-C: - -180 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 2	@II-1: - 30	@III-1: - 0	@IV-1: - 1,250	@V-1: - 379		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-05
Action Plan Name: NDPES Waste Stream Characterization
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 2--
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 3.0 A2: 1.0	A1: 2.5 A2: 1.0 B1: 6.0 B2: 3.5	A1: 2.0 A2: 1.0 B1: 3.5 B2: 1.0 @VI-1: - 4 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 200	@V-1: - 7		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-06
Action Plan Name: Quality Assurance Procedures
Evaluator: Rick Romero
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 464
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-07

Net Benefit:

Action Plan Name: Cooling Water Monitoring at TA-50, Bldg. 37

(x1,000)

Evaluator: Stan Zygmunt

Date of Evaluation: 2/10/92

Last Review: 3/03/92

Last Update: 3/03/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.0 A2: 2.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 2.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 2.0 E2: 2.0	A: 19 B1: 2.0 B2: 2.0 C1: 1.0 C2: 1.0	A1: 2.0 A2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-08
Action Plan Name: Environmental Surveillance of Facilities
Evaluator: Doris Garvey
Date of Evaluation: 2/13/92
Last Review: 3/03/92

Net Benefit: 8
(x1,000)

Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? yes
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 4.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				$\bar{VI-1}$:	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? no
					$\bar{VI-C}$:	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					$\bar{VI-D}$:	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv? no
						InfEnv? yes
						C-ResLo 1.0
						C-ResHi 3.0
						C-MagLo 1.0
						C-MagHi 3.0
						C-LikLo 1.0
						C-LikHi 1.0
						D-Low 1.0
						D-Hi 2.0
						E 1.0
						@VII:
						0
$\bar{I-1}$:	$\bar{II-1}$:	$\bar{III-1}$:	$\bar{IV-1}$:	$\bar{V-1}$:		
0	0	0	0	8		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-09
Action Plan Name: Management of Polychlorinated Biphenyl (PCB) Prog. (x1,000)
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 3/03/92
Net Benefit: 1.4
Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 4.0 E2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 150 @IV-2: 0	@V-1: - 4 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-10
Action Plan Name: Management of Pesticide Program
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 157
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? yes	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A: 19	A1: 2.5	A1: 3.0	A1: 2.0	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1: 2.0		B1: 3.0	B1: 2.0	A-SevLo
B2:	B2:	B2: 1.0		B2: 1.0	B2: 1.0	A-SevHi
C1:	C1:	C1: 2.0				A-PotLo
C2:	C2:	C2: 1.0				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				1	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D:-	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	2	150	4		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-11 Net Benefit:
Action Plan Name: NEPA Determinations and the Planning Process (x1,000)
Evaluator: Doris Garvey
Date of Evaluation: 2/18/92
Last Review: 3/03/92 Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 4.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	8		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-12
Action Plan Name: Waste Minimization Program
Evaluator: Patrick Josey
Date of Evaluation: 2/07/92
Last Review: 3/03/92

Net Benefit: 122
(x1,000)

Last Update: 3/24/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.0 A2: 1.0 B1: 4.0 B2: 3.0 C1: 2.5 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 2.0 C1: 2.5 C2: 2.0 D1: 2.5 D2: 2.0 E1: 5.0 E2: 5.0	A: 19 B1: 1.5 B2: 1.0 C1: 1.5 C2: 1.5	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 8	@II-1:- 0	@III-1:- 0	@IV-1:- 200	@V-1:- 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2:: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-13
Action Plan Name: Records Management
Evaluator: Rick Romero
Date of Evaluation: 2/18/92
Last Review: 3/03/92

Net Benefit: 1--
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: 3.0 C2: 2.5 C3: 3.1 @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 200	@V-1:- 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-14
Action Plan Name: Meteorological Data Acquisition Programs
Evaluator: Greg Stone
Date of Evaluation: 2/14/92
Last Review: 3/03/92
Net Benefit: 100
(x1,000)
Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.5 A2: 3.5 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0 D1: 2.5 D2: 1.5 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0 D1: 2.5 D2: 2.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 2.0	A1: 1.5 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-15
Action Plan Name: Asphalt Plant
Evaluator: Leroy D. Sanchez
Date of Evaluation: 2/04/92
Last Review: 3/16/92

Net Benefit:

(x1,000)

Last Update: 3/16/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 3.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				$\bar{VI}-1:$	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				$\bar{VI}-2:$	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					$\bar{VI}-C:$	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
						B-PopLo
					$\bar{VI}-D:$	B-PopHi
					0	B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
$\bar{I}-1:$	$\bar{II}-1:$	$\bar{III}-1:$	$\bar{IV}-1:$	$\bar{V}-1:$		
0	0	0	0	4		
$\bar{I}-2:$	$\bar{II}-2:$	$\bar{III}-2:$	$\bar{IV}-2:$	$\bar{V}-2:$		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-16
Action Plan Name: Open Burning
Evaluator: M.F. Barr
Date of Evaluation: 2/19/92
Last Review: 3/03/92

Net Benefit: 0
(x1,000)

Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 1.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? no
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	0	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E 1.0
0	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-17

Net Benefit:

Action Plan Name: Ground Water Discharge Plan Compliance

8
(x1,000)

Evaluator: Steven Rae

Date of Evaluation: 2/18/92

Last Review: 7/15/92

Last Update: 7/15/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1:	A1:	A: 19	A1: 3.5	A1: 3.0	A1: 3.0	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1: 2.0		B1: 5.0	B1: 3.0	A-SevLo
B2:	B2:	B2: 1.0		B2: 1.0	B2: 1.0	A-SevHi
C1:	C1:	C1: 2.0				A-PotLo
C2:	C2:	C2: 1.0			@VI-1: -	A-PotHi
D1:	D1:				117	A-LikLo
D2:	D2:				@VI-2: -	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		D-Low
0	0	2	725	11		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-18
Action Plan Name: Control of Rad. Contaminated Soils & Sediments
Evaluator: Alan Stoker
Date of Evaluation: 2/12/92
Last Review: 4/30/92
Net Benefit: 5,521 (x1,000)
Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 3.5 D2: 3.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 5.0 A2: 3.0	A1: 3.5 A2: 2.0 B1: 6.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 5,000	@V-1: - 720		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 200	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-19

Net Benefit:

Action Plan Name: Safe Drinking Water Act Compliance

(x1,000)

Evaluator: Steven Rae

Date of Evaluation: 2/18/92

Last Review: 3/03/92

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: B1: 2.0 B2: C1: 2.0 C2: D1: 2.0 D2: E1: 5.0 E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 4		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-21
Action Plan Name: Management of Inactive Underground Storage Tanks
Evaluator: Lars Soholt
Date of Evaluation: 2/20/92
Last Review: 3/03/92

Net Benefit: 14
(x1,000)

Last Update: 2/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 3.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 2.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? no
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		B-RskLo
0	0	0	0	14		B-RskHi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		RskEnv? no
0	0	0	0	1		InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-23
Action Plan Name: Release Reporting Procedures
Evaluator: James T. White
Date of Evaluation: 2/10/92
Last Review: 3/03/92

Net Benefit:

10.1
(x1,000)

Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 2.5	A1: 3.0	A1:	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 5.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: 0	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	150	11		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-24
Action Plan Name: SPCC Plan Compliance
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 1,967
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 2.0 B2: 1.0 C1: 1.0 C2: 1.0	A1: 3.5 A2: 1.0	A1: 4.0 A2: 1.0 B1: 5.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 117 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 725	@V-1: - 1,125		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-25
Action Plan Name: Appraisal of Environmental Restoration Program Act (x1,000)
Evaluator: Karen L. Foster
Date of Evaluation: 2/07/92
Last Review: 3/03/92
Net Benefit: 550
Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? yes	Prob? yes	Prob? no	Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 1.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? yes C1: 2.0 C2: 3.0 C3: 3.5 @VI-C: - 450 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? no InfPub? r B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 0 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-26
Action Plan Name: Risk Management
Evaluator: A.E. Norris
Date of Evaluation: 2/21/92
Last Review: 3/03/92

Net Benefit: 4,900
(x1,000)

Last Update: 3/10/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? yes Plan? yes	Prob? no	Now? yes 3yr? no	Prob? no	Prob? no	Study? yes
A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 1.0 D2: 1.0 E1: 3.5 E2: 3.5	A1: 1.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 4.0 E2: 4.0	A: B1: B2: C1: C2:	A1: 5.0 A2: 2.0	A1: A2: B1: B2:	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? yes InfoW? yes A-SevLo 2.0 A-SevHi 2.0 A-PotLo 2.0 A-PotHi 2.0 A-LikLo 2.0 A-LikHi 2.0 A-PopLo 1.0 A-PopHi 1.0 A-RskLo 5.0 A-RskHi 3.0 RskPub? yes InfPub? yes B-SevLo 1.0 B-SevHi 1.0 B-PotLo 1.0 B-PotHi 1.0 B-LikLo 1.0 B-LikHi 1.0 B-PopLo 1.0 B-PopHi 1.0 B-RskLo 5.0 B-RskHi 3.0 RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low 1.0 D-Hi 1.5 E 4.0 @VII: 0
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 5,000	@V-1:- 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-27

Net Benefit:

Action Plan Name: Adequacy of NEPA Documents

(x1,000)

Evaluator: Doris Garvey

Date of Evaluation: 2/13/92

Last Review: 3/03/92

Last Update: 2/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1:	A1:	A:	A1:	A1: 1.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? n
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
						InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	0	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

2:47 pm
July 22, 1992

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				$\bar{VI}-1:-$	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				$\bar{VI}-2:-$	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					$\bar{Eff? no}$	A-RskHi
					C1:	
					C2:	RskPub? no
					C3:	InfPub? no
						B-SevLo
					$\bar{VI}-C:-$	B-SevHi
					0	B-PotLo
						B-PotHi
					$\bar{Delay?no}$	B-LikLo
					D:	B-LikHi
						B-PopLo
						B-PopHi
					$\bar{VI}-D:-$	B-RskLo
					0	B-RskHi
					$\bar{Resources?}$	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
$\bar{I}-1:-$	$\bar{II}-1:-$	$\bar{III}-1:-$	$\bar{IV}-1:-$	$\bar{V}-1:-$		
0	0	0	0	0		
$\bar{I}-2:-$	$\bar{II}-2:-$	$\bar{III}-2:-$	$\bar{IV}-2:-$	$\bar{V}-2:-$		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:
						0

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LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-29
Action Plan Name: Laboratory Workspace
Evaluator: Craig Leasure
Date of Evaluation: 2/14/92
Last Review: 3/03/92

Net Benefit: 901
(x1,000)

Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? no	Prob? yes	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 2.0 E2: 1.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: A2: B1: B2:	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: 0 Eff? yes C1: 2.0 C2: 3.0 C3: 4.0 @VI-C: - 900 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-30
Action Plan Name: EM Quality Assurance Program Plans
Evaluator: Rick Romero
Date of Evaluation: 2/14/92
Last Review: 4/30/92

Net Benefit: 464
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C:- 402 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 150	@V-1:- 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-31

Net Benefit:

Action Plan Name: Environmental Management Quality Assurance

40
(x1,000)

Evaluator: Rick Romero

Date of Evaluation: 2/14/92

Last Review: 4/30/92

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C:- 402 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 150	@V-1:- 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-32
Action Plan Name: Computer Program Validation
Evaluator: Rick Romero
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 464
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-33

Action Plan Name: Document Control

Evaluator: Rick Romero

Date of Evaluation: 2/18/92

Last Review: 4/30/92

Net Benefit:

4.
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 11		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-34
Action Plan Name: Corrective Action Program
Evaluator: Rick Romero
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 465
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: 19 B1: 2.0 B2: 1.5 C1: 2.0 C2: 1.5	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 150	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-35

Net Benefit: 2.11

Action Plan Name: Johnson Controls World Services Quality Assurance (x1,000)

Evaluator: Douglas Pippin

Date of Evaluation: 2/12/92

Last Review: 4/30/92

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? yes C1: 2.0 C2: 2.0 C3: 4.0 @VI-C: - 180 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-36 Net Benefit: 198
Action Plan Name: Radiological Environmental Emergency Planning (x1,000)
Evaluator: George Van Tiem
Date of Evaluation: 2/18/92
Last Review: 4/30/92 Last Update: 6/23/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? yes	Prob? yes	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? yes	Plan? yes		3yr? yes			
A1: 4.0	A1: 2.0	A: 19	A1: 3.0	A1: 3.5	A1: 3.5	RiskW?
A2: 2.0	A2: 2.0		A2: 3.0	A2: 1.0	A2: 2.0	InfoW?
B1: 3.0	B1: 2.0	B1: 2.0		B1: 2.0	B1: 1.0	A-SevLo
B2: 3.0	B2: 3.0	B2: 2.0		B2: 1.0	B2: 1.0	A-SevHi
C1: 2.0	C1: 2.0	C1: 2.0				A-PotLo
C2: 2.0	C2: 2.0	C2: 1.0			@VI-1: -	A-PotHi
D1: 4.0	D1: 2.0				139	A-LikLo
D2: 4.0	D2: 3.0				@VI-2: -	A-LikHi
E1: 5.0	E1: 5.0				0	A-PopLo
E2: 5.0	E2: 5.0					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
20	0	2	200	38		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	200	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-37
Action Plan Name: Incinerator/TA-16-1409
Evaluator: M. F. Barr
Date of Evaluation: 2/19/92
Last Review: 3/03/92

Net Benefit:
(x1,000)

Last Update: 2/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 3.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? n
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	0	1		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-38
Action Plan Name: Best Available Technology (BAT) Analysis for Liqui (x1,000)
Evaluator: Stan Zygmunt
Date of Evaluation: 2/10/92
Last Review: 3/03/92
Net Benefit: 1,171
Last Update: 3/10/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? yes	Now? no 3yr? yes	Prob? yes	Prob? no	Study? yes
A1:	A1:	A: 19	A1: 4.0	A1: 3.0	A1:	RiskW? no
A2:	A2:		A2: 3.0	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1: 1.0		B1: 5.0	B1:	A-SevLo
B2:	B2:	B2: 1.0		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1: 1.0				A-PotLo
C2:	C2:	C2: 1.0				A-PotHi
D1:	D1:				$\bar{VI-1}$	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				$\bar{VI-2}$	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub? no
					C3:	InfPub? no
					$\bar{VI-C}$	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					$\bar{VI-D}$	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? yes
					no	InfEnv? yes
						C-ResLo 1.0
						C-ResHi 2.0
						C-MagLo 1.0
						C-MagHi 2.0
						C-LikLo 2.0
						C-LikHi 3.0
$\bar{I-1}$	$\bar{II-1}$	$\bar{III-1}$	$\bar{IV-1}$	$\bar{V-1}$		
0	0	0	1,250	11		
$\bar{I-2}$	$\bar{II-2}$	$\bar{III-2}$	$\bar{IV-2}$	$\bar{V-2}$		
0	0	0	200	0		
						D-Low 2.0
						D-Hi 4.0
						E 1.0
						@VII:
						110

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-39

Net Benefit: 100

Action Plan Name: Program for Decommissioning Contaminated Facilities (x1,000)

Evaluator: Stan Zygmunt

Date of Evaluation: 2/12/92

Last Review: 4/30/92

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 2	@IV-1:- 200	@V-1:- 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-40 Net Benefit: 154
Action Plan Name: Rad Contaminated PCB Waste Storage (x1,000)
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 3/03/92 Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 4.0 E2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 4		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-41
Action Plan Name: PCB Transformer Retrofilling
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 3/03/92

Net Benefit:

1.2
(x1,000)

Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 4.0 E2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskFub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: - 0	@II-1: - 0 @II-2: - 0	@III-1: - 0 @III-2: - 0	@IV-1: - 150 @IV-2: - 0	@V-1: - 4 @V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-42 Net Benefit: 8
Action Plan Name: Storage of Combustible Materials Near PCB Transfor (x1,000)
Evaluator: Martin Aguilera
Date of Evaluation: 2/14/92
Last Review: 3/13/92 Last Update: 3/13/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.5 A2: 1.0 B1: 1.5 B2: 1.0 C1: 3.0 C2: 3.0 D1: 2.5 D2: 1.5 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? no InfoW? no A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? no InfPub? no B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-43
Action Plan Name: Management of Polychlorinated Biphenyl (PCB) Spill (x1,000)
Evaluator: Steven Rae
Date of Evaluation: 2/18/92
Last Review: 3/03/92
Net Benefit: 1.0
Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 4.0 E2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 150	@V-1:- 4		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-44 Net Benefit: 0
Action Plan Name: Signature Authority for RCRA Permit Application (x1,000)
Evaluator: Gene Preston
Date of Evaluation: 2/27/92
Last Review: 3/03/92 Last Update: 2/27/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
						B-PopHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		B-RskLo
0	0	0	0	0		B-RskHi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		RskEnv?
0	0	0	0	0		InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-45
Action Plan Name: Hazardous Waste Management Training
Evaluator: Stan Zygmunt
Date of Evaluation: 2/12/92
Last Review: 3/03/92

Net Benefit: 116
(x1,000)

Last Update: 3/03/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 2.5 B2: 1.5 C1: 3.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 4.0 E2: 4.0	A1: 4.0 A2: 4.0 B1: 2.0 B2: 1.5 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 3.0	A: 19 B1: 3.0 B2: 1.0 C1: 1.0 C2: 2.0	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 5	@III-1: - 0	@IV-1: - 200	@V-1: - 11		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-46
Action Plan Name: Management of Waste in Temporary Storage Areas
Evaluator: Tony Griggs
Date of Evaluation: 2/10/92
Last Review: 4/30/92

Net Benefit: 119 (x1,000)
Last Update: 5/01/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1:	A1:	A: 19	A1: 3.0	A1: 3.0	A1: 2.0	RiskW?
A2:	A2:		A2: 2.0	A2: 2.0	A2: 1.0	InfoW?
B1:	B1:	B1: 2.0		B1: 6.0	B1: 3.0	A-SevLo
B2:	B2:	B2: 1.0		B2: 4.0	B2: 3.0	A-SevHi
C1:	C1:	C1: 2.0				A-PotLo
C2:	C2:	C2: 1.0			@VI-1: -	A-PotHi
D1:	D1:				3	A-LikLo
D2:	D2:				@VI-2: 0	A-LikHi
E1:	E1:					A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	2	200	14		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	100	0		D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-47

Net Benefit:

Action Plan Name: Characterization of Surface Impoundments

100
(x1,000)

Evaluator: Larry Maassen

Date of Evaluation: 2/09/92

Last Review: 4/30/92

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? yes	Now? yes	Prob? yes	Prob? no	Study? yes
Plan? yes	Plan? no		3yr? no			
A1: 1.0	A1:	A: 19	A1: 3.0	A1: 3.0	A1:	RiskW? no
A2: 2.0	A2:		A2: 2.0	A2: 2.0	A2:	InfoW? yes
B1: 1.0	B1:	B1: 1.0		B1: 3.0	B1:	A-SevLo
B2: 2.0	B2:	B2: 1.0		B2: 2.0	B2:	A-SevHi
C1: 1.0	C1:	C1: 2.0				A-PotLo
C2: 2.0	C2:	C2: 1.0			@VI-1: -	A-PotHi
D1: 1.0	D1:				0	A-LikLo
D2: 2.0	D2:				@VI-2: -	A-LikHi
E1: 5.0	E1:				0	A-PopLo
E2: 3.0	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? y
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? yes
					no	InfEnv? yes
						C-ResLo 2.0
						C-ResHi 2.0
						C-MagLo 2.0
						C-MagHi 2.0
						C-LikLo 2.0
						C-LikHi 2.0
						D-Low 2.0
						D-Hi 3.0
						E 1.0
						@VII:
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	200	4		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	100	0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-48
Action Plan Name: Contingency Plan
Evaluator: Jim White, Jeff Carmichael
Date of Evaluation:
Last Review: 3/03/92

Net Benefit: 214
(x1,000)

Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? yes	Prob? yes	Prob? no	Study? no
A1:	A1:	A:	A1: 3.0	A1: 3.0	A1:	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	200	14		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

f

Action Plan #: C-EM-49
Action Plan Name: EPA Identification Number for Fenton Hill Site (x1,000)
Evaluator: Jim White, Jeff Carmichael
Date of Evaluation: 2/12/92
Last Review: 3/03/92
Net Benefit:
Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? no Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? no 3yr? no	----- Prob? yes	----- Prob? no	----- Study? no
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2: 0	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
						B-PopLo
					@VI-D: -	B-PopHi
					0	B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	14		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-50
Action Plan Name: Transuranic (TRU) Waste
Evaluator: Stan Zygmunt
Date of Evaluation: 2/13/92
Last Review: 3/03/92

Net Benefit: 1,163
(x1,000)

Last Update: 2/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 3.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 3.0 E2: 3.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 4.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 1,250	@V-1: - 11		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-51 Net Benefit: 1,1
Action Plan Name: Mixed Waste Storage at Technical Area 54 (x1,000)
Evaluator: Stan Zygmunt
Date of Evaluation: 2/13/92
Last Review: 4/30/92 Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 2.0 B1: 3.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 3.0 D2: 3.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: 19 B1: 2.0 B2: 2.0 C1: 2.0 C2: 1.5	A1: 4.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 2	@IV-1:- 1,250	@V-1:- 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

2:47 pm
July 22, 1992

Net Benefit: 1,278
Items (x1,000)

Last Update: 7/15/92

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-53

Net Benefit:

Action Plan Name: Underground Storage Tank (UST) Program

1
(x1,000)

Evaluator: Jeff Carmichael

Date of Evaluation: 2/12/92

Last Review: 3/03/92

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 3.0	A1: 3.0	A1: 1.0	RiskW?
A2:	A2:		A2: 2.0	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1:		B1: 5.0	B1: 1.0	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2: 0	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? yes	A-RskLo
					C1: 1.0	A-RskHi
					C2: 1.0	RskPub?
					C3: 1.0	InfPub?
					@VI-C: -	B-SevLo
					-2	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
						B-LikLo
					@VI-D: -	B-LikHi
					0	B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	200	11		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	100	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

2:47 pm
July 22, 1992

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? yes	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 2.0 C1: 2.5 C2: 2.0 D1: 2.5 D2: 2.0 E1: 5.0 E2: 5.0	A1: 4.0 A2: 2.0 B1: 4.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 3.0	A: 19 B1: 1.5 B2: 1.0 C1: 1.5 C2: 1.5	A1: 4.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 2	@II-1: - 0	@III-1: - 0	@IV-1: - 1,250	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

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LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-55 Net Benefit: 3,.
Action Plan Name: Underground Radioactive Liquid Waste Storage Tanks (x1,000)
Evaluator: Stan Zygmunt
Date of Evaluation: 2/13/92
Last Review: 4/30/92 Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? yes	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? yes	Plan? no		3yr? yes			
A1: 2.0	A1:	A: 19	A1: 4.0	A1: 3.0	A1: 3.0	RiskW?
A2: 2.0	A2:		A2: 2.0	A2: 1.0	A2: 1.0	InfoW?
B1: 2.0	B1:	B1: 2.0		B1: 6.0	B1: 3.0	A-SevLo
B2: 2.0	B2:	B2: 1.0		B2: 1.0	B2: 1.0	A-SevHi
C1: 2.0	C1:	C1: 2.0				A-PotLo
C2: 2.0	C2:	C2: 1.0				A-PotHi
D1: 2.0	D1:				@VI-1: -	A-LikLo
D2: 2.0	D2:				117	A-LikHi
E1: 3.0	E1:				@VI-2: -	A-PopLo
E2: 2.0	E2:				0	A-PopHi
						A-RskLo
					Eff? yes	A-RskHi
					C1: 3.0	
					C2: 3.0	RskPub?
					C3: 3.0	InfPub?
						B-SevLo
					@VI-C: -	B-SevHi
					0	B-PotLo
						B-PotHi
					Delay?yes	B-LikLo
					D: -2,000,000	B-LikHi
						B-PopLo
					@VI-D: -	B-PopHi
					-2,000	B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	2	1,250	14		
@I-2: -	@II-2: -	@III-2: -	@IV-2: -	@V-2: -		
0	0	0	100	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-56 Net Benefit: 570
Action Plan Name: Standards and Instrument Calibration (x1,000)
Evaluator: Rick Romero
Date of Evaluation: 2/18/92
Last Review: 4/30/92 Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.5 A2: 2.0 B1: 2.5 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? yes C1: 3.5 C2: 2.0 C3: 3.1 @VI-C: - 509 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EM-57
Action Plan Name: Sample Storage
Evaluator: Rick Romero
Date of Evaluation: 2/18/92
Last Review: 3/03/92

Net Benefit: 4
(x1,000)

Last Update: 3/10/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.5 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 150 @IV-2: 100	@V-1: - 11 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EP-02
Action Plan Name: Emergency Preparedness
Evaluator: ICO Review Team
Date of Evaluation: 7/16/92
Last Review: 7/16/92

Net Benefit: 101
(x1,000)

Last Update: 7/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1: 2.0	A1: 3.0	A1:	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	100	1		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EP-03

Net Benefit:

Action Plan Name: Emergency Preparedness

(x1,000)

Evaluator: Olin Van Dyck

Date of Evaluation: 2/14/92

Last Review: 3/09/92

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? yes Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? yes 3yr? yes	----- Prob? yes	----- Prob? yes	----- Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.5 C1: 1.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 2.0 E2: 2.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0	A1: 2.0 A2: 1.5	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0	A1: 1.5 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: 2.5 C2: 2.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 50	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EP-04
Action Plan Name: Design Engineering Div. Emerg Preparedness Plan
Evaluator: C.D. Bowyer / D.E. Green
Date of Evaluation: 2/18/92
Last Review: 3/09/92
Net Benefit: -345 (x1,000)
Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 2.5 A2: 2.0 B1: 1.5 B2: 1.0 C1: 2.5 C2: 1.5 D1: 2.0 D2: 2.5 E1: 2.0 E2: 2.0	A1: 1.5 A2: 1.0 B1: 1.0 B2: 1.0 C1: 1.5 C2: 1.0 D1: 2.5 D2: 2.5 E1: 2.0 E2: 2.0	A: 19 B1: 1.5 B2: 1.0 C1: 1.5 C2: 1.0	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 4.0 B2: 3.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 117 @VI-2: - 0 Eff? yes C1: 2.5 C2: 2.0 C3: 2.0 @VI-C: - -569 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 8		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EP-06
Action Plan Name: Emergency Operations Document Availability
Evaluator: ICO Review Team
Date of Evaluation: 7/16/92
Last Review: 7/16/92
Net Benefit: (x1,000)
Last Update: 7/21/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.0 A2: 2.0 B1: 3.5 B2: 2.5 C1: 2.5 C2: 2.0 D1: 2.5 D2: 2.5 E1: 5.0 E2: 5.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 1.5 C1: 2.0 C2: 2.0 D1: 2.5 D2: 2.5 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 1.0	A1: 2.8 A2: 1.0 B1: 2.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 1		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-EP-07
Action Plan Name: Emergency Preparedness Plan
Evaluator: George Van Tiem
Date of Evaluation: 2/19/92
Last Review: 4/30/92

Net Benefit: 2,973
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? yes	II-PbH&S ----- Prob? yes Plan? yes	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 2.0 B1: 3.0 B2: 3.0 C1: 2.5 C2: 2.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 2.0 B1: 3.0 B2: 2.0 C1: 2.5 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 2.0 C1: 2.0 C2: 1.5	A1: 4.0 A2: 2.0	A1: 4.2 A2: 1.0 B1: 3.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: - 0 Eff? yes C1: 3.0 C2: 1.2 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low 2.0 D-Hi 3.0 E @VII: 0
@I-1: - 20	@II-1: - 0	@III-1: - 2	@IV-1: - 1,250	@V-1: - 1,800		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-ES-01
Action Plan Name: HE Personnel Protection
Evaluator: Richard A. Hildner
Date of Evaluation: 2/11/92
Last Review: 3/17/92

Net Benefit:
(x1,000)

Last Update: 3/17/92

I-WkrH&S ----- Prob? yes Plan? yes	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 1.0 B2: 1.0 C1: 2.5 C2: 1.5 D1: 1.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 @VI-1: - 58 @VI-2: - 12 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-ES-02
Action Plan Name: HE Machining Interlocks
Evaluator: R.D. Steele
Date of Evaluation: 2/07/92
Last Review: 3/17/92

Net Benefit: 16
(x1,000)
Last Update: 3/17/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 4.0	A1:	A:	A1:	A1: 3.0	A1: 2.0	RiskW?
A2: 4.0	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1: 2.0	B1:	B1:		B1: 5.0	B1: 4.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1: 2.5	C1:	C1:				A-PotLo
C2: 1.0	C2:	C2:				A-PotHi
D1: 1.0	D1:				@VI-1: -	A-LikLo
D2: 1.0	D2:				4	A-LikHi
E1: 5.0	E1:				@VI-2: 0	A-PopLo
E2: 5.0	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	11		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

{

Action Plan #: C-ES-03

Net Benefit:

Action Plan Name: Explosive Storage and Operations

(x1,000)

Evaluator: John B. Ramsay

Date of Evaluation: 2/13/92

Last Review: 3/17/92

Last Update: 3/17/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 4.0	A1:	A:	A1:	A1: 3.0	A1: 2.0	RiskW?
A2: 4.0	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1: 2.5	B1:	B1:		B1: 6.0	B1: 4.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1: 4.0	C1:	C1:				A-PotLo
C2: 4.0	C2:	C2:				A-PotHi
D1: 2.0	D1:				@VI-1: -	A-LikLo
D2: 2.0	D2:				4	A-LikHi
E1: 5.0	E1:				@VI-2: 0	A-PopLo
E2: 5.0	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
75	0	0	0	14		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-ES-04
Action Plan Name: Power Line Hazards
Evaluator: L.T. Gonzales
Date of Evaluation: 2/14/92
Last Review: 3/17/92

Net Benefit: 0
(x1,000)

Last Update: 3/17/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 2.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 1.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				$\bar{VI}-1:-$	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				$@VI-2:-$	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub? no
					C3:	InfPub? no
						B-SevLo
					$\bar{VI}-C:-$	B-SevHi
					0	B-PotLo
						B-PotHi
					Delay?no	B-LikLo
					D:	B-LikHi
						B-PopLo
					$\bar{VI}-D:-$	B-PopHi
					0	B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
$\bar{I}-1:-$	$\bar{II}-1:-$	$\bar{III}-1:-$	$\bar{IV}-1:-$	$\bar{V}-1:-$		
0	0	0	0	0		
$@I-2:-$	$@II-2:-$	$@III-2:-$	$@IV-2:-$	$@V-2:-$		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						$@VII:-$
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-01
Action Plan Name: Project Review for Fire Protection
Evaluator: James R. Gourdoux
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 104
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 2.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 4.0 A2: 4.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 2.0 A2: 1.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 1 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 2 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 0 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-02
Action Plan Name: Define Fire Protection Program
Evaluator: D. B. Davidson Jr.
Date of Evaluation: 2/11/92
Last Review: 4/30/92

Net Benefit: 1,651
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 3.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 2.0 A2: 1.0	A1: 4.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 117 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 8	@II-1: - 0	@III-1: - 2	@IV-1: - 100	@V-1: - 1,425		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-03
Action Plan Name: Combustible Storage
Evaluator: Walter Maybee
Date of Evaluation: 2/10/92
Last Review: 3/04/92

Net Benefit:

(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? no	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 4.0	A1:	A:	A1:	A1:	A1: 2.0	RiskW?
A2: 4.0	A2:		A2:	A2:	A2: 1.0	InfoW?
B1: 3.0	B1:	B1:		B1:	B1: 1.0	A-SevLo
B2: 2.0	B2:	B2:		B2:	B2: 1.0	A-SevHi
C1: 2.0	C1:	C1:				A-PotLo
C2: 1.0	C2:	C2:			@VI-1: -	A-PotHi
D1: 4.0	D1:				0	A-LikLo
D2: 4.0	D2:				@VI-2:	A-LikHi
E1: 5.0	E1:				0	A-PopLo
E2: 5.0	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					yes	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
20	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-04
Action Plan Name: Building Appraisal Program
Evaluator: Ross Garcia
Date of Evaluation: 2/11/92
Last Review: 3/04/92

Net Benefit: 23
(x1,000)

Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 2.5 B2: 2.0 C1: 2.5 C2: 1.5 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 3.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 12 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 1	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-05
Action Plan Name: Central Alarm Certification
Evaluator: W.M. Maybee
Date of Evaluation: 2/13/92
Last Review: 3/04/92

Net Benefit:

(x1,000)

Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-06
Action Plan Name: Portable Structures
Evaluator: James R. Gourdoux
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 0
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 2.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 3.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				$\bar{VI}-1:-$	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				$\bar{VI}-2:-$	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1: 1.0	
					C2: 4.0	RskPub?
					C3: 4.0	InfPub?
					$\bar{VI}-C:-$	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					$\bar{VI}-D:-$	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
$\bar{I}-1:-$	$\bar{II}-1:-$	$\bar{III}-1:-$	$\bar{IV}-1:-$	$\bar{V}-1:-$		
0	0	0	0	0		
$\bar{I}-2:-$	$\bar{II}-2:-$	$\bar{III}-2:-$	$\bar{IV}-2:-$	$\bar{V}-2:-$		D-Low
0	0	0	0	0		D-Hi
						E
						$\bar{VII}:-$
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-07
Action Plan Name: Fire and Smoke Barriers
Evaluator: Walter Maybee
Date of Evaluation: 2/07/92
Last Review: 3/04/92

Net Benefit: 200
(x1,000)

Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? yes	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 3.5 B2: 2.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 1.0 B1: 6.0 B2: 3.0	A1: 2.0 A2: 1.5 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: -@VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 200	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-08
Action Plan Name: Exemption Procedures
Evaluator: D.B. Davidson, Jr.
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 0
(x1,000)

Last Update: 3/05/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1:	A1:	A:	A1:	A1: 1.0	A1:	RiskW? no
A2:	A2:		A2:	A2: 1.0	A2:	InfoW? no
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2: -	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? no
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					yes	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		D-Low
0	0	0	0	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-09
Action Plan Name: Water Supplies
Evaluator: J.R. Gourdoux
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit:

⁶
(x1,000)

Last Update: 3/25/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 1.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: 2.5 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 6 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-10 Net Benefit: 0
Action Plan Name: TA-55 Fire Protection Systems Knowledge (x1,000)
Evaluator: Ross Garcia
Date of Evaluation: 2/11/92
Last Review: 3/04/92 Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2:	A2:		A2:	A2: 2.0	A2:	InfoW?
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 2.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	0	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-11

Net Benefit:

Action Plan Name: Fire Protection Procedures

(x1,000)

Evaluator: J.R. Gourdoux

Date of Evaluation: 2/10/92

Last Review: 3/04/92

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 3.0	A1:	A:	A1:	A1: 3.0	A1: 3.0	RiskW?
A2: 3.0	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1: 2.0	B1:	B1:		B1: 6.0	B1: 1.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 2.0	B2: 1.0	A-SevHi
C1: 2.0	C1:	C1:				A-PotLo
C2: 2.0	C2:	C2:				A-PotHi
D1: 4.0	D1:				@VI-1: -	A-LikLo
D2: 4.0	D2:				12	A-LikHi
E1: 5.0	E1:				@VI-2: 0	A-PopLo
E2: 5.0	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					yes	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	14		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-12
Action Plan Name: Correction of Fire Protection Deficiencies
Evaluator: D.B. Davidson, Jr.
Date of Evaluation: 2/12/92
Last Review: 4/30/92

Net Benefit: 525 (x1,000)
Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? yes	II-PbH&S ----- Prob? yes Plan? yes	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 3.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 3.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 117 @VI-2: 0 Eff? yes C1: 2.5 C2: 2.0 C3: 3.5 @VI-C: - 285 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 8	@II-1: - 0	@III-1: - 2	@IV-1: - 100	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-13
Action Plan Name: Life Safety Code
Evaluator: D. B. Davidson Jr.
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 1,600
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 4.0	A1: 4.0	A:	A1:	A1: 4.0	A1: 4.0	RiskW?
A2: 4.0	A2: 4.0		A2:	A2: 1.0	A2: 1.0	InfoW?
B1: 2.0	B1: 3.0	B1:		B1: 6.0	B1: 1.0	A-SevLo
B2: 2.0	B2: 1.0	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1: 3.0	C1: 3.0	C1:				A-PotLo
C2: 1.0	C2: 1.0	C2:				A-PotHi
D1: 3.0	D1: 3.0				@VI-1: -	A-LikLo
D2: 3.0	D2: 1.0				267	A-LikHi
E1: 5.0	E1: 5.0				@VI-2:	A-PopLo
E2: 5.0	E2: 5.0				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1: 2.0	
					C2: 1.0	RskPub?
					C3: 3.0	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
1	0	0	0	1,425		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-14
Action Plan Name: Life Safety Code TA-55
Evaluator: Walter Maybee
Date of Evaluation: 2/07/92
Last Review: 3/04/92

Net Benefit: 1,613
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 4.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: 2.5 A2: 1.0 B1: 5.0 B2: 1.0 @VI-1: 114 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: 0 Delay?no D: @VI-D: 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: 75 @I-2: 1	@II-1: 0 @II-2: 0	@III-1: 0 @III-2: 0	@IV-1: 0 @IV-2: 0	@V-1: 1,425 @V-2: 0		0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-15
Action Plan Name: Voice Alarm System
Evaluator: Walter Maybee
Date of Evaluation: 2/07/92
Last Review: 3/04/92

Net Benefit:
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? no Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? no 3yr? no	----- Prob? no	----- Prob? no	----- Study? no
A1:	A1:	A:	A1:	A1: 1.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 1.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					yes	B-PopHi
						B-RskLo
						B-RskHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		RskEnv?
0	0	0	0	0		InfEnv?
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-FP-16
Action Plan Name: Inspection/Test
Evaluator: Walter Maybee
Date of Evaluation: 11/23/91
Last Review: 4/23/92

Net Benefit: 0
(x1,000)

Last Update: 4/23/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 1.0 B1: 4.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MA-01
Action Plan Name: Comprehensive Maintenance Management Program
Evaluator: Tyne Bush
Date of Evaluation: 2/13/92
Last Review: 4/30/92
Net Benefit: 1.1
(x1,000)
Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 4.0 C2: 4.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.5 B2: 1.0 C1: 2.0 C2: 1.0	A1: A2:	A1: 3.0 A2: 1.0 B1: 4.0 B2: 2.0	A1: 3.0 A2: 1.0 B1: 1.5 B2: 1.0 @VI-1: - 26 @VI-2: - 0 Eff? yes C1: 3.0 C2: 1.5 C3: 3.2 @VI-C: - 114 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 1	@II-1: - 0	@III-1: - 1	@IV-1: - 0	@V-1: - 8		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MA-02
Action Plan Name: Uncalibrated Circuit Breaker Testing Equipment
Evaluator: Hugo Ojeda
Date of Evaluation: 2/07/92
Last Review: 3/04/92

Net Benefit: 13
(x1,000)

Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1: 2.0	RiskW?
A2:	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1:		B1: 5.0	B1: 2.0	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				1	A-LikLo
D2:	D2:				@VI-2: 0	A-LikHi
E1:	E1:					A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		D-Low
0	0	0	0	11		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MA-03
Action Plan Name: Emergency, Standby & Aux Power Systems Maintenance (x1,000)
Evaluator: Al Martinez
Date of Evaluation: 2/03/92
Last Review: 3/04/92
Net Benefit:
Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 2.0	A1:	A:	A1:	A1: 3.0	A1: 2.0	RiskW?
A2: 1.0	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1: 2.0	B1:	B1:		B1: 3.0	B1: 2.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1: 3.0	C1:	C1:				A-PotLo
C2: 3.0	C2:	C2:				A-PotHi
D1: 2.0	D1:				@VI-1: -	A-LikLo
D2: 2.0	D2:				1	A-LikHi
E1: 5.0	E1:				@VI-2:	A-PopLo
E2: 5.0	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	4		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MA-04 Net Benefit: 0
Action Plan Name: Electric Power Panel Indicator Lights (x1,000)
Evaluator: William S. Radzinski
Date of Evaluation: 2/12/92
Last Review: 3/04/92 Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				$\bar{VI-1}$:	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				$\bar{VI-2}$:	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					$\bar{VI-C}$:	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					$\bar{VI-D}$:	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
$\bar{I-1}$:	$\bar{II-1}$:	$\bar{III-1}$:	$\bar{IV-1}$:	$\bar{V-1}$:		RskEnv?
0	0	0	0	0		InfEnv?
$\bar{I-2}$:	$\bar{II-2}$:	$\bar{III-2}$:	$\bar{IV-2}$:	$\bar{V-2}$:		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MA-06

Net Benefit:

Action Plan Name: Laboratory Lightning Protection Deficiencies

190
(x1,000)

Evaluator: Al Martinez

Date of Evaluation: 2/03/92

Last Review: 3/04/92

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? yes			
A1: 3.0	A1:	A:	A1: 3.0	A1: 3.0	A1: 2.0	RiskW?
A2: 3.0	A2:		A2: 1.5	A2: 1.0	A2: 1.0	InfoW?
B1: 3.0	B1:	B1:		B1: 4.0	B1: 2.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1: 3.0	C1:	C1:				A-PotLo
C2: 1.0	C2:	C2:				A-PotHi
D1: 3.5	D1:				@VI-1: -	A-LikLo
D2: 3.5	D2:				1	A-LikHi
E1: 5.0	E1:				@VI-2:	A-PopLo
E2: 5.0	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
					@VI-D: -	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
39	0	0	200	8		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	50	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MA-08 Net Benefit: 77
Action Plan Name: Crane Maintenance & Installation (x1,000)
Evaluator: Type Bush
Date of Evaluation: 11/21/91
Last Review: 3/05/92 Last Update: 3/12/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 2.0 B1: 2.0 B2: 1.0 C1: 4.0 C2: 4.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 4.0 A2: 2.0 B1: 2.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 1	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 75		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-01
Action Plan Name: Strategic Planning
Evaluator: Karl Braitwaite
Date of Evaluation: 2/11/92
Last Review: 3/31/92

Net Benefit: -6.2
(x1,000)

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? no Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? yes 3yr? yes	----- Prob? yes	----- Prob? yes	----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 2.0 A2: 1.0 B1: 4.0 B2: 2.5	A1: 3.0 A2: 1.5 B1: 3.0 B2: 2.0 @VI-1: - 117 @VI-2: - 1 Eff? yes C1: 4.0 C2: 1.0 C3: 2.5 @VI-C: - -720 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-02
Action Plan Name: Policy Definition and Deployment
Evaluator: Janice Baker (?)
Date of Evaluation:
Last Review: 3/26/92
Net Benefit: 260
(x1,000)
Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? no Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? no 3yr? no	----- Prob? yes	----- Prob? yes	----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 1.0 B1: 4.0 B2: 2.5	A1: 3.0 A2: 1.5 B1: 3.0 B2: 2.0 @VI-1: - 117 @VI-2: 1 Eff? yes C1: 4.0 C2: 1.0 C3: 3.1 @VI-C: - 144 Delay?no D: @VI-D: - 0 Resources? no	RiskW? no InfoW? no A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? no InfPub? no B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-03

Net Benefit:

Action Plan Name: Program Planning and Integration

325
(x1,000)

Evaluator: D. Post

Date of Evaluation: 2/17/92

Last Review: 3/31/92

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 3.0	A1: 3.0	A1: 3.0	RiskW?
A2:	A2:		A2: 1.0	A2: 1.0	A2: 1.5	InfoW?
B1:	B1:	B1:		B1: 4.0	B1: 3.0	A-SevLo
B2:	B2:	B2:		B2: 2.0	B2: 2.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				117	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				1	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		D-Low
0	0	0	200	8		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-05
Action Plan Name: Organization Framework
Evaluator: R.A. Walters
Date of Evaluation: 2/18/92
Last Review: 3/31/92

Net Benefit: 481
(x1,000)

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 2.0	A1: 3.5	A1: 2.0	RiskW?
A2:	A2:		A2: 1.0	A2: 2.0	A2: 1.5	InfoW?
B1:	B1:	B1:		B1: 4.0	B1: 3.0	A-SevLo
B2:	B2:	B2:		B2: 4.0	B2: 1.5	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				3	A-LikLo
D2:	D2:				@VI-2: -	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1: 4.0	A-RskHi
					C2: 1.5	RskPub?
					C3: 3.5	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	100	379		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-06
Action Plan Name: Conduct of Operations
Evaluator: Diane D. Norton
Date of Evaluation: 2/19/92
Last Review: 4/30/92

Net Benefit: 3.1
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 2.0 A2: 1.2 B1: 2.5 B2: 2.0 C1: 2.5 C2: 2.0 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 2.0 B2: 1.5 C1: 2.0 C2: 1.5 .	A1: 3.0 A2: 1.5	A1: 2.0 A2: 1.5 B1: 3.0 B2: 2.0	A1: 3.0 A2: 2.0 B1: 2.0 B2: 1.0 @VI-1: - 58 @VI-2: 0 Eff? yes C1: 3.5 C2: 1.5 C3: 3.1 @VI-C: - 161 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 200	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 50	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-07
Action Plan Name: Laboratory Position Description
Evaluator: Chuck Dorsey
Date of Evaluation: 2/26/92
Last Review: 3/26/92

Net Benefit: 672
(x1,000)

Last Update: 3/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1:	A1:	A:	A1:	A1: 2.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 4.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2: -	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
						A-RskLo
					Eff? yes	A-RskHi
					C1: 3.3	
					C2: 2.0	RskPub?
					C3: 3.2	InfPub?
					@VI-C: -	B-SevLo
					672	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-08
Action Plan Name: Assessments
Evaluator: Dennis Derkacs
Date of Evaluation: 2/18/92
Last Review: 4/30/92

Net Benefit: 2.5
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 1.2 B1: 2.5 B2: 2.0 C1: 2.5 C2: 2.0 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 2.0 B2: 1.5 C1: 2.0 C2: 1.5	A1: 3.0 A2: 1.5	A1: 3.0 A2: 1.5 B1: 3.5 B2: 2.0	A1: 3.0 A2: 2.0 B1: 2.0 B2: 1.0 @VI-1: - 58 @VI-2: - 0 Eff? no C1: 2.5 C2: 1.5 C3: 4.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 200	@V-1: - 6		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 50	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-09
Action Plan Name: Communications
Evaluator: Kathy Haq
Date of Evaluation: 3/09/92
Last Review: 4/15/92

Net Benefit: 100
(x1,000)

Last Update: 4/21/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? no	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.0	A1: A2: B1: B2:	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: 4.0 C2: 1.2 C3: 3.5 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? no InfPub? no B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: : 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-10
Action Plan Name: Public Affairs and Outreach
Evaluator:
Date of Evaluation: 3/19/92
Last Review: 3/31/92

Net Benefit: 1,100
(x1,000)

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 4.0	A1:	A1:	RiskW? no
A2:	A2:		A2: 2.5	A2:	A2:	InfoW? no
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub? no
					C3:	InfPub? n
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv? no
						InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		D-Low
0	0	0	1,250	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	150	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-11
Action Plan Name: Subcontractor Performance
Evaluator: J.A. Merrigan
Date of Evaluation: 3/11/92
Last Review: 3/31/92

Net Benefit: 825
(x1,000)

Last Update: 6/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.5	A1: 4.0 A2: 1.5 B1: 4.0 B2: 2.5	A1: 2.2 A2: 1.8 B1: 2.5 B2: 1.8 @VI-1: - 18 @VI-2: 1 Eff? yes C1: 2.5 C2: 2.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi PskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 8	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 750		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 150	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-12

Net Benefit: 100

Action Plan Name: Institutional Interfaces/University of California (x1,000)

Evaluator: Tom Hiron

Date of Evaluation: 3/20/92

Last Review: 3/31/92

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1: 3.0	A1:	A1:	RiskW? no
A2:	A2:		A2: 2.0	A2:	A2:	InfoW? no
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: 0	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub? no
					C3:	InfPub? n
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	200	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	100	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-13
Action Plan Name: Safety Reviews
Evaluator: H. Howard, H. Lindberg
Date of Evaluation: 2/21/92
Last Review: 3/31/92

Net Benefit: 1,145
(x1,000)

Last Update: 3/31/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 2.5 C1: 2.5 C2: 2.0 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A1: 4.0 A2: 4.0 B1: 2.0 B2: 1.5 C1: 2.0 C2: 1.5 D1: 3.0 D2: 3.0 E1: 3.0 E2: 2.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 3.0 A2: 2.0	A1: 4.0 A2: 1.8 B1: 4.0 B2: 2.0	A1: 3.0 A2: 2.0 B1: 4.0 B2: 1.5 @VI-1: - 175 @VI-2: - 1 Eff? yes C1: 3.5 C2: 1.2 C3: 3.1 @VI-C: - 81 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 39	@II-1: - 0	@III-1: - 2	@IV-1: - 200	@V-1: - 750		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-14
Action Plan Name: Lessons Learned
Evaluator: William J. Parris
Date of Evaluation: 2/18/92
Last Review: 3/31/92

Net Benefit: 5.5
(x1,000)

Last Update: 3/31/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 2.5 A2: 1.5 B1: 2.5 B2: 1.5 C1: 2.5 C2: 2.5 D1: 3.0 D2: 3.0 E1: 5.0 E2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.5	A1: 3.5 A2: 2.5 B1: 3.5 B2: 2.5	A1: 3.0 A2: 2.0 B1: 3.0 B2: 2.0 @VI-1: - 117 @VI-2: - 1 Eff? yes C1: 3.0 C2: 1.5 C3: 3.1 @VI-C: - 57 Delay?no D: @VI-D: - 0 Resources? no	RiskW? no InfoW? no A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? no InfPub? r B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 284		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 150	@V-2: - 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-15 Net Benefit: 144
Action Plan Name: Performance Appraisals and Incentives (x1,000)
Evaluator: Chuck Dorsey
Date of Evaluation: 3/26/92
Last Review: 3/26/92 Last Update: 3/27/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1: 1.1	RiskW?
A2:	A2:		A2:	A2:	A2: 1.1	InfoW?
B1:	B1:	B1:		B1:	B1: 1.0	A-SevLo
B2:	B2:	B2:		B2:	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2: -	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? yes	A-RskLo
					C1: 4.0	A-RskHi
					C2: 1.0	RskPub?
					C3: 3.1	InfPub?
					@VI-C: -	B-SevLo
					144	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		B-RskLo
0	0	0	0	0		B-RskHi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		RskEnv?
0	0	0	0	0		InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-16

Net Benefit:

Action Plan Name: Career Planning for ES&H Professionals

(x1,000)

Evaluator: Chuck Dorsey

Date of Evaluation: 3/26/92

Last Review: 3/26/92

Last Update: 3/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
0	0	0	0	0		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-17
Action Plan Name: Recruiting
Evaluator: Chuck Dorsey
Date of Evaluation: 3/26/92
Last Review: 3/26/92

Net Benefit: 0
(x1,000)

Last Update: 3/27/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? yes	A-RskHi
					C1: 2.0	
					C2: 2.0	RskPub?
					C3: 3.0	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D:-	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-18

Net Benefit:

Action Plan Name: Fostering Positive Employee Relations

(x1,000)

Evaluator: Chuck Dorsey

Date of Evaluation: 3/26/92

Last Review: 3/26/92

Last Update: 3/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
----- Prob? no Plan? no	----- Prob? no Plan? no	----- Prob? no	----- Now? no 3yr? no	----- Prob? no	----- Prob? no	----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: A2: B1: B2:	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-19 Net Benefit: 1,100
Action Plan Name: Agreement in Principle Implementation (x1,000)
Evaluator: Ken Hargis
Date of Evaluation: 2/28/92
Last Review: 3/26/92 Last Update: 3/26/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 4.0	A1: 1.2	A1:	RiskW?
A2:	A2:		A2: 2.5	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 4.5	B1:	A-SevLo
B2:	B2:	B2:		B2: 2.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
					@VI-D:-	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	1,250	0		
@I-2:	@II-2:	@III-2:-	@IV-2:	@V-2:		
0	0	0	150	0		
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MGT-20

Net Benefit:

Action Plan Name: Formal ES&H Reviews for WFO & CRADAS

(x1,000)

Evaluator: ICO Review Team

Date of Evaluation: 3/27/92

Last Review: 3/31/92

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D:-	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MS-01
Action Plan Name: Occupational Medicine Program
Evaluator: J. Williams, J. Hughes
Date of Evaluation: 2/19/92
Last Review: 4/30/92

Net Benefit: 399
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.5 A2: 3.0 B1: 2.5 B2: 2.0 C1: 1.5 C2: 1.0 D1: 2.0 D2: 1.5 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 1.5 E2: 1.0	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 1.0	A1: 1.5 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 4.0 C2: 1.0 C3: 3.2 @VI-C: - 288 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-MS-02
Action Plan Name: Medical Services: Procedures, Documentation, Review (x1,000)
Evaluator: J. Williams, J. Hughes
Date of Evaluation: 2/19/92
Last Review: 3/16/92
Net Benefit: 108
Last Update: 3/16/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 1.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 1.0 E2: 1.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.5 B1: 4.0 B2: 1.5	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? yes C1: 1.0 C2: 2.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources?	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-NP-01
Action Plan Name: Seismic Mitigation Training
Evaluator: Meg Cox, Author
Date of Evaluation: 2/11/92
Last Review: 3/05/92

Net Benefit: 100
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.0 A2: 1.0	A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 100	@V-1:- 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-NP-02

Action Plan Name: Seismic Safety Program

Evaluator: M. D. Keller

Net Benefit:

(x1,000)

Date of Evaluation: 2/07/92

Last Review: 3/05/92

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 4		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-NP-03
Action Plan Name: Seismic Mitigation for Equipmnt & Systems at TA-55 (x1,000)
Evaluator: David Post
Date of Evaluation: 2/17/92
Last Review: 3/05/92
Net Benefit: 200
Last Update: 3/09/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 3.0	A1:	A1:	RiskW?
A2:	A2:		A2: 1.0	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	200	0		
@I-2: -	@II-2: -	@III-2: -	@IV-2: -	@V-2: -		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-NP-04 Net Benefit: 6.1
Action Plan Name: Seismic Protection for Sigma Building (SM-66) (x1,000)
Evaluator: Joe Mitchell
Date of Evaluation: 2/18/92
Last Review: 3/05/92 Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? no	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 2.5 B2: 1.5 C1: 3.8 C2: 1.5 D1: 3.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 3.0 A2: 1.0	A1: A2: B1: B2:	A1: 3.5 A2: 2.0 B1: 1.0 B2: 1.0 @VI-1: - 139 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 299	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-NP-06
Action Plan Name: Slope Stabilization
Evaluator: Stephen McLin, Author
Date of Evaluation: 2/20/92
Last Review: 3/05/92

Net Benefit: 63
(x1,000)

Last Update: 3/08/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 3.5 A2: 3.5 B1: 1.5 B2: 1.0 C1: 2.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 2.0 A2: 1.5	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 8	@II-1: - 0	@III-1: - 2	@IV-1: - 100	@V-1: - 4		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 50	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-NP-07
Action Plan Name: Seismic Hazards Investigation
Evaluator: M.D. Keller
Date of Evaluation: 2/06/92
Last Review: 3/05/92

Net Benefit: 2,000
(x1,000)

Last Update: 3/05/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 2.5 B2: 2.5 C1: 4.0 C2: 2.0 D1: 3.0 D2: 1.5 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 2.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0	A1: 4.0 A2: 2.0 B1: 2.0 B2: 1.0 @VI-1: - 1,333 @VI-2: 0 Eff? yes C1: 1.0 C2: 4.0 C3: 2.5 @VI-C: - -45 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 750 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 100	@V-1: - 0 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OA-01 Net Benefit: 100
Action Plan Name: Random Drug Testing Certification (x1,000)
Evaluator: Paula S. Dransfield
Date of Evaluation: 2/28/92
Last Review: 3/18/92 Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 2.0	A1:	A1:	RiskW? no
A2:	A2:		A2: 1.0	A2:	A2:	InfoW? no
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: 0	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub? yes
					C3:	InfPub? no
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv? no
					no	InfEnv? no
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	100	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-02

Net Benefit:

1,125
(x1,000)

Action Plan Name: TA-55 Shift Supervisor

Evaluator: Warren T. Wood

Date of Evaluation: 12/04/91

Last Review: 4/23/92

Last Update: 4/23/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? - no
A1:	A1:	A:	A1:	A1: 4.0	A1: 2.0	RiskW?
A2:	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1:		B1: 5.0	B1: 5.0	A-SevLo
B2:	B2:	B2:		B2: 2.0	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				6	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? yes	A-RskHi
					C1: 1.0	
					C2: 2.0	RskPub?
					C3: 3.1	InfPub?
					@VI-C: -	B-SevLo
					1	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
						B-LikLo
					@VI-D: -	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					yes	B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	1,125		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		

D-Low
D-Hi
E
@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-03
Action Plan Name: Tritium Facility shutdown at TA-33, Bldg.86
Evaluator: Allen Valentine
Date of Evaluation: 12/06/91
Last Review: 4/30/92

Net Benefit: 402
(x1,000)

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? yes	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 2.0 B1: 3.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 2.0 D2: 1.0 E1: 4.0 E2: 5.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 2.0 D1: 3.0 D2: 1.0 E1: 3.0 E2: 1.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.0 A2: 1.0	A1: 4.0 A2: 1.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0 @VI-1: - 175 @VI-2: - 0 Eff? yes C1: 1.0 C2: 3.5 C3: 3.0 @VI-C: - 0 Delay?yes D: - 1,000,000 @VI-D: - 1,000 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: -
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 100	@V-1: - 1,125		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-04

Net Benefit:

Action Plan Name: Conduct of Operations, Godiva Ring

0
(x1,000)

Evaluator: Richard E. Malenfant

Date of Evaluation: 11/27/91

Last Review: 4/23/92

Last Update: 4/23/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 2.0	A1: 1.1	RiskW?
A2:	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1:	B1:	B1:		B1: 2.0	B1: 3.0	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
						A-RskHi
					Eff? no	
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
						B-PotHi
					Delay?no	B-LikLo
					D:	B-LikHi
						B-PopLo
					@VI-D: -	B-PopHi
					0	B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-07
 Action Plan Name: Human Factors
 Evaluator: Hahn, Hurdle, Stallings
 Date of Evaluation: 2/12/92
 Last Review: 3/17/92

Net Benefit: 86
 (x1,000)

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 1.5 A2: 1.5 B1: 2.0 B2: 1.8 C1: 4.0 C2: 4.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 1.8 B2: 1.8 C1: 4.0 C2: 4.0 D1: 4.0 D2: 4.0 E1: 1.8 E2: 1.8	A: 19 B1: 1.0 B2: 1.0 C1: 4.0 C2: 4.0	A1: 2.0 A2: 2.0	A1: 3.0 A2: 2.0 B1: 3.0 B2: 2.0	A1: 3.0 A2: 2.0 B1: 2.5 B2: 2.5 @VI-1: - 82 @VI-2: 2 Eff? yes C1: 2.1 C2: 1.0 C3: 3.1 @VI-C: - 2 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 1,710	@IV-1: - 100	@V-1: - 4		
@I-2: 0	@II-2: 0	@III-2: 1,710	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-08

Net Benefit:

Action Plan Name: Conduct of Operations at TA-55

3.3
(x1,000)

Evaluator: David Post

Date of Evaluation: 2/17/92

Last Review: 4/30/92

Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 1.5 B2: 1.0 C1: 4.0 C2: 4.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 4.0 A2: 4.0 B1: 1.0 B2: 1.0 C1: 3.5 C2: 3.5 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 2.0 C1: 1.5 C2: 1.0	A1: 5.0 A2: 5.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: 3.0 A2: 2.0 B1: 1.0 B2: 1.0 @VI-1: - 12 @VI-2: - 0 Eff? yes C1: 2.0 C2: 4.0 C3: 3.2 @VI-C: - 360 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 8	@II-1: - 0	@III-1: - 0	@IV-1: - 5,000	@V-1: - 14		
@I-2: 1	@II-2: 0	@III-2: 0	@IV-2: 5,000	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-11
Action Plan Name: Gate Verification
Evaluator: ICO Review Team
Date of Evaluation: 7/17/92
Last Review: 7/17/92

Net Benefit: 0
(x1,000)

Last Update: 7/21/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 3.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-12 Net Benefit:
Action Plan Name: Omega West Reactor Basin Ledges (x1,000)
Evaluator: ICO Review Team
Date of Evaluation: 7/17/92
Last Review: 7/17/92 Last Update: 7/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1: 3.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-13 Net Benefit: 0
Action Plan Name: Omega West Reactor Shipping Cask (x1,000)
Evaluator: ICO Review Team
Date of Evaluation: 7/17/92
Last Review: 7/17/92 Last Update: 7/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 2.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 2.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
					Resources?	B-PopHi
					no	B-RskLo
						B-RskHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		RskEnv?
0	0	0	0	0		InfEnv?
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-14

Action Plan Name: Housekeeping at Tritium Sites

Evaluator: ICO Review Team

Net Benefit:

111
(x1,000)

Date of Evaluation: 7/17/92

Last Review: 7/17/92

Last Update: 7/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.5 A2: 1.0 B1: 2.5 B2: 1.8 C1: 2.5 C2: 1.8 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 2.8 A2: 1.0 B1: 6.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-15 Net Benefit: 92
Action Plan Name: Equipment Weaknesses and Radioactive Releases (x1,000)
Evaluator: John Bartlit
Date of Evaluation: 2/14/92
Last Review: 3/13/92 Last Update: 3/13/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 1.0 B1: 3.0 B2: 2.5 C1: 1.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 2.5 D2: 2.0 E1: 3.0 E2: 2.0	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 1.5	A1: 2.0 A2: 1.5	A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 2.5 A2: 1.5 B1: 2.5 B2: 1.0 @VI-1: - 42 @VI-2: 0 Eff? no C1: 1.5 C2: 1.5 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 50	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-16
Action Plan Name: MP-P Interface at LAMPF
Evaluator: M.T. Brandt
Date of Evaluation: 2/18/92
Last Review: 3/19/92

Net Benefit: 10.1
(x1,000)

Last Update: 3/19/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: - 0 Eff? yes C1: 2.5 C2: 3.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 0 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-18
Action Plan Name: TA-8 Radiation Monitoring & Documentation
Evaluator: Larry Bryant
Date of Evaluation: 2/12/92
Last Review: 3/13/92

Net Benefit: 13
(x1,000)

Last Update: 3/13/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1: 1.0	A1:	A:	A1:	A1: 3.0	A1: 2.0	RiskW?
A2: 1.0	A2:		A2:	A2: 1.0	A2: 1.0	InfoW?
B1: 2.0	B1:	B1:		B1: 5.0	B1: 2.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1: 1.0	C1:	C1:				A-PotLo
C2: 1.0	C2:	C2:			@VI-1: -	A-PotHi
D1: 1.0	D1:				1	A-LikLo
D2: 1.0	D2:				@VI-2: 0	A-LikHi
E1: 1.0	E1:					A-PopLo
E2: 1.0	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1: 1.0	
					C2: 2.0	RskPub?
					C3: 3.0	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	11		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-OP-19
Action Plan Name: Facility Status Control
Evaluator: Richard E. Malenfant
Date of Evaluation: 11/27/91
Last Review: 4/23/92

Net Benefit: ¹
(x1,000)

Last Update: 4/23/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 2.0	A1: 1.8	RiskW?
A2:	A2:		A2:	A2: 2.0	A2: 1.0	InfoW?
B1:	B1:	B1:		B1: 2.0	B1: 2.0	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				1	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D: -	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-01
Action Plan Name: Hazard Identification/Evaluation/Control
Evaluator: Dan McDonell
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 3
(x1,000)

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 2.0 B1: 3.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 3.0 A2: 3.0 B1: 3.0 B2: 2.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: 4.0 C2: 1.0 C3: 3.2 @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 4		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-02
Action Plan Name: Ventilation Systems
Evaluator: David B. McIntosh
Date of Evaluation: 2/12/92
Last Review: 3/04/92

Net Benefit:

---1
(x1,000)

Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 3.0 A2: 3.0 B1: 2.5 B2: 1.0 C1: 3.5 C2: 3.5 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.5 B2: 2.0 C1: 3.5 C2: 3.5 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 4.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 39	@II-1: - 116	@III-1: - 0	@IV-1: - 0	@V-1: - 8		
@I-2: 0	@II-2: 12	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-03
Action Plan Name: Physical Agents
Evaluator: Jeff Hollander
Date of Evaluation: 2/12/92
Last Review: 3/04/92

Net Benefit: 3,178
(x1,000)

Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 3.0 B1: 4.0 B2: 3.0 C1: 3.0 C2: 2.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 2.0 E2: 1.0	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 2.0 A2: 1.0	A1: 4.0 A2: 2.0 B1: 6.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.0 C3: 3.5 @VI-C: - 900 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 750 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 1,425 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-04
Action Plan Name: Confined Space Entry Program
Evaluator: Joe LaBauve
Date of Evaluation: 3/04/92
Last Review: 4/15/92

Net Benefit: 1,6
(x1,000)

Last Update: 4/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.5 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 4.0 A2: 2.0 B1: 6.0 B2: 3.0	A1: 3.0 A2: 3.0 B1: 5.0 B2: 1.0 @VI-1: - 222 @VI-2: - 12 Eff? yes C1: 2.2 C2: 2.0 C3: 1.0 @VI-C: - -713 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 75 @I-2: 8	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 1,425 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-05
Action Plan Name: Program Identification and Responsibility
Evaluator: Dan MacDonnell
Date of Evaluation: 2/12/92
Last Review: 3/04/92
Net Benefit: 3,192
(x1,000)
Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 2.0 A2: 2.0 B1: 2.5 B2: 1.5 C1: 2.0 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 5.0 A2: 4.0	A1: 3.0 A2: 3.0 B1: 6.0 B2: 3.0	A1: 2.0 A2: 2.0 B1: 1.5 B2: 1.0 @VI-1: - 1 @VI-2: 0 Eff? yes C1: 2.5 C2: 2.0 C3: 2.0 @VI-C: - -569 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 5,000	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 1,250	@V-2: 4		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-06
Action Plan Name: Asbestos Management Program
Evaluator: Dan Macdonell
Date of Evaluation: 2/13/92
Last Review: 3/04/92

Net Benefit: 1.0
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 3.0 A2: 3.0 B1: 4.0 B2: 2.0 C1: 2.0 C2: 1.5 D1: 3.7 D2: 3.4 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 3.0 D2: 1.5 E1: 5.0 E2: 1.0	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 3.0 B1: 3.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 75 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 4 @V-2: 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-07
Action Plan Name: Carcinogens
Evaluator: Jeffrey E. Schinkel
Date of Evaluation: 2/11/92
Last Review: 3/04/92

Net Benefit: 7
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 3.0 B1: 2.5 B2: 2.0 C1: 2.5 C2: 2.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0 D1: 1.0 D2: 1.0 E1: 3.0 E2: 3.0	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 2.0 A2: 2.0	A1: 3.0 A2: 3.0 B1: 4.0 B2: 2.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 2.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: 2.0 C2: 2.0 C3: 2.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi - E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 8		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-08 Net Benefit:
Action Plan Name: Accident/Injury/Illness Investigation and Document (x1,000)
Evaluator: Sharon K. Aragon
Date of Evaluation: 2/13/92
Last Review: 3/04/92 Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 4.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
					@VI-D:-	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		RskEnv?
0	0	0	0	8		InfEnv?
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-09 Net Benefit: 864
Action Plan Name: HS Resources/Roles/Responsibilities (x1,000)
Evaluator: B.J. Skaggs
Date of Evaluation: 2/14/92
Last Review: 4/15/92 Last Update: 4/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? yes	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1: 2.0	A1: 2.0	A:	A1:	A1: 3.0	A1:	RiskW?
A2: 1.8	A2: 2.0		A2:	A2: 2.0	A2:	InfoW?
B1: 4.0	B1: 2.5	B1:		B1: 5.0	B1:	A-SevLo
B2: 3.5	B2: 2.0	B2:		B2: 3.0	B2:	A-SevHi
C1: 2.8	C1: 2.0	C1:				A-PotLo
C2: 2.2	C2: 2.0	C2:			@VI-1:-	A-PotHi
D1: 4.0	D1: 3.5				0	A-LikLo
D2: 3.7	D2: 3.5				@VI-2:	A-LikHi
E1: 5.0	E1: 5.0				0	A-PopLo
E2: 5.0	E2: 5.0					A-PopHi
						A-RskLo
					Eff? yes	A-RskHi
					C1: 2.5	
					C2: 2.0	RskPub?
					C3: 3.1	InfPub?
					@VI-C:-	B-SevLo
					57	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		D-Low
796	0	0	0	11		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
1	0	0	0	0		@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PP-10

Action Plan Name: Traffic Safety

Evaluator: Richard Fox

Date of Evaluation: 2/13/92

Last Review: 3/04/92

Net Benefit:

100
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? no	Prob? no	Study? no
A1: 4.0 A2: 4.0 B1: 1.5 B2: 1.3 C1: 3.5 C2: 3.5 D1: 2.0 D2: 1.5 E1: 5.0 E2: 5.0	A1: 4.0 A2: 4.0 B1: 1.2 B2: 1.1 C1: 3.5 C2: 3.5 D1: 2.0 D2: 1.5 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 2.5 A2: 1.5	A1: A2: B1: B2:	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 150 @IV-2: 50	@V-1: - 0 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PT-01
Action Plan Name: Packaging and Transportation Risk Evaluation
Evaluator: Rob Griffith
Date of Evaluation: 2/14/92
Last Review: 4/15/92
Net Benefit: 2,466 (x1,000)
Last Update: 4/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 2.8 B2: 2.0 C1: 3.5 C2: 3.5 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 4.0 A2: 4.0 B1: 1.5 B2: 1.0 C1: 4.0 C2: 4.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 5.0	A: 19 B1: 1.5 B2: 1.0 C1: 2.0 C2: 1.3	A1: 4.5 A2: 3.5	A1: 3.0 A2: 2.8 B1: 5.0 B2: 3.5	A1: 2.5 A2: 2.0 B1: 2.0 B2: 1.0 @VI-1: - 30 @VI-2: - 0 Eff? yes C1: 2.5 C2: 2.5 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 30	@II-1: - 0	@III-1: - 1	@IV-1: - 3,125	@V-1: - 11		
@I-2: 1	@II-2: 0	@III-2: 0	@IV-2: 725	@V-2: 4		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PT-02

Net Benefit:

-1.5,

Action Plan Name: Packaging and Transportation Quality Assurance

(x1,000)

Evaluator: Robert Griffith

Date of Evaluation: 2/18/92

Last Review: 4/15/92

Last Update: 4/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 2.3 B2: 1.8 C1: 2.5 C2: 2.5 D1: 1.0 D2: 1.0 E1: 5.0 E2: 3.0	A1: 4.0 A2: 4.0 B1: 2.3 B2: 1.8 C1: 3.0 C2: 3.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 3.0	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 1.8	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.5 B1: 6.0 B2: 2.3	A1: 2.0 A2: 1.3 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: - 0 Eff? yes C1: 2.5 C2: 2.5 C3: 2.8 @VI-C: - -255 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PT-03
Action Plan Name: Training/Qualification of P&T Personnel
Evaluator: Tom Houston
Date of Evaluation: 2/14/92
Last Review: 3/11/92

Net Benefit: 8,173
(x1,000)

Last Update: 3/11/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 2.0 B1: 3.0 B2: 2.0 C1: 2.5 C2: 1.5 D1: 3.5 D2: 3.5 E1: 5.0 E2: 3.5	A1: 4.0 A2: 2.0 B1: 3.0 B2: 2.0 C1: 2.5 C2: 1.5 D1: 4.0 D2: 4.0 E1: 5.0 E2: 3.5	A: 19 B1: 1.8 B2: 1.8 C1: 1.8 C2: 1.3	A1: 5.5 A2: 3.5	A1: 4.0 A2: 4.0 B1: 5.0 B2: 2.5	A1: 3.0 A2: 3.0 B1: 5.0 B2: 1.5 @VI-1: - 222 @VI-2: - 26 Eff? yes C1: 2.5 C2: 2.5 C3: 2.5 @VI-C: - -636 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfOW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 39 @I-2: 0	@II-1: - 900 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 7,500 @IV-2: 725	@V-1: - 1,125 @V-2: 225		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PT-04
 Action Plan Name: P&T Assessment/Oversight Program
 Evaluator: David McCollum
 Date of Evaluation: 2/13/92
 Last Review: 3/11/92

Net Benefit: 2,200
 (x1,000)

Last Update: 3/31/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 1.0 B1: 3.0 B2: 3.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 2.5 A2: 2.5 B1: 3.0 B2: 3.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 1.8 B2: 1.8 C1: 2.0 C2: 1.0	A1: 4.0 A2: 3.0	A1: 4.0 A2: 3.8 B1: 5.0 B2: 1.0	A1: 3.0 A2: 3.0 B1: 3.0 B2: 2.0 @VI-1: - 117 @VI-2: 58 Eff? yes C1: 2.5 C2: 1.5 C3: 3.1 @VI-C: - 18 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 3	@III-1: - 1	@IV-1: - 1,250	@V-1: - 1,125		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 200	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PT-05
Action Plan Name: P&T Procedures/P&T Program
Evaluator: Ruby Alexander
Date of Evaluation: 2/14/92
Last Review: 3/11/92

Net Benefit: 4,031
(x1,000)

Last Update: 3/31/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 3.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 2.5 A2: 2.5 B1: 3.0 B2: 2.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 1.8 B2: 1.8 C1: 2.0 C2: 1.0	A1: 5.5 A2: 5.0	A1: 4.0 A2: 3.8 B1: 5.0 B2: 1.0	A1: 3.0 A2: 3.0 B1: 4.0 B2: 2.0 @VI-1: - 175 @VI-2: - 58 Eff? yes C1: 2.5 C2: 2.0 C3: 3.5 @VI-C: - 285 Delay?no D: - @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 1	@II-1: - 3	@III-1: - 1	@IV-1: - 7,500	@V-1: - 1,125		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 5,000	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-PT-06
Action Plan Name: Property Management - Excess Property
Evaluator: Dennis A. Martinez
Date of Evaluation: 2/13/92
Last Review: 4/30/92
Net Benefit: 4.1
(x1,000)
Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 2.0 A2: 1.5 B1: 3.0 B2: 2.5 C1: 3.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 3.0 E2: 3.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 4.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 4.0 A2: 4.0	A1: 3.0 A2: 2.0 B1: 5.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: 0 Eff? yes C1: 2.0 C2: 2.5 C3: 4.0 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 1,250	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 1,250	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-01 Net Benefit: 113
Action Plan Name: Control and Verification of Computer Codes (x1,000)
Evaluator: Christ J. Mechels
Date of Evaluation: 2/14/92
Last Review: 3/10/92 Last Update: 3/10/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? yes	A-RskLo
					C1: 1.0	A-RskHi
					C2: 3.0	RskPub?
					C3: 5.0	InfPub?
					@VI-C:-	B-SevLo
					113	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-02
Action Plan Name: Quality Program
Evaluator: R. Kewish
Date of Evaluation: 2/14/92
Last Review: 4/30/92

Net Benefit: 1,000 /
(x1,000)

Last Update: 6/22/92

I-WkrH&S ----- Prob? yes Plan? yes	II-PbH&S ----- Prob? yes Plan? yes	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.5 A2: 3.5 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.5 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: 3.5 A2: 3.5 B1: 4.0 B2: 4.0 C1: 1.3 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 5.0 A2: 4.8	A1: 3.5 A2: 2.0 B1: 4.0 B2: 2.0	A1: 2.0 A2: 1.3 B1: 2.5 B2: 1.5 @VI-1: - 2 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 252 @I-2: 63	@II-1: - 113 @II-2: 28	@III-1: - 0 @III-2: 0	@IV-1: - 5,000 @IV-2: 4,250	@V-1: - 379 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-03
Action Plan Name: Records and Document Control
Evaluator: Peter J. Garcia
Date of Evaluation: 2/14/92
Last Review: 3/10/92

Net Benefit: 0
(x1,000)

Last Update: 3/31/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1:	A1:	A:	A1:	A1: 2.0	A1: 2.0	RiskW?
A2:	A2:		A2:	A2: 2.0	A2: 2.0	InfoW?
B1:	B1:	B1:		B1: 6.0	B1: 1.0	A-SevLo
B2:	B2:	B2:		B2: 3.0	B2: 1.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1: -	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2: -	A-PopLo
E2:	E2:				0	A-PopHi
					Eff? yes	A-RskLo
					C1: 2.5	A-RskHi
					C2: 2.0	RskPub?
					C3: 3.0	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?yes	B-PotLo
					D: -	B-PotHi
					0	B-LikLo
					@VI-D: -	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					yes	B-RskHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		RskEnv?
0	0	0	0	0		InfEnv?
@I-2: -	@II-2: -	@III-2: -	@IV-2: -	@V-2: -		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-04

Net Benefit:

1,8

Action Plan Name: Training, Qualification, and Certification

(x1,000)

Evaluator: R. Kewish

Date of Evaluation: 2/14/92

Last Review: 4/30/92

Last Update: 6/22/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? yes Plan? yes	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 3.5 A2: 3.5 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.5 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: 3.5 A2: 3.5 B1: 4.0 B2: 4.0 C1: 1.3 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 5.0 A2: 4.8	A1: 3.5 A2: 2.0 B1: 4.0 B2: 2.0	A1: 3.5 A2: 3.5 B1: 4.5 B2: 1.5 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 252 @I-2: 63	@II-1: - 113 @II-2: 28	@III-1: - 0 @III-2: 0	@IV-1: - 5,000 @IV-2: 4,250	@V-1: - 379 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-05 Net Benefit: 80
Action Plan Name: Procurement, Inspect, ID, & Control of Items & Matls (x1,000)
Evaluator: Bennie Gonzales
Date of Evaluation: 2/13/92
Last Review: 3/10/92 Last Update: 3/10/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? no	Prob? yes	Study? no
A1: 2.5 A2: 1.0 B1: 2.5 B2: 2.0 C1: 2.5 C2: 2.5 D1: 2.0 D2: 1.5 E1: 4.5 E2: 4.5	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.5 C2: 1.5	A1: 1.5 A2: 1.0	A1: A2: B1: B2:	A1: 1.5 A2: 1.5 B1: 1.5 B2: 1.0 @VI-1: - 0 @VI-2: 0 Eff? yes C1: 2.5 C2: 1.0 C3: 3.5 @VI-C: - 28 Delay?yes D: -100 @VI-D: - -0 Resources? yes	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 50	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-06
Action Plan Name: Counterfeit and Suspect Parts
Evaluator: Bennie Gonzales
Date of Evaluation: 2/13/92
Last Review: 3/10/92

Net Benefit:
(x1,000)

Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? no	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 1.0 B1: 3.0 B2: 2.5 C1: 2.0 C2: 1.5 D1: 3.5 D2: 3.0 E1: 5.0 E2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.5 C2: 2.5	A1: 2.0 A2: 1.5	A1: A2: B1: B2:	A1: 1.5 A2: 1.5 B1: 1.5 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 2.5 C2: 1.0 C3: 3.5 @VI-C: - 28 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 100	@V-1: - 0		
@I-2: 0	@II-2: 0	@III-2: 2	@IV-2: 50	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-07
Action Plan Name: Calibration
Evaluator: Allen L. Gauler
Date of Evaluation: 2/12/92
Last Review: 4/23/92

Net Benefit: 195
(x1,000)

Last Update: 4/23/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 2.0 C1: 2.0 C2: 1.0	A1: 1.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 2.0	A1: 2.0 A2: 2.0 B1: 2.0 B2: 1.5 @VI-1: - 1 @VI-2: - 1 Eff? yes C1: 3.0 C2: 2.0 C3: 3.1 @VI-C: - 180 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 1	@II-1: - 0	@III-1: - 2	@IV-1: - 0	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-QV-08
Action Plan Name: Calibration
Evaluator: Allen L. Gauler
Date of Evaluation: 2/25/92
Last Review: 4/23/92

Net Benefit: 2.2
(x1,000)

Last Update: 4/23/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 2.0 C1: 2.0 C2: 1.0	A1: 1.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.0 C3: 3.1 @VI-C: - 180 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 75 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 2 @III-2: 0	@IV-1: - 0 @IV-2: 0	@V-1: - 14 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-01
Action Plan Name: Radiological Protection Program
Evaluator: William Eisele
Date of Evaluation: 2/16/92
Last Review: 3/04/92
Net Benefit: 189
(x1,000)
Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.5 A2: 3.5 B1: 2.0 B2: 1.5 C1: 2.0 C2: 1.8 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.8 C1: 1.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 2.0 A2: 2.0	A1: 3.0 A2: 2.0 B1: 4.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.0 C3: 3.1 @VI-C: - 180 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 8		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-02
Action Plan Name: Internal Rad Protection Audits & Investig Programs (x1,000)
Evaluator: William Eisele
Date of Evaluation: 2/18/92
Last Review: 3/04/92
Net Benefit: 189
Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.5 A2: 3.5 B1: 2.0 B2: 1.5 C1: 2.0 C2: 1.8 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.8 C1: 1.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 3.0 E2: 2.0	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 4.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 1 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.0 C3: 3.1 @VI-C: - 180 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-03
Action Plan Name: Radiological Protection Posting Program
Evaluator: Jeff Whicker
Date of Evaluation: 2/13/92
Last Review: 3/04/92
Net Benefit: -4
(x1,000)
Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.5 C1: 2.0 C2: 2.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 2.5 B2: 2.0 C1: 1.0 C2: 1.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 2.0 A2: 2.2	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.5	A1: 3.0 A2: 1.0 B1: 2.0 B2: 1.0 @VI-1: - 58 @VI-2: - 0 Eff? yes C1: 2.0 C2: 1.5 C3: 2.0 @VI-C: - -57 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 120	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-04

Net Benefit:

Action Plan Name: External Rad Exposure Monitoring and Control

(x1,000)

Evaluator: A.J. Miller

Date of Evaluation: 2/10/92

Last Review: 3/18/92

Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 3.5 A2: 3.5 B1: 2.5 B2: 1.0 C1: 3.0 C2: 3.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 6.0 B2: 3.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 16		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-05 Net Benefit: 117
Action Plan Name: External Radiation Dosimetry Program (x1,000)
Evaluator: Richard Brake
Date of Evaluation: 2/13/92
Last Review: 3/18/92 Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 2.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-06

Net Benefit:

Action Plan Name: Internal Radiation Exposure Control Program

(x1,000)

Evaluator: Al Cucchiara

Date of Evaluation: 2/13/92

Last Review: 3/18/92

Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: 0 Eff? yes C1: 2.0 C2: 1.0 C3: 2.0 @VI-C: - -18 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 8		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-07
Action Plan Name: Internal Radiation Dosimetry Program
Evaluator: Bill Inkret
Date of Evaluation: 2/14/92
Last Review: 3/04/92
Net Benefit: 123
(x1,000)
Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 2.0 B1: 2.5 B2: 2.0 C1: 4.0 C2: 2.5 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.5 A2: 1.0	A1: 3.0 A2: 1.5 B1: 6.0 B2: 2.5	A1: 3.0 A2: 2.0 B1: 2.8 B2: 1.0 @VI-1: - 102 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 8	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 14		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-08

Net Benefit:

1,622
(x1,000)

Action Plan Name: Fixed and Portable Rad Instrumentation Program

Evaluator: Shawna L. Church

Date of Evaluation:

Last Review: 3/18/92

Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? yes	Plan? no		3yr? yes			
A1: 3.0	A1:	A:	A1: 2.0	A1: 4.0	A1: 3.0	RiskW?
A2: 1.0	A2:		A2: 1.0	A2: 1.0	A2: 1.0	InfoW?
B1: 2.5	B1:	B1:		B1: 6.0	B1: 3.0	A-SevLo
B2: 1.0	B2:	B2:		B2: 2.0	B2: 1.0	A-SevHi
C1: 2.0	C1:	C1:				A-PotLo
C2: 2.0	C2:	C2:				A-PotHi
D1: 3.0	D1:				@VI-1: -	A-LikLo
D2: 1.0	D2:				117	A-LikHi
E1: 5.0	E1:				@VI-2:	A-PopLo
E2: 5.0	E2:				0	A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		D-Low
0	0	0	100	1,425		D-Hi
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		E
0	0	0	0	0		@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-09
Action Plan Name: Radiological Air Monitoring Program in Work Place (x1,000)
Evaluator: Paul Hoover
Date of Evaluation: 2/12/92
Last Review: 3/04/92
Net Benefit: 14
Last Update: 3/03/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1: 2.0	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2: 1.0	A2:		A2:	A2: 1.5	A2:	InfoW?
B1: 2.0	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2: 2.0	B2:	B2:		B2: 2.5	B2:	A-SevHi
C1: 2.0	C1:	C1:				A-PotLo
C2: 2.0	C2:	C2:			@VI-1:-	A-PotHi
D1: 3.0	D1:				0	A-LikLo
D2: 3.0	D2:				@VI-2:	A-LikHi
E1: 5.0	E1:				0	A-PopLo
E2: 5.0	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
					@VI-D:-	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	14		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-10
Action Plan Name: Surface Rad Contam Monitoring & Control Program
Evaluator: Roger Huchton
Date of Evaluation: 2/14/92
Last Review: 3/04/92
Net Benefit: 3,8 -
(x1,000)
Last Update: 7/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 3.0 B1: 2.5 B2: 1.5 C1: 2.0 C2: 2.0 D1: 3.0 D2: 1.5 E1: 5.0 E2: 5.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 3.0 C2: 2.0	A1: 5.0 A2: 4.0	A1: 3.5 A2: 1.5 B1: 5.0 B2: 2.5	A1: 3.0 A2: 2.0 B1: 2.5 B2: 1.5 @VI-1: - 82 @VI-2: 1 Eff? yes C1: 2.5 C2: 2.0 C3: 2.0 @VI-C: - -569 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 5,000	@V-1: - 568		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 1,250	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-11
Action Plan Name: ALARA Program
Evaluator: William Eisele
Date of Evaluation: 2/18/92
Last Review: 4/15/92

Net Benefit: 933
(x1,000)

Last Update: 6/22/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 1.5 A2: 1.0 B1: 2.5 B2: 1.8 C1: 2.0 C2: 1.8 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.5 C2: 1.5	A1: 4.0 A2: 2.5	A1: 3.0 A2: 2.0 B1: 5.0 B2: 2.0	A1: 1.5 A2: 1.0 B1: 1.5 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.0 C3: 2.9 @VI-C: - -180 Delay?no D: @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 2	@IV-1: - 1,250	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 150	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-12

Action Plan Name: Radiological Records Program

Evaluator: John Voltin

Net Benefit:

(x1,000)

Date of Evaluation: 2/18/92

Last Review: 3/04/92

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? yes			
A1:	A1:	A:	A1: 1.0	A1: 3.0	A1:	RiskW?
A2:	A2:		A2: 1.0	A2: 2.0	A2:	InfoW?
B1:	B1:	B1:		B1: 5.5	B1:	A-SevLo
B2:	B2:	B2:		B2: 2.5	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2: -	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C: -	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
						B-PopLo
						B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					yes	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	0	13		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	0	0		
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-13 Net Benefit: 2,676
Action Plan Name: Radioactive Air Emissions Management Program (x1,000)
Evaluator: Larry Andres
Date of Evaluation: 2/12/92
Last Review: 3/18/92 Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1:	A1:	A:	A1: 4.5	A1: 3.0	A1: 3.0	RiskW?
A2:	A2:		A2: 4.0	A2: 3.0	A2: 1.5	InfoW?
B1:	B1:	B1:		B1: 6.0	B1: 5.0	A-SevLo
B2:	B2:	B2:		B2: 3.0	B2: 2.0	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1: -	A-PotHi
D1:	D1:				222	A-LikLo
D2:	D2:				@VI-2: 1	A-LikHi
E1:	E1:					A-PopLo
E2:	E2:					A-PopHi
					Eff? yes	A-RskLo
					C1: 2.5	A-RskHi
					C2: 2.0	RskPub?
					C3: 4.0	InfPub?
					@VI-C: -	B-SevLo
					569	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D: -	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
						RskEnv?
						InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		
0	0	0	3,125	14		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		
0	0	0	1,250	4		
						D-Low
						D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-14

Net Benefit:

Action Plan Name: Radiological Protection Training Program

(x1,000)

Evaluator: William Somers

Date of Evaluation: 2/10/92

Last Review: 3/04/92

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? yes	Prob? yes	Prob? yes	Study? no
Plan? no	Plan? no		3yr? yes			
A1: 2.0	A1:	A:	A1: 1.0	A1: 3.0	A1: 2.0	RiskW?
A2: 1.0	A2:		A2: 1.0	A2: 1.0	A2: 1.5	InfoW?
B1: 3.0	B1:	B1:		B1: 6.0	B1: 3.0	A-SevLo
B2: 2.0	B2:	B2:		B2: 1.0	B2: 1.5	A-SevHi
C1: 1.0	C1:	C1:				A-PotLo
C2: 1.0	C2:	C2:			@VI-1: -	A-PotHi
D1: 2.0	D1:				3	A-LikLo
D2: 1.0	D2:				@VI-2:	A-LikHi
E1: 5.0	E1:				0	A-PopLo
E2: 5.0	E2:					A-PopHi
					Eff? yes	A-RskLo
					C1: 2.0	A-RskHi
					C2: 4.0	RskPub?
					C3: 3.5	InfPub?
					@VI-C: -	B-SevLo
					900	B-SevHi
					Delay?yes	B-PotLo
					D:	B-PotHi
					0	B-LikLo
					@VI-D: -	B-LikHi
					0	B-PopLo
						B-PopHi
					Resources?	B-RskLo
					no	B-RskHi
@I-1: -	@II-1: -	@III-1: -	@IV-1: -	@V-1: -		RskEnv?
0	0	0	0	14		InfEnv?
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-16
Action Plan Name: Engineering Controls in Tritium Facilities
Evaluator: Bob Nolen
Date of Evaluation: 2/18/92
Last Review: 3/17/92
Net Benefit: -227
(x1,000)
Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? yes	II-PbH&S ----- Prob? no Plan? yes	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 3.0 E2: 1.0	A1: 1.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 3.0 E2: 1.0	A: B1: B2: C1: C2:	A1: 2.0 A2: 2.0	A1: 2.5 A2: 2.5 B1: 3.0 B2: 2.0	A1: 3.0 A2: 2.0 B1: 4.0 B2: 2.0 @VI-1: - 175 @VI-2: - 1 Eff? yes C1: 2.0 C2: 2.5 C3: 2.0 @VI-C: - -402 Delay?no D: @VI-D: - 0 Resources? no	RiskW? yes InfoW? yes A-SevLo 1.0 A-SevHi 1.0 A-PotLo 3.0 A-PotHi 3.0 A-LikLo 1.0 A-LikHi 1.0 A-PopLo 1.0 A-PopHi 2.0 A-RskLo 4.0 A-RskHi 5.0 RskPub? no InfPub? no B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? no InfEnv? no C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 100	@V-1: - 2		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-17
Action Plan Name: Criticality Alarm System
Evaluator: Lee Mcatee
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit:

(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1: 4.0	A1:	A:	A1:	A1: 3.0	A1:	RiskW?
A2: 4.0	A2:		A2:	A2: 1.0	A2:	InfoW?
B1: 2.0	B1:	B1:		B1: 5.5	B1:	A-SevLo
B2: 2.0	B2:	B2:		B2: 2.0	B2:	A-SevHi
C1: 3.0	C1:	C1:				A-PotLo
C2: 3.0	C2:	C2:				A-PotHi
D1: 2.0	D1:				@VI-1:-	A-LikLo
D2: 1.0	D2:				0	A-LikHi
E1: 5.0	E1:				@VI-2:	A-PopLo
E2: 5.0	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
						B-PotHi
					Delay?no	B-LikLo
					D:	B-LikHi
						B-PopLo
					@VI-D:-	B-PopHi
					0	B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	13		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-18
Action Plan Name: Emerg Preparedness-Rad/Chemical Emerg Procedures (x1,000)
Evaluator: Haynie, Howe, Hower
Date of Evaluation: 2/12/92
Last Review: 3/18/92
Net Benefit: 428
Last Update: 3/18/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 4.0 C2: 2.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 1.5 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 1.8	A1: 2.5 A2: 2.0	A1: 3.5 A2: 3.0 B1: 4.0 B2: 2.5	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 3.0 C2: 1.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 1	@II-1: - 0	@III-1: - 0	@IV-1: - 150	@V-1: - 379		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 2		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-19
Action Plan Name: Central Alarm System
Evaluator: S. Church
Date of Evaluation: 2/13/92
Last Review: 3/04/92

Net Benefit:
(x1,000)

Last Update: 3/04/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? yes	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1: 2.0	A1:	RiskW?
A2:	A2:		A2:	A2: 1.0	A2:	InfoW?
B1:	B1:	B1:		B1: 6.0	B1:	A-SevLo
B2:	B2:	B2:		B2: 1.0	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:			@VI-1:-	A-PotHi
D1:	D1:				0	A-LikLo
D2:	D2:				@VI-2:	A-LikHi
E1:	E1:				0	A-PopLo
E2:	E2:					A-PopHi
					Eff? no	A-RskLo
					C1:	A-RskHi
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
					Delay?no	B-PotLo
					D:	B-PotHi
					@VI-D:-	B-LikLo
					0	B-LikHi
					Resources?	B-PopLo
					no	B-PopHi
						B-RskLo
						B-RskHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		RskEnv?
0	0	0	0	0		InfEnv?
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		C-ResLo
0	0	0	0	0		C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
						D-Low
						D-Hi
						E
						@VII:

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-20
Action Plan Name: Monitoring Systems at Accelerators
Evaluator: S. Church
Date of Evaluation: 2/14/92
Last Review: 3/18/92

Net Benefit: 16
(x1,000)

Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 3.0 C2: 3.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 5.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 4.0 B2: 1.0 @VI-1: - 4 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-RP-21
Action Plan Name: Ion Beam Facility Contamination Control
Evaluator: Larry Rowton
Date of Evaluation: 2/20/92
Last Review: 3/18/92
Net Benefit: 1,404
(x1,000)
Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 2.5 A2: 1.0 B1: 3.0 B2: 2.0 C1: 3.0 C2: 3.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 2.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 4.0 A2: 3.0 B1: 6.0 B2: 3.0	A1: 2.0 A2: 2.0 B1: 5.0 B2: 2.0 @VI-1: - 6 @VI-2: 1 Eff? yes C1: 1.2 C2: 2.5 C3: 4.0 @VI-C: - 37 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 1,425		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 4		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-SS-01
Action Plan Name: Protective Force Station Order Review
Evaluator: Ed Nettles, OPR
Date of Evaluation: 2/13/92
Last Review: 3/12/92

Net Benefit: 0
(x1,000)

Last Update: 3/12/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? no	Prob? no	Prob? no	Now? no	Prob? no	Prob? no	Study? no
Plan? no	Plan? no		3yr? no			
A1:	A1:	A:	A1:	A1:	A1:	RiskW?
A2:	A2:		A2:	A2:	A2:	InfoW?
B1:	B1:	B1:		B1:	B1:	A-SevLo
B2:	B2:	B2:		B2:	B2:	A-SevHi
C1:	C1:	C1:				A-PotLo
C2:	C2:	C2:				A-PotHi
D1:	D1:				@VI-1:-	A-LikLo
D2:	D2:				0	A-LikHi
E1:	E1:				@VI-2:	A-PopLo
E2:	E2:				0	A-PopHi
						A-RskLo
					Eff? no	A-RskHi
					C1:	
					C2:	RskPub?
					C3:	InfPub?
					@VI-C:-	B-SevLo
					0	B-SevHi
						B-PotLo
					Delay?no	B-PotHi
					D:	B-LikLo
						B-LikHi
					@VI-D:-	B-PopLo
					0	B-PopHi
						B-RskLo
						B-RskHi
					Resources?	RskEnv?
					no	InfEnv?
						C-ResLo
						C-ResHi
						C-MagLo
						C-MagHi
						C-LikLo
						C-LikHi
@I-1:-	@II-1:-	@III-1:-	@IV-1:-	@V-1:-		
0	0	0	0	0		
@I-2:	@II-2:	@III-2:	@IV-2:	@V-2:		D-Low
0	0	0	0	0		D-Hi
						E
						@VII:
						0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-SS-02
Action Plan Name: Facility-Specific Training for Protective Force (x1,000)
Evaluator: Ed Nettles, OPR
Date of Evaluation: 2/13/92
Last Review: 3/12/92
Net Benefit:
Last Update: 3/25/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.5 C2: 1.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? Infow? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-SS-03
Action Plan Name: Lost Time Incidents Reduction Prog for Prot Frc (x1,000)
Evaluator: Ed Nettles, OPR
Date of Evaluation: 2/13/92
Last Review: 3/12/92
Net Benefit: 0
Last Update: 3/12/92

I-WkrH&S ----- Prob? no Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? no	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: A2: B1: B2:	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 0	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 0		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-SS-04

Net Benefit:

Action Plan Name: Emerg Response Training/Equip for Prot Frc Pers. (x1,000)

Evaluator: Ed Nettles, OPR

Date of Evaluation: 2/13/92

Last Review: 3/12/92

Last Update: 3/12/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 4.0 A2: 1.0 B1: 1.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 1.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 1.0 A2: 1.0 B1: 3.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources?	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 0		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TC-01
Action Plan Name: Laboratory Training Program
Evaluator: Mullaney/Cox
Date of Evaluation: 2/11/92
Last Review: 3/11/92

Net Benefit: 685
(x1,000)

Last Update: 6/22/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 1.0 E1: 5.0 E2: 2.0	A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 2.0 E1: 4.0 E2: 2.0	A: 19 B1: 1.0 B2: 1.0 C1: 4.0 C2: 4.0	A1: 2.0 A2: 1.0	A1: 3.5 A2: 1.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: 117 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.0 C3: 3.0 @VI-C: 0 Delay?no D: @VI-D: 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: 0	@II-1: 0	@III-1: 0	@IV-1: 0	@V-1: 568		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TC-02
Action Plan Name: Development of Training Procedures
Evaluator: Mullaney/Cox
Date of Evaluation: 2/11/92
Last Review: 3/11/92

Net Benefit:
(x1,000)

Last Update: 3/31/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 2.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 4.0 E2: 2.0	A: 19 B1: 2.0 B2: 1.0 C1: 4.0 C2: 2.0	A1: 4.0 A2: 2.0	A1: 3.0 A2: 2.0 B1: 5.0 B2: 2.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 @VI-1: - 3 @VI-2: 0 Eff? yes C1: 3.0 C2: 1.5 C3: 3.1 @VI-C: - 57 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TC-03
Action Plan Name: Qualification/Certification Programs
Evaluator: Mullaney/Cox
Date of Evaluation: 2/11/92
Last Review: 4/30/92
Net Benefit: 1,046 (x1,000)
Last Update: 6/22/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 1.0 E1: 5.0 E2: 2.0	A1: 3.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 4.0 D2: 2.0 E1: 4.0 E2: 2.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 2.0	A1: 3.0 A2: 2.0	A1: 3.5 A2: 2.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0 @VI-1: - 175 @VI-2: 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 200 @I-2: 0	@II-1: - 2 @II-2: 0	@III-1: - 2 @III-2: 0	@IV-1: - 200 @IV-2: 100	@V-1: - 568 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TC-04

Net Benefit:

1,100
(x1,000)

Action Plan Name: Training Records and Documentation

Evaluator: Mullaney/Cox

Date of Evaluation: 2/11/92

Last Review: 3/11/92

Last Update: 6/22/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? yes	Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0 E1: 5.0 E2: 2.0	A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 2.0 E1: 4.0 E2: 2.0	A: 19 B1: 2.0 B2: 1.0 C1: 3.0 C2: 2.0	A1: 3.0 A2: 2.0	A1: 3.5 A2: 2.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 1.0 B1: 4.0 B2: 1.0 @VI-1: - 175 @VI-2: - 0 Eff? yes C1: 3.0 C2: 2.5 C3: 3.1 @VI-C: - 402 Delay?no D: - @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 568		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TC-05
Action Plan Name: ES&H Training Implementation
Evaluator: Meg Cox
Date of Evaluation: 2/11/92
Last Review: 4/30/92

Net Benefit: 845
(x1,000)

Last Update: 6/22/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 1.0 E1: 5.0 E2: 2.0	A1: 3.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 2.0 E1: 4.0 E2: 2.0	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.0	A1: 3.5 A2: 2.0 B1: 5.0 B2: 2.0	A1: 3.0 A2: 1.5 B1: 4.0 B2: 1.5 @VI-1: - 175 @VI-2: - 0 Eff? yes C1: 4.0 C2: 1.0 C3: 3.0 @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: - 0
@I-1: - 0	@II-1: - 2	@III-1: - 0	@IV-1: - 200	@V-1: - 568		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TC-06

Net Benefit:

Action Plan Name: Safety Training of Accelerator Personnel

6,1
(x1,000)

Evaluator: Michael Barnes

Date of Evaluation: 6/30/92

Last Review: 6/30/92

Last Update: 6/30/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? yes	Now? no 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 1.0 A2: 1.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 3.2 D2: 3.2 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: 19 B1: 1.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 2.0 A2: 1.0	A1: 4.0 A2: 1.0 B1: 6.0 B2: 2.0	A1: 4.0 A2: 1.0 B1: 4.0 B2: 1.0 @VI-1: 4,000 @VI-2: 0 Eff? yes C1: 3.2 C2: 2.5 C3: 3.1 @VI-C: 610 Delay?no D: @VI-D: 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: 0 @I-2: 0	@II-1: 0 @II-2: 0	@III-1: 0 @III-2: 0	@IV-1: 100 @IV-2: 0	@V-1: 1,425 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TS-01 Net Benefit: 5,166
Action Plan Name: Safety Analysis, Safety Assessments & Haz Class (x1,000)
Evaluator: Joseph M. Ortega
Date of Evaluation: 2/17/92
Last Review: 4/30/92 Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 4.0 A2: 4.0 B1: 1.5 B2: 1.0 C1: 2.0 C2: 1.8 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 2.0 B1: 1.5 B2: 1.5 C1: 1.5 C2: 1.4 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 5.0 A2: 3.5	A1: 3.0 A2: 3.0 B1: 5.0 B2: 3.0	A1: 4.0 A2: 1.5 B1: 2.0 B2: 1.0 @VI-1: - 1,333 @VI-2: 0 Eff? yes C1: 2.0 C2: 2.0 C3: 1.0 @VI-C: - -450 Delay?no D: ***** @VI-D: - 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 5,000	@V-1: - 11		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 725	@V-2: 4		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TS-02
Action Plan Name: Timely Technical Support
Evaluator: B.J. Skaggs
Date of Evaluation: 2/13/92
Last Review: 4/15/92

Net Benefit:

(x1,000)

Last Update: 4/21/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 2.0 A2: 1.8 B1: 4.0 B2: 3.5 C1: 2.8 C2: 2.2 D1: 4.0 D2: 3.7 E1: 5.0 E2: 5.0	A1: 2.0 A2: 2.0 B1: 2.5 B2: 2.0 C1: 2.0 C2: 2.0 D1: 3.5 D2: 3.5 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 2.0 A2: 2.0	A1: 3.0 A2: 2.0 B1: 5.0 B2: 3.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: 3.0 C2: 2.5 C3: 3.5 @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 796	@II-1:- 0	@III-1:- 0	@IV-1:- 100	@V-1:- 11		
@I-2: 1	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TS-03
Action Plan Name: Configuration Mangement
Evaluator: Patrick Padilla
Date of Evaluation: 2/07/92
Last Review: 4/30/92

Net Benefit: 1,228
(x1,000)

Last Update: 5/01/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? yes	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 3.0 B1: 3.0 B2: 1.0 C1: 3.0 C2: 3.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 2.0 A2: 1.0 B1: 3.0 B2: 1.0 C1: 2.0 C2: 1.5 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 4.0 A2: 3.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 3.0	A1: 3.0 A2: 1.5 B1: 2.5 B2: 1.5 @VI-1: - 82 @VI-2: - 0 Eff? yes C1: 2.5 C2: 1.0 C3: 4.2 @VI-C: - 74 Delay?no D: - @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 8	@II-1: - 1	@III-1: - 2	@IV-1: - 1,250	@V-1: - 11		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 200	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-TS-04 Net Benefit: 1
Action Plan Name: Lost Time Incident Report - Protective Force (x1,000)
Evaluator: ICO Review Team
Date of Evaluation: 7/17/92
Last Review: 7/17/92 Last Update: 7/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 2.0 B1: 3.5 B2: 3.0 C1: 2.5 C2: 2.5 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 2.7 A2: 1.0 B1: 6.0 B2: 1.5	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 1	@II-1:- 0	@III-1:- 0	@IV-1:- 100	@V-1:- 10		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-01
Action Plan Name: Respirators
Evaluator: Brad Gallimore
Date of Evaluation: 3/18/92
Last Review: 3/18/92

Net Benefit: 1,425
(x1,000)

Last Update: 3/18/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? no	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 4.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 4.0 C2: 4.0 D1: 2.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 4.0 A2: 3.0 B1: 6.0 B2: 4.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 8	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 1,425		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 8		0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-02
Action Plan Name: Lockout/Tagout
Evaluator: R.G. Reines
Date of Evaluation: 12/03/91
Last Review: 3/18/92

Net Benefit: 12,8
(x1,000)

Last Update: 3/24/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 4.5 A2: 1.0 B1: 5.5 B2: 2.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? yes C1: 2.5 C2: 2.0 C3: 2.0 @VI-C:- -569 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 75	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 13,388		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-03 Net Benefit: 1,499
Action Plan Name: Machine Guarding/Area Illumination (x1,000)
Evaluator: Phil Romero
Date of Evaluation: 11/21/91
Last Review: 3/18/92 Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1: 3.0 A2: 2.0 B1: 2.5 B2: 2.0 C1: 4.0 C2: 4.0 D1: 3.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 4.0 A2: 3.0 B1: 6.0 B2: 2.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C:- 0 Delay?no D: @VI-D:- 0 Resources? yes	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1:- 75	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 1,425		
@I-2: 1	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-04
Action Plan Name: Hand Rails and Guard Rails
Evaluator: R.H. Goldie
Date of Evaluation: 2/13/92
Last Review: 3/16/92

Net Benefit: 2,.
(x1,000)

Last Update: 3/16/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? yes Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? no 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? no	VII-Charc ----- Study? no
A1: 4.0 A2: 2.0 B1: 4.0 B2: 2.0 C1: 2.0 C2: 1.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 2.0 B1: 2.0 B2: 2.0 C1: 4.0 C2: 2.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 4.0 A2: 3.0 B1: 6.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 75	@II-1: - 900	@III-1: - 0	@IV-1: - 0	@V-1: - 1,425		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 1		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-06
Action Plan Name: Chemical Hygiene Plan/Hazard Communication
Evaluator: Bill Hargraves
Date of Evaluation: 2/17/92
Last Review: 3/04/92

Net Benefit: 295
(x1,000)

Last Update: 3/24/92

I-WkrH&S ----- Prob? yes Plan? no	II-PbH&S ----- Prob? no Plan? no	III-Envn ----- Prob? no	IV-ComCn ----- Now? yes 3yr? yes	V-Compli ----- Prob? yes	VI-LabOpr ----- Prob? yes	VII-Charc ----- Study? no
A1: 3.0 A2: 1.0 B1: 2.5 B2: 1.0 C1: 3.0 C2: 1.0 D1: 3.0 D2: 1.0 E1: 4.0 E2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 3.0 A2: 2.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 3.0	A1: 2.0 A2: 1.0 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 2.0 C2: 2.0 C3: 4.0 @VI-C: - 180 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 200	@V-1: - 14		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 100	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-07
Action Plan Name: Electrical Hazards
Evaluator: Robert Bowyer
Date of Evaluation: 12/04/91
Last Review: 3/16/92

Net Benefit: 15,3
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? yes	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 4.0 A2: 4.0 B1: 2.4 B2: 2.3 C1: 3.5 C2: 3.5 D1: 4.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 4.5 A2: 1.0 B1: 5.5 B2: 1.0	A1: 3.0 A2: 2.0 B1: 1.0 B2: 1.0 @VI-1: - 12 @VI-2: 0 Eff? yes C1: 2.5 C2: 2.5 C3: 3.5 @VI-C: - 636 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 1,262 @I-2: 30	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 13,388 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-08
Action Plan Name: Chemical Materials
Evaluator: Dan McDonell
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 14
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? yes Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1: 3.0 A2: 3.0 B1: 2.0 B2: 1.0 C1: 3.0 C2: 1.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 1.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 1.0 D2: 1.0 E1: 5.0 E2: 5.0	A: B1: B2: C1: C2:	A1: A2:	A1: 3.0 A2: 1.5 B1: 6.0 B2: 2.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0	@II-1: - 0	@III-1: - 0	@IV-1: - 0	@V-1: - 14		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-09
Action Plan Name: Emergency Response and Hazardous Waste Operations (x1,000)
Evaluator: Susan Alexander
Date of Evaluation: 12/04/91
Last Review: 4/30/92
Net Benefit: 2,5
Last Update: 5/01/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
Prob? yes Plan? yes	Prob? yes Plan? no	Prob? yes	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 3.0 A2: 3.0 B1: 3.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 4.0 D2: 3.0 E1: 5.0 E2: 5.0	A1: 3.0 A2: 3.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 4.0 D2: 2.0 E1: 5.0 E2: 5.0	A: 19 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0	A1: 4.0 A2: 2.0	A1: 4.0 A2: 1.0 B1: 6.0 B2: 3.0	A1: 2.0 A2: 2.0 B1: 3.0 B2: 2.0 @VI-1: - 3 @VI-2: 1 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 2	@II-1: - 0	@III-1: - 2	@IV-1: - 1,250	@V-1: - 1,425		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 100	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-11
Action Plan Name: Welding
Evaluator: Oliver C. Wilton
Date of Evaluation: 2/14/92
Last Review: 3/04/92

Net Benefit: 121
(x1,000)

Last Update: 3/25/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? yes	Study? no
A1: 2.7 A2: 1.7 B1: 3.0 B2: 2.0 C1: 2.0 C2: 1.0 D1: 2.8 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 5.0 B2: 2.0	A1: 2.0 A2: 1.2 B1: 1.0 B2: 1.0 @VI-1: - 0 @VI-2: - 0 Eff? yes C1: 1.5 C2: 2.5 C3: 3.1 @VI-C: - 9 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII: 0
@I-1: - 0 @I-2: 0	@II-1: - 0 @II-2: 0	@III-1: - 0 @III-2: 0	@IV-1: - 100 @IV-2: 0	@V-1: - 11 @V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-12
Action Plan Name: TA-55 Control of Hazardous Energy
Evaluator: Eugene Walter
Date of Evaluation: 12/05/91
Last Review: 3/18/92

Net Benefit: 13,3
(x1,000)

Last Update: 3/18/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? yes	Prob? yes	Prob? no	Study? no
A1: 4.0 A2: 4.0 B1: 3.0 B2: 2.0 C1: 3.0 C2: 2.0 D1: 3.0 D2: 2.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 1.0 A2: 1.0	A1: 4.5 A2: 1.0 B1: 5.5 B2: 2.0	A1: A2: B1: B2: @VI-1:- 0 @VI-2: 0 Eff? yes C1: 1.3 C2: 3.0 C3: 2.0 @VI-C:- -111 Delay?no D: @VI-D:- 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1:- 75	@II-1:- 0	@III-1:- 0	@IV-1:- 0	@V-1:- 13,388		
@I-2: 0	@II-2: 0	@III-2: 0	@IV-2: 0	@V-2: 0		

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-13
Action Plan Name: Signs
Evaluator: Roger Kruse
Date of Evaluation: 2/13/92
Last Review: 3/04/92

Net Benefit: 0
(x1,000)

Last Update: 3/05/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? no 3yr? no	Prob? yes	Prob? no	Study? no
A1: 2.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 2.0 C2: 1.0 D1: 4.0 D2: 4.0 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: A2:	A1: 2.0 A2: 2.0 B1: 5.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 0 @I-2: - 0	@II-1: - 0 @II-2: - 0	@III-1: - 0 @III-2: - 0	@IV-1: - 0 @IV-2: - 0	@V-1: - 0 @V-2: - 0		0

All computed values x 1,000

LANL Action Plan Evaluation

2:47 pm
July 22, 1992

Action Plan #: C-WS-14
Action Plan Name: Excavation Safety
Evaluator: ICO Review Team
Date of Evaluation: 7/17/92
Last Review: 7/17/92

Net Benefit: 28,
(x1,000)

Last Update: 7/21/92

I-WkrH&S	II-PbH&S	III-Envn	IV-ComCn	V-Compli	VI-LabOpr	VII-Charc
-----	-----	-----	-----	-----	-----	-----
Prob? yes Plan? no	Prob? no Plan? no	Prob? no	Now? yes 3yr? no	Prob? yes	Prob? no	Study? no
A1: 4.0 A2: 2.0 B1: 4.0 B2: 2.5 C1: 2.0 C2: 1.0 D1: 2.8 D2: 2.8 E1: 5.0 E2: 5.0	A1: A2: B1: B2: C1: C2: D1: D2: E1: E2:	A: B1: B2: C1: C2:	A1: 2.2 A2: 1.0	A1: 5.0 A2: 1.0 B1: 6.0 B2: 1.0	A1: A2: B1: B2: @VI-1: - 0 @VI-2: - 0 Eff? no C1: C2: C3: @VI-C: - 0 Delay?no D: @VI-D: - 0 Resources? no	RiskW? InfoW? A-SevLo A-SevHi A-PotLo A-PotHi A-LikLo A-LikHi A-PopLo A-PopHi A-RskLo A-RskHi RskPub? InfPub? B-SevLo B-SevHi B-PotLo B-PotHi B-LikLo B-LikHi B-PopLo B-PopHi B-RskLo B-RskHi RskEnv? InfEnv? C-ResLo C-ResHi C-MagLo C-MagHi C-LikLo C-LikHi D-Low D-Hi E @VII:
@I-1: - 47	@II-1: - 0	@III-1: - 0	@IV-1: - 120	@V-1: - 28,500		
@I-2: - 0	@II-2: - 0	@III-2: - 0	@IV-2: - 0	@V-2: - 0		

All computed values x 1,000

Attachment 11

Benefit Summary

LANL Action Plan Evaluation

2:42 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,667
C-WS-07	Electrical Hazards	15,367
C-WS-12	TA-55 Control of Hazardous Energy	13,352
C-WS-02	Lockout/Tagout	12,893
C-PT-03	Training/Qualification of P&T Personnel	8,173
C-TC-06	Safety Training of Accelerator Personnel	6,135
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,521
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,166
C-EM-26	Risk Management	4,900
C-EM-04	Waste Characterization, Certification, and Segrega	4,047
C-PT-05	P&T Procedures/P&T Program	4,031
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,831
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,283
C-PP-05	Program Identification and Responsibility	3,192
C-PP-03	Physical Agents	3,178
C-EP-07	Emergency Preparedness Plan	2,973
C-RP-13	Radioactive Air Emissions Management Program	2,676
C-WS-09	Emergency Response and Hazardous Waste Operations	2,580
C-PT-01	Packaging and Transportation Risk Evaluation	2,466
C-WS-04	Hand Rails and Guard Rails	2,399
C-PT-04	P&T Assessment/Oversight Program	2,255
C-NP-07	Seismic Hazards Investigation	2,038
C-EM-24	SPCC Plan Compliance	1,967
C-QV-02	Quality Program	1,807
C-QV-04	Training, Qualification, and Certification	1,805
C-FP-13	Life Safety Code	1,692
C-FP-02	Define Fire Protection Program	1,651
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,642
C-FP-14	Life Safety Code TA-55	1,613
C-WS-03	Machine Guarding/Area Illumination	1,499
C-RP-21	Ion Beam Facility Contamination Control	1,462
C-WS-01	Respirators	1,425
C-EM-52	Management of Septic Tank Problems	1,278
C-TS-03	Configuration Mangement	1,228
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,171
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,167
C-EM-51	Mixed Waste Storage at Technical Area 54	1,166
C-EM-50	Transuranic (TRU) Waste	1,163
C-TC-04	Training Records and Documentation	1,146
C-MGT-13	Safety Reviews	1,145
C-OP-02	TA-55 Shift Supervisor	1,131
C-EM-03	Environmental Restoration	1,101
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-PP-04	Confined Space Entry Program	1,089
C-TC-03	Qualification/Certification Programs	1,046
C-RP-11	ALARA Program	933
C-RP-14	Radiological Protection Training Program	917

LANL Action Plan Evaluation

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July 22, 1992Net Benefit
(x 1,00)

Action Plan #	Action Plan Name	Net Benefit (x 1,00)
C-EM-29	Laboratory Workspace	901
C-EM-01	Environmental Surveillance	886
C-PP-09	HS Resources/Roles/Responsibilities	864
C-EM-17	Ground Water Discharge Plan Compliance	855
C-TC-05	ES&H Training Implementation	845
C-MGT-11	Subcontractor Performance	825
C-TS-02	Timely Technical Support	807
C-EM-02	NDPES Permit and Clean Water Act Compliance	737
C-TC-01	Laboratory Training Program	685
C-MGT-07	Laboratory Position Description	672
C-NP-04	Seismic Protection for Sigma Building (SM-66)	637
C-EM-56	Standards and Instrument Calibration	570
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-FP-12	Correction of Fire Protection Deficiencies	525
C-MGT-14	Lessons Learned	505
C-MGT-05	Organization Framework	481
C-EM-34	Corrective Action Program	465
C-EM-06	Quality Assurance Procedures	464
C-EM-30	EM Quality Assurance Program Plans	464
C-EM-31	Environmental Management Quality Assurance	464
C-EM-32	Computer Program Validation	464
C-EM-33	Document Control	4
C-EM-57	Sample Storage	4
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	42
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-PT-06	Property Management - Excess Property	417
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	402
C-MS-01	Occupational Medicine Program	399
C-OP-08	Conduct of Operations at TA-55	393
C-MGT-06	Conduct of Operations	371
C-MGT-03	Program Planning and Integration	323
C-WS-06	Chemical Hygiene Plan/Hazard Communication	295
C-QV-08	Calibration	272
C-MGT-02	Policy Definition and Deployment	260
C-EM-35	Johnson Controls World Services Quality Assurance	241
C-MGT-08	Assessments	215
C-EM-48	Contingency Plan	214
C-EM-05	NDPES Waste Stream Characterization	212
C-FP-07	Fire and Smoke Barriers	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-EM-36	Radiological Environmental Emergency Planning	198
C-MA-06	Laboratory Lightning Protection Deficiencies	198
C-QV-07	Calibration	195
C-RP-01	Radiological Protection Program	189
C-RP-02	Internal Rad Protection Audits & Investig Programs	189
C-PP-06	Asbestos Management Program	178
C-EM-23	Release Reporting Procedures	1
C-EM-10	Management of Pesticide Program	1
C-EM-41	PCB Transformer Retrofilling	1

LANL Action Plan Evaluation

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	154
C-EP-06	Emergency Operations Document Availability	151
C-PP-02	Ventilation Systems	151
C-MA-01	Comprehensive Maintenance Management Program	149
C-MGT-15	Performance Appraisals and Incentives	144
C-RP-07	Internal Radiation Dosimetry Program	123
C-EM-12	Waste Minimization Program	122
C-WS-11	Welding	121
C-EM-46	Management of Waste in Temporary Storage Areas	119
C-RP-05	External Radiation Dosimetry Program	117
C-EM-45	Hazardous Waste Management Training	116
C-QV-01	Control and Verification of Computer Codes	113
C-OP-14	Housekeeping at Tritium Sites	111
C-EM-13	Records Management	111
C-TS-04	Lost Time Incident Report - Protective Force	111
C-EM-39	Program for Decommissioning Contaminated Facilities	109
C-EM-53	Underground Storage Tank (UST) Program	109
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-AX-07	High Efficiency Particulate Air Filters	108
C-FP-01	Project Review for Fire Protection	104
C-EM-47	Characterization of Surface Impoundments	104
C-OP-16	MP-P Interface at LAMPF	101
C-EP-02	Emergency Preparedness	101
C-EM-14	Meteorological Data Acquisition Programs	100
C-PP-10	Traffic Safety	100
C-NP-01	Seismic Mitigation Training	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-ES-03	Explosive Storage and Operations	94
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-OP-07	Human Factors	86
C-EA-01	Comprehensive Safety Review for Experiments	86
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	80
C-QV-06	Counterfeit and Suspect Parts	79
C-MA-08	Crane Maintenance & Installation	77
C-TC-02	Development of Training Procedures	71
C-NP-06	Slope Stabilization	63
C-ES-01	HE Personnel Protection	61
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-FP-11	Fire Protection Procedures	26
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	25
C-FP-04	Building Appraisal Program	23
C-FP-03	Combustible Storage	20
C-RP-04	External Rad Exposure Monitoring and Control	19
C-RP-20	Monitoring Systems at Accelerators	16

LANL Action Plan Evaluation

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-ES-02	HE Machining Interlocks	16
C-CS-03	Criticality Safety Evaluations	15
C-AX-01	Sigma Complex Drainage System	15
C-WS-08	Chemical Materials	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-FP-09	Water Supplies	6
C-NP-02	Seismic Safety Program	5
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-15	Asphalt Plant	4
C-PP-01	Hazard Identification/Evaluation/Control	
C-AX-04	Auxiliary Systems Off-Normal Conditions	
C-OP-19	Facility Status Control	1
C-EM-37	Incinerator/TA-16-1409	1
C-OP-04	Conduct of Operations, Godiva Ring	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	
C-FP-10	TA-55 Fire Protection Systems Knowledge	
C-FP-15	Voice Alarm System	0

LANL Action Plan Evaluation

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-03	Radiological Protection Posting Program	-4
C-RP-06	Internal Radiation Exposure Control Program	-8
C-AS-01	Aviation Safety	-86
C-PT-02	Packaging and Transportation Quality Assurance	-137
C-RP-16	Engineering Controls in Tritium Facilities	-227
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-345
C-MGT-01	Strategic Planning	-604

LANL Action Plan Evaluation

2:41 pm
July 22, 1997Net Benefit
(x 1,000)

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-AS-01	Aviation Safety	-86
C-AX-01	Sigma Complex Drainage System	15
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	1
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	108
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-03	Criticality Safety Evaluations	15
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	50
C-EA-01	Comprehensive Safety Review for Experiments	86
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	25
C-EM-01	Environmental Surveillance	886
C-EM-02	NDPES Permit and Clean Water Act Compliance	737
C-EM-03	Environmental Restoration	1,101
C-EM-04	Waste Characterization, Certification, and Segrega	4,047
C-EM-05	NDPES Waste Stream Characterization	212
C-EM-06	Quality Assurance Procedures	4
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-10	Management of Pesticide Program	157
C-EM-11	NEPA Determinations and the Planning Process	8
C-EM-12	Waste Minimization Program	122
C-EM-13	Records Management	111
C-EM-14	Meteorological Data Acquisition Programs	100
C-EM-15	Asphalt Plant	4
C-EM-16	Open Burning	0
C-EM-17	Ground Water Discharge Plan Compliance	855
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,521
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-EM-23	Release Reporting Procedures	161
C-EM-24	SPCC Plan Compliance	1,967
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-EM-26	Risk Management	4,900
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	901
C-EM-30	EM Quality Assurance Program Plans	464
C-EM-31	Environmental Management Quality Assurance	464
C-EM-32	Computer Program Validation	464
C-EM-33	Document Control	4
C-EM-34	Corrective Action Program	4
C-EM-35	Johnson Controls World Services Quality Assurance	241

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-36	Radiological Environmental Emergency Planning	198
C-EM-37	Incinerator/TA-16-1409	1
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,171
C-EM-39	Program for Decommissioning Contaminated Facilitie	109
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-41	PCB Transformer Retrofilling	154
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	154
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-45	Hazardous Waste Management Training	116
C-EM-46	Management of Waste in Temporary Storage Areas	119
C-EM-47	Characterization of Surface Impoundments	104
C-EM-48	Contingency Plan	214
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-50	Transuranic (TRU) Waste	1,163
C-EM-51	Mixed Waste Storage at Technical Area 54	1,166
C-EM-52	Management of Septic Tank Problems	1,278
C-EM-53	Underground Storage Tank (UST) Program	109
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,167
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,283
C-EM-56	Standards and Instrument Calibration	570
C-EM-57	Sample Storage	464
C-EP-02	Emergency Preparedness	101
C-EP-03	Emergency Preparedness	50
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-345
C-EP-06	Emergency Operations Document Availability	151
C-EP-07	Emergency Preparedness Plan	2,973
C-ES-01	HE Personnel Protection	61
C-ES-02	HE Machining Interlocks	16
C-ES-03	Explosive Storage and Operations	94
C-ES-04	Power Line Hazards	0
C-FP-01	Project Review for Fire Protection	104
C-FP-02	Define Fire Protection Program	1,651
C-FP-03	Combustible Storage	20
C-FP-04	Building Appraisal Program	23
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	200
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	6
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	26
C-FP-12	Correction of Fire Protection Deficiencies	525
C-FP-13	Life Safety Code	1,692
C-FP-14	Life Safety Code TA-55	1,613
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-01	Comprehensive Maintenance Management Program	149
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13

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Action Plan #	Action Plan Name	Net Benef (x 1,000)
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-06	Laboratory Lightning Protection Deficiencies	198
C-MA-08	Crane Maintenance & Installation	77
C-MGT-01	Strategic Planning	-604
C-MGT-02	Policy Definition and Deployment	260
C-MGT-03	Program Planning and Integration	323
C-MGT-05	Organization Framework	481
C-MGT-06	Conduct of Operations	371
C-MGT-07	Laboratory Position Description	672
C-MGT-08	Assessments	215
C-MGT-09	Communications	100
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-11	Subcontractor Performance	825
C-MGT-12	Institutional Interfaces/University of California	100
C-MGT-13	Safety Reviews	1,145
C-MGT-14	Lessons Learned	505
C-MGT-15	Performance Appraisals and Incentives	144
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	1,1
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	
C-MS-01	Occupational Medicine Program	399
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-NP-01	Seismic Mitigation Training	100
C-NP-02	Seismic Safety Program	5
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-NP-04	Seismic Protection for Sigma Building (SM-66)	637
C-NP-06	Slope Stabilization	63
C-NP-07	Seismic Hazards Investigation	2,038
C-OA-01	Random Drug Testing Certification	100
C-OP-02	TA-55 Shift Supervisor	1,131
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	402
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-07	Human Factors	86
C-OP-08	Conduct of Operations at TA-55	393
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-14	Housekeeping at Tritium Sites	111
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-OP-16	MP-P Interface at LAMPF	101
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-OP-19	Facility Status Control	1
C-PP-01	Hazard Identification/Evaluation/Control	3
C-PP-02	Ventilation Systems	1
C-PP-03	Physical Agents	3,1
C-PP-04	Confined Space Entry Program	1,089

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-PP-05	Program Identification and Responsibility	3,192
C-PP-06	Asbestos Management Program	178
C-PP-07	Carcinogens	7
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-09	HS Resources/Roles/Responsibilities	864
C-PP-10	Traffic Safety	100
C-PT-01	Packaging and Transportation Risk Evaluation	2,466
C-PT-02	Packaging and Transportation Quality Assurance	-137
C-PT-03	Training/Qualification of P&T Personnel	8,173
C-PT-04	P&T Assessment/Oversight Program	2,255
C-PT-05	P&T Procedures/P&T Program	4,031
C-PT-06	Property Management - Excess Property	417
C-QV-01	Control and Verification of Computer Codes	113
C-QV-02	Quality Program	1,807
C-QV-03	Records and Document Control	0
C-QV-04	Training, Qualification, and Certification	1,805
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	80
C-QV-06	Counterfeit and Suspect Parts	79
C-QV-07	Calibration	195
C-QV-08	Calibration	272
C-RP-01	Radiological Protection Program	189
C-RP-02	Internal Rad Protection Audits & Investig Programs	189
C-RP-03	Radiological Protection Posting Program	-4
C-RP-04	External Rad Exposure Monitoring and Control	19
C-RP-05	External Radiation Dosimetry Program	117
C-RP-06	Internal Radiation Exposure Control Program	-8
C-RP-07	Internal Radiation Dosimetry Program	123
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,642
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,831
C-RP-11	ALARA Program	933
C-RP-12	Radiological Records Program	13
C-RP-13	Radioactive Air Emissions Management Program	2,676
C-RP-14	Radiological Protection Training Program	917
C-RP-16	Engineering Controls in Tritium Facilities	-227
C-RP-17	Criticality Alarm System	13
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	428
C-RP-19	Central Alarm System	0
C-RP-20	Monitoring Systems at Accelerators	16
C-RP-21	Ion Beam Facility Contamination Control	1,462
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-01	Laboratory Training Program	685
C-TC-02	Development of Training Procedures	71
C-TC-03	Qualification/Certification Programs	1,046
C-TC-04	Training Records and Documentation	1,146
C-TC-05	ES&H Training Implementation	845

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-TC-06	Safety Training of Accelerator Personnel	6,135
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,166
C-TS-02	Timely Technical Support	80
C-TS-03	Configuration Management	1,226
C-TS-04	Lost Time Incident Report - Protective Force	111
C-WS-01	Respirators	1,425
C-WS-02	Lockout/Tagout	12,893
C-WS-03	Machine Guarding/Area Illumination	1,499
C-WS-04	Hand Rails and Guard Rails	2,399
C-WS-06	Chemical Hygiene Plan/Hazard Communication	295
C-WS-07	Electrical Hazards	15,367
C-WS-08	Chemical Materials	14
C-WS-09	Emergency Response and Hazardous Waste Operations	2,580
C-WS-11	Welding	121
C-WS-12	TA-55 Control of Hazardous Energy	13,352
C-WS-13	Signs	0
C-WS-14	Excavation Safety	28,667

Attachment 12

Contribution to Benefit

Action Plan Evaluation
Contribution to Net Benefit

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AS-01	Aviation Safety	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	-100	116.6%
Section V, Compliance:	14	-16.6%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	-86	

C-AX-01	Sigma Complex Drainage System	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	98.0%
Section VI, Lab Operations:	0	2.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	15	

C-AX-02	Uninterruptable Power System at TA-55	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	
Section I, Worker H&S:	0	100.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

Action Plan Evaluation
Contribution to Net Benefit

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C-AX-04	Auxiliary Systems Off-Normal Conditions	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	1	100.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1	

C-AX-05	Accumulation of Radioactive Waste at TA-55	
Section I, Worker H&S:	-0	-.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	200	47.5%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	221	52.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	421	

C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-AX-07	High Efficiency Particulate Air Filters	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	93.0%
Section V, Compliance:	8	7.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	108	

Action Plan Evaluation
Contribution to Net Benefit

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S-01	Laboratory Nuclear Criticality Safety Committee	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-CS-02	TA-55 Safety Committee	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-CS-03	Criticality Safety Evaluations	
Section I, Worker H&S:	0	0.4%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	10	66.1%
Section V, Compliance:	8	49.6%
Section VI, Lab Operations:	0	2.6%
Section VI-C, Efficiency:	-3	-18.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	15	

C-CS-04	Operating Procedures and Criticality Safety	
Section I, Worker H&S:	0	100.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

Action Plan Evaluation
Contribution to Net Benefit

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C-CS-05	Organization and Administration	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	50	

C-EA-01	Comprehensive Safety Review for Experiments	
Section I, Worker H&S:	7	8.7%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	8	8.7%
Section VI, Lab Operations:	71	82.6%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	86	

C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	
Section I, Worker H&S:	1	5.2%
Section II, Public H&S:	1	3.6%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	45.3%
Section VI, Lab Operations:	11	45.8%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	25	

C-EM-01	Environmental Surveillance	
Section I, Worker H&S:	-0	-.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	-2	-.2%
Section IV, Community Concern:	625	70.6%
Section V, Compliance:	14	1.6%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	248	28.0%
Net Benefit:	886	

Action Plan Evaluation
Contribution to Net Benefit

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M-02	NDPES Permit and Clean Water Act Compliance	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	.2%
Section IV, Community Concern:	725	98.3%
Section V, Compliance:	7	1.0%
Section VI, Lab Operations:	4	.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	737	

C-EM-03	Environmental Restoration	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	1,100	99.9%
Section V, Compliance:	1	.1%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,101	

C-EM-04	Waste Characterization, Certification, and Segregation	
Section I, Worker H&S:	1	.0%
Section II, Public H&S:	30	.7%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	1,150	28.4%
Section V, Compliance:	379	9.4%
Section VI, Lab Operations:	2,667	65.9%
Section VI-C, Efficiency:	-180	-4.4%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	4,047	

C-EM-05	NDPES Waste Stream Characterization	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	.8%
Section IV, Community Concern:	200	94.2%
Section V, Compliance:	7	3.4%
Section VI, Lab Operations:	4	1.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	212	

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C-EM-06	Quality Assurance Procedures	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	10.8%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	464	

C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-EM-08	Environmental Surveillance of Facilities	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	8	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	.0%
Net Benefit:	8	

C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	150	97.6%
Section V, Compliance:	4	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	154	

Action Plan Evaluation
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M-10		Management of Pesticide Program	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	2	1.1%	
Section IV, Community Concern:	150	95.6%	
Section V, Compliance:	4	2.4%	
Section VI, Lab Operations:	1	.9%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	157		

C-EM-11		NEPA Determinations and the Planning Process	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	8	100.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	8		

C-EM-12		Waste Minimization Program	
Section I, Worker H&S:	7	6.2%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	.0%	
Section IV, Community Concern:	100	82.1%	
Section V, Compliance:	14	11.7%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	122		

C-EM-13		Records Management	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	89.9%	
Section V, Compliance:	11	10.1%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	111		

Action Plan Evaluation
Contribution to Net Benefit

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C-EM-14 Meteorological Data Acquisition Programs

Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	99.9%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	100	

C-EM-15 Asphalt Plant

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	4	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	4	

C-EM-16 Open Burning

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-EM-17 Ground Water Discharge Plan Compliance

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	.2%
Section IV, Community Concern:	725	84.8%
Section V, Compliance:	11	1.3%
Section VI, Lab Operations:	117	13.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	855	

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M-18	Control of Rad. Contaminated Soils & Sediments	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	.0%
Section IV, Community Concern:	4,800	86.9%
Section V, Compliance:	720	13.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	5,521	

C-EM-19	Safe Drinking Water Act Compliance	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	4	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	4	

C-EM-21	Management of Inactive Underground Storage Tanks	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	14	

C-EM-23	Release Reporting Procedures	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	150	93.0%
Section V, Compliance:	11	7.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	161	

Action Plan Evaluation
Contribution to Net Benefit

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C-EM-24 SPCC Plan Compliance		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	.0%
Section IV, Community Concern:	725	36.9%
Section V, Compliance:	1,125	57.2%
Section VI, Lab Operations:	117	5.9%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,967	

C-EM-25 Appraisal of Environmental Restoration Program Act		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	18.2%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	450	81.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	550	

C-EM-26 Risk Management		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	4,900	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	4,900	

C-EM-27 Adequacy of NEPA Documents		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

Action Plan Evaluation
Contribution to Net Benefit

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M-28	NEPA Procedures and Recordkeeping	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-EM-29	Laboratory Workspace	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	1	.2%
Section VI-C, Efficiency:	900	99.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	901	

C-EM-30	EM Quality Assurance Program Plans	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	10.8%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	464	

C-EM-31	Environmental Management Quality Assurance	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	10.8%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	464	

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Contribution to Net Benefit

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C-EM-32	Computer Program Validation	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	10.8%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	464	

C-EM-33	Document Control	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	10.8%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	464	

C-EM-34	Corrective Action Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	.4%
Section IV, Community Concern:	50	10.7%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.5%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	465	

C-EM-35	Johnson Controls World Services Quality Assurance	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	20.7%
Section V, Compliance:	11	4.7%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	180	74.6%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	241	

Action Plan Evaluation
Contribution to Net Benefit

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M-36	Radiological Environmental Emergency Planning	
Section I, Worker H&S:	20	10.0%
Section II, Public H&S:	-0	-.0%
Section III, Environment:	2	.9%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	38	19.1%
Section VI, Lab Operations:	139	70.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	198	

C-EM-37	Incinerator/TA-16-1409	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	1	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1	

C-EM-38	Best Available Technology (BAT) Analysis for Liqui	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	1,050	89.6%
Section V, Compliance:	11	1.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	110	9.4%
Net Benefit:	1,171	

C-EM-39	Program for Decommissioning Contaminated Facilitie	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	1.6%
Section IV, Community Concern:	100	91.6%
Section V, Compliance:	8	6.9%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	109	

Action Plan Evaluation
Contribution to Net Benefit

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C-EM-40	Rad Contaminated PCB Waste Storage	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	150	97.6%
Section V, Compliance:	4	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	154	

C-EM-41	PCB Transformer Retrofilling	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	150	97.6%
Section V, Compliance:	4	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	154	

C-EM-42	Storage of Combustible Materials Near PCB Transfor	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	8	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	8	

C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	150	97.6%
Section V, Compliance:	4	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	154	

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M-44	Signature Authority for RCRA Permit Application	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-EM-45	Hazardous Waste Management Training	
Section I, Worker H&S:	0	.1%
Section II, Public H&S:	4	3.9%
Section III, Environment:	-0	-.0%
Section IV, Community Concern:	100	86.3%
Section V, Compliance:	11	9.7%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	116	

C-EM-46	Management of Waste in Temporary Storage Areas	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	1.4%
Section IV, Community Concern:	100	84.1%
Section V, Compliance:	14	12.0%
Section VI, Lab Operations:	3	2.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	119	

C-EM-47	Characterization of Surface Impoundments	
Section I, Worker H&S:	-0	-.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	.2%
Section IV, Community Concern:	100	96.2%
Section V, Compliance:	4	3.6%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	.0%
Net Benefit:	104	

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C-EM-48 Contingency Plan		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	200	93.3%
Section V, Compliance:	14	6.7%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	214	

C-EM-49 EPA Identification Number for Fenton Hill Site		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	14	

C-EM-50 Transuranic (TRU) Waste		
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	.1%
Section IV, Community Concern:	1,150	98.9%
Section V, Compliance:	11	1.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,163	

C-EM-51 Mixed Waste Storage at Technical Area 54		
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	.1%
Section IV, Community Concern:	1,150	98.6%
Section V, Compliance:	14	1.2%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,166	

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(M-52	Management of Septic Tank Problems	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	.0%
Section IV, Community Concern:	1,150	90.0%
Section V, Compliance:	11	.9%
Section VI, Lab Operations:	117	9.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,278	

C-EM-53	Underground Storage Tank (UST) Program	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	91.7%
Section V, Compliance:	11	10.3%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	-2	-2.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	109	

C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	
Section I, Worker H&S:	2	.2%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	.0%
Section IV, Community Concern:	1,150	98.6%
Section V, Compliance:	14	1.2%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,167	

C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	.1%
Section IV, Community Concern:	1,150	35.0%
Section V, Compliance:	14	.4%
Section VI, Lab Operations:	117	3.6%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	2,000	60.9%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	3,283	

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C-EM-56	Standards and Instrument Calibration	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	8.8%
Section V, Compliance:	11	2.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	509	89.3%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	570	

C-EM-57	Sample Storage	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	10.8%
Section V, Compliance:	11	2.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	402	86.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	464	

C-EP-02	Emergency Preparedness	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	99.3%
Section V, Compliance:	1	.7%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	101	

C-EP-03	Emergency Preparedness	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	99.7%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	.3%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	50	

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(P-04	Design Engineering Div. Emerg Preparedness Plan		
Section I, Worker H&S:	0	- .0%	
Section II, Public H&S:	0	- .0%	
Section III, Environment:	0	- .0%	
Section IV, Community Concern:	100	-29.0%	
Section V, Compliance:	8	-2.2%	
Section VI, Lab Operations:	117	-33.8%	
Section VI-C, Efficiency:	-569	165.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	-345		

C-EP-06	Emergency Operations Document Availability		
Section I, Worker H&S:	0	.2%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	150	99.4%	
Section V, Compliance:	1	.4%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	151		

C-EP-07	Emergency Preparedness Plan		
Section I, Worker H&S:	20	.7%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	2	.1%	
Section IV, Community Concern:	1,150	38.7%	
Section V, Compliance:	1,800	60.5%	
Section VI, Lab Operations:	1	.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	2,973		

C-ES-01	HE Personnel Protection		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	14	23.4%	
Section VI, Lab Operations:	47	76.6%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	61		

Action Plan Evaluation
Contribution to Net Benefit

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C-ES-02	HE Machining Interlocks	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	72.0%
Section VI, Lab Operations:	4	28.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	16	

C-ES-03	Explosive Storage and Operations	
Section I, Worker H&S:	75	80.1%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	15.2%
Section VI, Lab Operations:	4	4.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	94	

C-ES-04	Power Line Hazards	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-FP-01	Project Review for Fire Protection	
Section I, Worker H&S:	1	.7%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	1.6%
Section IV, Community Concern:	100	96.2%
Section V, Compliance:	0	.0%
Section VI, Lab Operations:	1	1.4%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	104	

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Contribution to Net Benefit

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P-02	Define Fire Protection Program		
Section I, Worker H&S:	7	.5%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	2	.1%	
Section IV, Community Concern:	100	6.1%	
Section V, Compliance:	1,425	86.3%	
Section VI, Lab Operations:	117	7.1%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	1,651		

C-FP-03	Combustible Storage		
Section I, Worker H&S:	20	98.6%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	1.4%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	20		

C-FP-04	Building Appraisal Program		
Section I, Worker H&S:	1	3.3%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	11	45.8%	
Section VI, Lab Operations:	12	50.9%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	23		

C-FP-05	Central Alarm Certification		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

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C-FP-06 Portable Structures		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-FP-07 Fire and Smoke Barriers		
Section I, Worker H&S:	200	99.9%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	200	

C-FP-08 Exemption Procedures		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-FP-09 Water Supplies		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	6	100.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	6	

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'P-10	TA-55 Fire Protection Systems Knowledge		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-FP-11	Fire Protection Procedures		
Section I, Worker H&S:	0	.1%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	14	54.9%	
Section VI, Lab Operations:	12	45.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	26		

C-FP-12	Correction of Fire Protection Deficiencies		
Section I, Worker H&S:	7	1.4%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	2	.3%	
Section IV, Community Concern:	100	19.1%	
Section V, Compliance:	14	2.7%	
Section VI, Lab Operations:	117	22.2%	
Section VI-C, Efficiency:	285	54.2%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	525		

C-FP-13	Life Safety Code		
Section I, Worker H&S:	1	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	1,425	84.2%	
Section VI, Lab Operations:	267	15.8%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	1,692		

Action Plan Evaluation
Contribution to Net Benefit

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C-FP-14	Life Safety Code TA-55		
Section I, Worker H&S:	74	4.6%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	1,425	88.4%	
Section VI, Lab Operations:	114	7.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	1,613		

C-FP-15	Voice Alarm System		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-FP-16	Inspection/Test		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	100.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-MA-01	Comprehensive Maintenance Management Program		
Section I, Worker H&S:	1	.5%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	1	.4%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	8	5.0%	
Section VI, Lab Operations:	26	17.5%	
Section VI-C, Efficiency:	114	76.5%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	149		

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Contribution to Net Benefit

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A-02		Uncalibrated Circuit Breaker Testing Equipment	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	11	88.5%	
Section VI, Lab Operations:	1	11.5%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	13		

C-MA-03		Emergency, Standby & Aux Power Systems Maintenance	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	4	72.0%	
Section VI, Lab Operations:	1	28.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	5		

C-MA-04		Electric Power Panel Indicator Lights	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-MA-06		Laboratory Lightning Protection Deficiencies	
Section I, Worker H&S:	39	19.6%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	150	75.9%	
Section V, Compliance:	8	3.8%	
Section VI, Lab Operations:	1	.7%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	198		

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Contribution to Net Benefit

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C-MA-08 Crane Maintenance & Installation		
Section I, Worker H&S:	1	1.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	75	97.1%
Section VI, Lab Operations:	1	1.9%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	77	

C-MGT-01 Strategic Planning		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	116	-19.2%
Section VI-C, Efficiency:	-720	119.2%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	-604	

C-MGT-02 Policy Definition and Deployment		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	116	44.6%
Section VI-C, Efficiency:	144	55.4%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	260	

C-MGT-03 Program Planning and Integration		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	200	61.8%
Section V, Compliance:	8	2.3%
Section VI, Lab Operations:	116	35.8%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	323	

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GT-05		Organization Framework		
Section I, Worker H&S:	0	0.0%		
Section II, Public H&S:	0	0.0%		
Section III, Environment:	0	0.0%		
Section IV, Community Concern:	100	20.8%		
Section V, Compliance:	379	78.7%		
Section VI, Lab Operations:	3	.5%		
Section VI-C, Efficiency:	0	0.0%		
Section VI-D, Delay Costs:	0	0.0%		
Section VII, Uncertainty:	0	0.0%		
Net Benefit:	481			

C-MGT-06		Conduct of Operations		
Section I, Worker H&S:	0	.0%		
Section II, Public H&S:	0	0.0%		
Section III, Environment:	2	.4%		
Section IV, Community Concern:	150	40.5%		
Section V, Compliance:	0	0.0%		
Section VI, Lab Operations:	58	15.7%		
Section VI-C, Efficiency:	161	43.4%		
Section VI-D, Delay Costs:	0	0.0%		
Section VII, Uncertainty:	0	0.0%		
Net Benefit:	371			

C-MGT-07		Laboratory Position Description		
Section I, Worker H&S:	0	0.0%		
Section II, Public H&S:	0	0.0%		
Section III, Environment:	0	0.0%		
Section IV, Community Concern:	0	0.0%		
Section V, Compliance:	0	0.0%		
Section VI, Lab Operations:	0	0.0%		
Section VI-C, Efficiency:	672	100.0%		
Section VI-D, Delay Costs:	0	0.0%		
Section VII, Uncertainty:	0	0.0%		
Net Benefit:	672			

C-MGT-08		Assessments		
Section I, Worker H&S:	0	.0%		
Section II, Public H&S:	0	0.0%		
Section III, Environment:	2	.8%		
Section IV, Community Concern:	150	69.7%		
Section V, Compliance:	6	2.6%		
Section VI, Lab Operations:	58	27.0%		
Section VI-C, Efficiency:	0	0.0%		
Section VI-D, Delay Costs:	0	0.0%		
Section VII, Uncertainty:	0	0.0%		
Net Benefit:	215			

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C-MGT-09	Communications	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	100	

C-MGT-10	Public Affairs and Outreach	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	1,100	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,100	

C-MGT-11	Subcontractor Performance	
Section I, Worker H&S:	7	.9%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	6.1%
Section V, Compliance:	750	90.9%
Section VI, Lab Operations:	17	2.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	825	

C-MGT-12	Institutional Interfaces/University of California	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	100	

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IGT-13	Safety Reviews		
Section I, Worker H&S:	38	3.3%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	2	.1%	
Section IV, Community Concern:	100	8.7%	
Section V, Compliance:	750	65.5%	
Section VI, Lab Operations:	174	15.2%	
Section VI-C, Efficiency:	81	7.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	1,145		

C-MGT-14	Lessons Learned		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	9.9%	
Section V, Compliance:	283	56.0%	
Section VI, Lab Operations:	115	22.8%	
Section VI-C, Efficiency:	57	11.3%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	505		

C-MGT-15	Performance Appraisals and Incentives		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	144	100.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	144		

C-MGT-16	Career Planning for ES&H Professionals		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

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C-MGT-17 Recruiting

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-MGT-18 Fostering Positive Employee Relations

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-MGT-19 Agreement in Principle Implementation

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	1,100	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,100	

C-MGT-20 Formal ES&H Reviews for WFO & CRADAs

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

Action Plan Evaluation
Contribution to Net Benefit

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IS-01	Occupational Medicine Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	25.0%
Section V, Compliance:	11	2.8%
Section VI, Lab Operations:	0	.0%
Section VI-C, Efficiency:	288	72.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	399	

C-MS-02	Medical Services: Procedures, Documentation, Review	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	93.0%
Section V, Compliance:	8	7.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	108	

C-NP-01	Seismic Mitigation Training	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	100	

C-NP-02	Seismic Safety Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	4	72.0%
Section VI, Lab Operations:	1	28.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	5	

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C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	200	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	200	

C-NP-04	Seismic Protection for Sigma Building (SM-66)	
Section I, Worker H&S:	299	46.8%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	200	31.4%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	139	21.8%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	637	

C-NP-06	Slope Stabilization	
Section I, Worker H&S:	7	11.9%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	2.7%
Section IV, Community Concern:	50	79.0%
Section V, Compliance:	4	5.9%
Section VI, Lab Operations:	0	.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	63	

C-NP-07	Seismic Hazards Investigation	
Section I, Worker H&S:	750	36.8%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	1,333	65.4%
Section VI-C, Efficiency:	-45	-2.2%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	2,038	

Action Plan Evaluation
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DA-01	Random Drug Testing Certification	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	100.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	100	

C-OP-02	TA-55 Shift Supervisor	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	1,125	99.4%
Section VI, Lab Operations:	6	.5%
Section VI-C, Efficiency:	1	.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,131	

C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	.4%
Section IV, Community Concern:	100	24.9%
Section V, Compliance:	1,125	280.1%
Section VI, Lab Operations:	175	43.6%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	-1,000	*****%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	402	

C-OP-04	Conduct of Operations, Godiva Ring	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	.3%
Section VI, Lab Operations:	0	99.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

Action Plan Evaluation
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C-OP-07	Human Factors		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	4	4.3%	
Section VI, Lab Operations:	80	93.0%	
Section VI-C, Efficiency:	2	2.6%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	86		

C-OP-08	Conduct of Operations at TA-55		
Section I, Worker H&S:	7	1.7%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	14	3.6%	
Section VI, Lab Operations:	11	2.9%	
Section VI-C, Efficiency:	360	91.7%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	393		

C-OP-11	Gate Verification		
Section I, Worker H&S:	0	100.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-OP-12	Omega West Reactor Basin Ledges		
Section I, Worker H&S:	0	100.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

Action Plan Evaluation
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(P-13	Omega West Reactor Shipping Cask		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-OP-14	Housekeeping at Tritium Sites		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	89.7%	
Section V, Compliance:	11	10.2%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	111		

C-OP-15	Equipment Weaknesses and Radioactive Releases		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	54.3%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	42	45.7%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	92		

C-OP-16	MP-P Interface at LAMPF		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	98.6%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	1	1.4%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	101		

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C-OP-18	TA-8 Radiation Monitoring & Documentation	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	88.5%
Section VI, Lab Operations:	1	11.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	13	

C-OP-19	Facility Status Control	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	.1%
Section VI, Lab Operations:	1	99.9%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1	

C-PP-01	Hazard Identification/Evaluation/Control	
Section I, Worker H&S:	0	.2%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	3	99.8%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	3	

C-PP-02	Ventilation Systems	
Section I, Worker H&S:	39	25.7%
Section II, Public H&S:	105	69.4%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	8	5.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	151	

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P-03	Physical Agents		
Section I, Worker H&S:	750	23.6%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	.0%	
Section IV, Community Concern:	100	3.1%	
Section V, Compliance:	1,425	44.8%	
Section VI, Lab Operations:	3	.1%	
Section VI-C, Efficiency:	900	28.3%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	3,178		

C-PP-04	Confined Space Entry Program		
Section I, Worker H&S:	67	6.2%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	9.2%	
Section V, Compliance:	1,425	130.8%	
Section VI, Lab Operations:	210	19.3%	
Section VI-C, Efficiency:	-713	-65.5%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	1,089		

C-PP-05	Program Identification and Responsibility		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	3,750	117.5%	
Section V, Compliance:	11	.3%	
Section VI, Lab Operations:	0	.0%	
Section VI-C, Efficiency:	-569	-17.8%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	3,192		

C-PP-06	Asbestos Management Program		
Section I, Worker H&S:	75	41.9%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	56.2%	
Section V, Compliance:	3	1.9%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	178		

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C-PP-07	Carcinogens		
Section I, Worker H&S:		0	1.1%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		7	98.9%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		0	0.0%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		7	

C-PP-08	Accident/Injury/Illness Investigation and Document		
Section I, Worker H&S:		0	0.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		8	100.0%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		0	0.0%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		8	

C-PP-09	HS Resources/Roles/Responsibilities		
Section I, Worker H&S:		795	92.1%
Section II, Public H&S:		0	.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		11	1.3%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		57	6.6%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		864	

C-PP-10	Traffic Safety		
Section I, Worker H&S:		0	.1%
Section II, Public H&S:		0	.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		100	99.9%
Section V, Compliance:		0	0.0%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		0	0.0%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		100	

Action Plan Evaluation
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T-01	Packaging and Transportation Risk Evaluation	
Section I, Worker H&S:	29	1.2%
Section II, Public H&S:	0	.0%
Section III, Environment:	1	.0%
Section IV, Community Concern:	2,400	97.3%
Section V, Compliance:	7	.3%
Section VI, Lab Operations:	30	1.2%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	2,466	

C-PT-02	Packaging and Transportation Quality Assurance	
Section I, Worker H&S:	0	-.0%
Section II, Public H&S:	0	-.0%
Section III, Environment:	0	-.1%
Section IV, Community Concern:	100	-72.8%
Section V, Compliance:	14	-10.4%
Section VI, Lab Operations:	3	-2.1%
Section VI-C, Efficiency:	-255	185.4%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	-137	

C-PT-03	Training/Qualification of P&T Personnel	
Section I, Worker H&S:	39	.5%
Section II, Public H&S:	900	11.0%
Section III, Environment:	0	.0%
Section IV, Community Concern:	6,775	82.9%
Section V, Compliance:	900	11.0%
Section VI, Lab Operations:	196	2.4%
Section VI-C, Efficiency:	-636	-7.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	8,173	

C-PT-04	P&T Assessment/Oversight Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	3	.1%
Section III, Environment:	1	.0%
Section IV, Community Concern:	1,050	46.6%
Section V, Compliance:	1,125	49.9%
Section VI, Lab Operations:	58	2.6%
Section VI-C, Efficiency:	18	.8%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	2,255	

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C-PT-05 P&T Procedures/P&T Program		
Section I, Worker H&S:	1	.0%
Section II, Public H&S:	3	.1%
Section III, Environment:	1	.0%
Section IV, Community Concern:	2,500	62.0%
Section V, Compliance:	1,125	27.9%
Section VI, Lab Operations:	117	2.9%
Section VI-C, Efficiency:	285	7.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	4,031	
C-PT-06 Property Management - Excess Property		
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	2.7%
Section VI, Lab Operations:	3	.7%
Section VI-C, Efficiency:	402	96.6%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	417	
C-QV-01 Control and Verification of Computer Codes		
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	113	100.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	113	
C-QV-02 Quality Program		
Section I, Worker H&S:	189	10.4%
Section II, Public H&S:	85	4.7%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	750	41.5%
Section V, Compliance:	379	21.0%
Section VI, Lab Operations:	2	.1%
Section VI-C, Efficiency:	402	22.3%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,807	

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(V-03	Records and Document Control		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	0	0.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	0		

C-QV-04	Training, Qualification, and Certification		
Section I, Worker H&S:	189	10.4%	
Section II, Public H&S:	85	4.7%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	750	41.6%	
Section V, Compliance:	379	21.0%	
Section VI, Lab Operations:	0	0.0%	
Section VI-C, Efficiency:	402	22.3%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	1,805		

C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	2	2.1%	
Section IV, Community Concern:	50	62.2%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	.2%	
Section VI-C, Efficiency:	28	35.4%	
Section VI-D, Delay Costs:	0	.1%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	80		

C-QV-06	Counterfeit and Suspect Parts		
Section I, Worker H&S:	0	.5%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	63.3%	
Section V, Compliance:	0	0.0%	
Section VI, Lab Operations:	0	.2%	
Section VI-C, Efficiency:	28	36.0%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	79		

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C-QV-07	Calibration		
Section I, Worker H&S:	1	.4%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	2	.9%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	11	5.8%	
Section VI, Lab Operations:	1	.4%	
Section VI-C, Efficiency:	180	92.5%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	195		

C-QV-08	Calibration		
Section I, Worker H&S:	75	27.5%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	2	.6%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	14	5.2%	
Section VI, Lab Operations:	1	.5%	
Section VI-C, Efficiency:	180	66.1%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	272		

C-RP-01	Radiological Protection Program		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	8	4.0%	
Section VI, Lab Operations:	1	.8%	
Section VI-C, Efficiency:	180	95.3%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	189		

C-RP-02	Internal Rad Protection Audits & Investig Programs		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	8	4.0%	
Section VI, Lab Operations:	1	.8%	
Section VI-C, Efficiency:	180	95.3%	
Section VI-D, Delay Costs:	0	0.0%	
Section VII, Uncertainty:	0	0.0%	
Net Benefit:	189		

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IP-03	Radiological Protection Posting Program	
Section I, Worker H&S:	0	-.0%
Section II, Public H&S:	0	-.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	-20	461.1%
Section V, Compliance:	14	*****%
Section VI, Lab Operations:	58	*****%
Section VI-C, Efficiency:	-57	*****%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	-4	
C-RP-04	External Rad Exposure Monitoring and Control	
Section I, Worker H&S:	0	1.3%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	16	83.2%
Section VI, Lab Operations:	3	15.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	19	
C-RP-05	External Radiation Dosimetry Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	85.3%
Section V, Compliance:	14	12.2%
Section VI, Lab Operations:	3	2.5%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	117	
C-RP-06	Internal Radiation Exposure Control Program	
Section I, Worker H&S:	0	-.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	8	-98.9%
Section VI, Lab Operations:	3	-38.5%
Section VI-C, Efficiency:	-18	237.4%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	-8	

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C-RP-07	Internal Radiation Dosimetry Program	
Section I, Worker H&S:	7	6.1%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	11.6%
Section VI, Lab Operations:	101	82.3%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	123	

C-RP-08	Fixed and Portable Rad Instrumentation Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	6.1%
Section V, Compliance:	1,425	86.8%
Section VI, Lab Operations:	117	7.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,642	

C-RP-09	Radiological Air Monitoring Program in Work Place	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	14	

C-RP-10	Surface Rad Contam Monitoring & Control Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	3,750	97.9%
Section V, Compliance:	568	14.8%
Section VI, Lab Operations:	82	2.1%
Section VI-C, Efficiency:	-569	-14.9%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	3,831	

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P-11	ALARA Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	2	.2%
Section IV, Community Concern:	1,100	117.9%
Section V, Compliance:	11	1.2%
Section VI, Lab Operations:	0	.0%
Section VI-C, Efficiency:	-180	-19.3%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	933	

C-RP-12	Radiological Records Program	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	13	100.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	13	

C-RP-13	Radioactive Air Emissions Management Program	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	1,875	70.1%
Section V, Compliance:	11	.4%
Section VI, Lab Operations:	221	8.3%
Section VI-C, Efficiency:	569	21.3%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	2,676	

C-RP-14	Radiological Protection Training Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	1.6%
Section VI, Lab Operations:	3	.3%
Section VI-C, Efficiency:	900	98.2%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	917	

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C-RP-16 Engineering Controls in Tritium Facilities

Section I, Worker H&S:	0	-.0%
Section II, Public H&S:	0	-.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	2	-.7%
Section VI, Lab Operations:	174	-76.3%
Section VI-C, Efficiency:	-402	177.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	-227	

C-RP-17 Criticality Alarm System

Section I, Worker H&S:	0	.5%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	13	99.5%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	13	

C-RP-18 Emerg Preparedness-Rad/Chemical Emerg Procedures

Section I, Worker H&S:	1	.2%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	.0%
Section IV, Community Concern:	50	11.7%
Section V, Compliance:	377	88.0%
Section VI, Lab Operations:	0	.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	428	

C-RP-19 Central Alarm System

Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

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P-20	Monitoring Systems at Accelerators	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	72.0%
Section VI, Lab Operations:	4	28.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	16	

C-RP-21	Ion Beam Facility Contamination Control	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	1,421	97.2%
Section VI, Lab Operations:	4	.3%
Section VI-C, Efficiency:	37	2.5%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,462	

C-SS-01	Protective Force Station Order Review	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-SS-02	Facility-Specific Training for Protective Force	
Section I, Worker H&S:	0	.3%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	99.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

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C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	
Section I, Worker H&S:	0	100.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	0	0.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	0	

C-TC-01	Laboratory Training Program	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	568	83.0%
Section VI, Lab Operations:	117	17.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	685	

C-TC-02	Development of Training Procedures	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	15.8%
Section VI, Lab Operations:	3	4.1%
Section VI-C, Efficiency:	57	80.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	71	

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C-03	Qualification/Certification Programs	
Section I, Worker H&S:	200	19.1%
Section II, Public H&S:	2	.2%
Section III, Environment:	2	.1%
Section IV, Community Concern:	100	9.6%
Section V, Compliance:	568	54.3%
Section VI, Lab Operations:	175	16.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,046	

C-TC-04	Training Records and Documentation	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	568	49.6%
Section VI, Lab Operations:	175	15.3%
Section VI-C, Efficiency:	402	35.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,146	

C-TC-05	ES&H Training Implementation	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	2	.2%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	11.8%
Section V, Compliance:	568	67.3%
Section VI, Lab Operations:	175	20.7%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	845	

C-TC-06	Safety Training of Accelerator Personnel	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	.0%
Section IV, Community Concern:	100	1.6%
Section V, Compliance:	1,425	23.2%
Section VI, Lab Operations:	4,000	65.2%
Section VI-C, Efficiency:	610	9.9%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	6,135	

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C-TS-01	Safety Analysis, Safety Assessments & Haz Class	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	4,275	82.8%
Section V, Compliance:	8	.1%
Section VI, Lab Operations:	1,333	25.8%
Section VI-C, Efficiency:	-450	-8.7%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	5,166	

C-TS-02	Timely Technical Support	
Section I, Worker H&S:	795	98.6%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	11	1.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	807	

C-TS-03	Configuration Mangement	
Section I, Worker H&S:	7	.6%
Section II, Public H&S:	1	.1%
Section III, Environment:	2	.1%
Section IV, Community Concern:	1,050	85.5%
Section V, Compliance:	11	.9%
Section VI, Lab Operations:	82	6.7%
Section VI-C, Efficiency:	74	6.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,228	

C-TS-04	Lost Time Incident Report - Protective Force	
Section I, Worker H&S:	1	.6%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	90.4%
Section V, Compliance:	10	9.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	111	

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C-WS-01 Respirators		
Section I, Worker H&S:	7	.5%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	1,418	99.5%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,425	
C-WS-02 Lockout/Tagout		
Section I, Worker H&S:	75	.6%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	13,388	103.8%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	-569	-4.4%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	12,893	
C-WS-03 Machine Guarding/Area Illumination		
Section I, Worker H&S:	74	5.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	1,424	95.0%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	1,499	
C-WS-04 Hand Rails and Guard Rails		
Section I, Worker H&S:	75	3.1%
Section II, Public H&S:	900	37.5%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	1,424	59.4%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	2,399	

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C-WS-06	Chemical Hygiene Plan/Hazard Communication	
Section I, Worker H&S:	0	.1%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	33.9%
Section V, Compliance:	14	4.8%
Section VI, Lab Operations:	0	.1%
Section VI-C, Efficiency:	180	61.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	295	

C-WS-07	Electrical Hazards	
Section I, Worker H&S:	1,232	8.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	.7%
Section V, Compliance:	13,388	87.1%
Section VI, Lab Operations:	11	.1%
Section VI-C, Efficiency:	636	4.1%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	15,367	

C-WS-08	Chemical Materials	
Section I, Worker H&S:	0	.5%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	99.5%
Section VI, Lab Operations:	0	0.0%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	14	

C-WS-09	Emergency Response and Hazardous Waste Operations	
Section I, Worker H&S:	2	.1%
Section II, Public H&S:	0	.0%
Section III, Environment:	2	.1%
Section IV, Community Concern:	1,150	44.6%
Section V, Compliance:	1,425	55.2%
Section VI, Lab Operations:	1	.1%
Section VI-C, Efficiency:	0	0.0%
Section VI-D, Delay Costs:	0	0.0%
Section VII, Uncertainty:	0	0.0%
Net Benefit:	2,580	

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JS-11	Welding		
Section I, Worker H&S:		0	.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		100	83.0%
Section V, Compliance:		11	9.3%
Section VI, Lab Operations:		0	.2%
Section VI-C, Efficiency:		9	7.5%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		121	

C-WS-12	TA-55 Control of Hazardous Energy		
Section I, Worker H&S:		75	.6%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		13,388	100.3%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		-111	-.8%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		13,352	

C-WS-13	Signs		
Section I, Worker H&S:		0	100.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		0	0.0%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		0	0.0%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		0	

C-WS-14	Excavation Safety		
Section I, Worker H&S:		47	.2%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		120	.4%
Section V, Compliance:		28,500	99.4%
Section VI, Lab Operations:		0	0.0%
Section VI-C, Efficiency:		0	0.0%
Section VI-D, Delay Costs:		0	0.0%
Section VII, Uncertainty:		0	0.0%
Net Benefit:		28,667	

Attachment 13

Action Plan Benefits Associated With Each Management Criterion

LANL Action Plan Evaluation

3:07 pm
July 22, 1992

Action Plan #	Action Plan Name	Worker H&S (x 1,000)
C-WS-07	Electrical Hazards	1,232
C-PP-09	HS Resources/Roles/Responsibilities	795
C-TS-02	Timely Technical Support	795
C-NP-07	Seismic Hazards Investigation	750
C-PP-03	Physical Agents	750
C-NP-04	Seismic Protection for Sigma Building (SM-66)	299
C-TC-03	Qualification/Certification Programs	200
C-FP-07	Fire and Smoke Barriers	200
C-QV-02	Quality Program	189
C-QV-04	Training, Qualification, and Certification	189
C-WS-04	Hand Rails and Guard Rails	75
C-QV-08	Calibration	75
C-WS-02	Lockout/Tagout	75
C-WS-12	TA-55 Control of Hazardous Energy	75
C-ES-03	Explosive Storage and Operations	75
C-PP-06	Asbestos Management Program	75
C-WS-03	Machine Guarding/Area Illumination	74
C-FP-14	Life Safety Code TA-55	74
C-PP-04	Confined Space Entry Program	67
C-WS-14	Excavation Safety	47
C-MA-06	Laboratory Lightning Protection Deficiencies	39
C-PT-03	Training/Qualification of P&T Personnel	39
C-PP-02	Ventilation Systems	39
C-MGT-13	Safety Reviews	38
C-PT-01	Packaging and Transportation Risk Evaluation	29
C-FP-03	Combustible Storage	20
C-EP-07	Emergency Preparedness Plan	20
C-EM-36	Radiological Environmental Emergency Planning	20
C-MGT-11	Subcontractor Performance	7
C-NP-06	Slope Stabilization	7
C-FP-02	Define Fire Protection Program	7
C-EM-12	Waste Minimization Program	7
C-WS-01	Respirators	7
C-RP-07	Internal Radiation Dosimetry Program	7
C-FP-12	Correction of Fire Protection Deficiencies	7
C-TS-03	Configuration Management	7
C-EA-01	Comprehensive Safety Review for Experiments	7
C-OP-08	Conduct of Operations at TA-55	7
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	2
C-WS-09	Emergency Response and Hazardous Waste Operations	2
C-EM-04	Waste Characterization, Certification, and Segregation	1
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	1
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	1
C-QV-07	Calibration	1
C-FP-01	Project Review for Fire Protection	1
C-FP-13	Life Safety Code	1
C-MA-01	Comprehensive Maintenance Management Program	1
C-FP-04	Building Appraisal Program	1

LANL Action Plan Evaluation

3:07 pm
July 22, 1992Worker :
(x 1,000)

Action Plan #

Action Plan Name

Action Plan #	Action Plan Name	Worker : (x 1,000)
C-MA-08	Crane Maintenance & Installation	1
C-PT-05	P&T Procedures/P&T Program	1
C-TS-04	Lost Time Incident Report - Protective Force	1
C-QV-06	Counterfeit and Suspect Parts	0
C-RP-21	Ion Beam Facility Contamination Control	0
C-RP-04	External Rad Exposure Monitoring and Control	0
C-EP-06	Emergency Operations Document Availability	0
C-WS-06	Chemical Hygiene Plan/Hazard Communication	0
C-EM-45	Hazardous Waste Management Training	0
C-TC-05	ES&H Training Implementation	0
C-WS-08	Chemical Materials	0
C-PT-04	P&T Assessment/Oversight Program	0
C-PP-07	Carcinogens	0
C-PP-10	Traffic Safety	0
C-CS-03	Criticality Safety Evaluations	0
C-RP-17	Criticality Alarm System	0
C-MGT-06	Conduct of Operations	0
C-MGT-08	Assessments	0
C-EM-51	Mixed Waste Storage at Technical Area 54	0
C-WS-11	Welding	0
C-OP-14	Housekeeping at Tritium Sites	0
C-MGT-14	Lessons Learned	0
C-FP-11	Fire Protection Procedures	0
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	0
C-TC-01	Laboratory Training Program	0
C-RP-08	Fixed and Portable Rad Instrumentation Program	0
C-RP-05	External Radiation Dosimetry Program	0
C-RP-20	Monitoring Systems at Accelerators	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-RP-10	Surface Rad Contam Monitoring & Control Program	0
C-OP-07	Human Factors	0
C-PT-06	Property Management - Excess Property	0
C-PT-02	Packaging and Transportation Quality Assurance	0
C-RP-01	Radiological Protection Program	0
C-RP-02	Internal Rad Protection Audits & Investig Programs	0
C-NP-01	Seismic Mitigation Training	0
C-WS-13	Signs	0
C-EM-06	Quality Assurance Procedures	0
C-EM-30	EM Quality Assurance Program Plans	0
C-EM-31	Environmental Management Quality Assurance	0
C-EM-32	Computer Program Validation	0
C-EM-33	Document Control	0
C-EM-34	Corrective Action Program	0
C-EM-35	Johnson Controls World Services Quality Assurance	0
C-EM-56	Standards and Instrument Calibration	0
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-NP-02	Seismic Safety Program	0
C-ES-02	HE Machining Interlocks	0

LANL Action Plan Evaluation

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Action Plan #	Action Plan Name	Worker H&S (x 1,000)
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-PP-05	Program Identification and Responsibility	0
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-MS-01	Occupational Medicine Program	0
C-AX-01	Sigma Complex Drainage System	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-RP-11	ALARA Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-06	Internal Radiation Exposure Control Program	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-TC-02	Development of Training Procedures	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-RP-14	Radiological Protection Training Program	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	0
C-ES-01	HE Personnel Protection	0
C-RP-16	Engineering Controls in Tritium Facilities	0
C-EM-41	PCB Transformer Retrofilling	0
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	0
C-EM-39	Program for Decommissioning Contaminated Facilitie	0
C-EM-50	Transuranic (TRU) Waste	0
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	0
C-EM-29	Laboratory Workspace	0
C-TC-04	Training Records and Documentation	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-EM-18	Control of Rad. Contaminated Soils & Sediments	0
C-RP-03	Radiological Protection Posting Program	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	0
C-EP-03	Emergency Preparedness	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-AS-01	Aviation Safety	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-05	Organization and Administration	0
C-EM-02	NDPES Permit and Clean Water Act Compliance	0
C-EM-03	Environmental Restoration	0
C-EM-05	NDPES Waste Stream Characterization	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-10	Management of Pesticide Program	0

LANL Action Plan Evaluation

3:07 pm
July 22, 1992Worker H
(x 1,00)

Action Plan #	Action Plan Name	
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-13	Records Management	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-17	Ground Water Discharge Plan Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-24	SPCC Plan Compliance	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-46	Management of Waste in Temporary Storage Areas	0
C-EM-48	Contingency Plan	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-52	Management of Septic Tank Problems	0
C-EM-53	Underground Storage Tank (UST) Program	0
C-EM-57	Sample Storage	0
C-EP-02	Emergency Preparedness	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-03	Program Planning and Integration	0
C-MGT-05	Organization Framework	0
C-MGT-07	Laboratory Position Description	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	0
C-OA-01	Random Drug Testing Certification	0
C-OP-02	TA-55 Shift Supervisor	0

LANL Action Plan Evaluation

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July 22, 1992

Action Plan #	Action Plan Name	Worker H&S (x 1,000)
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-16	MP-P Interface at LAMPF	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-03	Records and Document Control	0
C-RP-12	Radiological Records Program	0
C-RP-13	Radioactive Air Emissions Management Program	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-TC-06	Safety Training of Accelerator Personnel	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	-0
C-EM-47	Characterization of Surface Impoundments	-0
C-EM-01	Environmental Surveillance	-0

LANL Action Plan Evaluation

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July 22, 1992Public H&S
(x 1,000)

Action Plan #	Action Plan Name	
C-PT-03	Training/Qualification of P&T Personnel	900
C-WS-04	Hand Rails and Guard Rails	900
C-PP-02	Ventilation Systems	105
C-QV-02	Quality Program	85
C-QV-04	Training, Qualification, and Certification	85
C-EM-04	Waste Characterization, Certification, and Segrega	30
C-EM-45	Hazardous Waste Management Training	4
C-PT-05	P&T Procedures/P&T Program	3
C-PT-04	P&T Assessment/Oversight Program	3
C-TC-03	Qualification/Certification Programs	2
C-TC-05	ES&H Training Implementation	2
C-TS-03	Configuration Mangement	1
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	1
C-EP-07	Emergency Preparedness Plan	0
C-PT-01	Packaging and Transportation Risk Evaluation	0
C-FP-02	Define Fire Protection Program	0
C-WS-09	Emergency Response and Hazardous Waste Operations	0
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	0
C-EM-12	Waste Minimization Program	0
C-PT-02	Packaging and Transportation Quality Assurance	0
C-EM-51	Mixed Waste Storage at Technical Area 54	0
C-EM-06	Quality Assurance Procedures	0
C-EM-30	EM Quality Assurance Program Plans	0
C-EM-31	Environmental Management Quality Assurance	0
C-EM-32	Computer Program Validation	0
C-EM-33	Document Control	0
C-EM-34	Corrective Action Program	0
C-EM-35	Johnson Controls World Services Quality Assurance	0
C-EM-56	Standards and Instrument Calibration	0
C-PP-10	Traffic Safety	0
C-NP-06	Slope Stabilization	0
C-FP-01	Project Review for Fire Protection	0
C-PP-09	HS Resources/Roles/Responsibilities	0
C-TS-02	Timely Technical Support	0
C-FP-12	Correction of Fire Protection Deficiencies	0
C-TC-04	Training Records and Documentation	0
C-QV-07	Calibration	0
C-QV-08	Calibration	0
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	0
C-MGT-13	Safety Reviews	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EP-06	Emergency Operations Document Availability	0
C-PT-06	Property Management - Excess Property	0
C-EM-18	Control of Rad. Contaminated Soils & Sediments	0
C-EM-50	Transuranic (TRU) Waste	0
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	0
C-PP-03	Physical Agents	0
C-TC-02	Development of Training Procedures	0

LANL Action Plan Evaluation

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July 22, 1992

Action Plan #	Action Plan Name	Public (x 1,000)
C-PP-06	Asbestos Management Program	0
C-RP-03	Radiological Protection Posting Program	0
C-RP-10	Surface Rad Contam Monitoring & Control Program	0
C-TC-01	Laboratory Training Program	0
C-NP-01	Seismic Mitigation Training	0
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	0
C-RP-01	Radiological Protection Program	0
C-RP-02	Internal Rad Protection Audits & Investig Programs	0
C-RP-16	Engineering Controls in Tritium Facilities	0
C-MS-01	Occupational Medicine Program	0
C-AS-01	Aviation Safety	0
C-AX-01	Sigma Complex Drainage System	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-03	Criticality Safety Evaluations	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EA-01	Comprehensive Safety Review for Experiments	0
C-EM-01	Environmental Surveillance	0
C-EM-02	NDPES Permit and Clean Water Act Compliance	0
C-EM-03	Environmental Restoration	0
C-EM-05	NDPES Waste Stream Characterization	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-10	Management of Pesticide Program	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-13	Records Management	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-17	Ground Water Discharge Plan Compliance	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-24	SPCC Plan Compliance	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	0
C-EM-39	Program for Decommissioning Contaminated Facilitie	0

LANL Action Plan Evaluation

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Action Plan #	Action Plan Name	Public H&S (x 1,000)
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-41	PCB Transformer Retrofilling	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-43	Management of Pylchlorinated Biphenyl (PCB) Spill	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-46	Management of Waste in Temporary Storage Areas	0
C-EM-47	Characterization of Surface Impoundments	0
C-EM-48	Contingency Plan	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-52	Management of Septic Tank Problems	0
C-EM-53	Underground Storage Tank (UST) Program	0
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	0
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	0
C-EM-57	Sample Storage	0
C-EP-02	Emergency Preparedness	0
C-EP-03	Emergency Preparedness	0
C-ES-01	HE Personnel Protection	0
C-ES-02	HE Machining Interlocks	0
C-ES-03	Explosive Storage and Operations	0
C-ES-04	Power Line Hazards	0
C-FP-03	Combustible Storage	0
C-FP-04	Building Appraisal Program	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	0
C-FP-13	Life Safety Code	0
C-FP-14	Life Safety Code TA-55	0
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-01	Comprehensive Maintenance Management Program	0
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-06	Laboratory Lightning Protection Deficiencies	0
C-MA-08	Crane Maintenance & Installation	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-03	Program Planning and Integration	0
C-MGT-05	Organization Framework	0
C-MGT-06	Conduct of Operations	0
C-MGT-07	Laboratory Position Description	0
C-MGT-08	Assessments	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-11	Subcontractor Performance	0

LANL Action Plan Evaluation

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July 22, 1992Public
(x 1,000)

Action Plan #	Action Plan Name	
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-14	Lessons Learned	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-NP-02	Seismic Safety Program	0
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	0
C-NP-04	Seismic Protection for Sigma Building (SM-66)	0
C-NP-07	Seismic Hazards Investigation	0
C-OA-01	Random Drug Testing Certification	0
C-OP-02	TA-55 Shift Supervisor	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-07	Human Factors	0
C-OP-08	Conduct of Operations at TA-55	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-14	Housekeeping at Tritium Sites	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	
C-OP-16	MP-P Interface at LAMPF	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-04	Confined Space Entry Program	0
C-PP-05	Program Identification and Responsibility	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-03	Records and Document Control	0
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	0
C-QV-06	Counterfeit and Suspect Parts	0
C-RP-04	External Rad Exposure Monitoring and Control	0
C-RP-05	External Radiation Dosimetry Program	0
C-RP-06	Internal Radiation Exposure Control Program	0
C-RP-07	Internal Radiation Dosimetry Program	0
C-RP-08	Fixed and Portable Rad Instrumentation Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-11	ALARA Program	0
C-RP-12	Radiological Records Program	0
C-RP-13	Radioactive Air Emissions Management Program	0
C-RP-14	Radiological Protection Training Program	0
C-RP-17	Criticality Alarm System	0
C-RP-19	Central Alarm System	
C-RP-20	Monitoring Systems at Accelerators	
C-RP-21	Ion Beam Facility Contamination Control	0

LANL Action Plan Evaluation

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July 22, 1992

Action Plan #	Action Plan Name	Public H&S (x 1,000)
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-06	Safety Training of Accelerator Personnel	0
C-TS-04	Lost Time Incident Report - Protective Force	0
C-WS-01	Respirators	0
C-WS-02	Lockout/Tagout	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-06	Chemical Hygiene Plan/Hazard Communication	0
C-WS-07	Electrical Hazards	0
C-WS-08	Chemical Materials	0
C-WS-11	Welding	0
C-WS-12	TA-55 Control of Hazardous Energy	0
C-WS-13	Signs	0
C-WS-14	Excavation Safety	0
C-EM-36	Radiological Environmental Emergency Planning	-0

LANL Action Plan Evaluation

3:13 pm
July 22, 1992

Action Plan #	Action Plan Name	Environment (x 1,000)
C-EM-02	NDPES Permit and Clean Water Act Compliance	2
C-EM-05	NDPES Waste Stream Characterization	2
C-EM-10	Management of Pesticide Program	2
C-EM-17	Ground Water Discharge Plan Compliance	2
C-EM-18	Control of Rad. Contaminated Soils & Sediments	2
C-EM-39	Program for Decommissioning Contaminated Facilitie	2
C-EM-46	Management of Waste in Temporary Storage Areas	2
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	2
C-FP-01	Project Review for Fire Protection	2
C-FP-02	Define Fire Protection Program	2
C-FP-12	Correction of Fire Protection Deficiencies	2
C-MGT-13	Safety Reviews	2
C-NP-06	Slope Stabilization	2
C-TS-03	Configuration Mangement	2
C-WS-09	Emergency Response and Hazardous Waste Operations	2
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	2
C-RP-11	ALARA Program	2
C-EM-36	Radiological Environmental Emergency Planning	2
C-QV-07	Calibration	2
C-QV-08	Calibration	2
C-EM-34	Corrective Action Program	2
C-MGT-06	Conduct of Operations	2
C-MGT-08	Assessments	2
C-EM-50	Transuranic (TRU) Waste	2
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	2
C-TC-03	Qualification/Certification Programs	2
C-EM-51	Mixed Waste Storage at Technical Area 54	2
C-EP-07	Emergency Preparedness Plan	2
C-PT-04	P&T Assessment/Oversight Program	1
C-PT-05	P&T Procedures/P&T Program	1
C-MA-01	Comprehensive Maintenance Management Program	1
C-PT-01	Packaging and Transportation Risk Evaluation	1
C-EM-52	Management of Septic Tank Problems	0
C-PT-03	Training/Qualification of P&T Personnel	0
C-EM-47	Characterization of Surface Impoundments	0
C-PP-03	Physical Agents	0
C-TC-06	Safety Training of Accelerator Personnel	0
C-OP-08	Conduct of Operations at TA-55	0
C-PT-02	Packaging and Transportation Quality Assurance	0
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	0
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	0
C-EM-12	Waste Minimization Program	0
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	0
C-EM-24	SPCC Plan Compliance	0
C-AS-01	Aviation Safety	0
C-AX-01	Sigma Complex Drainage System	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0

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July 22, 1992Environment
(x 1,000)

Action Plan #	Action Plan Name	Environment (x 1,000)
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-03	Criticality Safety Evaluations	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EA-01	Comprehensive Safety Review for Experiments	0
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	0
C-EM-03	Environmental Restoration	0
C-EM-04	Waste Characterization, Certification, and Segregation	0
C-EM-06	Quality Assurance Procedures	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-13	Records Management	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	0
C-EM-30	EM Quality Assurance Program Plans	0
C-EM-31	Environmental Management Quality Assurance	0
C-EM-32	Computer Program Validation	0
C-EM-33	Document Control	0
C-EM-35	Johnson Controls World Services Quality Assurance	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	0
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-41	PCB Transformer Retrofilling	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-48	Contingency Plan	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-53	Underground Storage Tank (UST) Program	0
C-EM-56	Standards and Instrument Calibration	0
C-EM-57	Sample Storage	0
C-EP-02	Emergency Preparedness	0
C-EP-03	Emergency Preparedness	0

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Action Plan #	Action Plan Name	Environment (x 1,000)
C-EP-06	Emergency Operations Document Availability	0
C-ES-01	HE Personnel Protection	0
C-ES-02	HE Machining Interlocks	0
C-ES-03	Explosive Storage and Operations	0
C-ES-04	Power Line Hazards	0
C-FP-03	Combustible Storage	0
C-FP-04	Building Appraisal Program	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	0
C-FP-13	Life Safety Code	0
C-FP-14	Life Safety Code TA-55	0
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-06	Laboratory Lightning Protection Deficiencies	0
C-MA-08	Crane Maintenance & Installation	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-03	Program Planning and Integration	0
C-MGT-05	Organization Framework	0
C-MGT-07	Laboratory Position Description	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-11	Subcontractor Performance	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-14	Lessons Learned	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-MS-01	Occupational Medicine Program	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-NP-01	Seismic Mitigation Training	0
C-NP-02	Seismic Safety Program	0
C-NP-03	Seismic Mitigation for Equipment & Systems at TA-55	0
C-NP-04	Seismic Protection for Sigma Building (SM-66)	0
C-NP-07	Seismic Hazards Investigation	0
C-OA-01	Random Drug Testing Certification	0
C-OP-02	TA-55 Shift Supervisor	0
C-OP-04	Conduct of Operations, Godiva Ring	0

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Action Plan #	Action Plan Name	Environr (x 1,000,
C-OP-07	Human Factors	0
C-OP-11	Gate Verification	C
C-OP-12	Omega West Reactor Basin Ledges	C
C-OP-13	Omega West Reactor Shipping Cask	C
C-OP-14	Housekeeping at Tritium Sites	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	0
C-OP-16	MP-P Interface at LAMPF	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-02	Ventilation Systems	0
C-PP-04	Confined Space Entry Program	0
C-PP-05	Program Identification and Responsibility	0
C-PP-06	Asbestos Management Program	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-PP-09	HS Resources/Roles/Responsibilities	0
C-PP-10	Traffic Safety	0
C-PT-06	Property Management - Excess Property	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-02	Quality Program	0
C-QV-03	Records and Document Control	
C-QV-04	Training, Qualification, and Certification	
C-QV-06	Counterfeit and Suspect Parts	0
C-RP-01	Radiological Protection Program	0
C-RP-02	Internal Rad Protection Audits & Investig Programs	0
C-RP-03	Radiological Protection Posting Program	0
C-RP-04	External Rad Exposure Monitoring and Control	0
C-RP-05	External Radiation Dosimetry Program	0
C-RP-06	Internal Radiation Exposure Control Program	0
C-RP-07	Internal Radiation Dosimetry Program	0
C-RP-08	Fixed and Portable Rad Instrumentation Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-10	Surface Rad Contam Monitoring & Control Program	0
C-RP-12	Radiological Records Program	0
C-RP-13	Radioactive Air Emissions Management Program	0
C-RP-14	Radiological Protection Training Program	0
C-RP-16	Engineering Controls in Tritium Facilities	0
C-RP-17	Criticality Alarm System	0
C-RP-19	Central Alarm System	0
C-RP-20	Monitoring Systems at Accelerators	0
C-RP-21	Ion Beam Facility Contamination Control	0
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-01	Laboratory Training Program	
C-TC-02	Development of Training Procedures	
C-TC-04	Training Records and Documentation	0

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Action Plan #	Action Plan Name	Environment (x 1,000)
C-TC-05	ES&H Training Implementation	0
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	0
C-TS-02	Timely Technical Support	0
C-TS-04	Lost Time Incident Report - Protective Force	0
C-WS-01	Respirators	0
C-WS-02	Lockout/Tagout	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-04	Hand Rails and Guard Rails	0
C-WS-06	Chemical Hygiene Plan/Hazard Communication	0
C-WS-07	Electrical Hazards	0
C-WS-08	Chemical Materials	0
C-WS-11	Welding	0
C-WS-12	TA-55 Control of Hazardous Energy	0
C-WS-13	Signs	0
C-WS-14	Excavation Safety	0
C-EM-45	Hazardous Waste Management Training	-0
C-EM-01	Environmental Surveillance	-2

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July 22, 1992Community Concern
(x 1,000)

Action Plan #	Action Plan Name	Community Concern (x 1,000)
C-PT-03	Training/Qualification of P&T Personnel	6,775
C-EM-26	Risk Management	4,900
C-EM-18	Control of Rad. Contaminated Soils & Sediments	4,800
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	4,275
C-PP-05	Program Identification and Responsibility	3,750
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,750
C-PT-05	P&T Procedures/P&T Program	2,500
C-PT-01	Packaging and Transportation Risk Evaluation	2,400
C-RP-13	Radioactive Air Emissions Management Program	1,875
C-EM-04	Waste Characterization, Certification, and Segrega	1,150
C-EM-50	Transuranic (TRU) Waste	1,150
C-EM-51	Mixed Waste Storage at Technical Area 54	1,150
C-EM-52	Management of Septic Tank Problems	1,150
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,150
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	1,150
C-EP-07	Emergency Preparedness Plan	1,150
C-WS-09	Emergency Response and Hazardous Waste Operations	1,150
C-EM-03	Environmental Restoration	1,100
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-RP-11	ALARA Program	1,100
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,050
C-PT-04	P&T Assessment/Oversight Program	1,050
C-TS-03	Configuration Mangement	1,050
C-QV-02	Quality Program	750
C-QV-04	Training, Qualification, and Certification	750
C-EM-02	NDPES Permit and Clean Water Act Compliance	725
C-EM-17	Ground Water Discharge Plan Compliance	725
C-EM-24	SPCC Plan Compliance	725
C-EM-01	Environmental Surveillance	625
C-AX-05	Accumulation of Radioactive Waste at TA-55	200
C-EM-05	NDPES Waste Stream Characterization	200
C-EM-48	Contingency Plan	200
C-MGT-03	Program Planning and Integration	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-NP-04	Seismic Protection for Sigma Building (SM-66)	200
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	150
C-EM-10	Management of Pesticide Program	150
C-EM-23	Release Reporting Procedures	150
C-EM-40	Rad Contaminated PCB Waste Storage	150
C-EM-41	PCB Transformer Retrofilling	150
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	150
C-EP-06	Emergency Operations Document Availability	150
C-MA-06	Laboratory Lightning Protection Deficiencies	150
C-MGT-06	Conduct of Operations	150
C-MGT-08	Assessments	150
C-WS-14	Excavation Safety	120
C-AX-07	High Efficiency Particulate Air Filters	100

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(x 1,000,

Action Plan #	Action Plan Name	
C-EM-12	Waste Minimization Program	100
C-EM-13	Records Management	100
C-EM-14	Meteorological Data Acquisition Programs	100
C-EM-25	Appraisal of Environmental Restoration Program Act	100
C-EM-39	Program for Decommissioning Contaminated Facilitie	100
C-EM-45	Hazardous Waste Management Training	100
C-EM-46	Management of Waste in Temporary Storage Areas	100
C-EM-47	Characterization of Surface Impoundments	100
C-EM-53	Underground Storage Tank (UST) Program	100
C-EP-02	Emergency Preparedness	100
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	100
C-FP-01	Project Review for Fire Protection	100
C-FP-02	Define Fire Protection Program	100
C-FP-12	Correction of Fire Protection Deficiencies	100
C-MGT-05	Organization Framework..	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-MGT-13	Safety Reviews	100
C-MS-01	Occupational Medicine Program	100
C-MS-02	Medical Services: Procedures, Documentation, Review	100
C-NP-01	Seismic Mitigation Training	100
C-OA-01	Random Drug Testing Certification	1'
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	1\
C-OP-14	Housekeeping at Tritium Sites	100
C-OP-16	MP-P Interface at LAMPF	100
C-PP-03	Physical Agents	100
C-PP-04	Confined Space Entry Program	100
C-PP-06	Asbestos Management Program	100
C-PP-10	Traffic Safety	100
C-PT-02	Packaging and Transportation Quality Assurance	100
C-RP-05	External Radiation Dosimetry Program	100
C-RP-08	Fixed and Portable Rad Instrumentation Program	100
C-TC-03	Qualification/Certification Programs	100
C-TC-05	ES&H Training Implementation	100
C-TC-06	Safety Training of Accelerator Personnel	100
C-TS-04	Lost Time Incident Report - Protective Force	100
C-WS-06	Chemical Hygiene Plan/Hazard Communication	100
C-WS-07	Electrical Hazards	100
C-WS-11	Welding	100
C-CS-05	Organization and Administration	50
C-EM-06	Quality Assurance Procedures	50
C-EM-30	EM Quality Assurance Program Plans	50
C-EM-31	Environmental Management Quality Assurance	50
C-EM-32	Computer Program Validation	50
C-EM-33	Document Control	50
C-EM-34	Corrective Action Program	50
C-EM-35	Johnson Controls World Services Quality Assurance	r
C-EM-56	Standards and Instrument Calibration	.
C-EM-57	Sample Storage	50

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(x 1,000)

Action Plan #

Action Plan Name

C-EP-03	Emergency Preparedness	50
C-MGT-11	Subcontractor Performance	50
C-MGT-14	Lessons Learned	50
C-NP-06	Slope Stabilization	50
C-OP-15	Equipment Weaknesses and Radioactive Releases	50
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	50
C-QV-06	Counterfeit and Suspect Parts	50
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	50
C-CS-03	Criticality Safety Evaluations	10
C-AX-01	Sigma Complex Drainage System	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-EA-01	Comprehensive Safety Review for Experiments	0
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	0
C-EM-36	Radiological Environmental Emergency Planning	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-ES-01	HE Personnel Protection	0
C-ES-02	HE Machining Interlocks	0
C-ES-03	Explosive Storage and Operations	0
C-ES-04	Power Line Hazards	0
C-FP-03	Combustible Storage	0
C-FP-04	Building Appraisal Program	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	0
C-FP-13	Life Safety Code	0
C-FP-14	Life Safety Code TA-55	0

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Community Conc
(x 1,000,

Action Plan #	Action Plan Name	
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-01	Comprehensive Maintenance Management Program	0
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-08	Crane Maintenance & Installation	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-07	Laboratory Position Description	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-NP-02	Seismic Safety Program	0
C-NP-07	Seismic Hazards Investigation	0
C-OP-02	TA-55 Shift Supervisor	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-07	Human Factors	0
C-OP-08	Conduct of Operations at TA-55	0
C-OP-11	Gate Verification	
C-OP-12	Omega West Reactor Basin Ledges	
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-02	Ventilation Systems	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-PP-09	HS Resources/Roles/Responsibilities	0
C-PT-06	Property Management - Excess Property	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-03	Records and Document Control	0
C-QV-07	Calibration	0
C-QV-08	Calibration	0
C-RP-01	Radiological Protection Program	0
C-RP-02	Internal Rad Protection Audits & Investig Programs	0
C-RP-04	External Rad Exposure Monitoring and Control	0
C-RP-06	Internal Radiation Exposure Control Program	0
C-RP-07	Internal Radiation Dosimetry Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-12	Radiological Records Program	0
C-RP-14	Radiological Protection Training Program	0
C-RP-16	Engineering Controls in Tritium Facilities	0
C-RP-17	Criticality Alarm System	0
C-RP-19	Central Alarm System	
C-RP-20	Monitoring Systems at Accelerators	
C-RP-21	Ion Beam Facility Contamination Control	0

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Action Plan #	Action Plan Name	Community Concern (x 1,000)
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-01	Laboratory Training Program	0
C-TC-02	Development of Training Procedures	0
C-TC-04	Training Records and Documentation	0
C-TS-02	Timely Technical Support	0
C-WS-01	Respirators	0
C-WS-02	Lockout/Tagout	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-04	Hand Rails and Guard Rails	0
C-WS-08	Chemical Materials	0
C-WS-12	TA-55 Control of Hazardous Energy	0
C-WS-13	Signs	0
C-RP-03	Radiological Protection Posting Program	-20
C-AS-01	Aviation Safety	-100

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Action Plan #	Action Plan Name	Regulatory Compliance (x 1,000)
C-WS-14	Excavation Safety	28,500
C-WS-02	Lockout/Tagout	13,388
C-WS-07	Electrical Hazards	13,388
C-WS-12	TA-55 Control of Hazardous Energy	13,388
C-EP-07	Emergency Preparedness Plan	1,800
C-FP-02	Define Fire Protection Program	1,425
C-FP-13	Life Safety Code	1,425
C-FP-14	Life Safety Code TA-55	1,425
C-PP-03	Physical Agents	1,425
C-PP-04	Confined Space Entry Program	1,425
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,425
C-TC-06	Safety Training of Accelerator Personnel	1,425
C-WS-09	Emergency Response and Hazardous Waste Operations	1,425
C-WS-03	Machine Guarding/Area Illumination	1,424
C-WS-04	Hand Rails and Guard Rails	1,424
C-RP-21	Ion Beam Facility Contamination Control	1,421
C-WS-01	Respirators	1,418
C-EM-24	SPCC Plan Compliance	1,125
C-OP-02	TA-55 Shift Supervisor	1,125
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	1,125
C-PT-04	P&T Assessment/Oversight Program	1,125
C-PT-05	P&T Procedures/P&T Program	1,125
C-PT-03	Training/Qualification of P&T Personnel	900
C-MGT-11	Subcontractor Performance	750
C-MGT-13	Safety Reviews	750
C-EM-18	Control of Rad. Contaminated Soils & Sediments	720
C-RP-10	Surface Rad Contam Monitoring & Control Program	568
C-TC-01	Laboratory Training Program	568
C-TC-03	Qualification/Certification Programs	568
C-TC-04	Training Records and Documentation	568
C-TC-05	ES&H Training Implementation	568
C-EM-04	Waste Characterization, Certification, and Segrega	379
C-MGT-05	Organization Framework	379
C-QV-02	Quality Program	379
C-QV-04	Training, Qualification, and Certification	379
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	377
C-MGT-14	Lessons Learned	283
C-MA-08	Crane Maintenance & Installation	75
C-EM-36	Radiological Environmental Emergency Planning	38
C-RP-04	External Rad Exposure Monitoring and Control	16
C-AS-01	Aviation Safety	14
C-AX-01	Sigma Complex Drainage System	14
C-EM-01	Environmental Surveillance	14
C-EM-12	Waste Minimization Program	14
C-EM-46	Management of Waste in Temporary Storage Areas	14
C-EM-48	Contingency Plan	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-51	Mixed Waste Storage at Technical Area 54	14

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Action Plan #	Action Plan Name	Regulatory Compliance (x 1,000)
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	14
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	14
C-ES-01	HE Personnel Protection	14
C-ES-03	Explosive Storage and Operations	14
C-FP-11	Fire Protection Procedures	14
C-FP-12	Correction of Fire Protection Deficiencies	14
C-OP-08	Conduct of Operations at TA-55	14
C-PT-02	Packaging and Transportation Quality Assurance	14
C-QV-08	Calibration	14
C-RP-03	Radiological Protection Posting Program	14
C-RP-05	External Radiation Dosimetry Program	14
C-RP-07	Internal Radiation Dosimetry Program	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-RP-14	Radiological Protection Training Program	14
C-WS-06	Chemical Hygiene Plan/Hazard Communication	14
C-WS-08	Chemical Materials	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-12	Radiological Records Program	13
C-RP-17	Criticality Alarm System	13
C-OP-14	Housekeeping at Tritium Sites	11
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	11
C-EM-06	Quality Assurance Procedures	
C-EM-13	Records Management	
C-EM-17	Ground Water Discharge Plan Compliance	11
C-EM-23	Release Reporting Procedures	11
C-EM-30	EM Quality Assurance Program Plans	11
C-EM-31	Environmental Management Quality Assurance	11
C-EM-32	Computer Program Validation	11
C-EM-33	Document Control	11
C-EM-34	Corrective Action Program	11
C-EM-35	Johnson Controls World Services Quality Assurance	11
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	11
C-EM-45	Hazardous Waste Management Training	11
C-EM-50	Transuranic (TRU) Waste	11
C-EM-52	Management of Septic Tank Problems	11
C-EM-53	Underground Storage Tank (UST) Program	11
C-EM-56	Standards and Instrument Calibration	11
C-EM-57	Sample Storage	11
C-ES-02	HE Machining Interlocks	11
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	11
C-MS-01	Occupational Medicine Program	11
C-OP-18	TA-8 Radiation Monitoring & Documentation	11
C-PP-09	HS Resources/Roles/Responsibilities	11
C-PT-06	Property Management - Excess Property	11
C-QV-07	Calibration	11
C-RP-11	ALARA Program	11
C-RP-20	Monitoring Systems at Accelerators	
C-TC-02	Development of Training Procedures	
C-TS-02	Timely Technical Support	11

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Action Plan #	Action Plan Name	Regulatory Compliance (x 1,000)
C-TS-03	Configuration Mangement	11
C-WS-11	Welding	11
C-FP-04	Building Appraisal Program	11
C-PP-05	Program Identification and Responsibility	11
C-RP-13	Radioactive Air Emissions Management Program	11
C-TS-04	Lost Time Incident Report - Protective Force	10
C-AX-07	High Efficiency Particulate Air Filters	8
C-CS-03	Criticality Safety Evaluations	8
C-EA-01	Comprehensive Safety Review for Experiments	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-EM-39	Program for Decommissioning Contaminated Facilitie	8
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	8
C-MA-01	Comprehensive Maintenance Management Program	8
C-MA-06	Laboratory Lightning Protection Deficiencies	8
C-MGT-03	Program Planning and Integration	8
C-MS-02	Medical Services: Procedures, Documentation, Review	8
C-PP-02	Ventilation Systems	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-RP-01	Radiological Protection Program	8
C-RP-02	Internal Rad Protection Audits & Investig Programs	8
C-RP-06	Internal Radiation Exposure Control Program	8
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	8
C-EM-02	NDPES Permit and Clean Water Act Compliance	7
C-EM-05	NDPES Waste Stream Characterization	7
C-PT-01	Packaging and Transportation Risk Evaluation	7
C-PP-07	Carcinogens	7
C-MGT-08	Assessments	6
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	4
C-EM-10	Management of Pesticide Program	4
C-EM-15	Asphalt Plant	4
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-40	Rad Contaminated PCB Waste Storage	4
C-EM-41	PCB Transformer Retrofilling	4
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	4
C-EM-47	Characterization of Surface Impoundments	4
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	4
C-NP-02	Seismic Safety Program	4
C-NP-06	Slope Stabilization	4
C-OP-07	Human Factors	4
C-PP-06	Asbestos Management Program	3
C-PP-01	Hazard Identification/Evaluation/Control	3
C-RP-16	Engineering Controls in Tritium Facilities	2
C-EM-03	Environmental Restoration	1
C-EM-37	Incinerator/TA-16-1409	1
C-EP-02	Emergency Preparedness	1
C-EP-06	Emergency Operations Document Availability	1
C-FP-16	Inspection/Test	0

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Action Plan #	Action Plan Name	Regulatory Compliance (x 1,000)
C-FP-01	Project Review for Fire Protection	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-19	Facility Status Control	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EM-16	Open Burning	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EP-03	Emergency Preparedness	0
C-ES-04	Power Line Hazards	0
C-FP-03	Combustible Storage	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-15	Voice Alarm System	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-06	Conduct of Operations	0
C-MGT-07	Laboratory Position Description	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-NP-01	Seismic Mitigation Training	0
C-NP-03	Seismic Mitigation for Equipment & Systems at TA-55	0
C-NP-04	Seismic Protection for Sigma Building (SM-66)	0
C-NP-07	Seismic Hazards Investigation	0

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Action Plan #	Action Plan Name	Regulatory Compliance (x 1,000)
C-OA-01	Random Drug Testing Certification	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	0
C-OP-16	MP-P Interface at LAMPF	0
C-PP-10	Traffic Safety	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-03	Records and Document Control	0
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	0
C-QV-06	Counterfeit and Suspect Parts	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-WS-13	Signs	0

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Action Plan #	Action Plan Name	Laboratory Operations (x 1,000)
C-TC-06	Safety Training of Accelerator Personnel	4,000
C-EM-04	Waste Characterization, Certification, and Segrega	2,667
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	1,333
C-NP-07	Seismic Hazards Investigation	1,333
C-FP-13	Life Safety Code	267
C-AX-05	Accumulation of Radioactive Waste at TA-55	221
C-RP-13	Radioactive Air Emissions Management Program	221
C-PP-04	Confined Space Entry Program	210
C-PT-03	Training/Qualification of P&T Personnel	196
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	175
C-TC-03	Qualification/Certification Programs	175
C-TC-04	Training Records and Documentation	175
C-TC-05	ES&H Training Implementation	175
C-MGT-13	Safety Reviews	174
C-RP-16	Engineering Controls in Tritium Facilities	174
C-EM-36	Radiological Environmental Emergency Planning	139
C-NP-04	Seismic Protection for Sigma Building (SM-66)	139
C-PT-05	P&T Procedures/P&T Program	117
C-EM-17	Ground Water Discharge Plan Compliance	117
C-EM-24	SPCC Plan Compliance	117
C-EM-52	Management of Septic Tank Problems	117
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	117
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	117
C-FP-02	Define Fire Protection Program	117
C-FP-12	Correction of Fire Protection Deficiencies	117
C-RP-08	Fixed and Portable Rad Instrumentation Program	117
C-TC-01	Laboratory Training Program	117
C-MGT-01	Strategic Planning	116
C-MGT-02	Policy Definition and Deployment	116
C-MGT-03	Program Planning and Integration	116
C-MGT-14	Lessons Learned	115
C-FP-14	Life Safety Code TA-55	114
C-RP-07	Internal Radiation Dosimetry Program	101
C-TS-03	Configuration Mangement	82
C-RP-10	Surface Rad Contam Monitoring & Control Program	82
C-OP-07	Human Factors	80
C-EA-01	Comprehensive Safety Review for Experiments	71
C-PT-04	P&T Assessment/Oversight Program	58
C-RP-03	Radiological Protection Posting Program	58
C-MGT-06	Conduct of Operations	58
C-MGT-08	Assessments	58
C-ES-01	HE Personnel Protection	47
C-OP-15	Equipment Weaknesses and Radioactive Releases	42
C-PT-01	Packaging and Transportation Risk Evaluation	30
C-MA-01	Comprehensive Maintenance Management Program	26
C-MGT-11	Subcontractor Performance	17
C-FP-04	Building Appraisal Program	12
C-FP-11	Fire Protection Procedures	12

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(x 1,000)

Action Plan #	Action Plan Name	
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	11
C-OP-08	Conduct of Operations at TA-55	11
C-WS-07	Electrical Hazards	11
C-FP-09	Water Supplies	6
C-OP-02	TA-55 Shift Supervisor	6
C-ES-02	HE Machining Interlocks	4
C-ES-03	Explosive Storage and Operations	4
C-RP-20	Monitoring Systems at Accelerators	4
C-RP-21	Ion Beam Facility Contamination Control	4
C-EM-02	NDPES Permit and Clean Water Act Compliance	4
C-EM-05	NDPES Waste Stream Characterization	4
C-EM-46	Management of Waste in Temporary Storage Areas	3
C-PP-03	Physical Agents	3
C-PT-06	Property Management - Excess Property	3
C-RP-04	External Rad Exposure Monitoring and Control	3
C-RP-05	External Radiation Dosimetry Program	3
C-RP-06	Internal Radiation Exposure Control Program	3
C-TC-02	Development of Training Procedures	3
C-PT-02	Packaging and Transportation Quality Assurance	3
C-MGT-05	Organization Framework	3
C-RP-14	Radiological Protection Training Program	3
C-QV-02	Quality Program	
C-AX-04	Auxiliary Systems Off-Normal Conditions	
C-EM-10	Management of Pesticide Program	1
C-EM-29	Laboratory Workspace	1
C-EP-07	Emergency Preparedness Plan	1
C-FP-01	Project Review for Fire Protection	1
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	1
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	1
C-MA-06	Laboratory Lightning Protection Deficiencies	1
C-MA-08	Crane Maintenance & Installation	1
C-NP-02	Seismic Safety Program	1
C-OP-16	MP-P Interface at LAMPF	1
C-OP-18	TA-8 Radiation Monitoring & Documentation	1
C-QV-08	Calibration	1
C-RP-01	Radiological Protection Program	1
C-RP-02	Internal Rad Protection Audits & Investig Programs	1
C-WS-09	Emergency Response and Hazardous Waste Operations	1
C-OP-19	Facility Status Control	1
C-QV-07	Calibration	1
C-CS-03	Criticality Safety Evaluations	0
C-PP-05	Program Identification and Responsibility	0
C-RP-11	ALARA Program	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-AX-01	Sigma Complex Drainage System	0
C-FP-03	Combustible Storage	0
C-NP-06	Slope Stabilization	
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	
C-SS-02	Facility-Specific Training for Protective Force	0

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Action Plan #	Action Plan Name	Laboratory Operations (x 1,000)
C-WS-06	Chemical Hygiene Plan/Hazard Communication	0
C-WS-11	Welding	0
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	0
C-QV-06	Counterfeit and Suspect Parts	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EP-03	Emergency Preparedness	0
C-FP-07	Fire and Smoke Barriers	0
C-MS-01	Occupational Medicine Program	0
C-AS-01	Aviation Safety	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EM-01	Environmental Surveillance	0
C-EM-03	Environmental Restoration	0
C-EM-06	Quality Assurance Procedures	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-12	Waste Minimization Program	0
C-EM-13	Records Management	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-18	Control of Rad. Contaminated Soils & Sediments	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-30	EM Quality Assurance Program Plans	0
C-EM-31	Environmental Management Quality Assurance	0
C-EM-32	Computer Program Validation	0
C-EM-33	Document Control	0
C-EM-34	Corrective Action Program	0
C-EM-35	Johnson Controls World Services Quality Assurance	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	0
C-EM-39	Program for Decommissioning Contaminated Facilitie	0
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-41	PCB Transformer Retrofilling	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	0

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Action Plan #	Action Plan Name	Laboratory Operations (x 1,000)
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-45	Hazardous Waste Management Training	0
C-EM-47	Characterization of Surface Impoundments	0
C-EM-48	Contingency Plan	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-50	Transuranic (TRU) Waste	0
C-EM-51	Mixed Waste Storage at Technical Area 54	0
C-EM-53	Underground Storage Tank (UST) Program	0
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	0
C-EM-56	Standards and Instrument Calibration	0
C-EM-57	Sample Storage	0
C-EP-02	Emergency Preparedness	0
C-EP-06	Emergency Operations Document Availability	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-07	Laboratory Position Description	
C-MGT-09	Communications	
C-MGT-10	Public Affairs and Outreach	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-NP-01	Seismic Mitigation Training	0
C-NP-03	Seismic Mitigation for Equipment & Systems at TA-55	0
C-OA-01	Random Drug Testing Certification	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-14	Housekeeping at Tritium Sites	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-02	Ventilation Systems	0
C-PP-06	Asbestos Management Program	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-PP-09	HS Resources/Roles/Responsibilities	0
C-PP-10	Traffic Safety	0
C-QV-01	Control and Verification of Computer Codes	
C-QV-03	Records and Document Control	
C-QV-04	Training, Qualification, and Certification	0

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Action Plan #	Action Plan Name	Laboratory Operations (x 1,000)
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-12	Radiological Records Program	0
C-RP-17	Criticality Alarm System	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TS-02	Timely Technical Support	0
C-TS-04	Lost Time Incident Report - Protective Force	0
C-WS-01	Respirators	0
C-WS-02	Lockout/Tagout	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-04	Hand Rails and Guard Rails	0
C-WS-08	Chemical Materials	0
C-WS-12	TA-55 Control of Hazardous Energy	0
C-WS-13	Signs	0
C-WS-14	Excavation Safety	0

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C-PP-03	Physical Agents	900
C-EM-29	Laboratory Workspace	900
C-RP-14	Radiological Protection Training Program	900
C-MGT-07	Laboratory Position Description	672
C-WS-07	Electrical Hazards	636
C-TC-06	Safety Training of Accelerator Personnel	610
C-RP-13	Radioactive Air Emissions Management Program	569
C-EM-56	Standards and Instrument Calibration	509
C-EM-25	Appraisal of Environmental Restoration Program Act	450
C-EM-06	Quality Assurance Procedures	402
C-EM-30	EM Quality Assurance Program Plans	402
C-EM-31	Environmental Management Quality Assurance	402
C-EM-32	Computer Program Validation	402
C-EM-33	Document Control	402
C-EM-34	Corrective Action Program	402
C-EM-57	Sample Storage	402
C-QV-02	Quality Program	402
C-QV-04	Training, Qualification, and Certification	402
C-TC-04	Training Records and Documentation	402
C-PT-06	Property Management - Excess Property	402
C-OP-08	Conduct of Operations at TA-55	360
C-MS-01	Occupational Medicine Program	288
C-FP-12	Correction of Fire Protection Deficiencies	285
C-PT-05	P&T Procedures/P&T Program	285
C-QV-07	Calibration	180
C-QV-08	Calibration	180
C-RP-01	Radiological Protection Program	180
C-RP-02	Internal Rad Protection Audits & Investig Programs	180
C-EM-35	Johnson Controls World Services Quality Assurance	180
C-WS-06	Chemical Hygiene Plan/Hazard Communication	180
C-MGT-06	Conduct of Operations	161
C-MGT-02	Policy Definition and Deployment	144
C-MGT-15	Performance Appraisals and Incentives	144
C-MA-01	Comprehensive Maintenance Management Program	114
C-QV-01	Control and Verification of Computer Codes	113
C-MGT-13	Safety Reviews	81
C-TS-03	Configuration Management	74
C-MGT-14	Lessons Learned	57
C-PP-09	HS Resources/Roles/Responsibilities	57
C-TC-02	Development of Training Procedures	57
C-RP-21	Ion Beam Facility Contamination Control	37
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	28
C-QV-06	Counterfeit and Suspect Parts	28
C-PT-04	P&T Assessment/Oversight Program	18
C-WS-11	Welding	9
C-OP-07	Human Factors	2
C-OP-02	TA-55 Shift Supervisor	1
C-AS-01	Aviation Safety	0

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Action Plan #	Action Plan Name	
C-AX-01	Sigma Complex Drainage System	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EA-01	Comprehensive Safety Review for Experiments	0
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	0
C-EM-01	Environmental Surveillance	0
C-EM-02	NDPES Permit and Clean Water Act Compliance	0
C-EM-03	Environmental Restoration	0
C-EM-05	NDPES Waste Stream Characterization	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-10	Management of Pesticide Program	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-12	Waste Minimization Program	0
C-EM-13	Records Management	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-17	Ground Water Discharge Plan Compliance	0
C-EM-18	Control of Rad. Contaminated Soils & Sediments	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-24	SPCC Plan Compliance	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-36	Radiological Environmental Emergency Planning	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	0
C-EM-39	Program for Decommissioning Contaminated Facilitie	0
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-41	PCB Transformer Retrofilling	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-45	Hazardous Waste Management Training	0
C-EM-46	Management of Waste in Temporary Storage Areas	0
C-EM-47	Characterization of Surface Impoundments	0
C-EM-48	Contingency Plan	0

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Action Plan #	Action Plan Name	Efficiency (x 1,000)
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-50	Transuranic (TRU) Waste	0
C-EM-51	Mixed Waste Storage at Technical Area 54	0
C-EM-52	Management of Septic Tank Problems	0
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	0
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	0
C-EP-02	Emergency Preparedness	0
C-EP-03	Emergency Preparedness	0
C-EP-06	Emergency Operations Document Availability	0
C-EP-07	Emergency Preparedness Plan	0
C-ES-01	HE Personnel Protection	0
C-ES-02	HE Machining Interlocks	0
C-ES-03	Explosive Storage and Operations	0
C-ES-04	Power Line Hazards	0
C-FP-01	Project Review for Fire Protection	0
C-FP-02	Define Fire Protection Program	0
C-FP-03	Combustible Storage	0
C-FP-04	Building Appraisal Program	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	0
C-FP-13	Life Safety Code	0
C-FP-14	Life Safety Code TA-55	0
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-06	Laboratory Lightning Protection Deficiencies	0
C-MA-08	Crane Maintenance & Installation	0
C-MGT-03	Program Planning and Integration	0
C-MGT-05	Organization Framework	0
C-MGT-08	Assessments	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-11	Subcontractor Performance	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-NP-01	Seismic Mitigation Training	0
C-NP-02	Seismic Safety Program	0

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Action Plan #	Action Plan Name	Efficiency (x 1,000)
C-NP-03	Seismic Mitigation for Equipment & Systems at TA-55	0
C-NP-04	Seismic Protection for Sigma Building (SM-66)	0
C-NP-06	Slope Stabilization	0
C-OA-01	Random Drug Testing Certification	0
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-14	Housekeeping at Tritium Sites	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	0
C-OP-16	MP-P Interface at LAMPF	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-02	Ventilation Systems	0
C-PP-06	Asbestos Management Program	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-PP-10	Traffic Safety	0
C-PT-01	Packaging and Transportation Risk Evaluation	0
C-QV-03	Records and Document Control	0
C-RP-04	External Rad Exposure Monitoring and Control	0
C-RP-05	External Radiation Dosimetry Program	0
C-RP-07	Internal Radiation Dosimetry Program	0
C-RP-08	Fixed and Portable Rad Instrumentation Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-12	Radiological Records Program	0
C-RP-17	Criticality Alarm System	0
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	0
C-RP-19	Central Alarm System	0
C-RP-20	Monitoring Systems at Accelerators	0
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-01	Laboratory Training Program	0
C-TC-03	Qualification/Certification Programs	0
C-TC-05	ES&H Training Implementation	0
C-TS-02	Timely Technical Support	0
C-TS-04	Lost Time Incident Report - Protective Force	0
C-WS-01	Respirators	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-04	Hand Rails and Guard Rails	0
C-WS-08	Chemical Materials	0
C-WS-09	Emergency Response and Hazardous Waste Operations	0
C-WS-13	Signs	0
C-WS-14	Excavation Safety	0
C-EM-53	Underground Storage Tank (UST) Program	-2

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Action Plan #	Action Plan Name	Efficiency (x 1,000)
C-CS-03	Criticality Safety Evaluations	-3
C-RP-06	Internal Radiation Exposure Control Program	-18
C-NP-07	Seismic Hazards Investigation	-45
C-RP-03	Radiological Protection Posting Program	-57
C-WS-12	TA-55 Control of Hazardous Energy	-111
C-EM-04	Waste Characterization, Certification, and Segrega	-180
C-RP-11	ALARA Program	-180
C-PT-02	Packaging and Transportation Quality Assurance	-255
C-RP-16	Engineering Controls in Tritium Facilities	-402
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	-450
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-569
C-PP-05	Program Identification and Responsibility	-569
C-RP-10	Surface Rad Contam Monitoring & Control Program	-569
C-WS-02	Lockout/Tagout	-569
C-PT-03	Training/Qualification of P&T Personnel	-636
C-PP-04	Confined Space Entry Program	-713
C-MGT-01	Strategic Planning	-720

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Action Plan #	Action Plan Name	Delay Cost (x 1,000)
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	2,000
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	0
C-AS-01	Aviation Safety	0
C-AX-01	Sigma Complex Drainage System	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-03	Criticality Safety Evaluations	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EA-01	Comprehensive Safety Review for Experiments	0
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	0
C-EM-01	Environmental Surveillance	0
C-EM-02	NDPES Permit and Clean Water Act Compliance	0
C-EM-03	Environmental Restoration	0
C-EM-04	Waste Characterization, Certification, and Segrega	0
C-EM-05	NDPES Waste Stream Characterization	0
C-EM-06	Quality Assurance Procedures	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-08	Environmental Surveillance of Facilities	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-10	Management of Pesticide Program	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-12	Waste Minimization Program	0
C-EM-13	Records Management	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-17	Ground Water Discharge Plan Compliance	0
C-EM-18	Control of Rad. Contaminated Soils & Sediments	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-24	SPCC Plan Compliance	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	0
C-EM-30	EM Quality Assurance Program Plans	0
C-EM-31	Environmental Management Quality Assurance	0
C-EM-32	Computer Program Validation	0
C-EM-33	Document Control	0

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(x 1,0 ,

Action Plan #	Action Plan Name	Delay C (x 1,0 ,
C-EM-34	Corrective Action Program	0
C-EM-35	Johnson Controls World Services Quality Assurance	0
C-EM-36	Radiological Environmental Emergency Planning	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	0
C-EM-39	Program for Decommissioning Contaminated Facilitie	0
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-41	PCB Transformer Retrofilling	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-43	Management of Pylchlorinated Biphenyl (PCB) Spill	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-45	Hazardous Waste Management Training	0
C-EM-46	Management of Waste in Temporary Storage Areas	0
C-EM-47	Characterization of Surface Impoundments	0
C-EM-48	Contingency Plan	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-50	Transuranic (TRU) Waste	0
C-EM-51	Mixed Waste Storage at Technical Area 54	0
C-EM-52	Management of Septic Tank Problems	0
C-EM-53	Underground Storage Tank (UST) Program	0
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	0
C-EM-56	Standards and Instrument Calibration	.
C-EM-57	Sample Storage	.
C-EP-02	Emergency Preparedness	0
C-EP-03	Emergency Preparedness	0
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	0
C-EP-06	Emergency Operations Document Availability	0
C-EP-07	Emergency Preparedness Plan	0
C-ES-01	HE Personnel Protection	0
C-ES-02	HE Machining Interlocks	0
C-ES-03	Explosive Storage and Operations	0
C-ES-04	Power Line Hazards	0
C-FP-01	Project Review for Fire Protection	0
C-FP-02	Define Fire Protection Program	0
C-FP-03	Combustible Storage	0
C-FP-04	Building Appraisal Program	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	0
C-FP-12	Correction of Fire Protection Deficiencies	0
C-FP-13	Life Safety Code	0
C-FP-14	Life Safety Code TA-55	0
C-FP-15	Voice Alarm System	.
C-FP-16	Inspection/Test	.
C-MA-01	Comprehensive Maintenance Management Program	0

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Action Plan #	Action Plan Name	Delay Cost (x 1,000)
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-06	Laboratory Lightning Protection Deficiencies	0
C-MA-08	Crane Maintenance & Installation	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-03	Program Planning and Integration	0
C-MGT-05	Organization Framework	0
C-MGT-06	Conduct of Operations	0
C-MGT-07	Laboratory Position Description	0
C-MGT-08	Assessments	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-11	Subcontractor Performance	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-13	Safety Reviews	0
C-MGT-14	Lessons Learned	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-MS-01	Occupational Medicine Program	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-NP-01	Seismic Mitigation Training	0
C-NP-02	Seismic Safety Program	0
C-NP-03	Seismic Mitigation for Equipment & Systems at TA-55	0
C-NP-04	Seismic Protection for Sigma Building (SM-66)	0
C-NP-06	Slope Stabilization	0
C-NP-07	Seismic Hazards Investigation	0
C-OA-01	Random Drug Testing Certification	0
C-OP-02	TA-55 Shift Supervisor	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-07	Human Factors	0
C-OP-08	Conduct of Operations at TA-55	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-14	Housekeeping at Tritium Sites	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	0
C-OP-16	MP-P Interface at LAMPF	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-02	Ventilation Systems	0
C-PP-03	Physical Agents	0
C-PP-04	Confined Space Entry Program	0

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Action Plan #	Action Plan Name	Delay C (x 1,0 ,
C-PP-05	Program Identification and Responsibility	0
C-PP-06	Asbestos Management Program	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-PP-09	HS Resources/Roles/Responsibilities	0
C-PP-10	Traffic Safety	0
C-PT-01	Packaging and Transportation Risk Evaluation	0
C-PT-02	Packaging and Transportation Quality Assurance	0
C-PT-03	Training/Qualification of P&T Personnel	0
C-PT-04	P&T Assessment/Oversight Program	0
C-PT-05	P&T Procedures/P&T Program	0
C-PT-06	Property Management - Excess Property	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-02	Quality Program	0
C-QV-03	Records and Document Control	0
C-QV-04	Training, Qualification, and Certification	0
C-QV-06	Counterfeit and Suspect Parts	0
C-QV-07	Calibration	0
C-QV-08	Calibration	0
C-RP-01	Radiological Protection Program	0
C-RP-02	Internal Rad Protection Audits & Investig Programs	0
C-RP-03	Radiological Protection Posting Program	0
C-RP-04	External Rad Exposure Monitoring and Control	0
C-RP-05	External Radiation Dosimetry Program	0
C-RP-06	Internal Radiation Exposure Control Program	0
C-RP-07	Internal Radiation Dosimetry Program	0
C-RP-08	Fixed and Portable Rad Instrumentation Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-10	Surface Rad Contam Monitoring & Control Program	0
C-RP-11	ALARA Program	0
C-RP-12	Radiological Records Program	0
C-RP-13	Radioactive Air Emissions Management Program	0
C-RP-14	Radiological Protection Training Program	0
C-RP-16	Engineering Controls in Tritium Facilities	0
C-RP-17	Criticality Alarm System	0
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	0
C-RP-19	Central Alarm System	0
C-RP-20	Monitoring Systems at Accelerators	0
C-RP-21	Ion Beam Facility Contamination Control	0
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-01	Laboratory Training Program	0
C-TC-02	Development of Training Procedures	0
C-TC-03	Qualification/Certification Programs	0
C-TC-04	Training Records and Documentation	0
C-TC-05	ES&H Training Implementation	0
C-TC-06	Safety Training of Accelerator Personnel	0

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Action Plan #	Action Plan Name	Delay Cost (x 1,000)
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	0
C-TS-02	Timely Technical Support	0
C-TS-03	Configuration Mangement	0
C-TS-04	Lost Time Incident Report - Protective Force	0
C-WS-01	Respirators	0
C-WS-02	Lockout/Tagout	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-04	Hand Rails and Guard Rails	0
C-WS-06	Chemical Hygiene Plan/Hazard Communication	0
C-WS-07	Electrical Hazards	0
C-WS-08	Chemical Materials	0
C-WS-09	Emergency Response and Hazardous Waste Operations	0
C-WS-11	Welding	0
C-WS-12	TA-55 Control of Hazardous Energy	0
C-WS-13	Signs	0
C-WS-14	Excavation Safety	0
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	-1,000

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Action Plan #	Action Plan Name	Uncertainty Reduction (x 1,000)
C-EM-01	Environmental Surveillance	248
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	110
C-EM-47	Characterization of Surface Impoundments	0
C-EM-08	Environmental Surveillance of Facilities	0
C-AS-01	Aviation Safety	0
C-AX-01	Sigma Complex Drainage System	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-04	Auxiliary Systems Off-Normal Conditions	0
C-AX-05	Accumulation of Radioactive Waste at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-AX-07	High Efficiency Particulate Air Filters	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-CS-03	Criticality Safety Evaluations	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-CS-05	Organization and Administration	0
C-EA-01	Comprehensive Safety Review for Experiments	0
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	0
C-EM-02	NDPES Permit and Clean Water Act Compliance	0
C-EM-03	Environmental Restoration	0
C-EM-04	Waste Characterization, Certification, and Segrega	0
C-EM-05	NDPES Waste Stream Characterization	0
C-EM-06	Quality Assurance Procedures	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	0
C-EM-10	Management of Pesticide Program	0
C-EM-11	NEPA Determinations and the Planning Process	0
C-EM-12	Waste Minimization Program	0
C-EM-13	Records Management	0
C-EM-14	Meteorological Data Acquisition Programs	0
C-EM-15	Asphalt Plant	0
C-EM-16	Open Burning	0
C-EM-17	Ground Water Discharge Plan Compliance	0
C-EM-18	Control of Rad. Contaminated Soils & Sediments	0
C-EM-19	Safe Drinking Water Act Compliance	0
C-EM-21	Management of Inactive Underground Storage Tanks	0
C-EM-23	Release Reporting Procedures	0
C-EM-24	SPCC Plan Compliance	0
C-EM-25	Appraisal of Environmental Restoration Program Act	0
C-EM-26	Risk Management	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-29	Laboratory Workspace	0
C-EM-30	EM Quality Assurance Program Plans	0
C-EM-31	Environmental Management Quality Assurance	0
C-EM-32	Computer Program Validation	0
C-EM-33	Document Control	0

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Action Plan #	Action Plan Name	Uncertainty Reducti (x 1,00
C-EM-34	Corrective Action Program	0
C-EM-35	Johnson Controls World Services Quality Assurance	0
C-EM-36	Radiological Environmental Emergency Planning	0
C-EM-37	Incinerator/TA-16-1409	0
C-EM-39	Program for Decommissioning Contaminated Facilitie	0
C-EM-40	Rad Contaminated PCB Waste Storage	0
C-EM-41	PCB Transformer Retrofilling	0
C-EM-42	Storage of Combustible Materials Near PCB Transfor	0
C-EM-43	Management of Plychlorinated Biphenyl (PCB) Spill	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-EM-45	Hazardous Waste Management Training	0
C-EM-46	Management of Waste in Temporary Storage Areas	0
C-EM-48	Contingency Plan	0
C-EM-49	EPA Identification Number for Fenton Hill Site	0
C-EM-50	Transuranic (TRU) Waste	0
C-EM-51	Mixed Waste Storage at Technical Area 54	0
C-EM-52	Management of Septic Tank Problems	0
C-EM-53	Underground Storage Tank (UST) Program	0
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	0
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	0
C-EM-56	Standards and Instrument Calibration	0
C-EM-57	Sample Storage	0
C-EP-02	Emergency Preparedness	0
C-EP-03	Emergency Preparedness	0
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	0
C-EP-06	Emergency Operations Document Availability	0
C-EP-07	Emergency Preparedness Plan	0
C-ES-01	HE Personnel Protection	0
C-ES-02	HE Machining Interlocks	0
C-ES-03	Explosive Storage and Operations	0
C-ES-04	Power Line Hazards	0
C-FP-01	Project Review for Fire Protection	0
C-FP-02	Define Fire Protection Program	0
C-FP-03	Combustible Storage	0
C-FP-04	Building Appraisal Program	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-07	Fire and Smoke Barriers	0
C-FP-08	Exemption Procedures	0
C-FP-09	Water Supplies	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-11	Fire Protection Procedures	0
C-FP-12	Correction of Fire Protection Deficiencies	0
C-FP-13	Life Safety Code	0
C-FP-14	Life Safety Code TA-55	0
C-FP-15	Voice Alarm System	0
C-FP-16	Inspection/Test	0
C-MA-01	Comprehensive Maintenance Management Program	0
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	0

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Action Plan #	Action Plan Name	Uncertainty Reduction (x 1,000)
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MA-06	Laboratory Lightning Protection Deficiencies	0
C-MA-08	Crane Maintenance & Installation	0
C-MGT-01	Strategic Planning	0
C-MGT-02	Policy Definition and Deployment	0
C-MGT-03	Program Planning and Integration	0
C-MGT-05	Organization Framework	0
C-MGT-06	Conduct of Operations	0
C-MGT-07	Laboratory Position Description	0
C-MGT-08	Assessments	0
C-MGT-09	Communications	0
C-MGT-10	Public Affairs and Outreach	0
C-MGT-11	Subcontractor Performance	0
C-MGT-12	Institutional Interfaces/University of California	0
C-MGT-13	Safety Reviews	0
C-MGT-14	Lessons Learned	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-19	Agreement in Principle Implementation	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-MS-01	Occupational Medicine Program	0
C-MS-02	Medical Services: Procedures, Documentation, Review	0
C-NP-01	Seismic Mitigation Training	0
C-NP-02	Seismic Safety Program	0
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	0
C-NP-04	Seismic Protection for Sigma Building (SM-66)	0
C-NP-06	Slope Stabilization	0
C-NP-07	Seismic Hazards Investigation	0
C-OA-01	Random Drug Testing Certification	0
C-OP-02	TA-55 Shift Supervisor	0
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-OP-07	Human Factors	0
C-OP-08	Conduct of Operations at TA-55	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-OP-14	Housekeeping at Tritium Sites	0
C-OP-15	Equipment Weaknesses and Radioactive Releases	0
C-OP-16	MP-P Interface at LAMPF	0
C-OP-18	TA-8 Radiation Monitoring & Documentation	0
C-OP-19	Facility Status Control	0
C-PP-01	Hazard Identification/Evaluation/Control	0
C-PP-02	Ventilation Systems	0
C-PP-03	Physical Agents	0
C-PP-04	Confined Space Entry Program	0

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Action Plan #	Action Plan Name	Uncertainty Reduct (x 1,000)
C-PP-05	Program Identification and Responsibility	0
C-PP-06	Asbestos Management Program	0
C-PP-07	Carcinogens	0
C-PP-08	Accident/Injury/Illness Investigation and Document	0
C-PP-09	HS Resources/Roles/Responsibilities	0
C-PP-10	Traffic Safety	0
C-PT-01	Packaging and Transportation Risk Evaluation	0
C-PT-02	Packaging and Transportation Quality Assurance	0
C-PT-03	Training/Qualification of P&T Personnel	0
C-PT-04	P&T Assessment/Oversight Program	0
C-PT-05	P&T Procedures/P&T Program	0
C-PT-06	Property Management - Excess Property	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-02	Quality Program	0
C-QV-03	Records and Document Control	0
C-QV-04	Training, Qualification, and Certification	0
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	0
C-QV-06	Counterfeit and Suspect Parts	0
C-QV-07	Calibration	0
C-QV-08	Calibration	0
C-RP-01	Radiological Protection Program	0
C-RP-02	Internal Rad Protection Audits & Investig Programs	
C-RP-03	Radiological Protection Posting Program	
C-RP-04	External Rad Exposure Monitoring and Control	0
C-RP-05	External Radiation Dosimetry Program	0
C-RP-06	Internal Radiation Exposure Control Program	0
C-RP-07	Internal Radiation Dosimetry Program	0
C-RP-08	Fixed and Portable Rad Instrumentation Program	0
C-RP-09	Radiological Air Monitoring Program in Work Place	0
C-RP-10	Surface Rad Contam Monitoring & Control Program	0
C-RP-11	ALARA Program	0
C-RP-12	Radiological Records Program	0
C-RP-13	Radioactive Air Emissions Management Program	0
C-RP-14	Radiological Protection Training Program	0
C-RP-16	Engineering Controls in Tritium Facilities	0
C-RP-17	Criticality Alarm System	0
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	0
C-RP-19	Central Alarm System	0
C-RP-20	Monitoring Systems at Accelerators	0
C-RP-21	Ion Beam Facility Contamination Control	0
C-SS-01	Protective Force Station Order Review	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-TC-01	Laboratory Training Program	0
C-TC-02	Development of Training Procedures	0
C-TC-03	Qualification/Certification Programs	
C-TC-04	Training Records and Documentation	
C-TC-05	ES&H Training Implementation	0

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Action Plan #	Action Plan Name	Uncertainty Reduction (x 1,000)
C-TC-06	Safety Training of Accelerator Personnel	0
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	0
C-TS-02	Timely Technical Support	0
C-TS-03	Configuration Mangement	0
C-TS-04	Lost Time Incident Report - Protective Force	0
C-WS-01	Respirators	0
C-WS-02	Lockout/Tagout	0
C-WS-03	Machine Guarding/Area Illumination	0
C-WS-04	Hand Rails and Guard Rails	0
C-WS-06	Chemical Hygiene Plan/Hazard Communication	0
C-WS-07	Electrical Hazards	0
C-WS-08	Chemical Materials	0
C-WS-09	Emergency Response and Hazardous Waste Operations	0
C-WS-11	Welding	0
C-WS-12	TA-55 Control of Hazardous Energy	0
C-WS-13	Signs	0
C-WS-14	Excavation Safety	0

Attachment 14

Sensitivity Analysis

VALUE WORKER LIFE = VALUE PUBLIC LIFE = \$10M

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,809
C-WS-07	Electrical Hazards	19,063
C-WS-12	TA-55 Control of Hazardous Energy	13,577
C-WS-02	Lockout/Tagout	13,118
C-PT-03	Training/Qualification of P&T Personnel	9,189
C-TC-06	Safety Training of Accelerator Personnel	6,135
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,521
C-PP-03	Physical Agents	5,428
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,166
C-EM-26	Risk Management	4,900
C-NP-07	Seismic Hazards Investigation	4,288
C-EM-04	Waste Characterization, Certification, and Segrega	4,081
C-PT-05	P&T Procedures/P&T Program	4,036
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,831
C-WS-04	Hand Rails and Guard Rails	3,524
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,283
C-PP-09	HS Resources/Roles/Responsibilities	3,250
C-TS-02	Timely Technical Support	3,193
C-PP-05	Program Identification and Responsibility	3,192
C-EP-07	Emergency Preparedness Plan	3,032
C-RP-13	Radioactive Air Emissions Management Program	2,676
C-WS-09	Emergency Response and Hazardous Waste Operations	2,586
C-PT-01	Packaging and Transportation Risk Evaluation	2,554
C-QV-02	Quality Program	2,457
C-QV-04	Training, Qualification, and Certification	2,455
C-PT-04	P&T Assessment/Oversight Program	2,258
C-EM-24	SPCC Plan Compliance	1,967
C-FP-14	Life Safety Code TA-55	1,836
C-WS-03	Machine Guarding/Area Illumination	1,721
C-FP-13	Life Safety Code	1,695
C-FP-02	Define Fire Protection Program	1,674
C-TC-03	Qualification/Certification Programs	1,648
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,642
C-NP-04	Seismic Protection for Sigma Building (SM-66)	1,533
C-RP-21	Ion Beam Facility Contamination Control	1,463
C-WS-01	Respirators	1,447
C-PP-04	Confined Space Entry Program	1,292
C-EM-52	Management of Septic Tank Problems	1,278
C-MGT-13	Safety Reviews	1,260
C-TS-03	Configuration Mangement	1,251
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,174
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,171
C-EM-51	Mixed Waste Storage at Technical Area 54	1,166
C-EM-50	Transuranic (TRU) Waste	1,163
C-TC-04	Training Records and Documentation	1,146
C-OP-02	TA-55 Shift Supervisor	1,131
C-EM-03	Environmental Restoration	1,101
C-MGT-10	Public Affairs and Outreach	1,100

VALUE WORKER LIFE = VALUE PUBLIC LIFE = \$10M

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Action Plan #	Action Plan Name	Net Bene: (x 1,000)
C-MGT-19	Agreement in Principle Implementation	1,100
C-RP-11	ALARA Program	933
C-RP-14	Radiological Protection Training Program	917
C-EM-29	Laboratory Workspace	901
C-EM-01	Environmental Surveillance	886
C-EM-17	Ground Water Discharge Plan Compliance	855
C-MGT-11	Subcontractor Performance	847
C-TC-05	ES&H Training Implementation	847
C-FP-07	Fire and Smoke Barriers	800
C-EM-02	NDPES Permit and Clean Water Act Compliance	737
C-TC-01	Laboratory Training Program	685
C-MGT-07	Laboratory Position Description	672
C-EM-56	Standards and Instrument Calibration	570
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-FP-12	Correction of Fire Protection Deficiencies	547
C-MGT-14	Lessons Learned	505
C-QV-08	Calibration	497
C-MGT-05	Organization Framework	481
C-EM-34	Corrective Action Program	465
C-EM-06	Quality Assurance Procedures	464
C-EM-30	EM Quality Assurance Program Plans	464
C-EM-31	Environmental Management Quality Assurance	4
C-EM-32	Computer Program Validation	464
C-EM-33	Document Control	464
C-EM-57	Sample Storage	464
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	430
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-PT-06	Property Management - Excess Property	417
C-OP-08	Conduct of Operations at TA-55	413
C-PP-06	Asbestos Management Program	402
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	402
C-MS-01	Occupational Medicine Program	399
C-PP-02	Ventilation Systems	371
C-MGT-06	Conduct of Operations	371
C-MGT-03	Program Planning and Integration	323
C-ES-03	Explosive Storage and Operations	318
C-MA-06	Laboratory Lightning Protection Deficiencies	314
C-WS-06	Chemical Hygiene Plan/Hazard Communication	295
C-MGT-02	Policy Definition and Deployment	260
C-EM-36	Radiological Environmental Emergency Planning	258
C-EM-35	Johnson Controls World Services Quality Assurance	241
C-MGT-08	Assessments	215
C-EM-48	Contingency Plan	214
C-EM-05	NDPES Waste Stream Characterization	212
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-QV-07	Calibration	197
C-RP-01	Radiological Protection Program	1
C-RP-02	Internal Rad Protection Audits & Investig Programs	1
C-EM-23	Release Reporting Procedures	161

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-10	Management of Pesticide Program	157
C-EM-41	PCB Transformer Retrofilling	154
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	154
C-EP-06	Emergency Operations Document Availability	152
C-MA-01	Comprehensive Maintenance Management Program	151
C-RP-07	Internal Radiation Dosimetry Program	146
C-EM-12	Waste Minimization Program	144
C-MGT-15	Performance Appraisals and Incentives	144
C-EM-45	Hazardous Waste Management Training	121
C-WS-11	Welding	121
C-EM-46	Management of Waste in Temporary Storage Areas	119
C-RP-05	External Radiation Dosimetry Program	117
C-TS-04	Lost Time Incident Report - Protective Force	113
C-QV-01	Control and Verification of Computer Codes	113
C-OP-14	Housekeeping at Tritium Sites	111
C-EM-13	Records Management	111
C-EM-39	Program for Decommissioning Contaminated Facilities	109
C-EM-53	Underground Storage Tank (UST) Program	109
C-EA-01	Comprehensive Safety Review for Experiments	108
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-AX-07	High Efficiency Particulate Air Filters	108
C-FP-01	Project Review for Fire Protection	106
C-EM-47	Characterization of Surface Impoundments	104
C-OP-16	MP-P Interface at LAMPF	101
C-EP-02	Emergency Preparedness	101
C-PP-10	Traffic Safety	100
C-EM-14	Meteorological Data Acquisition Programs	100
C-NP-01	Seismic Mitigation Training	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-OP-07	Human Factors	86
C-NP-06	Slope Stabilization	86
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	80
C-FP-03	Combustible Storage	80
C-QV-06	Counterfeit and Suspect Parts	80
C-MA-08	Crane Maintenance & Installation	79
C-TC-02	Development of Training Procedures	71
C-ES-01	HE Personnel Protection	61
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	30
C-FP-11	Fire Protection Procedures	26
C-FP-04	Building Appraisal Program	25
C-RP-04	External Rad Exposure Monitoring and Control	20
C-RP-20	Monitoring Systems at Accelerators	16

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Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-ES-02	HE Machining Interlocks	16
C-CS-03	Criticality Safety Evaluations	15
C-WS-08	Chemical Materials	15
C-AX-01	Sigma Complex Drainage System	15
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-FP-09	Water Supplies	6
C-NP-02	Seismic Safety Program	5
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-15	Asphalt Plant	4
C-PP-01	Hazard Identification/Evaluation/Control	-
C-AX-04	Auxiliary Systems Off-Normal Conditions	-
C-OP-19	Facility Status Control	1
C-EM-37	Incinerator/TA-16-1409	1
C-SS-02	Facility-Specific Training for Protective Force	0
C-OP-04	Conduct of Operations, Godiva Ring	0
C-WS-13	Signs	0
C-FP-16	Inspection/Test	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	
C-FP-15	Voice Alarm System	0

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-03	Radiological Protection Posting Program	-4
C-RP-06	Internal Radiation Exposure Control Program	-8
C-AS-01	Aviation Safety	-86
C-PT-02	Packaging and Transportation Quality Assurance	-137
C-RP-16	Engineering Controls in Tritium Facilities	-227
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-345
C-MGT-01	Strategic Planning	-604

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,667
C-WS-07	Electrical Hazards	15,367
C-WS-12	TA-55 Control of Hazardous Energy	13,352
C-WS-02	Lockout/Tagout	12,893
C-PT-03	Training/Qualification of P&T Personnel	8,173
C-TC-06	Safety Training of Accelerator Personnel	6,135
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,520
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,166
C-EM-26	Risk Management	4,900
C-EM-04	Waste Characterization, Certification, and Segrega	4,047
C-PT-05	P&T Procedures/P&T Program	4,030
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,831
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,281
C-PP-05	Program Identification and Responsibility	3,192
C-PP-03	Physical Agents	3,178
C-EP-07	Emergency Preparedness Plan	2,972
C-RP-13	Radioactive Air Emissions Management Program	2,676
C-WS-09	Emergency Response and Hazardous Waste Operations	2,579
C-PT-01	Packaging and Transportation Risk Evaluation	2,466
C-WS-04	Hand Rails and Guard Rails	2,399
C-PT-04	P&T Assessment/Oversight Program	2,254
C-NP-07	Seismic Hazards Investigation	2,038
C-EM-24	SPCC Plan Compliance	1,967
C-QV-02	Quality Program	1,807
C-QV-04	Training, Qualification, and Certification	1,805
C-FP-13	Life Safety Code	1,692
C-FP-02	Define Fire Protection Program	1,649
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,642
C-FP-14	Life Safety Code TA-55	1,613
C-WS-03	Machine Guarding/Area Illumination	1,499
C-RP-21	Ion Beam Facility Contamination Control	1,462
C-WS-01	Respirators	1,425
C-EM-52	Management of Septic Tank Problems	1,278
C-TS-03	Configuration Mangement	1,226
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,170
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,167
C-EM-51	Mixed Waste Storage at Technical Area 54	1,165
C-EM-50	Transuranic (TRU) Waste	1,161
C-TC-04	Training Records and Documentation	1,146
C-MGT-13	Safety Reviews	1,144
C-OP-02	TA-55 Shift Supervisor	1,131
C-EM-03	Environmental Restoration	1,101
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-PP-04	Confined Space Entry Program	1,089
C-TC-03	Qualification/Certification Programs	1,045
C-RP-11	ALARA Program	932
C-RP-14	Radiological Protection Training Program	917

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Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-EM-29	Laboratory Workspace	901
C-PP-09	HS Resources/Roles/Responsibilities	864
C-EM-17	Ground Water Discharge Plan Compliance	853
C-TC-05	ES&H Training Implementation	845
C-MGT-11	Subcontractor Performance	825
C-TS-02	Timely Technical Support	807
C-EM-02	NDPES Permit and Clean Water Act Compliance	736
C-TC-01	Laboratory Training Program	685
C-MGT-07	Laboratory Position Description	672
C-EM-01	Environmental Surveillance	640
C-NP-04	Seismic Protection for Sigma Building (SM-66)	637
C-EM-56	Standards and Instrument Calibration	570
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-FP-12	Correction of Fire Protection Deficiencies	523
C-MGT-14	Lessons Learned	505
C-MGT-05	Organization Framework	481
C-EM-34	Corrective Action Program	464
C-EM-06	Quality Assurance Procedures	464
C-EM-30	EM Quality Assurance Program Plans	464
C-EM-31	Environmental Management Quality Assurance	464
C-EM-32	Computer Program Validation	464
C-EM-33	Document Control	/
C-EM-57	Sample Storage	
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	428
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-PT-06	Property Management - Excess Property	417
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	400
C-MS-01	Occupational Medicine Program	399
C-OP-08	Conduct of Operations at TA-55	392
C-MGT-06	Conduct of Operations	369
C-MGT-03	Program Planning and Integration	323
C-WS-06	Chemical Hygiene Plan/Hazard Communication	295
C-QV-08	Calibration	271
C-MGT-02	Policy Definition and Deployment	260
C-EM-35	Johnson Controls World Services Quality Assurance	241
C-EM-48	Contingency Plan	214
C-MGT-08	Assessments	214
C-EM-05	NDPES Waste Stream Characterization	211
C-FP-07	Fire and Smoke Barriers	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-MA-06	Laboratory Lightning Protection Deficiencies	198
C-EM-36	Radiological Environmental Emergency Planning	197
C-QV-07	Calibration	193
C-RP-01	Radiological Protection Program	189
C-RP-02	Internal Rad Protection Audits & Investig Programs	189
C-PP-06	Asbestos Management Program	178
C-EM-23	Release Reporting Procedures	1
C-EM-10	Management of Pesticide Program	-
C-EM-41	PCB Transformer Retrofilling	154

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	154
C-EP-06	Emergency Operations Document Availability	151
C-PP-02	Ventilation Systems	151
C-MA-01	Comprehensive Maintenance Management Program	148
C-MGT-15	Performance Appraisals and Incentives	144
C-RP-07	Internal Radiation Dosimetry Program	123
C-EM-12	Waste Minimization Program	122
C-WS-11	Welding	121
C-EM-46	Management of Waste in Temporary Storage Areas	117
C-RP-05	External Radiation Dosimetry Program	117
C-EM-45	Hazardous Waste Management Training	116
C-QV-01	Control and Verification of Computer Codes	113
C-OP-14	Housekeeping at Tritium Sites	111
C-EM-13	Records Management	111
C-TS-04	Lost Time Incident Report - Protective Force	111
C-EM-53	Underground Storage Tank (UST) Program	109
C-EM-39	Program for Decommissioning Contaminated Facilities	108
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-AX-07	High Efficiency Particulate Air Filters	108
C-EM-47	Characterization of Surface Impoundments	104
C-FP-01	Project Review for Fire Protection	102
C-OP-16	MP-P Interface at LAMPF	101
C-EP-02	Emergency Preparedness	101
C-EM-14	Meteorological Data Acquisition Programs	100
C-PP-10	Traffic Safety	100
C-NP-01	Seismic Mitigation Training	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-ES-03	Explosive Storage and Operations	94
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-OP-07	Human Factors	86
C-EA-01	Comprehensive Safety Review for Experiments	86
C-QV-06	Counterfeit and Suspect Parts	79
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	79
C-MA-08	Crane Maintenance & Installation	77
C-TC-02	Development of Training Procedures	71
C-NP-06	Slope Stabilization	62
C-ES-01	HE Personnel Protection	61
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-FP-11	Fire Protection Procedures	26
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	25
C-FP-04	Building Appraisal Program	23
C-FP-03	Combustible Storage	20
C-RP-04	External Rad Exposure Monitoring and Control	19
C-RP-20	Monitoring Systems at Accelerators	16

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Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-ES-02	HE Machining Interlocks	16
C-CS-03	Criticality Safety Evaluations	15
C-AX-01	Sigma Complex Drainage System	15
C-WS-08	Chemical Materials	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-FP-09	Water Supplies	6
C-NP-02	Seismic Safety Program	5
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-15	Asphalt Plant	4
C-PP-01	Hazard Identification/Evaluation/Control	
C-AX-04	Auxiliary Systems Off-Normal Conditions	
C-OP-19	Facility Status Control	1
C-EM-37	Incinerator/TA-16-1409	1
C-OP-04	Conduct of Operations, Godiva Ring	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	
C-FP-10	TA-55 Fire Protection Systems Knowledge	
C-FP-15	Voice Alarm System	0

LOW ENVIRONMENTAL WEIGHTS (FROM FRED MORSE)

3:54 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-03	Radiological Protection Posting Program	-4
C-RP-06	Internal Radiation Exposure Control Program	-8
C-AS-01	Aviation Safety	-86
C-PT-02	Packaging and Transportation Quality Assurance	-137
C-RP-16	Engineering Controls in Tritium Facilities	-227
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-345
C-MGT-01	Strategic Planning	-604

DOUBLE THE ENVIRONMENTAL WEIGHTS (FROM TOM GUNDERSON)

4:00 pm
July 22, 1997

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,667
C-WS-07	Electrical Hazards	15,367
C-WS-12	TA-55 Control of Hazardous Energy	13,352
C-WS-02	Lockout/Tagout	12,893
C-PT-03	Training/Qualification of P&T Personnel	8,174
C-TC-06	Safety Training of Accelerator Personnel	6,135
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,523
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,166
C-EM-26	Risk Management	4,900
C-EM-04	Waste Characterization, Certification, and Segrega	4,047
C-PT-05	P&T Procedures/P&T Program	4,032
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,831
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,284
C-PP-05	Program Identification and Responsibility	3,192
C-PP-03	Physical Agents	3,178
C-EP-07	Emergency Preparedness Plan	2,974
C-RP-13	Radioactive Air Emissions Management Program	2,676
C-WS-09	Emergency Response and Hazardous Waste Operations	2,582
C-PT-01	Packaging and Transportation Risk Evaluation	2,467
C-WS-04	Hand Rails and Guard Rails	2,399
C-PT-04	P&T Assessment/Oversight Program	2,2
C-NP-07	Seismic Hazards Investigation	2,0
C-EM-24	SPCC Plan Compliance	1,967
C-QV-02	Quality Program	1,807
C-QV-04	Training, Qualification, and Certification	1,805
C-FP-13	Life Safety Code	1,692
C-EM-01	Environmental Surveillance	1,654
C-FP-02	Define Fire Protection Program	1,653
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,642
C-FP-14	Life Safety Code TA-55	1,613
C-WS-03	Machine Guarding/Area Illumination	1,499
C-RP-21	Ion Beam Facility Contamination Control	1,462
C-WS-01	Respirators	1,425
C-EM-52	Management of Septic Tank Problems	1,279
C-TS-03	Configuration Mangement	1,229
C-EM-51	Mixed Waste Storage at Technical Area 54	1,167
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,167
C-EM-50	Transuranic (TRU) Waste	1,164
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,159
C-MGT-13	Safety Reviews	1,147
C-TC-04	Training Records and Documentation	1,146
C-OP-02	TA-55 Shift Supervisor	1,131
C-EM-03	Environmental Restoration	1,101
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-PP-04	Confined Space Entry Program	1,0
C-TC-03	Qualification/Certification Programs	1,0
C-RP-11	ALARA Program	935

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-RP-14	Radiological Protection Training Program	917
C-EM-29	Laboratory Workspace	901
C-PP-09	HS Resources/Roles/Responsibilities	864
C-EM-17	Ground Water Discharge Plan Compliance	856
C-TC-05	ES&H Training Implementation	845
C-MGT-11	Subcontractor Performance	825
C-TS-02	Timely Technical Support	807
C-EM-02	NDPES Permit and Clean Water Act Compliance	739
C-TC-01	Laboratory Training Program	685
C-MGT-07	Laboratory Position Description	672
C-NP-04	Seismic Protection for Sigma Building (SM-66)	637
C-EM-56	Standards and Instrument Calibration	570
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-FP-12	Correction of Fire Protection Deficiencies	526
C-MGT-14	Lessons Learned	505
C-MGT-05	Organization Framework	481
C-EM-34	Corrective Action Program	467
C-EM-06	Quality Assurance Procedures	464
C-EM-30	EM Quality Assurance Program Plans	464
C-EM-31	Environmental Management Quality Assurance	464
C-EM-32	Computer Program Validation	464
C-EM-33	Document Control	464
C-EM-57	Sample Storage	464
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	428
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-PT-06	Property Management - Excess Property	417
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	403
C-MS-01	Occupational Medicine Program	399
C-OP-08	Conduct of Operations at TA-55	393
C-MGT-06	Conduct of Operations	372
C-MGT-03	Program Planning and Integration	323
C-WS-06	Chemical Hygiene Plan/Hazard Communication	295
C-QV-08	Calibration	274
C-MGT-02	Policy Definition and Deployment	260
C-EM-35	Johnson Controls World Services Quality Assurance	241
C-MGT-08	Assessments	217
C-EM-48	Contingency Plan	214
C-EM-05	NDPES Waste Stream Characterization	214
C-FP-07	Fire and Smoke Barriers	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-EM-36	Radiological Environmental Emergency Planning	200
C-MA-06	Laboratory Lightning Protection Deficiencies	198
C-QV-07	Calibration	196
C-RP-01	Radiological Protection Program	189
C-RP-02	Internal Rad Protection Audits & Investig Programs	189
C-PP-06	Asbestos Management Program	178
C-EM-23	Release Reporting Procedures	161
C-EM-10	Management of Pesticide Program	159
C-EM-41	PCB Transformer Retrofilling	154

July 22, 1992

Net Benefit
(x 1,000)

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	154
C-EP-06	Emergency Operations Document Availability	151
C-PP-02	Ventilation Systems	151
C-MA-01	Comprehensive Maintenance Management Program	149
C-MGT-15	Performance Appraisals and Incentives	144
C-RP-07	Internal Radiation Dosimetry Program	123
C-EM-12	Waste Minimization Program	122
C-EM-46	Management of Waste in Temporary Storage Areas	121
C-WS-11	Welding	121
C-RP-05	External Radiation Dosimetry Program	117
C-EM-45	Hazardous Waste Management Training	116
C-QV-01	Control and Verification of Computer Codes	113
C-OP-14	Housekeeping at Tritium Sites	111
C-EM-13	Records Management	111
C-EM-39	Program for Decommissioning Contaminated Facilities	111
C-TS-04	Lost Time Incident Report - Protective Force	111
C-EM-53	Underground Storage Tank (UST) Program	109
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-AX-07	High Efficiency Particulate Air Filters	108
C-FP-01	Project Review for Fire Protection	1
C-EM-47	Characterization of Surface Impoundments	1
C-OP-16	MP-P Interface at LAMPF	101
C-EP-02	Emergency Preparedness	101
C-EM-14	Meteorological Data Acquisition Programs	100
C-PP-10	Traffic Safety	100
C-NP-01	Seismic Mitigation Training	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-ES-03	Explosive Storage and Operations	94
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-OP-07	Human Factors	86
C-EA-01	Comprehensive Safety Review for Experiments	86
C-QV-05	Procurement, Inspect, ID, & Control of Items & Mtls	82
C-QV-06	Counterfeit and Suspect Parts	79
C-MA-08	Crane Maintenance & Installation	77
C-TC-02	Development of Training Procedures	71
C-NP-06	Slope Stabilization	65
C-ES-01	HE Personnel Protection	61
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-FP-11	Fire Protection Procedures	26
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	25
C-FP-04	Building Appraisal Program	23
C-FP-03	Combustible Storage	-
C-RP-04	External Rad Exposure Monitoring and Control	
C-RP-20	Monitoring Systems at Accelerators	16

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-ES-02	HE Machining Interlocks	16
C-CS-03	Criticality Safety Evaluations	15
C-AX-01	Sigma Complex Drainage System	15
C-WS-08	Chemical Materials	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-FP-09	Water Supplies	6
C-NP-02	Seismic Safety Program	5
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-15	Asphalt Plant	4
C-PP-01	Hazard Identification/Evaluation/Control	3
C-AX-04	Auxiliary Systems Off-Normal Conditions	1
C-OP-19	Facility Status Control	1
C-EM-37	Incinerator/TA-16-1409	1
C-OP-04	Conduct of Operations, Godiva Ring	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-15	Voice Alarm System	0

DOUBLE THE ENVIRONMENTAL WEIGHTS (FROM TOM GUNDERSON)

4:00 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-03	Radiological Protection Posting Program	-4
C-RP-06	Internal Radiation Exposure Control Program	-8
C-AS-01	Aviation Safety	-86
C-PT-02	Packaging and Transportation Quality Assurance	-137
C-RP-16	Engineering Controls in Tritium Facilities	-227
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-345
C-MGT-01	Strategic Planning	-604

DOUBLE THE WEIGHTS FOR COMMUNITY CONCERN

4:08 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,787
C-WS-07	Electrical Hazards	15,467
C-PT-03	Training/Qualification of P&T Personnel	14,948
C-WS-12	TA-55 Control of Hazardous Energy	13,352
C-WS-02	Lockout/Tagout	12,893
C-EM-18	Control of Rad. Contaminated Soils & Sediments	10,321
C-EM-26	Risk Management	9,800
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	9,441
C-RP-10	Surface Rad Contam Monitoring & Control Program	7,581
C-PP-05	Program Identification and Responsibility	6,942
C-PT-05	P&T Procedures/P&T Program	6,531
C-TC-06	Safety Training of Accelerator Personnel	6,235
C-EM-04	Waste Characterization, Certification, and Segrega	5,197
C-PT-01	Packaging and Transportation Risk Evaluation	4,866
C-RP-13	Radioactive Air Emissions Management Program	4,551
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	4,433
C-EP-07	Emergency Preparedness Plan	4,123
C-WS-09	Emergency Response and Hazardous Waste Operations	3,730
C-PT-04	P&T Assessment/Oversight Program	3,305
C-PP-03	Physical Agents	3,278
C-EM-24	SPCC Plan Compliance	2,692
C-QV-02	Quality Program	2,557
C-QV-04	Training, Qualification, and Certification	2,555
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	2,543
C-EM-52	Management of Septic Tank Problems	2,428
C-WS-04	Hand Rails and Guard Rails	2,399
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	2,317
C-EM-51	Mixed Waste Storage at Technical Area 54	2,316
C-EM-50	Transuranic (TRU) Waste	2,313
C-TS-03	Configuration Mangement	2,278
C-EM-03	Environmental Restoration	2,201
C-MGT-10	Public Affairs and Outreach	2,200
C-MGT-19	Agreement in Principle Implementation	2,200
C-NP-07	Seismic Hazards Investigation	2,038
C-RP-11	ALARA Program	2,033
C-FP-02	Define Fire Protection Program	1,751
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,742
C-FP-13	Life Safety Code	1,692
C-FP-14	Life Safety Code TA-55	1,613
C-EM-17	Ground Water Discharge Plan Compliance	1,580
C-EM-01	Environmental Surveillance	1,557
C-WS-03	Machine Guarding/Area Illumination	1,499
C-EM-02	NDPES Permit and Clean Water Act Compliance	1,462
C-RP-21	Ion Beam Facility Contamination Control	1,462
C-WS-01	Respirators	1,425
C-MGT-13	Safety Reviews	1,245
C-PP-04	Confined Space Entry Program	1,189
C-TC-03	Qualification/Certification Programs	1,146

DOUBLE THE WEIGHTS FOR COMMUNITY CONCERN

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Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-TC-04	Training Records and Documentation	1,146
C-OP-02	TA-55 Shift Supervisor	1,131
C-TC-05	ES&H Training Implementation	945
C-RP-14	Radiological Protection Training Program	917
C-EM-29	Laboratory Workspace	901
C-MGT-11	Subcontractor Performance	875
C-PP-09	HS Resources/Roles/Responsibilities	864
C-NP-04	Seismic Protection for Sigma Building (SM-66)	837
C-TS-02	Timely Technical Support	807
C-TC-01	Laboratory Training Program	685
C-MGT-07	Laboratory Position Description	672
C-EM-25	Appraisal of Environmental Restoration Program Act	650
C-FP-12	Correction of Fire Protection Deficiencies	625
C-AX-05	Accumulation of Radioactive Waste at TA-55	621
C-EM-56	Standards and Instrument Calibration	620
C-MGT-05	Organization Framework	581
C-MGT-14	Lessons Learned	555
C-MGT-03	Program Planning and Integration	523
C-MGT-06	Conduct of Operations	521
C-EM-34	Corrective Action Program	515
C-EM-06	Quality Assurance Procedures	514
C-EM-30	EM Quality Assurance Program Plans	5
C-EM-31	Environmental Management Quality Assurance	5
C-EM-32	Computer Program Validation	514
C-EM-33	Document Control	514
C-EM-57	Sample Storage	514
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	502
C-MS-01	Occupational Medicine Program	499
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	478
C-PT-06	Property Management - Excess Property	417
C-EM-48	Contingency Plan	414
C-EM-05	NDPES Waste Stream Characterization	412
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	400
C-WS-06	Chemical Hygiene Plan/Hazard Communication	395
C-OP-08	Conduct of Operations at TA-55	393
C-MGT-08	Assessments	365
C-MA-06	Laboratory Lightning Protection Deficiencies	348
C-EM-23	Release Reporting Procedures	311
C-EM-10	Management of Pesticide Program	307
C-EM-41	PCB Transformer Retrofilling	304
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	304
C-EM-40	Rad Contaminated PCB Waste Storage	304
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	304
C-EP-06	Emergency Operations Document Availability	301
C-EM-35	Johnson Controls World Services Quality Assurance	291
C-PP-06	Asbestos Management Program	278
C-QV-08	Calibration	2
C-MGT-02	Policy Definition and Deployment	2
C-EM-12	Waste Minimization Program	222

DOUBLE THE WEIGHTS FOR COMMUNITY CONCERN

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-11	Welding	221
C-EM-46	Management of Waste in Temporary Storage Areas	219
C-RP-05	External Radiation Dosimetry Program	217
C-EM-45	Hazardous Waste Management Training	216
C-OP-14	Housekeeping at Tritium Sites	211
C-EM-13	Records Management	211
C-TS-04	Lost Time Incident Report - Protective Force	211
C-EM-39	Program for Decommissioning Contaminated Facilities	209
C-EM-53	Underground Storage Tank (UST) Program	209
C-MS-02	Medical Services: Procedures, Documentation, Review	208
C-AX-07	High Efficiency Particulate Air Filters	208
C-EM-47	Characterization of Surface Impoundments	204
C-FP-01	Project Review for Fire Protection	204
C-OP-16	MP-P Interface at LAMPF	201
C-EP-02	Emergency Preparedness	201
C-EM-14	Meteorological Data Acquisition Programs	200
C-FP-07	Fire and Smoke Barriers	200
C-PP-10	Traffic Safety	200
C-NP-01	Seismic Mitigation Training	200
C-MGT-09	Communications	200
C-MGT-12	Institutional Interfaces/University of California	200
C-OA-01	Random Drug Testing Certification	200
C-EM-36	Radiological Environmental Emergency Planning	198
C-QV-07	Calibration	195
C-RP-01	Radiological Protection Program	189
C-RP-02	Internal Rad Protection Audits & Investig Programs	189
C-PP-02	Ventilation Systems	151
C-MA-01	Comprehensive Maintenance Management Program	149
C-MGT-15	Performance Appraisals and Incentives	144
C-OP-15	Equipment Weaknesses and Radioactive Releases	142
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	130
C-QV-06	Counterfeit and Suspect Parts	129
C-RP-07	Internal Radiation Dosimetry Program	123
C-NP-06	Slope Stabilization	113
C-QV-01	Control and Verification of Computer Codes	113
C-EP-03	Emergency Preparedness	100
C-CS-05	Organization and Administration	100
C-ES-03	Explosive Storage and Operations	94
C-OP-07	Human Factors	86
C-EA-01	Comprehensive Safety Review for Experiments	86
C-MA-08	Crane Maintenance & Installation	77
C-TC-02	Development of Training Procedures	71
C-ES-01	HE Personnel Protection	61
C-FP-11	Fire Protection Procedures	26
C-CS-03	Criticality Safety Evaluations	25
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	25
C-FP-04	Building Appraisal Program	23
C-FP-03	Combustible Storage	20
C-RP-04	External Rad Exposure Monitoring and Control	19

DOUBLE THE WEIGHTS FOR COMMUNITY CONCERN

4:08 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-RP-20	Monitoring Systems at Accelerators	16
C-ES-02	HE Machining Interlocks	16
C-AX-01	Sigma Complex Drainage System	15
C-WS-08	Chemical Materials	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-FP-09	Water Supplies	6
C-NP-02	Seismic Safety Program	5
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-15	Asphalt Plant	4
C-PP-01	Hazard Identification/Evaluation/Control	-
C-AX-04	Auxiliary Systems Off-Normal Conditions	-
C-OP-19	Facility Status Control	1
C-EM-37	Incinerator/TA-16-1409	1
C-OP-04	Conduct of Operations, Godiva Ring	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-15	Voice Alarm System	0

DOUBLE THE WEIGHTS FOR COMMUNITY CONCERN

4:08 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-06	Internal Radiation Exposure Control Program	-8
C-RP-03	Radiological Protection Posting Program	-24
C-PT-02	Packaging and Transportation Quality Assurance	-37
C-AS-01	Aviation Safety	-186
C-RP-16	Engineering Controls in Tritium Facilities	-227
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-245
C-MGT-01	Strategic Planning	-604

DOUBLE THE WEIGHTS FOR COMPLIANCE

4:15 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	57,167
C-WS-07	Electrical Hazards	28,755
C-WS-12	TA-55 Control of Hazardous Energy	26,739
C-WS-02	Lockout/Tagout	26,281
C-PT-03	Training/Qualification of P&T Personnel	9,073
C-TC-06	Safety Training of Accelerator Personnel	7,560
C-EM-18	Control of Rad. Contaminated Soils & Sediments	6,241
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,173
C-PT-05	P&T Procedures/P&T Program	5,156
C-EM-26	Risk Management	4,900
C-EP-07	Emergency Preparedness Plan	4,773
C-PP-03	Physical Agents	4,603
C-EM-04	Waste Characterization, Certification, and Segrega	4,426
C-RP-10	Surface Rad Contam Monitoring & Control Program	4,399
C-WS-09	Emergency Response and Hazardous Waste Operations	4,005
C-WS-04	Hand Rails and Guard Rails	3,823
C-PT-04	P&T Assessment/Oversight Program	3,380
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,297
C-PP-05	Program Identification and Responsibility	3,202
C-FP-13	Life Safety Code	3,117
C-EM-24	SPCC Plan Compliance	3,092
C-FP-02	Define Fire Protection Program	3,076
C-RP-08	Fixed and Portable Rad Instrumentation Program	3,067
C-FP-14	Life Safety Code TA-55	3,038
C-WS-03	Machine Guarding/Area Illumination	2,923
C-RP-21	Ion Beam Facility Contamination Control	2,883
C-WS-01	Respirators	2,842
C-RP-13	Radioactive Air Emissions Management Program	2,686
C-PP-04	Confined Space Entry Program	2,514
C-PT-01	Packaging and Transportation Risk Evaluation	2,473
C-OP-02	TA-55 Shift Supervisor	2,256
C-QV-02	Quality Program	2,185
C-QV-04	Training, Qualification, and Certification	2,183
C-NP-07	Seismic Hazards Investigation	2,038
C-MGT-13	Safety Reviews	1,895
C-TC-04	Training Records and Documentation	1,714
C-TC-03	Qualification/Certification Programs	1,615
C-MGT-11	Subcontractor Performance	1,575
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	1,527
C-TC-05	ES&H Training Implementation	1,413
C-EM-52	Management of Septic Tank Problems	1,290
C-TC-01	Laboratory Training Program	1,253
C-TS-03	Configuration Mangement	1,239
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,185
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,181
C-EM-51	Mixed Waste Storage at Technical Area 54	1,180
C-EM-50	Transuranic (TRU) Waste	1,174
C-EM-03	Environmental Restoration	1,102

DOUBLE THE WEIGHTS FOR COMPLIANCE

4:15 pm
July 22, 1992

Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-RP-11	ALARA Program	945
C-RP-14	Radiological Protection Training Program	931
C-EM-29	Laboratory Workspace	901
C-EM-01	Environmental Surveillance	901
C-PP-09	HS Resources/Roles/Responsibilities	875
C-EM-17	Ground Water Discharge Plan Compliance	866
C-MGT-05	Organization Framework	860
C-TS-02	Timely Technical Support	818
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	804
C-MGT-14	Lessons Learned	788
C-EM-02	NDPES Permit and Clean Water Act Compliance	745
C-MGT-07	Laboratory Position Description	672
C-NP-04	Seismic Protection for Sigma Building (SM-66)	637
C-EM-56	Standards and Instrument Calibration	582
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-FP-12	Correction of Fire Protection Deficiencies	539
C-EM-34	Corrective Action Program	477
C-EM-06	Quality Assurance Procedures	475
C-EM-30	EM Quality Assurance Program Plans	475
C-EM-31	Environmental Management Quality Assurance	475
C-EM-32	Computer Program Validation	475
C-EM-33	Document Control	475
C-EM-57	Sample Storage	475
C-PT-06	Property Management - Excess Property	428
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-MS-01	Occupational Medicine Program	411
C-OP-08	Conduct of Operations at TA-55	407
C-MGT-06	Conduct of Operations	371
C-MGT-03	Program Planning and Integration	331
C-WS-06	Chemical Hygiene Plan/Hazard Communication	309
C-QV-08	Calibration	287
C-MGT-02	Policy Definition and Deployment	260
C-EM-35	Johnson Controls World Services Quality Assurance	253
C-EM-36	Radiological Environmental Emergency Planning	236
C-EM-48	Contingency Plan	229
C-MGT-08	Assessments	221
C-EM-05	NDPES Waste Stream Characterization	220
C-QV-07	Calibration	206
C-MA-06	Laboratory Lightning Protection Deficiencies	205
C-FP-07	Fire and Smoke Barriers	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-RP-01	Radiological Protection Program	196
C-RP-02	Internal Rad Protection Audits & Investig Programs	196
C-PP-06	Asbestos Management Program	181
C-EM-23	Release Reporting Procedures	1
C-EM-10	Management of Pesticide Program	1
C-PP-02	Ventilation Systems	158

DOUBLE THE WEIGHTS FOR COMPLIANCE

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-41	PCB Transformer Retrofilling	158
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	158
C-EM-40	Rad Contaminated PCB Waste Storage	158
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	158
C-MA-01	Comprehensive Maintenance Management Program	156
C-MA-08	Crane Maintenance & Installation	152
C-EP-06	Emergency Operations Document Availability	151
C-MGT-15	Performance Appraisals and Incentives	144
C-RP-07	Internal Radiation Dosimetry Program	137
C-EM-12	Waste Minimization Program	136
C-EM-46	Management of Waste in Temporary Storage Areas	133
C-WS-11	Welding	132
C-RP-05	External Radiation Dosimetry Program	131
C-EM-45	Hazardous Waste Management Training	127
C-OP-14	Housekeeping at Tritium Sites	123
C-EM-13	Records Management	123
C-TS-04	Lost Time Incident Report - Protective Force	121
C-EM-53	Underground Storage Tank (UST) Program	120
C-EM-39	Program for Decommissioning Contaminated Facilities	117
C-MS-02	Medical Services: Procedures, Documentation, Review	115
C-AX-07	High Efficiency Particulate Air Filters	115
C-QV-01	Control and Verification of Computer Codes	113
C-ES-03	Explosive Storage and Operations	108
C-EM-47	Characterization of Surface Impoundments	108
C-FP-01	Project Review for Fire Protection	104
C-EP-02	Emergency Preparedness	102
C-OP-16	MP-P Interface at LAMPF	101
C-EM-14	Meteorological Data Acquisition Programs	100
C-PP-10	Traffic Safety	100
C-NP-01	Seismic Mitigation Training	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-EA-01	Comprehensive Safety Review for Experiments	94
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-OP-07	Human Factors	90
C-TC-02	Development of Training Procedures	82
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	80
C-QV-06	Counterfeit and Suspect Parts	79
C-ES-01	HE Personnel Protection	75
C-NP-06	Slope Stabilization	67
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-FP-11	Fire Protection Procedures	40
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	36
C-RP-04	External Rad Exposure Monitoring and Control	34
C-FP-04	Building Appraisal Program	33
C-AX-01	Sigma Complex Drainage System	29
C-WS-08	Chemical Materials	29

DOUBLE THE WEIGHTS FOR COMPLIANCE

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July 22, 1992

Action Plan #	Action Plan Name	Net Bene (x 1,000)
C-RP-09	Radiological Air Monitoring Program in Work Place	29
C-EM-49	EPA Identification Number for Fenton Hill Site	29
C-EM-21	Management of Inactive Underground Storage Tanks	27
C-RP-20	Monitoring Systems at Accelerators	27
C-ES-02	HE Machining Interlocks	27
C-RP-17	Criticality Alarm System	26
C-RP-12	Radiological Records Program	26
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	24
C-OP-18	TA-8 Radiation Monitoring & Documentation	24
C-CS-03	Criticality Safety Evaluations	23
C-FP-03	Combustible Storage	20
C-EM-08	Environmental Surveillance of Facilities	15
C-EM-42	Storage of Combustible Materials Near PCB Transfor	15
C-EM-11	NEPA Determinations and the Planning Process	15
C-PP-08	Accident/Injury/Illness Investigation and Document	15
C-PP-07	Carcinogens	14
C-RP-03	Radiological Protection Posting Program	10
C-NP-02	Seismic Safety Program	9
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	9
C-EM-19	Safe Drinking Water Act Compliance	8
C-EM-15	Asphalt Plant	8
C-PP-01	Hazard Identification/Evaluation/Control	.
C-FP-09	Water Supplies	
C-EM-37	Incinerator/TA-16-1409	2
C-AX-04	Auxiliary Systems Off-Normal Conditions	1
C-OP-19	Facility Status Control	1
C-OP-04	Conduct of Operations, Godiva Ring	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	.
C-FP-08	Exemption Procedures	
C-FP-10	TA-55 Fire Protection Systems Knowledge	0

DOUBLE THE WEIGHTS FOR COMPLIANCE

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-FP-15	Voice Alarm System	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-06	Internal Radiation Exposure Control Program	-0
C-AS-01	Aviation Safety	-72
C-PT-02	Packaging and Transportation Quality Assurance	-123
C-RP-16	Engineering Controls in Tritium Facilities	-226
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-337
C-MGT-01	Strategic Planning	-604

DOUBLE THE WEIGHTS FOR IMPACT ON LABORATORY OPERATIONS

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,667
C-WS-07	Electrical Hazards	15,379
C-WS-12	TA-55 Control of Hazardous Energy	13,352
C-WS-02	Lockout/Tagout	12,893
C-TC-06	Safety Training of Accelerator Personnel	10,135
C-PT-03	Training/Qualification of P&T Personnel	8,369
C-EM-04	Waste Characterization, Certification, and Segrega	6,714
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	6,499
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,521
C-EM-26	Risk Management	4,900
C-PT-05	P&T Procedures/P&T Program	4,148
C-RP-10	Surface Rad Contam Monitoring & Control Program	3,913
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,399
C-NP-07	Seismic Hazards Investigation	3,371
C-PP-05	Program Identification and Responsibility	3,192
C-PP-03	Physical Agents	3,181
C-EP-07	Emergency Preparedness Plan	2,974
C-RP-13	Radioactive Air Emissions Management Program	2,897
C-WS-09	Emergency Response and Hazardous Waste Operations	2,582
C-PT-01	Packaging and Transportation Risk Evaluation	2,496
C-WS-04	Hand Rails and Guard Rails	2,399
C-PT-04	P&T Assessment/Oversight Program	2,314
C-EM-24	SPCC Plan Compliance	2,083
C-FP-13	Life Safety Code	1,959
C-QV-02	Quality Program	1,808
C-QV-04	Training, Qualification, and Certification	1,805
C-FP-02	Define Fire Protection Program	1,768
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,758
C-FP-14	Life Safety Code TA-55	1,726
C-WS-03	Machine Guarding/Area Illumination	1,499
C-RP-21	Ion Beam Facility Contamination Control	1,466
C-WS-01	Respirators	1,425
C-EM-52	Management of Septic Tank Problems	1,395
C-TC-04	Training Records and Documentation	1,321
C-MGT-13	Safety Reviews	1,319
C-TS-03	Configuration Mangement	1,310
C-PP-04	Confined Space Entry Program	1,299
C-TC-03	Qualification/Certification Programs	1,221
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,171
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,167
C-EM-51	Mixed Waste Storage at Technical Area 54	1,166
C-EM-50	Transuranic (TRU) Waste	1,163
C-OP-02	TA-55 Shift Supervisor	1,137
C-EM-03	Environmental Restoration	1,101
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-TC-05	ES&H Training Implementation	1,019
C-EM-17	Ground Water Discharge Plan Compliance	971

Net Benef
(x 1,000)

Action Plan #	Action Plan Name	Net Benef (x 1,000)
C-RP-11	ALARA Program	934
C-RP-14	Radiological Protection Training Program	919
C-EM-29	Laboratory Workspace	903
C-EM-01	Environmental Surveillance	886
C-PP-09	HS Resources/Roles/Responsibilities	864
C-MGT-11	Subcontractor Performance	842
C-TS-02	Timely Technical Support	807
C-TC-01	Laboratory Training Program	801
C-NP-04	Seismic Protection for Sigma Building (SM-66)	776
C-EM-02	NDPES Permit and Clean Water Act Compliance	741
C-MGT-07	Laboratory Position Description	672
C-AX-05	Accumulation of Radioactive Waste at TA-55	642
C-FP-12	Correction of Fire Protection Deficiencies	641
C-MGT-14	Lessons Learned	620
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	577
C-EM-56	Standards and Instrument Calibration	570
C-EM-25	Appraisal of Environmental Restoration Program Act	550
C-MGT-05	Organization Framework	484
C-EM-34	Corrective Action Program	465
C-EM-06	Quality Assurance Procedures	464
C-EM-30	EM Quality Assurance Program Plans	464
C-EM-31	Environmental Management Quality Assurance	4
C-EM-32	Computer Program Validation	4
C-EM-33	Document Control	464
C-EM-57	Sample Storage	464
C-MGT-03	Program Planning and Integration	439
C-MGT-06	Conduct of Operations	429
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	428
C-PT-06	Property Management - Excess Property	420
C-OP-08	Conduct of Operations at TA-55	404
C-MS-01	Occupational Medicine Program	400
C-MGT-02	Policy Definition and Deployment	376
C-EM-36	Radiological Environmental Emergency Planning	337
C-WS-06	Chemical Hygiene Plan/Hazard Communication	295
C-QV-08	Calibration	274
C-MGT-08	Assessments	273
C-EM-35	Johnson Controls World Services Quality Assurance	241
C-RP-07	Internal Radiation Dosimetry Program	224
C-EM-05	NDPES Waste Stream Characterization	216
C-EM-48	Contingency Plan	214
C-FE-07	Fire and Smoke Barriers	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-MA-06	Laboratory Lightning Protection Deficiencies	199
C-QV-07	Calibration	195
C-RP-01	Radiological Protection Program	190
C-RP-02	Internal Rad Protection Audits & Investig Programs	190
C-PP-06	Asbestos Management Program	177
C-MA-01	Comprehensive Maintenance Management Program	1
C-OP-07	Human Factors	167

DOUBLE THE WEIGHTS FOR IMPACT ON LABORATORY OPERATIONS

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-23	Release Reporting Procedures	161
C-EM-10	Management of Pesticide Program	158
C-EA-01	Comprehensive Safety Review for Experiments	157
C-EM-41	PCB Transformer Retrofilling	154
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	154
C-EP-06	Emergency Operations Document Availability	151
C-PP-02	Ventilation Systems	151
C-MGT-15	Performance Appraisals and Incentives	144
C-OP-15	Equipment Weaknesses and Radioactive Releases	134
C-EM-12	Waste Minimization Program	122
C-EM-46	Management of Waste in Temporary Storage Areas	122
C-WS-11	Welding	121
C-RP-05	External Radiation Dosimetry Program	120
C-EM-45	Hazardous Waste Management Training	116
C-QV-01	Control and Verification of Computer Codes	113
C-OP-14	Housekeeping at Tritium Sites	111
C-EM-13	Records Management	111
C-TS-04	Lost Time Incident Report - Protective Force	111
C-EM-39	Program for Decommissioning Contaminated Facilities	109
C-EM-53	Underground Storage Tank (UST) Program	109
C-ES-01	HE Personnel Protection	108
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-AX-07	High Efficiency Particulate Air Filters	108
C-FP-01	Project Review for Fire Protection	105
C-EM-47	Characterization of Surface Impoundments	104
C-OP-16	MP-P Interface at LAMPF	103
C-EP-02	Emergency Preparedness	101
C-EM-14	Meteorological Data Acquisition Programs	100
C-PP-10	Traffic Safety	100
C-NP-01	Seismic Mitigation Training	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-ES-03	Explosive Storage and Operations	98
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	81
C-QV-06	Counterfeit and Suspect Parts	79
C-MA-08	Crane Maintenance & Installation	79
C-TC-02	Development of Training Procedures	74
C-NP-06	Slope Stabilization	64
C-RP-03	Radiological Protection Posting Program	54
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-FP-11	Fire Protection Procedures	38
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	36
C-FP-04	Building Appraisal Program	35
C-RP-04	External Rad Exposure Monitoring and Control	22
C-FP-03	Combustible Storage	21

Net Benefit
(x 1,000)

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-RP-20	Monitoring Systems at Accelerators	20
C-ES-02	HE Machining Interlocks	20
C-CS-03	Criticality Safety Evaluations	16
C-AX-01	Sigma Complex Drainage System	15
C-WS-08	Chemical Materials	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	14
C-OP-18	TA-8 Radiation Monitoring & Documentation	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-FP-09	Water Supplies	12
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-NP-02	Seismic Safety Program	7
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	7
C-EM-19	Safe Drinking Water Act Compliance	4
C-EM-15	Asphalt Plant	4
C-PP-01	Hazard Identification/Evaluation/Control	3
C-AX-04	Auxiliary Systems Off-Normal Conditions	3
C-OP-19	Facility Status Control	2
C-EM-37	Incinerator/TA-16-1409	1
C-OP-04	Conduct of Operations, Godiva Ring	1
C-SS-02	Facility-Specific Training for Protective Force	1
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	0
C-FP-05	Central Alarm Certification	0
C-FP-06	Portable Structures	0
C-FP-08	Exemption Procedures	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0

DOUBLE THE WEIGHTS FOR IMPACT ON LABORATORY OPERATIONS

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July 22, 1992

Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-FP-15	Voice Alarm System	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-RP-06	Internal Radiation Exposure Control Program	-5
C-RP-16	Engineering Controls in Tritium Facilities	-54
C-AS-01	Aviation Safety	-86
C-PT-02	Packaging and Transportation Quality Assurance	-134
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	-228
C-MGT-01	Strategic Planning	-488

NO SCORE FOR EFFICIENCY CHANGES

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-WS-14	Excavation Safety	28,667
C-WS-07	Electrical Hazards	14,731
C-WS-02	Lockout/Tagout	13,462
C-WS-12	TA-55 Control of Hazardous Energy	13,462
C-PT-03	Training/Qualification of P&T Personnel	8,810
C-TS-01	Safety Analysis, Safety Assessments & Haz Class	5,616
C-TC-06	Safety Training of Accelerator Personnel	5,525
C-EM-18	Control of Rad. Contaminated Soils & Sediments	5,521
C-EM-26	Risk Management	4,900
C-RP-10	Surface Rad Contam Monitoring & Control Program	4,400
C-EM-04	Waste Characterization, Certification, and Segrega	4,227
C-PP-05	Program Identification and Responsibility	3,761
C-PT-05	P&T Procedures/P&T Program	3,746
C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	3,283
C-EP-07	Emergency Preparedness Plan	2,973
C-WS-09	Emergency Response and Hazardous Waste Operations	2,580
C-PT-01	Packaging and Transportation Risk Evaluation	2,466
C-WS-04	Hand Rails and Guard Rails	2,399
C-PP-03	Physical Agents	2,278
C-PT-04	P&T Assessment/Oversight Program	2,237
C-RP-13	Radioactive Air Emissions Management Program	2,106
C-NP-07	Seismic Hazards Investigation	2,083
C-EM-24	SPCC Plan Compliance	1,967
C-PP-04	Confined Space Entry Program	1,802
C-FP-13	Life Safety Code	1,692
C-FP-02	Define Fire Protection Program	1,651
C-RP-08	Fixed and Portable Rad Instrumentation Program	1,642
C-FP-14	Life Safety Code TA-55	1,613
C-WS-03	Machine Guarding/Area Illumination	1,499
C-RP-21	Ion Beam Facility Contamination Control	1,426
C-WS-01	Respirators	1,425
C-QV-02	Quality Program	1,404
C-QV-04	Training, Qualification, and Certification	1,402
C-EM-52	Management of Septic Tank Problems	1,278
C-EM-38	Best Available Technology (BAT) Analysis for Liqui	1,171
C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	1,167
C-EM-51	Mixed Waste Storage at Technical Area 54	1,166
C-EM-50	Transuranic (TRU) Waste	1,163
C-TS-03	Configuration Mangement	1,154
C-OP-02	TA-55 Shift Supervisor	1,131
C-RP-11	ALARA Program	1,113
C-EM-03	Environmental Restoration	1,101
C-MGT-10	Public Affairs and Outreach	1,100
C-MGT-19	Agreement in Principle Implementation	1,100
C-MGT-13	Safety Reviews	1,064
C-TC-03	Qualification/Certification Programs	1,046
C-EM-01	Environmental Surveillance	886
C-EM-17	Ground Water Discharge Plan Compliance	855

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Action Plan #	Action Plan Name	Net Benefit (x 1,0)
C-TC-05	ES&H Training Implementation	845
C-MGT-11	Subcontractor Performance	825
C-PP-09	HS Resources/Roles/Responsibilities	807
C-TS-02	Timely Technical Support	807
C-TC-04	Training Records and Documentation	743
C-EM-02	NDPES Permit and Clean Water Act Compliance	737
C-TC-01	Laboratory Training Program	685
C-NP-04	Seismic Protection for Sigma Building (SM-66)	637
C-MGT-05	Organization Framework	481
C-MGT-14	Lessons Learned	448
C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	428
C-AX-05	Accumulation of Radioactive Waste at TA-55	421
C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	402
C-MGT-03	Program Planning and Integration	323
C-FP-12	Correction of Fire Protection Deficiencies	240
C-EP-04	Design Engineering Div. Emerg Preparedness Plan	224
C-MGT-08	Assessments	215
C-EM-48	Contingency Plan	214
C-EM-05	NDPES Waste Stream Characterization	212
C-MGT-06	Conduct of Operations	210
C-FP-07	Fire and Smoke Barriers	200
C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	200
C-EM-36	Radiological Environmental Emergency Planning	.
C-MA-06	Laboratory Lightning Protection Deficiencies	198
C-PP-06	Asbestos Management Program	178
C-RP-16	Engineering Controls in Tritium Facilities	175
C-EM-23	Release Reporting Procedures	161
C-EM-10	Management of Pesticide Program	157
C-EM-41	PCB Transformer Retrofilling	154
C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	154
C-EM-40	Rad Contaminated PCB Waste Storage	154
C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	154
C-EP-06	Emergency Operations Document Availability	151
C-PP-02	Ventilation Systems	151
C-RP-07	Internal Radiation Dosimetry Program	123
C-EM-12	Waste Minimization Program	122
C-EM-46	Management of Waste in Temporary Storage Areas	119
C-PT-02	Packaging and Transportation Quality Assurance	117
C-RP-05	External Radiation Dosimetry Program	117
C-MGT-01	Strategic Planning	116
C-MGT-02	Policy Definition and Deployment	116
C-EM-45	Hazardous Waste Management Training	116
C-WS-06	Chemical Hygiene Plan/Hazard Communication	115
C-WS-11	Welding	112
C-OP-14	Housekeeping at Tritium Sites	111
C-MS-01	Occupational Medicine Program	111
C-EM-13	Records Management	?
C-EM-53	Underground Storage Tank (UST) Program	.
C-TS-04	Lost Time Incident Report - Protective Force	111

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-EM-39	Program for Decommissioning Contaminated Facilitie	109
C-MS-02	Medical Services: Procedures, Documentation, Review	108
C-AX-07	High Efficiency Particulate Air Filters	108
C-FP-01	Project Review for Fire Protection	104
C-EM-47	Characterization of Surface Impoundments	104
C-OP-16	MP-P Interface at LAMPF	101
C-EP-02	Emergency Preparedness	101
C-EM-14	Meteorological Data Acquisition Programs	100
C-PP-10	Traffic Safety	100
C-NP-01	Seismic Mitigation Training	100
C-EM-25	Appraisal of Environmental Restoration Program Act	100
C-MGT-09	Communications	100
C-MGT-12	Institutional Interfaces/University of California	100
C-OA-01	Random Drug Testing Certification	100
C-ES-03	Explosive Storage and Operations	94
C-QV-08	Calibration	92
C-OP-15	Equipment Weaknesses and Radioactive Releases	92
C-EA-01	Comprehensive Safety Review for Experiments	86
C-OP-07	Human Factors	84
C-MA-08	Crane Maintenance & Installation	77
C-NP-06	Slope Stabilization	63
C-EM-34	Corrective Action Program	63
C-EM-06	Quality Assurance Procedures	61
C-EM-30	EM Quality Assurance Program Plans	61
C-EM-31	Environmental Management Quality Assurance	61
C-EM-32	Computer Program Validation	61
C-EM-33	Document Control	61
C-EM-35	Johnson Controls World Services Quality Assurance	61
C-EM-56	Standards and Instrument Calibration	61
C-EM-57	Sample Storage	61
C-ES-01	HE Personnel Protection	61
C-RP-03	Radiological Protection Posting Program	53
C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	52
C-QV-06	Counterfeit and Suspect Parts	51
C-EP-03	Emergency Preparedness	50
C-CS-05	Organization and Administration	50
C-MA-01	Comprehensive Maintenance Management Program	35
C-OP-08	Conduct of Operations at TA-55	33
C-FP-11	Fire Protection Procedures	26
C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	25
C-FP-04	Building Appraisal Program	23
C-FP-03	Combustible Storage	20
C-RP-04	External Rad Exposure Monitoring and Control	19
C-CS-03	Criticality Safety Evaluations	18
C-RP-14	Radiological Protection Training Program	17
C-RP-20	Monitoring Systems at Accelerators	16
C-ES-02	HE Machining Interlocks	16
C-AX-01	Sigma Complex Drainage System	15
C-QV-07	Calibration	15

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Action Plan #

Action Plan Name

C-WS-08	Chemical Materials	14
C-RP-09	Radiological Air Monitoring Program in Work Place	14
C-EM-49	EPA Identification Number for Fenton Hill Site	14
C-PT-06	Property Management - Excess Property	14
C-TC-02	Development of Training Procedures	14
C-EM-21	Management of Inactive Underground Storage Tanks	14
C-RP-17	Criticality Alarm System	13
C-RP-12	Radiological Records Program	13
C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	13
C-OP-18	TA-8 Radiation Monitoring & Documentation	13
C-RP-06	Internal Radiation Exposure Control Program	10
C-RP-01	Radiological Protection Program	9
C-RP-02	Internal Rad Protection Audits & Investig Programs	9
C-EM-42	Storage of Combustible Materials Near PCB Transfor	8
C-EM-08	Environmental Surveillance of Facilities	8
C-EM-11	NEPA Determinations and the Planning Process	8
C-PP-08	Accident/Injury/Illness Investigation and Document	8
C-PP-07	Carcinogens	7
C-FP-09	Water Supplies	6
C-NP-02	Seismic Safety Program	5
C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	5
C-EM-19	Safe Drinking Water Act Compliance	-
C-EM-15	Asphalt Plant	
C-PP-01	Hazard Identification/Evaluation/Control	3
C-AX-04	Auxiliary Systems Off-Normal Conditions	1
C-EM-29	Laboratory Workspace	1
C-OP-19	Facility Status Control	1
C-EM-37	Incinerator/TA-16-1409	1
C-OP-04	Conduct of Operations, Godiva Ring	0
C-SS-02	Facility-Specific Training for Protective Force	0
C-FP-16	Inspection/Test	0
C-WS-13	Signs	0
C-CS-04	Operating Procedures and Criticality Safety	0
C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	0
C-OP-11	Gate Verification	0
C-OP-12	Omega West Reactor Basin Ledges	0
C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	0
C-AX-02	Uninterruptable Power System at TA-55	0
C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	0
C-CS-01	Laboratory Nuclear Criticality Safety Committee	0
C-CS-02	TA-55 Safety Committee	0
C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	0
C-EM-16	Open Burning	0
C-EM-27	Adequacy of NEPA Documents	0
C-EM-28	NEPA Procedures and Recordkeeping	0
C-EM-44	Signature Authority for RCRA Permit Application	0
C-ES-04	Power Line Hazards	
C-FP-05	Central Alarm Certification	
C-FP-06	Portable Structures	0

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Action Plan #	Action Plan Name	Net Benefit (x 1,000)
C-FP-08	Exemption Procedures	0
C-FP-10	TA-55 Fire Protection Systems Knowledge	0
C-FP-15	Voice Alarm System	0
C-MA-04	Electric Power Panel Indicator Lights	0
C-MGT-07	Laboratory Position Description	0
C-MGT-15	Performance Appraisals and Incentives	0
C-MGT-16	Career Planning for ES&H Professionals	0
C-MGT-17	Recruiting	0
C-MGT-18	Fostering Positive Employee Relations	0
C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	0
C-OP-13	Omega West Reactor Shipping Cask	0
C-QV-01	Control and Verification of Computer Codes	0
C-QV-03	Records and Document Control	0
C-RP-19	Central Alarm System	0
C-SS-01	Protective Force Station Order Review	0
C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	0
C-AS-01	Aviation Safety	-86

Attachment 15

**A Description of
Action Plan Priorities
Prepared for Submission to DOE**

APPENDIX F

Risk Management

An Explanation of the Risk-Based Action-Plan Prioritization Process

Los Alamos National Laboratory (the Laboratory) has developed a risk-based prioritization process to "provide management with a mechanism that will enable them to more rationally respond to the varying demands from Headquarters, Departmental oversight groups, and state and local regulatory agencies regarding site/facility operations" [DOE Self-Assessment Guidance, January 1992]. The Laboratory process is also consistent with the DOE Guidance document's statement that there "should be a prioritization process that allows management to efficiently and effectively differentiate between critical, important, and less important issues allowing for the ranking of corrective actions."

The Laboratory prioritization process makes explicit the functional DOE guidance that "needs and priorities of the site should be incorporated into the process at each level."

Organization of this Appendix

The prioritization of Tiger Team Action Plans proceeds in several phases; this appendix presents these phases in order with concise explanations of the steps involved and detailed examples illustrating the process.

The prioritization process is based on benefit-cost analysis. The first section of this appendix shows how the benefit of an action plan is determined. The second section describes how cost estimates are obtained and used. The third section presents the procedure for combining benefit estimates with cost estimates to prioritize the action plans. Section 4 presents some summary tables and Section 5 contains concluding remarks. The specific contents of the sections are presented below for ease of reference:

1. Determining the Value of Averted Risk
 - a. The Evaluation Process
 - b. Evaluation Categories
 - c. Measurement Scales and Value Functions

- d. Eliciting Risk Scores
 - e. Combining Evaluation Measurements
 - f. Example Calculations
- 2. Obtaining Resource Estimates for the Action Plans
 - a. Resource Requirements by Time and Source
 - b. Possible Non-Monetary Resource Constraints
- 3. Prioritizing Action Plans
 - a. Combining Benefit with Cost for an Action Plan: The "Index" Value
 - b. Obtaining the Maximum Benefit for Given Resources
 - c. Optimal Prioritization of All Action Plans
 - d. Actual Implementation Strategy: The "Graded Approach"
 - e. The Benefit Achieved Using the Graded Approach
- 4. Summary Tables: Action Plan Costs, Benefits, and Implementation Status
 - 5. Summary Comments on the Prioritization System

1. Determining the Value of Averted Risk

Each action plan averts some of the risk posed by the findings and deficiencies it addresses. The first phase of the risk-based prioritization is to develop a procedure for estimating the benefit of averting this risk.

The subsections that follow describe: (a) the overall process, (b) developing evaluation categories that define benefit, (c) developing measurement scales that quantify how well an action plan performs in each evaluation category, (d) estimating averted risk using the measurement scales, (e) combining risk estimates to determine the overall benefit of an action plan, and (f) example calculations.

a. The Evaluation Process

The evaluation process establishes priorities for both current and future action plans. It is part of the Laboratory's official ES&H risk

management process. The following diagram shows how the prioritization system is incorporated into the overall action-plan review, screening and prioritization process. The prioritization system deals with action plans that remain after both emergency and time-critical action plans have been screened out and implemented.

b. Evaluation Categories

The prioritization systems uses a benefit model based on fundamental precepts of multiattribute utility analysis. This is a formal, axiomatic theory for using multiple evaluation criteria. The initial developments in the field of single-variable utility theory are due to the work of von Neumann in the late 1940's. The theory was expanded in the 1970's to include multiple evaluation measures, called "multiattribute utility analysis." The application of multiattribute utility theory to prioritization problems has been reviewed by the National Academy of Sciences and by an outside (academic) review group and found to be technically appropriate for the purpose.

Multiattribute utility theory determines the value of an action plan by measuring the degree to which the plan reduces "total risk," as defined by DOE Defense Programs to include worker and public health and safety, environmental risk, public concern and confidence, compliance issues, execution of Laboratory mission, and efficiency. In the Laboratory's prioritization process, "total risk" is represented by a set of evaluation categories. They determine the expected benefit of the risk averted by implementing the plan. The following figure shows the evaluation categories that, taken together, represent the Laboratory management's view of the benefits to be obtained from implementing action plans. The benefit categories appear at the top of the diagram and the individual evaluation criteria that define how a category will be measured, appear below the categories.

The categories resulted from a series of interviews with Laboratory Associate Directors and ES&H Council members. After the first round of interviews, further interaction with special technical groups helped provide more detailed descriptions of the categories. For instance, an organization of Laboratory employees called "Our Common Ground" was consulted on Community Concerns, the Laboratory legal council was consulted on Compliance issues, and health and safety managers were involved in both worker and public health and safety. The results of these interactions include the individual evaluation criteria associated with each evaluation category.

The evaluation categories also correspond to risk "concerns" listed in the "Tiger Team Prioritization System" directive issued by DOE on August 1, 1990. While the DOE directive indicates differences of opinion over the meaning of terms like "significant" or "near term", the Laboratory's system

gives these terms specific meaning. That simplifies the task of communicating the system's structure and results to regulatory agencies, workers, and the public. The following figure shows some of the correspondence between the DOE directive and the Laboratory's prioritization system.

The evaluation categories represent the concerns of the Laboratory's management (as directed by the DOE Self-Assessment Guidance), the relevant regulatory agencies, and the Department of Energy. In particular, the evaluation categories are consistent with the DOE Tiger Team Prioritization System (revised August 1, 1990), institutional plans of action, and five-year plans.

c. Measurement Scales and Value Functions

A series of meetings with Laboratory technical specialists produced a quantitative measurement scale for each evaluation criterion. These scales measure the degree to which an action plan addresses the evaluation criterion.

The following figure shows the criteria associated with worker health and safety. Laboratory personnel concerned with assessing health and safety risks developed each of the measurement scales shown in this figure.

The measure scales were reviewed to ensure that the scales accurately represented the technical information being requested by the questionnaire. The following diagram shows the review process.

Laboratory management also reviewed each measurement scale. Managers were asked to estimate the value of each of the outcomes for each scale, thus defining a value function for the relative attractiveness of the outcomes. Managers responded to a series of choices among specific outcomes on each measurement scale to produce the value functions.

The following figure shows one of the value functions. This one deals with the severity of health and safety effects.

Estimated Severity of Effect

Appendix G contains a complete set of measurement scales and instructions explaining their use.

d. Eliciting Risk Scores

The person most familiar with each action plan (i.e., the plan's author) used the measurement scales to estimate how well the plan reduced risk. This process was called risk scoring. The scorers provided two sets of scores for each plan. The first set of scores, as indicated by the scoring instructions in Appendix G, provided an estimate of the "baseline risk:" the risk level if the deficiencies were left unaddressed. The second set of scores estimated the "modified risk:" the risk level after the action plan is implemented and completed. The difference between baseline risk and the modified risk is an estimate of the averted risk attributable to the action plan.

A team of people overseeing the scoring process provided group training sessions for all authors and individual training for those who requested it. Help was available throughout the process for authors with questions.

There is always concern that the person scoring an action plan, while being well informed about the plan, may not score it objectively. To guard against this, the scores underwent thorough review. The scoring was reviewed to control both within-action-plan variation (internal consistence) and between-action-plan variation (consistency across action plans). The following figure shows the review process used to assure objectivity and consistency in the scoring of the action plans.

e. Combining Evaluation Measurements

The next step is to combine the scores associated with each action plan into a single measure of benefit. The objective is to be able to represent with a single number the benefit derived from implementing an action plan. That number is the estimated benefit of the total risk averted by the action plan.

The difference between the "before" (baseline) and "after" (modified) risk scores for an action plan is the benefit value of the averted risk for that action plan. There are two steps in determining the baseline and modified risk scores: (1) estimating the risk score for each category; and (2) combining the category risk scores to get a "total risk" score. Simple models combine the scores within each evaluation category, and tradeoff weights supplied by Laboratory management combine the expected costs associated with various categories.

A simple model translates the estimates into an expected risk score for each category. For example, the model for worker health and safety risk calculates the expected costs of health risks from the product of several

estimates. The estimates include: the expected cost of a health effect (i.e., the severity of the effect), the probability of exposure to the risk, the probability of the health effect given exposure, the size of the population at risk, and a discount factor based on how soon the risk will occur. The result is the expected cost of worker health and safety effects. Similar models calculate expected costs in other categories.

To reflect the fact that the evaluation categories were not all of equal importance (worker health and safety is much more important than Laboratory efficiency, for example) an elicitation process was used to determine a set of weights. The weights describe the "importance" management assigns to each evaluation category.

Laboratory managers estimated the weights by answering set of tradeoff questions. The managers' responses result in a set of equations that are solved simultaneously to yield the tradeoff weights. The resulting set of weights are listed in Table 3 of Section 4 (Summary Tables) of this appendix. A committee of Associate and Deputy Associate Directors reviewed and approved the tradeoff weights.

One result that can be calculated from management's assessments is the value of avoiding a statistical fatality. Often this is called the "value of life." The following graph compares the value of life used in the Laboratory's benefit model to values derived from other Government applications over the past decade. The Laboratory's value is consistent with values used across all these government agencies and is higher than the value used by the FAA in regulating commercial airline safety.

Value of Life Estimates Used in Some Government Cost-Benefit Analyses

In addition to determining the relative weights for the evaluation categories, the assessments produced a rule for combining them. A series of tradeoff exercises done by Laboratory managers showed that it was appropriate to use a linear combination of the category scores.

The tradeoff weights for the evaluation categories and the combination rule showing how to combine them result in an equation for a single benefit number representing the value of the risk averted by implementing a specific action plan.

A series of sensitivity calculations showed the effect of different tradeoff weights on the benefit associated with each plan. The calculations showed that even major changes in the tradeoff weights had little effect on the overall benefit ranking of the action plans.

A full description of the scores for each action plan, the sensitivity of the scores to changes in the tradeoff weights, and the relative contribution of each assessment category to an action plan's benefit figure is available in a Risk Management Summary notebook. The notebook is available from the Laboratory's Integration and Coordination Office.

The next section contains example calculations illustrating this evaluation process.

f. Example Calculations

In response to a Category III finding that the fire protection program as Los Alamos National Laboratory is not well organized, the Laboratory developed an action plan to define an appropriate fire protection program. The number of this action plan is C-FP-02. The figures that follow show how the value of the baseline risk (before the action plan is implemented), the modified risk (after the action plan is implemented), and the averted risk are calculated, yielding the benefit of implementing the action plan.

Full descriptions of the questions for each category and meaning of the scores can be found in Appendix G.

Example Measurement Scales

Worker Health and Safety Scales:		
	Score	Value
A. Severity of Impact	1	.0001
	2	.01
	3	.1
	4	1.0
B. Potential for Exposure (probability)	1	.000001
	2	.0001
	3	.01
	4	1.0
C. Likelihood of Effects (probability)	1	.000001
	2	.0001
	3	.01
	4	1.0
D. Population	1	3
	2	30
	3	300
	4	8000
E. Time Urgency	1	.01
	2	.02
	3	.05
	4	.2
	5	1.0

Public Health and Safety Scales		
[All scales the same as "Workers" except for population size.]		
D. Population	Score	Value
	1	3
	2	30
	3	300
	4	18000

Compliance: Legal consequences		
	Score	Value
A. Seriousness of Violation	1	0
	2	0
	3	.0005
	4	.05
	5	1.0
B. Likelihood of allegations (probability)	1	0
	2	.05
	3	.25
	4	.50
	5	.75
	6	.95

The figure above shows example scores and corresponding values for three scales. The following figure shows calculations for the benefit from averted worker health and safety risks.

1. Worker Health and Safety

a. Value of health and safety impact:

$$\$2.5M * [A \text{ value}] * [B \text{ value}] * [C \text{ value}] * [D \text{ value}] * [E \text{ value}]$$

b. Worker Health and Safety Scores for FP-02

Baseline (Before action plan)			Modified (After action plan)		
Score	Value		Score	Value	
A. 3	.1		3	.1	
B. 3	.01		1	.000001	
C. 3	.01		1	.000001	
D. 3	300		3	300	
E. 5	1.0		5	1.0	

c. Expected baseline health and safety risk =

d. Value of risk impact =

$$\$2.5M * 0.003 = \$7500 \text{ [rounded to \$8000]}$$

e. Expected modified health and safety risk =

$$(.1) * (.000001) * (.000001) * (300) * (1.0) = 0$$

f. Value of averted worker health and safety risk

$$\text{Baseline risk} - \text{modified risk} = \$8000 - 0 = \$8000$$

The following figure shows the benefit from averted legal compliance risk.

5. Compliance: Legal Consequences

a. Value of legal compliance impact:

$$\$30M * [A \text{ value}] * [B \text{ value}]$$

b. Legal compliance scores for FP-02

Baseline (Before action plan)			Modified (After action plan)		
Score	Value		Score	Value	
A. 4	.05		A. 1	0	
B. 6	.95		B. 1	0	

c. Expected baseline legal compliance risk =

d. Value of legal compliance risk impact =

$$\$30M * 0.045 = \$1,425,000$$

e. Expected modified legal compliance risk =

$$0$$

f. Value of averted legal compliance risk

$$\text{Baseline risk} - \text{modified risk} =$$

$$\$1,425,000 - 0 = \$1,425,000$$

The next figure shows the benefit calculations for averted risk in the remaining evaluation categories.

Remaining Risk Calculations

Value of averted public health and safety risk:

$$\$5M * \{ [(1) * (.0001) * (.0001) * (18000) * (1.0)] - [(1) * (.000001) * (.000001) * (18000) * (1.0)] \} = 0$$

Value of averted environmental risk:

$$\$25M * \{ [19 * (1/7) * (.0001)] - [19 * (1/70) * (.000001)] \} = \$2000$$

Value of averted community concern risk:

$$\$10 * \{ (.01) - 0 \} = \$100,000$$

Value of averted compliance risk for impact on Lab operations

$$\$33.3M * \{ [(0.0005) * (.25)] - [(0) * (0)] \} = \$117,000$$

Value of change in efficiency:

0

Value of delay in implementation:

0

Total value of averted risk:

$$\begin{aligned} & \$8000 + 0 + \$2000 + \$100000 + \$1,425,000 + \$117,000 + 0 + 0 \\ & = \$1,651,000 \end{aligned}$$

The next figure shows how the net benefit (benefit minus cost) to cost ratio is computed and how that ratio is scaled to give an index value.

Net Benefit to Cost Ratio:

$$(\text{benefit} - \text{total cost}) / \text{total cost} = (\$1,651,000 - \$48,500) / \$48,500 = 33.04$$

Total cost includes all costs in the period FY92-FY97, including ongoing costs

Index Value:

$$(((\text{net benefit to cost ratio}) + 1.273) / 154.853) * 1000 = ((33.04 + 1.273) / 154.853) * 1000 = 222$$

Added to make the smallest ratio slightly greater than zero

Value of the highest adjusted ratio

This makes the highest normalized ratio 1000

Adjustments to make the smallest ratio have a value of 1 and the largest have a value of 1000

The figure above shows that the benefit from implementing this action plan is far greater than the cost of implementation. The net benefit is over 33 times greater than the cost, and the index value is 222.

The next section discusses how resource estimates are obtained and how they are used. It also discusses the net-benefit-to-cost ratio and index value.

2. Obtaining Resource Estimates for the Action Plans

The first part of the analysis estimates the benefit derived from each action plan. The second part of the analysis estimates the resources needed to implement each plan.

a. Resource Requirements by Time and Source

Implementing an action plan requires a payment stream that may last for years. It is much like acquiring a mortgage. The payment stream may have "balloon payments" at certain points in time. An action plan that looks very attractive for the first three years may become impossibly expensive in the fourth year. In addition, an action plan may require funds from different sources with different budget limitations. An action plan that must be funded solely from a single, small resource pool may not be achievable no matter how attractive. Another less attractive action plan may be feasible because complete funding is available from its sources.

This part of the analysis generates an estimated payment stream for each action plan. The Laboratory's financial analysts provide these estimates, listed by year and funding source. Laboratory management, in collaboration with the funding offices (called PSOs), provides estimates of budget limitations by year and funding source.

b. Possible Non-Monetary Resource Constraints

For some action plans, the most difficult resources to obtain may not be monetary. In the environmental management area, for example, the most elusive resource may be personnel with specific technical skills, or a particular type of drilling rig or solvent, or even access to a remote area. The evaluation system asked action plan authors to indicate any resources that could be difficult to obtain in order to include these resource constraints in implementation decisions. However, none of the authors identified significant non-monetary resource constraints.

3. Prioritizing Action Plans

The relative priority of an action plan depends on both its benefits and its resource requirements.

a. Combining Benefit with Cost for an Action Plan: The "Index" Value

A traditional way to represent the attractiveness of an action plan is to estimate the net return of the action plan as a proportion of its total cost. This is one form of a "return-on-investment calculation." The calculation^{the} associates a single number with each action plan. The number is difference between the plan's benefit and its total cost, divided by that cost. If an action plan's benefit is less than its total cost, this number is negative, indicating a negative return on investment.

For simplicity, the ratio of net benefit to cost can be shown as an "index" value. The index value, shown in the Introduction and again in the tables in Section 4, is a linear transformation of the net-benefit-to-cost ratio. The transformation scales ratios in a way that gives the action plan with the highest ratio an index value of 1000 and the action plan with the lowest (possibly negative) ratio an index value of 1.

b. Obtaining the Maximum Benefit for Given Resources

Selecting a set of action plans that yields the greatest benefit and can still be funded under the set of resource constraints (by year and by source) is an optimization problem. Because resources come from many different sources and have different budget limits in different years, it isn't possible to just "follow a list" of action plan priorities based on the index value defined in Section 3.a above. Instead, a collection or "portfolio" of plans consistent with the funding sources and timing constraints must be used if the overall benefit of the Tiger Team response is to be maximized. Linear or integer optimization computer codes can solve this problem and show the optimal "portfolio" of action plans to implement for any given set of resource constraints. To implement this solution process on a computer, the prioritization process relied on a powerful library of optimization software capable of solving problems with thousands of action plans, funding sources, and constraints.

c. Optimal Prioritization of All Action Plans

Of the 212 action plans addressing Tiger Team findings, eight have been completed. If the remaining 204 are prioritized based on their contribution to total benefit and their cost of completion, the following graph

shows that a major portion of the benefit is acquired for only a small portion of the expense.

The first table in Section 4 shows that there are many action plans that cost more than the value of the benefit they provide. This information combined with the diagram above shows that very little, if any, additional benefit is obtained with the last \$500 million in total expenses. Expenditure of these funds should be re-evaluated.

d. Actual Implementation Strategy: The "Graded Approach"

Laboratory management must consider, in addition to the cost and benefit of each action plan, some other issues in determining the portfolio of action plans to implement. For example, some PSOs within DOE may specify that certain action plans be implemented irrespective of their cost or benefit.

The Laboratory management considered a "graded approach" in which a set of action plans is chosen for funding. The approach takes into account the cost-benefit analysis, but also includes DOE priorities and other implementation necessities. If this approach is taken, some action plans do not receive funding because their benefits do not justify their costs.

Without a graded approach, the best guide to funding action plans is the index value described earlier. Action plans with a higher index value

generate more benefits per dollar expended. Those action plans should be funded first. The index value does not show which action plans should not be funded. If funds are allocated to action plans with low index values, the benefits generated by those plans may be considerably less than the cost of implementing them.

Whether or not the Laboratory's graded approach becomes the basis for allocating funds, it is instructive to see how it differs from an allocation rule based only on the index values. This section explains how the Laboratory developed a graded approach to funding and implementing action plans. The following section shows the benefits achieved by using this approach relative to the cost of the funded plans.

The following figure shows how this set of action plans was selected. This graded approach is a cost-effective way to reduce ES&H risk and still take into account specific directions provided by DOE and Laboratory managers.

Portfolio of Action Plans to be Implemented

The funded portfolio of action plans includes those required by DOE because they address Category II findings, those required by DOE because they have been designated DOE Priority 1, those action plans that require no

additional funding beyond baseline (internal) funding, and special "management emphasis" action plans reflecting specific concerns of DOE and Laboratory management, primarily in the area of NEPA documentation. In addition, the portfolio includes those action plans that produce benefits greater than their costs. In other words, they return at least a dollar of benefit value for each dollar invested.

This graded approach to implementing action plans recognizes the necessity of addressing deficiencies that have been marked by DOE as important, addressing deficiencies identified by the benefit model as important risk reductions for the Laboratory, and addressing those deficiencies that can be supported using funding that has already been allocated as part of the baseline Laboratory budget. The approach also recognizes the importance of reexamining action plans which neither DOE, the Laboratory risk evaluation, nor current budgeting allocation have identified as either necessary or important in risk reduction. Those action plans either provide very little averted risk or provide it at such exorbitant costs that funding them may induce risks elsewhere that are worse.

The graded approach would incorporate ongoing reevaluation of action plans and risks, as stipulated by DOE guidance. The reevaluation includes examining those parts of the unfunded action plans that can reduce risk effectively and for a reasonable cost.

e. The Benefit Achieved Using the Graded Approach

The result of implementing the portfolio of plans described in the preceding figure is shown in the following graph.

Benefit vs Cost for the Funded Portfolio of Action Plans

The second table in Section 4 lists the total costs and benefits of funded action plans.

4. Summary Tables: Action Plan Costs, Benefits, and Implementation Status

This section includes the following tables:

1. All action plans, their total costs, benefits and index values,
2. The funded and not-funded portfolios of action plans, their costs, benefits and index values,
3. The set of management tradeoff coefficients for the risk evaluation categories.

These tables appear at the end of this appendix.

5. Summary Comments on the Prioritization System

This risk-based prioritization process aids management in allocating resources so that the maximum risk reduction can be achieved for the resources available. The model provides an auditable system for defining risk, measuring its reduction, and effectively allocating resources over time.

It relies on management to determine strategic priorities, and it relies on scientists and specialists for quantitative information to measure risk.

The Los Alamos prioritization system is consistent with budget allocation processes within DOE. It is consistent with interests of the DOE's Defense Programs PSO to bring probabilistic risk assessment into the decision making process and make risk reduction the objective of the process. It is consistent with the Office of Management and Budget's desire to show responsibility in the use of the public's resources. Finally, the system is a vehicle for communicating risk reduction objectives, priorities, and risk assessments.

212 Action Plans by DOE and LANL Priority

DOE Priority	Action Plan	Action Plan Name	Benefit	FY92-FY97 Plus ETC Cost	Index
1	C-WS-14	Excavation Safety	\$28,667,322	\$1,000	>1000
1	C-WS-12	TA-55 Control of Hazardous Energy	\$13,351,959	\$308,900	281
1	C-WS-02	Lockout/Tagout	\$12,893,289	\$345,200	243
1	C-PT-01	Packaging and Transportation Risk Evaluation	\$2,466,133	\$543,500	31
1	C-TC-06	Safety Training of Accelerator Personnel	\$6,135,233	\$1,602,200	26
1	C-EM-38	Best Available Technology (BAT) Analysis for Liqui	\$1,171,253	\$315,900	26
1	C-EM-50	Transuranic (TRU) Waste	\$1,162,789	\$526,500	16
1	C-EM-55	Underground Radioactive Liquid Waste Storage Tanks	\$3,282,625	\$1,514,500	16
1	C-QV-04	Training, Qualification, and Certification	\$1,804,625	\$877,200	15
1	C-PT-03	Training/Qualification of P&T Personnel	\$8,173,220	\$4,595,100	13
1	C-WS-03	Machine Guarding/Area Illumination	\$1,498,500	\$1,289,100	9
1	C-OP-02	TA-55 Shift Supervisor	\$1,131,442	\$1,060,700	9
1	C-WS-07	Electrical Hazards	\$15,367,328	\$21,180,000	6
1	C-RP-21	Ion Beam Facility Contamination Control	\$1,462,209	\$2,037,900	6
1	C-MGT-13	Safety Reviews	\$1,145,089	\$2,240,700	5
1	C-EM-56	Standards and Instrument Calibration	\$570,413	\$2,914,000	5
1	C-PP-04	Confined Space Entry Program	\$1,089,298	\$4,784,600	3
1	C-MA-06	Laboratory Lightning Protection Deficiencies	\$197,688	\$994,600	3
1	C-EM-04	Waste Characterization, Certification, and Segrega	\$4,046,917	\$31,818,700	3
1	C-EM-51	Mixed Waste Storage at Technical Area 54	\$1,165,871	\$10,977,300	2
1	C-RP-08	Fixed and Portable Rad Instrumentation Program	\$1,641,674	\$20,806,700	2
1	C-EM-02	NDPES Permit and Clean Water Act Compliance	\$737,405	\$11,505,600	2
1	C-QV-08	Calibration	\$272,403	\$4,960,400	2
1	C-MA-08	Crane Maintenance & Installation	\$77,208	\$1,700,400	2
1	C-EM-05	NDPES Waste Stream Characterization	\$212,405	\$14,949,400	2
1	C-EM-19	Safe Drinking Water Act Compliance	\$3,751	\$1,060,600	2
1	C-EM-07	Cooling Water Monitoring at TA-50, Bldg. 37	\$0	\$633,100	2
2	C-EM-57	Sample Storage	\$463,742	\$3,000	1000
2	C-EP-06	Emergency Operations Document Availability	\$150,837	\$2,000	489
2	C-EP-02	Emergency Preparedness	\$100,750	\$2,000	327
2	C-RP-02	Internal Rad Protection Audits & Investig Programs	\$188,961	\$4,000	307
2	C-FP-02	Define Fire Protection Program	\$1,650,965	\$48,500	222
2	C-FP-14	Life Safety Code TA-55	\$1,612,854	\$55,200	190
2	C-PT-04	P&T Assessment/Oversight Program	\$2,255,294	\$87,800	168
2	C-EM-18	Control of Rad. Contaminated Soils & Sediments	\$5,521,333	\$386,400	94
2	C-EM-49	EPA Identification Number for Fenton Hill Site	\$14,250	\$1,000	94
2	C-EM-26	Risk Management	\$4,900,000	\$464,200	70
2	C-EM-52	Management of Septic Tank Problems	\$1,278,286	\$130,500	65
2	C-EM-21	Management of Inactive Underground Storage Tanks	\$13,500	\$2,000	45
2	C-PT-06	Property Management - Excess Property	\$416,663	\$71,300	40
2	C-EM-25	Appraisal of Environmental Restoration Program Act	\$550,000	\$97,900	38

212 Action Plans by DOE and LANL Priority

DOE Priority	Action Plan	Action Plan Name	Benefit	FY92-FY97 Plus ETC Cost	Index
2	C-MGT-05	Organization Framework	\$481,341	\$108,400	30
2	C-EM-31	Environmental Management Quality Assurance	\$463,788	\$121,600	26
2	C-EM-24	SPCC Plan Compliance	\$1,966,682	\$563,600	24
2	C-NP-04	Seismic Protection for Sigma Building (SM-66)	\$637,455	\$187,200	24
2	C-MGT-06	Conduct of Operations	\$370,733	\$159,200	17
2	C-EM-23	Release Reporting Procedures	\$161,250	\$71,100	16
2	C-TC-04	Training Records and Documentation	\$1,145,619	\$542,100	15
2	C-FP-01	Project Review for Fire Protection	\$103,935	\$52,400	15
2	C-EP-07	Emergency Preparedness Plan	\$2,972,947	\$1,552,100	14
2	C-FP-13	Life Safety Code	\$1,692,417	\$940,500	13
2	C-RP-17	Criticality Alarm System	\$12,818	\$9,800	10
2	C-EM-29	Laboratory Workspace	\$901,458	\$789,100	9
2	C-PP-03	Physical Agents	\$3,178,011	\$3,244,900	8
2	C-EM-43	Management of Polychlorinated Biphenyl (PCB) Spill	\$153,750	\$198,500	7
2	C-NP-07	Seismic Hazards Investigation	\$2,038,039	\$2,755,300	7
2	C-EM-14	Meteorological Data Acquisition Programs	\$100,147	\$138,300	6
2	C-WS-04	Hand Rails and Guard Rails	\$2,399,241	\$3,316,600	6
2	C-EM-40	Rad Contaminated PCB Waste Storage	\$153,750	\$222,300	6
2	C-RP-10	Surface Rad Contam Monitoring & Control Program	\$3,830,766	\$5,588,200	6
2	C-EM-09	Management of Polychlorinated Biphenyl (PCB) Prog.	\$153,750	\$229,800	6
2	C-EM-53	Underground Storage Tank (UST) Program	\$109,000	\$167,000	6
2	C-MGT-02	Policy Definition and Deployment	\$259,937	\$441,600	6
2	C-EM-32	Computer Program Validation	\$463,788	\$848,600	5
2	C-PP-05	Program Identification and Responsibility	\$3,191,651	\$6,404,300	5
2	C-WS-01	Respirators	\$1,425,000	\$3,005,500	5
2	C-EM-48	Contingency Plan	\$214,250	\$491,400	5
2	C-TS-01	Safety Analysis, Safety Assessments & Haz Class	\$5,165,688	\$13,994,000	4
2	C-AX-05	Accumulation of Radioactive Waste at TA-55	\$420,937	\$1,232,100	4
2	C-EM-34	Corrective Action Program	\$465,444	\$1,420,000	4
2	C-EM-33	Document Control	\$463,788	\$1,489,700	4
2	C-QV-02	Quality Program	\$1,806,524	\$6,036,800	4
2	C-EM-42	Storage of Combustible Materials Near PCB Transfor	\$7,501	\$27,000	4
2	C-TC-01	Laboratory Training Program	\$684,799	\$2,616,900	3
2	C-EM-06	Quality Assurance Procedures	\$463,788	\$1,811,900	3
2	C-QV-05	Procurement, Inspect, ID, & Control of Items & Matls	\$80,435	\$314,400	3
2	C-WS-09	Emergency Response and Hazardous Waste Operations	\$2,580,256	\$10,157,100	3
2	C-RP-14	Radiological Protection Training Program	\$916,841	\$4,697,500	3
2	C-PT-05	P&T Procedures/P&T Program	\$4,030,928	\$21,978,400	3
2	C-EM-03	Environmental Restoration	\$1,100,750	\$6,178,200	3
2	C-RP-11	ALARA Program	\$933,269	\$5,416,400	3
2	C-NP-03	Seismic Mitigation for Equipmnt & Systems at TA-55	\$200,000	\$1,199,100	3
2	C-ES-01	HE Personnel Protection	\$60,917	\$412,300	3

212 Action Plans by DOE and LANL Priority

DOE Priority	Action Plan	Action Plan Name	Benefit	FY92-FY97 Plus ETC Cost	Index
2	C-WS-08	Chemical Materials	\$14,325	\$98,600	3
2	C-EM-46	Management of Waste in Temporary Storage Areas	\$118,875	\$841,600	3
2	C-EM-47	Characterization of Surface Impoundments	\$103,934	\$812,300	3
2	C-ES-02	HE Machining Interlocks	\$15,626	\$139,900	2
2	C-QV-06	Counterfeit and Suspect Parts	\$79,028	\$759,000	2
2	C-TC-03	Qualification/Certification Programs	\$1,046,464	\$10,308,400	2
2	C-EM-36	Radiological Environmental Emergency Planning	\$198,228	\$1,957,500	2
2	C-QV-01	Control and Verification of Computer Codes	\$112,500	\$1,167,400	2
2	C-NP-06	Slope Stabilization	\$63,276	\$720,600	2
2	C-ES-03	Explosive Storage and Operations	\$93,550	\$1,093,800	2
2	C-NP-01	Seismic Mitigation Training	\$100,002	\$1,188,100	2
2	C-EM-30	EM Quality Assurance Program Plans	\$463,788	\$5,671,800	2
2	C-MA-02	Uncalibrated Circuit Breaker Testing Equipment	\$12,708	\$163,600	2
2	C-TC-05	ES&H Training Implementation	\$844,674	\$11,560,600	2
2	C-EM-01	Environmental Surveillance	\$885,867	\$12,277,600	2
2	C-MGT-14	Lessons Learned	\$505,091	\$7,005,500	2
2	C-PP-02	Ventilation Systems	\$150,762	\$2,197,100	2
2	C-RP-18	Emerg Preparedness-Rad/Chemical Emerg Procedures	\$427,645	\$6,457,700	2
2	C-EM-13	Records Management	\$111,250	\$1,707,000	2
2	C-MS-01	Occupational Medicine Program	\$399,396	\$6,378,200	2
2	C-SS-02	Facility-Specific Training for Protective Force	\$292	\$5,000	2
2	C-TC-02	Development of Training Procedures	\$71,088	\$1,247,300	2
2	C-RP-13	Radioactive Air Emissions Management Program	\$2,675,647	\$49,557,000	2
2	C-RP-20	Monitoring Systems at Accelerators	\$15,632	\$292,300	2
2	C-OP-08	Conduct of Operations at TA-55	\$392,529	\$7,402,000	2
2	C-EA-01	Comprehensive Safety Review for Experiments	\$86,025	\$1,733,600	2
2	C-OP-07	Human Factors	\$86,455	\$1,920,000	2
2	C-OP-03	Tritium Facility shutdown at TA-33, Bldg.86	\$401,629	\$8,961,000	2
2	C-FP-07	Fire and Smoke Barriers	\$200,144	\$4,689,400	2
2	C-QV-07	Calibration	\$194,501	\$4,568,500	2
2	C-PP-07	Carcinogens	\$6,824	\$164,100	2
2	C-EP-03	Emergency Preparedness	\$50,146	\$1,444,400	2
2	C-FP-12	Correction of Fire Protection Deficiencies	\$524,738	\$17,808,900	2
2	C-FP-09	Water Supplies	\$5,979	\$222,300	2
2	C-MGT-03	Program Planning and Integration	\$323,437	\$12,919,200	2
2	C-WS-06	Chemical Hygiene Plan/Hazard Communication	\$294,692	\$12,699,900	2
2	C-MA-03	Emergency, Standby & Aux Power Systems Maintenance	\$5,209	\$247,800	2
2	C-PP-06	Asbestos Management Program	\$178,057	\$8,531,300	2
2	C-TS-03	Configuration Management	\$1,227,525	\$63,908,300	2
2	C-RP-07	Internal Radiation Dosimetry Program	\$123,022	\$7,859,300	2
2	C-RP-01	Radiological Protection Program	\$188,961	\$12,584,800	2
2	C-RP-04	External Rad Exposure Monitoring and Control	\$18,815	\$1,521,600	2

212 Action Plans by DOE and LANL Priority

DOE Priority	Action Plan	Action Plan Name	Benefit	FY92-FY97 Plus ETC Cost	Index
2	C-NP-02	Seismic Safety Program	\$5,209	\$436,700	2
2	C-AX-01	Sigma Complex Drainage System	\$14,542	\$1,407,300	2
2	C-OP-19	Facility Status Control	\$1,167	\$125,100	2
2	C-FP-04	Building Appraisal Program	\$22,916	\$3,051,000	2
2	C-EM-12	Waste Minimization Program	\$121,834	\$16,430,800	2
2	C-MA-01	Comprehensive Maintenance Management Program	\$148,718	\$28,604,100	2
2	C-MGT-08	Assessments	\$215,361	\$46,288,700	2
2	C-FP-11	Fire Protection Procedures	\$25,936	\$8,119,500	2
2	C-RP-09	Radiological Air Monitoring Program in Work Place	\$14,250	\$4,890,700	2
2	C-EM-11	NEPA Determinations and the Planning Process	\$7,500	\$5,553,400	2
2	C-AX-04	Auxiliary Systems Off-Normal Conditions	\$1,458	\$2,174,300	2
2	C-OP-04	Conduct of Operations, Godiva Ring	\$292	\$560,800	2
2	C-PP-01	Hazard Identification/Evaluation/Control	\$3,007	\$15,513,100	2
2	C-WS-13	Signs	\$2	\$803,500	2
2	C-SS-04	Emerg Response Training/Equip for Prot Frc Pers.	\$0	\$1,202,500	2
2	C-FP-15	Voice Alarm System	\$0	\$65,700	2
2	C-OP-13	Omega West Reactor Shipping Cask	\$0	\$1,000	2
2	C-RP-19	Central Alarm System	\$0	\$1,003,300	2
2	C-SS-01	Protective Force Station Order Review	\$0	\$3,000	2
2	C-RP-06	Internal Radiation Exposure Control Program	(\$7,583)	\$14,413,900	2
2	C-RP-03	Radiological Protection Posting Program	(\$4,338)	\$322,700	2
2	C-RP-16	Engineering Controls in Tritium Facilities	(\$227,451)	\$12,409,800	2
2	C-MGT-01	Strategic Planning	(\$604,063)	\$7,153,400	1
2	C-PT-02	Packaging and Transportation Quality Assurance	(\$137,312)	\$1,431,700	1
2	C-EP-04	Design Engineering Div. Emerg Preparedness Plan	(\$344,991)	\$2,988,800	1
3	C-OP-14	Housekeeping at Tritium Sites	\$111,424	\$1,000	721
3	C-TS-04	Lost Time Incident Report - Protective Force	\$110,650	\$1,000	716
3	C-MGT-19	Agreement in Principle Implementation	\$1,100,000	\$12,300	579
3	C-MGT-10	Public Affairs and Outreach	\$1,100,000	\$18,300	390
3	C-OP-18	TA-8 Radiation Monitoring & Documentation	\$12,708	\$1,000	84
3	C-EM-35	Johnson Controls World Services Quality Assurance	\$241,296	\$19,300	83
3	C-OA-01	Random Drug Testing Certification	\$100,000	\$10,900	61
3	C-TS-02	Timely Technical Support	\$806,728	\$96,500	56
3	C-MGT-11	Subcontractor Performance	\$824,803	\$543,200	26
3	C-EM-41	PCB Transformer Retrofilling	\$153,750	\$50,200	22
3	C-MGT-09	Communications	\$100,000	\$33,400	21
3	C-OP-15	Equipment Weaknesses and Radioactive Releases	\$92,133	\$38,400	17
3	C-PP-09	HS Resources/Roles/Responsibilities	\$863,649	\$888,000	8
3	C-EM-10	Management of Pesticide Program	\$156,917	\$201,100	7
3	C-AX-07	High Efficiency Particulate Air Filters	\$107,500	\$154,500	6
3	C-EM-17	Ground Water Discharge Plan Compliance	\$854,625	\$1,621,800	5
3	C-EA-02	Conduct of Ops in Multi-User Experiment Facilities	\$24,818	\$104,000	3

212 Action Plans by DOE and LANL Priority

DOE Priority	Action Plan	Action Plan Name	Benefit	FY92-FY97 Plus ETC Cost	Index
3	C-MGT-12	Institutional Interfaces/University of California	\$100,000	\$473,900	3
3	C-EM-54	Waste Min. Program for LLW, ALARA, & Segregation	\$1,166,658	\$5,544,800	3
3	C-MS-02	Medical Services: Procedures, Documentation, Review	\$107,500	\$565,800	3
3	C-CS-05	Organization and Administration	\$50,000	\$435,900	3
3	C-EM-39	Program for Decommissioning Contaminated Facilities	\$109,208	\$1,420,000	2
3	C-OP-16	MP-P Interface at LAMPF	\$101,458	\$1,372,900	2
3	C-MGT-07	Laboratory Position Description	\$671,784	\$10,391,500	2
3	C-FP-03	Combustible Storage	\$20,290	\$323,200	2
3	C-EM-45	Hazardous Waste Management Training	\$115,843	\$2,124,900	2
3	C-WS-11	Welding	\$120,507	\$2,406,900	2
3	C-EM-37	Incinerator/TA-16-1409	\$750	\$24,100	2
3	C-RP-05	External Radiation Dosimetry Program	\$117,174	\$7,920,300	2
3	C-RP-12	Radiological Records Program	\$12,750	\$878,200	2
3	C-CS-03	Criticality Safety Evaluations	\$15,119	\$1,363,500	2
3	C-EM-08	Environmental Surveillance of Facilities	\$7,500	\$1,415,300	2
3	C-PP-08	Accident/Injury/Illness Investigation and Document	\$7,500	\$2,362,100	2
3	C-CS-04	Operating Procedures and Criticality Safety	\$0	\$2,000	2
3	C-FP-16	Inspection/Test	\$7	\$79,000	2
3	C-AX-03	Audible Alarm for Zone 2 Ventilation at TA-55	\$0	\$46,800	2
3	C-AX-02	Uninterruptable Power System at TA-55	\$0	\$1,000	2
3	C-AX-06	Plutonium in TA-55 Zone 1 Exhaust Ducts	\$0	\$219,800	2
3	C-CS-01	Laboratory Nuclear Criticality Safety Committee	\$0	\$2,000	2
3	C-CS-02	TA-55 Safety Committee	\$0	\$1,000	2
3	C-EM-16	Open Burning	\$0	\$15,600	2
3	C-EM-27	Adequacy of NEPA Documents	\$0	\$2,000	2
3	C-EM-28	NEPA Procedures and Recordkeeping	\$0	\$69,000	2
3	C-ES-04	Power Line Hazards	\$0	\$40,400	2
3	C-FP-05	Central Alarm Certification	\$0	\$220,800	2
3	C-FP-06	Portable Structures	\$0	\$93,300	2
3	C-FP-08	Exemption Procedures	\$0	\$373,600	2
3	C-FP-10	TA-55 Fire Protection Systems Knowledge	\$0	\$38,100	2
3	C-MA-04	Electric Power Panel Indicator Lights	\$0	\$4,000	2
3	C-MGT-20	Formal ES&H Reviews for WFO & CRADAs	\$0	\$1,610,300	2
3	C-QV-03	Records and Document Control	\$0	\$6,347,000	2
3	C-SS-03	Lost Time Incidents Reduction Prog for Prot Frc	\$0	\$1,000	2
3	C-AS-01	Aviation Safety	(\$85,750)	\$1,266,600	1
4	C-MGT-15	Performance Appraisals and Incentives	\$144,000	\$314,500	5
4	C-PP-10	Traffic Safety	\$100,098	\$587,500	3
4	C-EM-15	Asphalt Plant	\$3,750	\$34,224,300	2
4	C-OP-12	Omega West Reactor Basin Ledges	\$0	\$1,000	2
4	C-OP-11	Gate Verification	\$0	\$4,000	2
4	C-EM-44	Signature Authority for RCRA Permit Application	\$0	\$2,000	2

212 Action Plans by DOE and LANL Priority

<i>DOE Priority</i>	<i>Action Plan</i>	<i>Action Plan Name</i>	<i>Benefit</i>	<i>FY92-FY97 Plus ETC Cost</i>	<i>Index</i>
4	C-MGT-16	Career Planning for ES&H Professionals	\$0	\$422,400	2
4	C-MGT-17	Recruiting	\$0	\$102,500	2
4	C-MGT-18	Fostering Positive Employee Relations	\$0	\$404,000	2
<i>Totals --></i>			\$198,530,815	\$815,093,600	

Evaluation Model

Evaluation Category	Tradeoff Coefficient	Evaluation Criteria	Range
Health & Safety	0.38	(For Worker and Public separately)	
		Severity of Effect	1 (minor) 4 (very serious)
		Likelihood of Exposure	1 (extremely rare) 4 (almost certain)
		Likelihood of Effect	1 (extremely unlikely) 4 (almost certain)
		Number of Persons at Risk	1 (few: 1 to 10) 4 (virtually all)
		Time Urgency	1 (30 yrs from now) 5 (Occurring now)
Environment	0.24	Resources/Area Affected	[see EPA scale]
		Magnitude of Impact	1 (low threat) 3 (high threat)
		Likelihood of Impact	1 (extremely unlikely) 4 (almost certain)
Community Concern	0.10	Community Concern	1 (very low/none) 6 (very high)
Compliance	0.28	Seriousness of Violation	1 (minor) 5 (most serious)
		Likelihood of Allegations	1 (extremely unlikely) 6 (almost certain)
		Seriousness of Impact on Lab Programs	1 (no adverse impact) 5 (critical adverse)
		Likelihood of Impact on Lab Programs	1 (unlikely) 5 (almost certain)
Efficiency	< 0.01	Number of persons affected	1 (10 or fewer) 4 (virtually all)
		Percentage of Work Affected	1 (about 1%) 4 (nearly 100%)
		Level of Change in Efficiency	1 (adverse impact) 5 (beneficial impact)

Attachment 16

An Example of Optimizing Action Plan Resources Over Time

Los Alamos

NATIONAL LABORATORY

August 12, 1992

TO: Dan Brooks, Tom Sandford

FROM: Allen Miller

SUBJECT: **Deciding When to Implement Action Plans**

When I left the Laboratory last week, we had decided to implement 111 action plans. I only heard one constraint on funding those plans: the total incremental and ongoing, institutional funds must be less than \$18.0 million per year. Glen suggested that we could stretch that limit to \$18.499 million per year. Also, at one point there was a discussion of lowering the limit to \$14.0 million per year to leave some funds for other action plans.

Unfortunately the 111 action plans cost more than \$18.0 million per year. Table 1 shows the incremental and ongoing, institutional costs of each action plan in every year from FY92 to FY97. This data is derived from the last database we received from Bruce Barris. In addition, the table shows the net benefit of implementing each action plan in FY92. If an action plan had a net benefit of less than \$10 (in particular, if its net benefit was negative), its net benefit was increased to \$10. This amount is less than the other net benefits in the table, but is sufficient to tell optimization software that the action plan should be implemented.

The last row of Table 1 shows the total costs for all action plans. Figure 1 shows these totals graphically. The box at the bottom of Figure 1 indicates that the costs occur when all action plans are started in FY92. As you can see, the annual costs peak at about \$29.7 million in FY96.

How can we implement all the action plans and still meet the funding limits? One answer is to delay the start of some action plans. For instance, Figure 2 shows the incremental and ongoing, institutional costs of action plan C-TC-06 if we start the plan in FY92. The data in this chart is the same as that in Table 1. The total cost of this action plan from FY92 to FY97 is \$846,100. The plan's net benefit for the same period is \$4,533,000. If we start this action plan in FY93, all of its costs occur a year later, as shown in Figure 3. This reduces the cost of this action plan in most years, making it easier for us to meet a budget constraint. All costs are in 1992 dollars so we do not need to worry about inflation.

Table 1
Net Benefits and Costs of 111 Action Plans

Action Plan #	Net Benefit	FY92 Cost	FY93 Cost	FY94 Cost	FY95 Cost	FY96 Cost	FY97 Cost
C-AX-02	10	0	0	0	0	0	0
C-AX-03	10	0	0	0	0	0	0
C-CS-01	10	0	0	0	0	0	0
C-CS-02	10	0	0	0	0	0	0
C-CS-04	10	0	0	0	0	0	0
C-CS-05	10	0	0	0	0	0	0
C-EA-01	10	0	0	0	0	0	0
C-EA-02	10	0	0	0	0	0	0
C-EM-02	10	252,500	0	0	0	0	0
C-EM-04	10	0	0	3,592,300	3,592,300	3,598,900	0
C-EM-05	10	0	0	0	1,821,900	1,827,300	1,827,300
C-EM-07	10	0	0	0	0	0	0
C-EM-09	10	0	0	0	0	0	0
C-EM-11	10	205,700	417,100	527,000	1,360,100	1,405,100	1,405,100
C-EM-15	10	0	0	0	0	0	0
C-EM-16	10	0	0	0	0	0	0
C-EM-18	5,134,933	0	0	84,800	84,800	84,800	84,800
C-EM-19	10	30,100	31,400	0	0	0	0
C-EM-21	11,500	0	0	0	0	0	0
C-EM-23	90,150	31,600	32,900	0	0	0	0
C-EM-24	1,403,082	0	0	0	0	0	0
C-EM-25	452,100	0	0	0	0	0	0
C-EM-26	4,435,800	0	0	0	0	0	0
C-EM-27	10	0	0	0	0	0	0
C-EM-28	10	4,600	39,500	0	0	0	0
C-EM-29	112,358	0	0	0	0	0	0
C-EM-31	342,188	52,000	69,600	0	0	0	0
C-EM-35	221,996	0	0	0	0	0	0
C-EM-37	10	0	0	0	0	0	0
C-EM-38	855,353	0	0	0	0	0	0
C-EM-39	10	0	0	0	0	0	0
C-EM-41	103,550	0	0	0	0	0	0
C-EM-42	10	5,700	10,100	6,200	0	0	0
C-EM-44	10	0	0	0	0	0	0
C-EM-47	10	0	0	0	0	0	0
C-EM-49	13,250	0	0	0	0	0	0
C-EM-50	636,289	0	0	0	0	0	0
C-EM-51	10	0	0	0	0	0	0
C-EM-52	1,147,786	0	0	0	0	0	0
C-EM-55	1,768,125	0	0	0	0	0	0
C-EM-56	10	41,000	225,400	261,600	260,100	265,800	265,800
C-EM-57	460,742	0	0	0	0	0	0
C-EP-02	98,750	0	0	0	0	0	0
C-EP-06	148,837	0	0	0	0	0	0
C-EP-07	1,420,847	41,400	569,400	0	0	0	0
C-ES-01	10	0	0	0	0	0	0
C-ES-02	10	0	0	0	0	0	0
C-ES-04	10	0	0	0	0	0	0
C-FP-01	51,535	0	34,300	10,500	0	0	0
C-FP-02	1,602,465	0	24,300	2,100	0	0	0
C-FP-05	10	0	0	0	0	0	0
C-FP-10	10	0	0	0	0	0	0
C-FP-13	751,917	0	77,800	171,700	218,800	219,500	219,500
C-FP-14	1,557,654	7,800	18,200	0	0	0	0
C-FP-15	10	0	32,500	0	0	0	0
C-FP-16	10	0	5,300	16,500	16,500	16,500	16,500
C-MA-04	10	0	0	0	0	0	0

Table 1 (Continued)
Net Benefits and Costs of 111 Action Plans

Action Plan #	Net Benefit	FY92 Cost	FY93 Cost	FY94 Cost	FY95 Cost	FY96 Cost	FY97 Cost
C-MA-06	10	0	0	198,600	198,600	201,300	201,300
C-MA-08	10	0	559,700	86,100	86,100	87,400	87,400
C-MGT-02	10	0	0	0	0	0	0
C-MGT-05	372,941	0	0	0	0	0	0
C-MGT-06	211,533	0	0	0	0	0	0
C-MGT-09	66,600	0	0	0	0	0	0
C-MGT-10	1,081,700	0	0	0	0	0	0
C-MGT-11	602,803	0	0	0	0	0	0
C-MGT-13	10	0	123,300	111,000	111,000	111,000	111,000
C-MGT-19	1,087,700	0	0	0	0	0	0
C-NP-04	450,255	165,100	22,100	0	0	0	0
C-OA-01	89,100	0	0	0	0	0	0
C-OP-02	70,742	0	0	0	0	0	0
C-OP-03	10	0	0	0	0	0	0
C-OP-04	10	0	0	0	0	0	0
C-OP-11	10	0	0	0	0	0	0
C-OP-12	10	0	0	0	0	0	0
C-OP-13	10	0	0	0	0	0	0
C-OP-14	110,424	0	0	0	0	0	0
C-OP-15	53,733	0	0	0	0	0	0
C-OP-18	11,708	0	0	0	0	0	0
C-OP-19	10	0	0	0	0	0	0
C-PP-03	10	825,100	520,000	474,400	474,400	489,700	461,300
C-PP-04	10	785,500	965,700	584,900	584,900	594,900	594,900
C-PP-06	10	1,598,500	1,370,600	1,372,800	1,372,800	1,379,500	1,379,500
C-PT-01	1,922,633	25,200	241,000	0	0	0	0
C-PT-03	3,578,120	0	263,400	141,900	110,200	325,100	823,900
C-PT-04	2,167,494	0	0	0	0	6,200	6,200
C-PT-05	10	2,455,800	3,674,800	3,773,300	3,615,700	3,723,000	3,723,000
C-PT-06	345,363	0	2,600	11,000	0	0	0
C-QV-04	927,425	0	0	54,400	54,400	55,200	55,200
C-QV-05	10	0	0	0	0	0	0
C-QV-06	10	0	0	0	0	0	0
C-QV-08	10	403,000	967,600	986,100	819,900	845,600	845,600
C-RP-02	184,961	0	0	0	0	0	0
C-RP-04	10	0	68,400	90,500	120,600	246,400	361,500
C-RP-08	10	670,000	1,075,700	1,005,200	1,005,200	8,025,300	9,025,300
C-RP-17	3,018	0	0	0	0	0	0
C-RP-21	10	0	0	0	0	0	0
C-SS-01	10	0	0	0	0	0	0
C-SS-02	10	0	0	0	0	0	0
C-SS-03	10	0	0	0	0	0	0
C-TC-04	603,519	2,300	36,200	37,700	13,100	21,200	21,200
C-TC-06	4,533,033	12,200	68,600	62,100	183,400	269,300	250,500
C-TS-02	710,228	0	0	0	0	0	0
C-TS-04	109,650	0	0	0	0	0	0
C-WS-01	10	337,400	642,500	464,200	464,200	472,500	472,500
C-WS-02	12,548,089	88,600	45,500	48,900	48,900	49,700	49,700
C-WS-03	209,400	16,700	682,000	575,800	0	0	0
C-WS-04	10	1,016,100	1,473,800	826,700	0	0	0
C-WS-07	10	3,916,300	3,022,500	3,553,400	3,553,400	3,559,300	3,559,300
C-WS-09	10	1,121,300	1,716,400	1,782,200	1,782,200	1,811,800	1,811,800
C-WS-12	13,043,059	0	0	0	0	0	0
C-WS-14	28,667,322	0	0	0	0	0	0
TOTAL		14,111,500	19,130,200	20,913,900	21,953,500	29,692,300	27,660,100

Figure 1

Combined Cost of 111 Action Plans When All Are Started in FY92

C-AX-02	C-EM-37	C-MA-04	C-PT-04
C-AX-03	C-EM-38	C-MA-06	C-PT-05
C-CS-01	C-EM-39	C-MA-08	C-PT-06
C-CS-02	C-EM-41	C-MGT-02	C-QV-04
C-CS-04	C-EM-42	C-MGT-05	C-QV-05
C-CS-05	C-EM-44	C-MGT-06	C-QV-06
C-EA-01	C-EM-47	C-MGT-09	C-QV-08
C-EA-02	C-EM-49	C-MGT-10	C-RP-02
C-EM-02	C-EM-50	C-MGT-11	C-RP-04
C-EM-04	C-EM-51	C-MGT-13	C-RP-08
C-EM-05	C-EM-52	C-MGT-19	C-RP-17
C-EM-07	C-EM-55	C-NP-04	C-RP-21
C-EM-09	C-EM-56	C-OA-01	C-SS-01
C-EM-11	C-EM-57	C-OP-02	C-SS-02
C-EM-15	C-EP-02	C-OP-03	C-SS-03
C-EM-16	C-EP-06	C-OP-04	C-TC-04
C-EM-18	C-EP-07	C-OP-11	C-TC-06
C-EM-19	C-ES-01	C-OP-12	C-TS-02
C-EM-21	C-ES-02	C-OP-13	C-TS-04
C-EM-23	C-ES-04	C-OP-14	C-WS-01
C-EM-24	C-FP-01	C-OP-15	C-WS-02
C-EM-25	C-FP-02	C-OP-18	C-WS-03
C-EM-26	C-FP-05	C-OP-19	C-WS-04
C-EM-27	C-FP-10	C-PP-03	C-WS-07
C-EM-28	C-FP-13	C-PP-04	C-WS-09
C-EM-29	C-FP-14	C-PP-06	C-WS-12
C-EM-31	C-FP-15	C-PT-01	C-WS-14
C-EM-35	C-FP-16	C-PT-03	

Action Plan Starting Dates

Figure 2

Cost of Action Plan C-TC-06 When It Starts in FY92

Total Cost from FY92 Through FY97 = \$846,100

Net Benefit = \$4,533,000

Figure 3

Cost of Action Plan C-TC-06 When It Starts in FY93

Total Cost from FY92 Through FY97 = \$595,600

Net Benefit = \$3,191,000

When we delay the start of an action plan, some of its costs occur beyond our planning horizon (FY92 to FY97). For instance, when we start action plan C-TC-06 in FY93, its total cost from FY92 to FY97 drops from \$846,100 to \$595,600. We can assume that the net benefit derived from this plan during the same period drop proportionately. This means the net benefit drops from \$4,533,000 to about \$3,191,000 ($= 4,533,000 * 595,600 / 846,100$).

Similarly when we start action plan C-TC-06 in FY94, the total cost from FY92 to FY97 drops to \$326,000 and the net benefit drops to about \$1,748,200. Figure 4 shows the costs associated with C-TC-06 when we start it in FY94.

Figure 4

Cost of Action Plan C-TC-06 When It Starts in FY94

Total Cost from FY92 Through FY97 = \$326,300

Net Benefit = \$1,748,200

When should we start action plan C-TC-06? Figure 5 shows the net benefit associated with starting it in each year from FY92 through FY97. The net benefit drops in proportion to the total cost of the action plan in this period. The longer we delay the action plan, the lower its costs and the more likely we are to meet any funding constraints. However delays also mean lower net benefit from the project.

Figure 5

Net Benefit and Total Cost (FY92 Through FY97) For Action Plan C-CT-06

Picking the best time to start each action plan is an optimization problem. We want to maximize the total net benefit from all action plans subject to a constraint that the total cost in any year cannot exceed the budget limit. We have software (IBM's optimization subroutine library) that will solve this problem efficiently on a personal computer. We give the software the option of starting each action plan in any year from FY92 to FY97. Since the software is trying to maximize total net benefit, it will try to start each action plan as soon as possible. When that is not possible it will delay those action plans that reduce costs with the least impact on total net benefit. The software uses a sophisticated algorithm to search through combinations of action-plan start dates. Typically it looks at hundreds of thousands of combinations in a few minutes.

Figure 6 shows the result of the optimization when the cost constraint is \$18.499 million each year. Here the software was able to stay below the limit by starting two action plans (C-PT-05 and C-RP-08) in FY97. The remaining 109 action plans start in FY92.

Figure 6

Combined Cost of 111 Action Plans When Annual Costs Cannot Exceed \$18.5M

C-AX-02	C-EM-37	C-MA-04	C-PT-04
C-AX-03	C-EM-38	C-MA-06	C-PT-06
C-CS-01	C-EM-39	C-MA-08	C-QV-04
C-CS-02	C-EM-41	C-MGT-02	C-QV-05
C-CS-04	C-EM-42	C-MGT-05	C-QV-06
C-CS-05	C-EM-44	C-MGT-06	C-QV-08
C-EA-01	C-EM-47	C-MGT-09	C-RP-02
C-EA-02	C-EM-49	C-MGT-10	C-RP-04
C-EM-02	C-EM-50	C-MGT-11	C-RP-17
C-EM-04	C-EM-51	C-MGT-13	C-RP-21
C-EM-05	C-EM-52	C-MGT-19	C-SS-01
C-EM-07	C-EM-55	C-NP-04	C-SS-02
C-EM-09	C-EM-56	C-OA-01	C-SS-03
C-EM-11	C-EM-57	C-OP-02	C-TC-04
C-EM-15	C-EP-02	C-OP-03	C-TC-06
C-EM-16	C-EP-06	C-OP-04	C-TS-02
C-EM-18	C-EP-07	C-OP-11	C-TS-04
C-EM-19	C-ES-01	C-OP-12	C-WS-01
C-EM-21	C-ES-02	C-OP-13	C-WS-02
C-EM-23	C-ES-04	C-OP-14	C-WS-03
C-EM-24	C-FP-01	C-OP-15	C-WS-04
C-EM-25	C-FP-02	C-OP-18	C-WS-07
C-EM-26	C-FP-05	C-OP-19	C-WS-09
C-EM-27	C-FP-10	C-PP-03	C-WS-12
C-EM-28	C-FP-13	C-PP-04	C-WS-14
C-EM-29	C-FP-14	C-PP-06	
C-EM-31	C-FP-15	C-PT-01	
C-EM-35	C-FP-16	C-PT-03	

C-PT-05
C-RP-08

Action Plan Starting Dates

As the last column in Figure 6 shows, delaying only two action plans means that the total cost in FY97 will be slightly more than \$18.0 million. If we require the optimization software to stay below this limit in every year, it produces the set of start dates shown in Figure 7. The only difference between this and the previous solution is that action plan C-RP-04 starts in FY93 instead of FY92. This causes the total cost in FY97 to drop below \$18.0 million.

The next three figures show what happens when we continue to lower the annual cost constraint. If the constraint is \$14.0 million, we get the set of starting dates shown in Figure 8. Here six action plans are delayed until FY96 and FY97. C-EM-05, C-EM-11, and C-WS-07 start in FY96, and C-PT-05, C-RP-08, and C-WS-09 start in FY97. The remaining 105 action plans start in FY92.

If we lower the annual cost constraint to \$11.0 million, some additional action plans are delayed. Figure 9 shows this case. Here C-EM-05 and C-TC-06 start in FY95, and C-MA-06 and C-WS-07 start in FY96. The following action plans start in FY97: C-EM-11, C-EM-56, C-FP-13, C-MA-08, C-MGT-13, C-PT-03, C-PT-05, C-QV-08, C-RP-04, C-RP-08, C-WS-01, and C-WS-09. The remaining 95 action plans start in FY92.

The optimization software cannot find a solution when the annual cost constraint is less than \$10.8 million. However it can find a solution for this constraint. Figure 10 shows the starting dates that allow the total cost in each year to be less than \$10.8 million. Here 21 action plans are delayed, most of them until FY97. The remaining 90 action plans start in FY92.

How realistic are solutions that start a large number of action plans in FY97? At present, we are not considering costs that occur after FY97. The optimization software does not attempt to hold FY98 costs to any limit, although it could easily do so. As the optimization problem is currently formulated, FY98 costs could exceed the annual funding limit. If this is a serious problem, we could reformulate the problem to limit costs that occur after FY97.

Another way to make the optimization more realistic is to let it shift funds from one year to another, if this is possible. We could easily set more relaxed cost constraints for each year, but require the average cost be remain below a tighter limit.

Finally, we have considered only incremental and ongoing, institution costs. These costs are only about 63% of the total cost of the 111 action plans from FY92 through FY97. Apparently we are assuming that there are no constraints on the other 37% of the total cost. If additional costs constraints exist it would be easy to include them in the optimization.

Figure 7

Combined Cost of 111 Action Plans When Annual Costs Cannot Exceed \$18.0M

Action Plan Starting Dates

Figure 8

Combined Cost of 111 Action Plans When Annual Costs Cannot Exceed \$14.0M

C-AX-02	C-EM-37	C-MA-04	C-PT-04
C-AX-03	C-EM-38	C-MA-06	C-PT-06
C-CS-01	C-EM-39	C-MA-08	C-QV-04
C-CS-02	C-EM-41	C-MGT-02	C-QV-05
C-CS-04	C-EM-42	C-MGT-05	C-QV-06
C-CS-05	C-EM-44	C-MGT-06	C-QV-08
C-EA-01	C-EM-47	C-MGT-09	C-RP-02
C-EA-02	C-EM-49	C-MGT-10	C-RP-04
C-EM-02	C-EM-50	C-MGT-11	C-RP-17
C-EM-04	C-EM-51	C-MGT-13	C-RP-21
C-EM-07	C-EM-52	C-MGT-19	C-SS-01
C-EM-09	C-EM-55	C-NP-04	C-SS-02
C-EM-15	C-EM-56	C-OA-01	C-SS-03
C-EM-16	C-EM-57	C-OP-02	C-TC-04
C-EM-18	C-EP-02	C-OP-03	C-TC-06
C-EM-19	C-EP-06	C-OP-04	C-TS-02
C-EM-21	C-EP-07	C-OP-11	C-TS-04
C-EM-23	C-ES-01	C-OP-12	C-WS-01
C-EM-24	C-ES-02	C-OP-13	C-WS-02
C-EM-25	C-ES-04	C-OP-14	C-WS-03
C-EM-26	C-FP-01	C-OP-15	C-WS-04
C-EM-27	C-FP-02	C-OP-18	C-WS-12
C-EM-28	C-FP-05	C-OP-19	C-WS-14
C-EM-29	C-FP-10	C-PP-03	
C-EM-31	C-FP-13	C-PP-04	
C-EM-35	C-FP-14	C-PP-06	
	C-FP-15	C-PT-01	
	C-FP-16	C-PT-03	

C-EM-05	C-PT-05
C-EM-11	C-RP-08
C-WS-07	C-WS-09

Action Plan Starting Dates

Figure 9

Combined Cost of 111 Action Plans When Annual Costs Cannot Exceed \$11.0M

Action Plan Starting Dates

Figure 10

Combined Cost of 111 Action Plans When Annual Costs Cannot Exceed \$10.8M

Action Plan Starting Dates

Attachment 17

Instructions and Measurement Scales Used to Evaluate Radiological Control Actions

September 9, 1992

**Instructions and Scales
for Evaluating LANL Actions
Taken to Comply With the
DOE Radiological Control Manual**

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INTRODUCTION

This document contains step-by-step instructions for making estimates necessary to evaluate and prioritize LANL actions taken to comply with the DOE Radiological Control Manual. These estimates measure the benefit of taking each action. The benefit measures are combined with separate estimates of costs to prioritize the actions. The cost estimates are not addressed here.

In these instructions, your estimates are called "scores". Each score measures a possible motivation for conducting (or not conducting) an action. Combinations of the scores measure the benefits of taking an action, including: reducing human health and safety risks, protecting the natural environment, reducing adverse socioeconomic impacts, complying with requirements and orders, and reducing adverse impacts on Laboratory programs. These criteria are shown in the following diagram. The major benefit categories are shown at the top, with some of the individual measures below them.

Because there are numerous motivations for conducting actions, numerous estimates (scores) are required for the evaluation. This document describes how to develop each score. However few people, if any, will need to provide every score. A particular score is needed only if the quantity it measures is significant for the evaluation. Each section begins with screening questions to determine whether it is necessary to provide the scores in that section.

Providing a score requires a judgment about what would happen if an action is, or is not, taken. Admittedly, many of the required judgments are difficult. Nevertheless, it is important that you provide these estimates. The only logical way to evaluate and prioritize actions is to estimate and compare their effects. In the absence of hard data on the consequences and effectiveness of actions, the best source of information is the professional judgment of those most familiar with the actions.

This document contains scales that describe possible consequences of taking, or not taking, an action. For example, the section that describes worker health and safety risks asks for estimates

of the likelihood that people will be exposed to a hazard if an action is, or is not, taken. The scale for this measure has four levels. The descriptions of these levels range from:

"1. Exposure is extremely rare or unlikely. The chances that a typical worker will be exposed in a one-year period are no more than 1 in 1,000,000."

to:

"4. Exposure is assured or almost certain."

You should read the description corresponding to each level on the scale and chose the level that most closely reflects your judgement. The descriptions are numbered. Write the number of the description you selected on the scoring form.

You may provide a score that is not an integer if your estimate lies somewhere between the levels indicated by two descriptions. For example, a score of 2.5 means that your estimate is about half way between the levels indicated by scores of 2 and 3. It could also mean that parts of the descriptions associated with scores of 2 and 3 correspond to your estimate.

You should not assign scores beyond the range defined in the scale. For instance, assign the highest score on the scale if you believe the actual situation will be even more extreme than the description associated with the highest score. Please assign scores for all scales that apply to your action. If you do not provide a relevant score (i.e., by leaving it blank), it will be assumed that you believe the quantity measured by the score is not significant for the evaluation.

The scoring instructions are detailed to minimize scoring difficulties. It is impossible, however, to anticipate all of the special circumstances and questions that may arise when scoring actions. If you encounter difficulties in your attempt to use these instructions please contact Dan Brooks or Allen Miller. They will clarify or augment these instructions as needed to address special scoring difficulties.

Please write your scores on the form called *Scoring Form for Evaluating LANL RadCon Actions*.

I. WORKER HEALTH AND SAFETY RISKS

Does the problem addressed by the action produce a health or safety risk to workers?

Is the action itself perceived to produce a health or safety risk to workers?

If your answer to both questions is No, do not use the instructions or scales for Section I. Skip to Section II on page 7.

Worker health and safety risk is determined by four factors: (a) the severity of the potential health or safety effect, (b) the potential for exposure, (c) the likelihood that the effect occurs given exposure, and (d) the number of workers at risk. A separate scale measures each factor.

If different worker populations experience different risks, you should choose the population that experiences the primary risk of concern. Identifying the primary risk of concern means identifying the single population group that accounts for the majority or the most significant portion of the risk. Consider both the size of the population and the risk experienced by each person when identifying the primary risk of concern. For example, a small risk to a large population of workers may be more significant than a larger risk to a small population. If you

are uncertain about which of several risks represents the primary risk of concern, you may develop separate risk scores for each distinct population. For example, you may develop a set of risk scores for a large population of workers who experience a small risk and a different, small population that experience a relatively higher risk (e.g., workers who implement the action). Provide a brief, written description of the risk (i.e., describe the population of workers and the nature of the hazard) that is the basis for each set of scores. Attach this description to the scoring form.

Part A1: Baseline Severity of Potential Health and Safety Effects

Baseline risk is the risk that occurs if the action is **not** taken. Assume that the action is **not** taken and an individual is exposed to the potential source of risk. How severe is the health or safety effect that might result? If different exposure scenarios result in different health or safety effects, assume a typical exposure scenario. If you are uncertain about the severity of potential health and safety effects, assign a score such that the actual effects are equally likely to be above or below the level indicated by your score.

1. Minor effect. Exposures are unlikely to produce more than minor injury and/or temporary discomfort.
2. Moderate effect. Exposures may produce moderate injury or illness, but the effects are not likely to be life threatening or permanent.
3. Serious effect. Exposures may produce permanent debilitating injury or serious long-term illness.
4. Very serious effect. Exposure may produce death.

Part A2: Modified Severity of Health and Safety Effects

Assume the action is taken and an individual is exposed to the potential source of risk. Use the scale in Part A1 to estimate the severity of the health or safety effect that might result. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate of the severity of potential health and safety effects, assign the same score that you did when assessing baseline risk.

Part B1: Baseline Potential for Exposure

Assume the action is **not** taken. Consider a typical worker within the population at risk. How likely is it that this individual will be exposed to radiation measurably higher than background radiation?

1. Exposure is extremely rare or unlikely. The chances that a typical worker will be exposed in a one-year period are no more than 1 in 1,000,000.

2. Exposure is unlikely. The chances of an exposure occurring during a one-year period are on the order of 1 in 10,000.
3. Exposure is relatively likely. The chances of an exposure occurring during a one-year period are on the order of 1 in 100.
4. Exposure is assured or almost certain.

Part B2: Modified Potential for Exposure

Assume the action is taken. Use the scale in Part B1 to estimate the likelihood that a typical individual will be exposed to radiation measurably higher than background radiation. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part C1: Baseline Likelihood of Health and Safety Effects

Assume that the action is **not** taken and a worker is exposed. How likely is it that this exposure will produce a health or safety effect of the severity reflected by your score in Part A1?

1. Extremely unlikely. The chances of the health or safety effect resulting from the exposure are no more than 1 chance in 1,000,000.
2. Unlikely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 10,000.
3. Relatively likely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 100.
4. Assured or almost certain. Exposure is virtually certain to produce the health or safety effect of concern.

Part C2: Modified Likelihood of Health and Safety Effects

Assume the action is taken. Use the scale in Part C1 to estimate the likelihood that exposure will produce a health or safety effect of the severity reflected by your score in Part A2. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part D1: Baseline Population at Risk

Assuming that the action is **not** taken, how many workers will be exposed to the risk source? If exposure requires an unlikely, initiating event, how many individuals are likely to be exposed if the event occurs. If exposures may occur frequently or repeatedly, how many individuals are likely to be exposed during a one year period?

1. Very few. No more than 1 to 10 people in all.
2. Small to moderate number. Roughly 10 to 100 people.
3. Large number. Roughly 100 to 1,000 people.
4. Virtually all workers.

Part D2: Modified Population at Risk

Assume the action is taken. Use the scale in Part D1 to estimate how many workers are potentially exposed. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline risk.

II. PUBLIC HEALTH AND SAFETY RISKS

Does the problem addressed by the action produce a health or safety risk to members of the public?

Is the action itself perceived to produce a health or safety risk to members of the public?

If your answer to both questions is No, do not use the instructions or scales for Section II. Skip to Section III on page 11.

Public health and safety risk is determined by four factors: (a) the severity of the potential health or safety effect, (b) the potential for exposure, (c) the likelihood that the effect occurs given exposure, and (d) the size of the population at risk. A separate scale measures each factor. These scales are similar to those for measuring the health and safety risk to workers.

If different segments of the public experience different risks, you should choose the group of people that experiences the primary risk of concern. Identifying the primary risk of concern means identifying the single group that accounts for the majority or the most significant portion of the risk. Consider both the size of the group and the risk experienced by each person when

identifying the primary risk of concern. For example, a small risk to a large number of people may be more significant than a larger risk to a small group. If you are uncertain about which of several risks represents the primary risk of concern, you may develop separate risk scores for several distinct groups. For example, you may develop a set of risk scores for a large group that experiences a small risk and a different, smaller group that experiences a relatively higher risk. Provide a brief, written description of the risk (i.e., describe the group at risk and the nature of the hazard) that is the basis for each set of scores. Attach this description to the scoring form.

Part A1: Baseline Severity of Health and Safety Effects

Baseline risk is the risk that occurs if the action is **not** taken. Assume that the action is **not** taken and an individual is exposed to the potential source of risk. How severe is the health or safety effect that might result? If different exposure scenarios result in different health or safety effects, assume a typical exposure scenario. If you are uncertain about the severity of potential health and safety effects, assign a score such that the actual effects are equally likely to be above or below the level indicated by your score.

1. Minor effect. Exposures are unlikely to produce more than minor injury and/or temporary discomfort.
2. Moderate effect. Exposures may produce moderate injury or illness, but the effects are not likely to be life threatening or permanent.
3. Serious effect. Exposures may produce permanent debilitating injury or serious long-term illness.
4. Very serious effect. Exposure may produce death.

Part A2: Modified Severity of Health and Safety Effects

Assume the action **is** taken and an individual is exposed to the potential source of risk. Use the scale in Part A1 to estimate the severity of the health or safety effect that might result. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate of the severity of potential health and safety effects, assign the same score that you did when assessing baseline risk.

Part B1: Baseline Potential for Exposure

Assume the action is **not** taken. Consider a typical member of the public within the population at risk. How likely is it that this individual will be exposed to radiation measurably higher than background radiation?

1. Exposure is extremely rare or unlikely. The chances that a typical worker will be exposed in a one-year period are no more than 1 in 1,000,000.

2. Exposure is unlikely. The chances of an exposure occurring during a one-year period are on the order of 1 in 10,000.
3. Exposure is relatively likely. The chances of an exposure occurring during a one-year period are on the order of 1 in 100.
4. Exposure is assured or almost certain.

Part B2: Modified Potential for Exposure

Assume the action is taken. Use the scale in Part B1 to estimate the likelihood that a typical individual will be exposed to radiation measurably higher than background radiation. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part C1: Baseline Likelihood of Health and Safety Effects

Assume that the action is **not** taken and a member of the public is exposed. How likely is it that this exposure will produce a health or safety effect of the severity reflected by your score in Part A1?

1. Extremely unlikely. The chances of the health or safety effect resulting from the exposure are no more than 1 chance in 1,000,000.
2. Unlikely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 10,000.
3. Relatively likely. The chances of the health or safety effect resulting from the exposure are on the order of 1 chance in 100.
4. Assured or almost certain. Exposure is virtually certain to produce the health or safety effect of concern.

Part C2: Modified Likelihood of Health and Safety Effects

Assume the action is taken. Use the scale in Part C1 to estimate the likelihood that exposure will produce a health or safety effect of the severity reflected by your score in Part A2. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline risk.

Part D1: Baseline Population at Risk

Assuming that the action is **not** taken, how many members of the public are potentially exposed? If exposure requires an unlikely, initiating event, how many individuals are likely to be exposed if the event occurs. If exposures may occur frequently or repeatedly, how many individuals are likely to be exposed during a one year period?

1. Very few. No more than 1 to 10 people in all.
2. Small to moderate number. Roughly 10 to 100 people.
3. Large number. Roughly 100 to 1,000 people.
4. Very large number. Roughly 1,000 to 10,000 people or more.

Part D2: Modified Population at Risk

Assume the action **is** taken. Use the scale in Part D1 to estimate how many members of the public are potentially exposed. Consider both residual risks from the problem addressed by the action and any risks that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline risk.

III. ENVIRONMENTAL RISKS

Does the problem to be addressed by the action, or the action itself, produce the risk of an adverse impact on the natural environment?

If your answer to this question is No, do not use the instructions or scales for Section III. Skip to Section IV on page 14.

Baseline environmental risk is determined by three factors: (a) the resources affected, (b) the likelihood that an impact occurs, and (c) the magnitude of the threat or level of damage to the environmental resources. The environmental resources at risk in the Los Alamos area have already been tabulated and scored using guidance from the Environmental Protection Agency. This document contains scales for measuring the other two factors.

Part A1: Baseline Magnitude of Impact on Environmental Resources

The following scale describes the magnitude of the environmental impact potentially resulting from the problem addressed by the action. If the impact requires an initiating event, assume the event occurs. Assign the score that best applies when considering, on balance, the various descriptions associated with each score and the implication of these descriptions with regard to the threat posed to sensitive resources. If you are uncertain about the magnitude of environmental impacts, assign a score such that the actual impacts are equally likely to be above or below the level indicated by your score.

Assign the baseline score that reflects your estimate of the impact that, in your judgment, will occur if the action is **not** taken.

1. The problem addressed by the action poses a **low threat** to the environment:

- The nature of hazard characteristics and potential environmental pathways are such that there is no credible scenario by which released radioactive or toxic chemicals or other hazards could impact sensitive environmental resources at sufficient levels to cause significant damage.
 - At worst, environmental exposures would produce a minor and temporary impact on the environment which would cause no lasting damage.
2. The problem addressed by the action poses a **moderate threat** to the environment:
- The nature of the hazard and potential environmental pathways is such that credible scenarios would result in moderate levels of impact to environmental resources that may affect the local abundance of a sensitive species or damage valued (but not unique) historical properties.
 - Observations indicate that environmental quality may be decreasing with time. Action to prevent spread of contaminants in toxic concentrations or similar hazard will probably be needed in less than 10 years.
 - At worst, environmental exposure would produce a moderate, temporary impact on the environment which would be largely self correcting within about 10 years.
3. The problem addressed by the action poses a **high threat** to the environment:
- The nature of the hazard and potential environmental pathways is such that credible scenarios would produce widespread and severely damage to sensitive species or destruction of unique historical properties.
 - Observations indicate that environmental quality is rapidly decreasing with time. Action to prevent spread of contaminants in toxic concentrations or similar hazard will probably be needed in less than 5 years.
 - Environmental exposures would produce major, permanent damage to the environment.

Part A2: Modified Magnitude of Impact on Environmental Resources

Using the scale in Part B1, estimate the magnitude of the impact on environmental resources that will occur if the action is taken. If the impact requires an initiating event, assume the event occurs. Consider both residual impacts from the problem addressed by the action and any impacts that result from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline impact.

Part B1: Baseline Likelihood of Impact on Environmental Resources

Assume that the action is **not** taken. How likely is it that the environmental impact you identified in Part B1 will occur?

1. Extremely unlikely. The chances of the environmental impact are no more than 1 chance in 1,000,000.
2. Unlikely. The chances of the environmental impact are on the order of 1 chance in 10,000.
3. Relatively likely. The chances of the environmental impact are on the order of 1 chance in 100.
4. Assured or almost certain. The environmental impact is virtually certain to occur, or is occurring now.

Part B2: Modified Likelihood of Impact on Environmental Resources

Assume the action is taken. Use the scale in Part C1 to estimate the likelihood that the environmental impact you identified in Part B2 will occur. Consider both residual impact from the problem addressed by the action and any impact that results from taking the action. If taking the action does not alter your estimate, assign the same score that you did when assessing the baseline likelihood of impact.

IV. COMMUNITY CONCERN

Level of community concern is an approximate measure of the adverse socioeconomic impacts experienced by a community. Although the level of community concern about a Laboratory problem cannot be measured directly, various factors serve as indicators. Indicators include the frequency and tone of media coverage, the responses taken by political organizations, the extent to which individuals worry about the problem, the level of public trust and Laboratory credibility, whether the problem is perceived as an ethnic or cultural fairness issue, and whether there is evidence of economic losses or opportunity costs to the community.

Is a segment of the public or worker population aware and concerned about the problem addressed by the action? If nothing is done about the problem, are people likely to become concerned during the next five years?

If your answer to both of these questions is No, do not use the instructions or scales for Section IV. Skip to Section V on page 19.

Part A1: Baseline Community Concern

Use the scale below to estimate the level of community concern over the problem to be addressed by the action. Assume that the action is **not** taken and estimate the average level of concern that will exist during the next five years. Assign the score that best applies when considering, on balance, the various descriptions associated with each score. For example, if some of the descriptions associated with a score of two fit the problem, and so do some of the descriptions associated with a score of three, assign a score between two and three (e.g., 2.5). If you are uncertain about the level of community concern, assign a score such that the actual level is equally likely to be above or below the level indicated by your score.

1. Community concern will be very low or nonexistent.

- Workers and area residents will demonstrate almost no knowledge of or interest in the problem addressed by the action.

2. Community concern will be low.

- The problem addressed by the action may occasionally (i.e., several times per year) appear in local news stories.
- There will be little significant discussion of the problem addressed by the action at community meetings.
- Nearly all area residents will give the problem addressed by the action little thought (as would be indicated, for example, by public opinion poll results).
- Public trust and Laboratory credibility are not seriously threatened.
- If the problem addressed by the action is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived only a small number of individual members of the group rather than by the group as a whole. The perceived conflict is likely to be forgotten within a year.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are relatively small (no more than a few thousand dollars).¹

¹ Possible losses include:

- Depressed property values in close proximity to the problem addressed by the action (e.g., within five miles)
- Frustrated demands to use contaminated facilities, land, or other resources (e.g., potential site for housing, community college, mall, industry)
- Recreational value losses
- Infrastructure substitution (e.g., alternative water supply)
- Lost opportunities for private use of consumable resources (e.g., agriculture, fishing for personal consumption)

Consider community losses only if someone in the vicinity of the Laboratory has claimed to be suffering significant economic losses or opportunity costs as a result of the presence or perception of the problem addressed by the action. If costs occur in each of several years, reflect this by computing total discounted costs assuming a 10% discount rate. You can base your estimate on the amount claimed by those affected by the problem, or you can make your own estimate of the losses if you believe the claims are not realistic.

3. Community concern is moderate.

- Local news media will carry frequent (i.e., greater than monthly) informational articles about the problem addressed by the action.
- The problem addressed by the action will be frequently discussed at a variety of community and local government meetings.
- Some area residents will have significant concerns, although most residents will give little thought to the problem addressed by the action.
- Many area residents who are concerned about the problem may perceive the Laboratory response to be ineffective. Public trust and Laboratory credibility will be tarnished temporarily.
- If the problem addressed by the action is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by a significant subset of the group, but not by the group as a whole. The perceived conflict is likely to persist.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of \$200,000 total or \$20,000 annually.

4. Community concern is moderately high.

- There will be occasional (i.e., several times per year) negative coverage of the problem addressed by the action in media serving localized areas within the surrounding area.
- Local governmental bodies will initiate some action regarding the problems (such as proclamations or resolutions) and/or single-purpose public groups will form to pressure governmental action related to cleanup.
- Most of the area residents will have some concern about the problem addressed by the action.
- Many area residents may perceive the Laboratory response to be somewhat misguided or uninformed. Public trust and Laboratory credibility is likely to be seriously damaged.
- If the problem addressed by the action is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by the regional leadership of that group. The perceived conflict is likely to persist for many years.

- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of one million dollars total or \$100,000 annually.

5. Community concern is high.

- Local and regional news coverage, including coverage from media in Santa Fe and Albuquerque, will be frequent (i.e., greater than monthly) and typically negative, and there will be occasional national coverage of the problem addressed by the action.
- Small-scale public protests will be common.
- Nearly all the area residents will have some concern about the problem addressed by the action, and, for a few, the topic will be among their most serious personal worries.
- Many area residents will perceive the Laboratory response to be seriously inappropriate. Public trust and Laboratory credibility is likely to be seriously and permanently damaged.
- If the problem addressed by the action is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by all group members at the regional level. The perceived conflict is likely to persist indefinitely.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of \$5 million total or \$500,000 annually.

6. Community concern is very high.

- Local and regional news coverage, including coverage from media in Santa Fe and Albuquerque, will be frequent (i.e., greater than monthly) and quite negative, and there will be occasional negative national coverage.
- Small-scale public protests will be common and local referenda related to the problem addressed by the action will be held; state officials will begin becoming involved.
- Nearly all area residents will have some concern about the problem addressed by the action, many will have high concern and, for a few, the topic will be among their most serious personal worries; in addition, the public will begin becoming polarized to the point of threatening constructive communication.

- A large segment of the public will perceive the Laboratory response to be a blatant disregard for public health and safety, or renege on a promise or commitment of fundamental importance. Public trust and Laboratory credibility is likely to be damaged irreparably.
- If the problem addressed by the action is perceived as an equity or fairness issue by members of a distinct ethnic, cultural, or other universally recognized group, it will be so perceived by all group members at the national level. The perceived conflict is likely to persist indefinitely.
- If members of the community claim economic losses or opportunity costs as a result of the presence or perception of the problem, such claimed losses are on the order of \$10 million total or \$1 million annually.

Part A2: Modified Community Concern

Using the scale in Part A1, estimate the level of community concern over the problems addressed by the action, assuming the action is taken. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline public concern.

V. REGULATORY COMPLIANCE

The following scales measure two aspects of regulatory compliance: the legal implications of a violation and its impact on Laboratory operations.

Regulatory Violations

The Laboratory may find that it is in **noncompliance** with the rulings of some local, federal, or regulatory authority. Only that authority, however, has the jurisdictional and legal right to find that the Laboratory is in **violation** of one of the authority's rulings. Findings of noncompliance are not binding, but findings of violations may be.

Could either the problem addressed by the action or the action itself result in allegations that the Laboratory or its personnel are in violation of the rulings of some local, federal, or regulatory authority?

If your answer to this question is No, do not use the instructions or scales for regulatory violations (Parts A1, A2, B1, and B2). Skip to the instructions for impact on Laboratory operations (Parts C1, C2, D1, and D2) on page 23.

The score for regulatory compliance is determined from two factors: (a) the seriousness of a violation of a regulatory requirement or other commitment, and (b) the likelihood that an allegation of a violation will occur. This set of scales (Parts A1, A2, B1, and B2) measures the seriousness of not being in compliance in terms of the type and number of violations that could occur, and legal problems they could produce. It does not measure the effect of those violations on Laboratory programs. A separate set of scales in Parts C1, C2, D1, and D2 measure the impact on Laboratory programs and operations.

Part A1: Baseline Seriousness of Violation

If the action is **not** taken and one or more regulatory violations result during the next five years, which of the following best describes the seriousness of those violations? Assign the score that best applies when considering, on balance, the various descriptions associated with each score. If you are uncertain about the seriousness of a potential violation, assign a score such that the actual seriousness is equally likely to be above or below the level indicated by your score. If you do not believe a violation will occur during the next five years, assign scores corresponding to the least significant violation in Part A1 and a likelihood of zero in Part B1.

1. The potential regulatory violation is of **minor** significance.

- A slippage will occur in meeting a commitment imposed by any of the following:
 - ◆ A non-legally binding or non-enforceable agreement, such as a Memorandum of Understanding
 - ◆ A non-applicable Federal, State, local, or Tribal law that LANL has agreed to observe as a matter of comity
 - ◆ An internal contractual agreement or commitment
- The violation may be an embarrassment for LANL officials and may be perceived as a breach of promise, but no external regulatory response action is expected.
- Civil/stipulated monetary penalties are very unlikely or impossible.

2. The potential regulatory violation is of **moderate** significance.

- A slippage will occur in meeting a **generally non-enforceable obligation**² imposed by any of the following:
 - ◆ A DOE request
 - ◆ An obligation generally not subject to formal enforcement actions under a major environmental statute, regulation, Indian Tribe ordinance or resolution
- Regulatory agencies are likely to take informal response actions to said violations, such as telephone calls or meetings. A formal written statement or notification of a violation is unlikely.

² In this context, obligation refers to a timetable, deadline, or schedule included as part of the terms and conditions of a binding agreement or order, or any provision of a standard, regulation, or requirement that is objectively defined.

- Civil/stipulated monetary penalties are generally not associated with violations of this nature.
3. The potential regulatory violations are of **major** significance.
- A slippage will occur in meeting **one or more enforceable obligations** within the next five years imposed by any of the following:
 - ◆ An enforceable statutory requirement under a major environmental statute, regulation, or Indian Treaty
 - ◆ A DOE order
 - ◆ A signed civil judicial enforcement action, such as a court order
 - Civil/stipulated monetary penalties are likely.
 - An administrative notification action by a regulatory agency is almost certain (e.g., Notice of Violation or Non-Compliance), and an initial escalated regulatory response action is likely.
4. The potential regulatory violations are of **very major** significance.
- Numerous enforceable obligations (roughly 100) will be missed within the next five years, and the obligations correspond to numerous separate regulated units. In addition, these slippages produce irreversible, long-term regulatory consequences in the next five years.
 - The problem results in a Tiger Team category-II finding of noncompliance with a DOE order.
 - Civil/Stipulated monetary penalties are certain and will likely be a very significant fraction of action costs (e.g., 25%).
 - An escalated regulatory response action of a most serious nature is almost certain (e.g., injunctive relief by Federal district courts).
5. The potential regulatory violations are of the **most serious** significance.
- The problem results in a Tiger Team category-I finding.
 - The conditions necessary to qualify for a score of at least a 3 are met, plus it is estimated that regulatory agencies will respond to the violation by formally charging that LANL is responsible for reckless and knowing failure to take

mandated actions necessary to prevent an imminent and substantial endangerment to public health, welfare, or the environment.

Part A2: Modified Seriousness of Violation

Assume that the action is taken. Also assume that the problem addressed by the action, or the action itself, result in allegations of regulatory violations during the next five years (i.e., allegations of regulatory violations occur even though the action is taken). Use the scale in Part A1 to estimate the seriousness of those violations. If taking the action does not alter your estimate, assign the same score that you did when assessing baseline seriousness of a violation. If you do not believe a violation will occur after the action is taken, assign scores corresponding to the least significant violation in Part A2 and a likelihood of zero in Part B2.

Part B1: Baseline Likelihood of Allegations of a Violation

Assume the action is **not** taken. Use the following scale to estimate the probability that an allegation of a regulatory violation will occur that corresponds to your score in Part A1. Select the statement that best approximates your judgment regarding the likelihood that there will be allegations of regulatory violations.

1. We are certain to comply with all applicable regulatory requirements. The likelihood of a violation is extremely unlikely (i.e., the probability is essentially zero).
2. We are on track with applicable regulatory requirements. It is unlikely (probability less than 10%) that any regulatory requirement will not be met.
3. There is technical and/or programmatic uncertainty over whether we will meet all regulatory requirements; however, the odds are low (probability about 25%) that the problem will lead to one or more allegations of violations.
4. The odds are roughly even (probability about 50%) that the problem will lead to one or more allegations of violations.
5. The odds are high (probability about 75%) that the problem will lead to one or more allegations of violations.
6. It is almost certain (probability greater than 90%) that the problem will lead to one or more allegations of violations.

Part B2: Modified Likelihood of Allegations of a Violation

Assume the action **is** taken. Use the scale in Part B1 to estimate the probability that an allegation of a regulatory violation will occur that corresponds to your score in Part A2. Consider both the remaining potential for an allegation resulting from the problem addressed by the action and the possibility that taking the action could lead to an allegation. If taking the action does not alter

your estimate, assign the same score that you did when assessing baseline likelihood of a violation.

Impact on Laboratory Programs

Could either the problem addressed by the action or the action itself result in an adverse impact on Laboratory programs, such as temporarily shutting down a Laboratory facility or reducing the size or number of existing programs?

If your answer to this question is No, do not use the instructions or scales for impact on Laboratory programs (Parts C1, C2, D1, and D2). If your answer is No, you are done.

The score for impact on Laboratory programs is determined from two factors: (a) the seriousness of the impact that the problem addressed by an action will have on Laboratory programs and (b) the likelihood of the impact.

Part C1: Baseline Seriousness of Impact on Laboratory Programs

If an action is not taken (i.e., it is delayed), there may be an adverse impact on Laboratory programs (e.g., critical equipment working incorrectly), or a collateral impact on other programs (e.g., drainage contaminating measurements in another operation). It may also result in regulatory curtailment of a program. These effects are measured by the following scales.

Examples of Impacts on Laboratory Programs

Level of Impact	Approximate Cost	Duration of Shutdown					
		1 Day	1 Week	1 Month	3 Month	1 Year	>3 Year (Permanent)
Significant	\$100 - 300K	TA-55 CCF TA-50 Bldg 1	LAMPF (Ops) CMR Phermex	LANSCE HRL		SM-40 Basement	5 Light Labs 10 Offices
Major	\$2 - 25M		TA-55 CCF TA-50 Bldg 1	LAMPF (Ops) CMR Phermex	LANSCE HRL TA-46 TA-35 TA-48	LACEF	SM-40 Basement ICF
				TA-55 CCF TA-50 Bldg 1	CMR Phermex	LANSCE HRL TA-46 TA-35 TA-48	LACEF TA-21 West TA-33 TA-35 Bldg 27 Sigma
Very Major	\$50 - 500M				TA-55 CCF Weapons Tests TA-50 Bldg 1	LAMPF CMR Phermex	LANSCE HRL TA-46 TA-35 TA-48
						TA-55 CCF Weapons Tests TA-50 Bldg 1	LAMPF CMR Phermex
Critical	>\$500M						TA-55 CCF Weapons Tests TA-50 Bldg 1

The preceding table summarizes the scale for level of impact on Laboratory programs. The scale measures impacts in terms of shutting down major facilities, especially TA-55 and the Central Computing Facility (CCF). Other facilities and sites are included as examples.

If the action is **not** taken and the problem addressed by an action results in a potentially adverse impact on Laboratory programs, which of the following best describes the **seriousness** of that impact? Assign the score that best applies when considering, on balance, the descriptions associated with each score. If you are uncertain about the seriousness of potential impacts on Laboratory programs, assign a score such that the actual seriousness is equally likely to be above or below the level indicated by your score.

1. The problem has **no adverse impact** on Laboratory programs and operations.
 - There is no noticeable impact on existing programs of interest
 - A reduction occurs in either the size or number of programs for which the Laboratory has:
 - ◆ no desire to continue participation
 - ◆ no expertise to continue participation
2. The problem has a **significant adverse impact** on Laboratory programs and operations.
 - The equivalent of a one-day shutdown of TA-55 or CCF, a one-week shutdown of LAMPF or CMR Building, or a permanent shutdown of 10 offices (see the preceding table)
 - A small one-to-three-year reduction in the size or number of existing **division-level** programs (or of desired new programs at the division level) for which there is both existing expertise and a clear desire to perform.
3. The problem has a **major adverse impact** on Laboratory programs and operations.
 - The equivalent of a one-week to one-month shutdown of TA-55, a one-to-three-month shutdown of the CMR Building, or a permanent loss of ICF or TA-33 or Sigma Building (see the preceding table)
 - A 3 year reduction in the size or number of existing **directorship-level** programs (or of desired new programs at the directorship level) that support and enhance long-term Laboratory mission objectives, and for which there is existing expertise.
4. The problem has a **very major adverse impact** on Laboratory programs and operations.
 - The equivalent of a three-month to one-year shutdown of TA-55 or CCF or weapons tests, a one-to-three-year shutdown of CMR or LAMPF, or a permanent loss of HRL or LANSCE or TA-48 (see the preceding table)

- There is a permanent reduction in the size and/or number of existing **Laboratory-wide** programs (or of desired new Laboratory-wide programs) that are of national importance and support maintenance of an outstanding base in science and technology.

5. The problem has a **critical adverse impact** on Laboratory programs and operations:

- The equivalent of a permanent loss of TA-55 or CCF or weapons tests (see the preceding table)
- The loss of a program (new or existing) which is sufficiently important to alter the direction and identity of the Laboratory and its mission,³ or to threaten the existence of the Laboratory.

Part C2: Modified Seriousness of Impact on Laboratory Programs

Assume that the action **is** taken. If the problem addressed by the action could still affect Laboratory programs, or the action itself, results in a potentially adverse impact on Laboratory programs, estimate the seriousness of those impacts using the scale in Part C1. Consider both the remaining potential for an impact resulting from a partially-resolved problem and the possibility that taking the action could lead to an impact.

Part D1: Baseline Likelihood of Impact on Laboratory Programs

Assume the action is **not** taken. Use the following scale to estimate the probability that the problem addressed by the action will result in an adverse impact on Laboratory programs. This impact involves delaying or canceling Laboratory programs, as described in Part C1. Indicate which of the following statements best approximates your judgment regarding the likelihood that the problem addressed by the action will result in an adverse impact on laboratory programs.

1. It is unlikely (probability less than 10%) that the problem, if not corrected soon, will lead to adverse impacts.
2. The odds are low (probability about 25%) that the problem, if not corrected soon, will lead to adverse impacts.

³ Los Alamos National Laboratory mission and goals:

- The application of scientific and engineering capabilities to solving problems of national importance, primarily in nuclear weapons technology
- Strong support of basic science in selected disciplines to help maintain an outstanding science and technology base
- Maintain a leading position in a broad range of scientific and technical fields necessary to accomplish these objectives

3. The odds are roughly even (probability about 50%) that the problem, if not corrected soon, will lead to adverse impacts.
4. The odds are high (probability about 75%) that the problem, if not corrected soon, will lead to adverse impacts.
5. It is almost certain (probability greater than 90%) that the problem, if not corrected soon, will lead to adverse impacts.

Part D2: Modified Likelihood of Impact on Laboratory Programs

Assume that the action is taken. Use the scale in Part D1 to estimate the probability that a problem partially addressed by the action, or the action itself, will result in an adverse impact on Laboratory programs. Consider both the remaining potential for an impact resulting from a partially-resolved problem and the possibility that taking the action could lead to an impact.

Attachment 18

Benefit Scores for Radiological Control Actions

Benefit Summary

(Sorted by benefit and action number)

LANL Radiation Control Actions

11:17 am
September 16, 1992

Action #	Includes	Action Name	Benefit (x 1,000)
312	313,315	Contamination Control Levels	3,672
631	632-634	Radiological Worker Training	2,250
641	642-645	Radiological Control Technician Training	2,250
441	442,443	Waste Minimization	1,770
562		Inspection, Calibration & Pert. Tests	1,485
223		Airborne Radioactivity Controls	373
421	422	Release of Radioactive Materials	345
132	133,135,13	Mgmt of Radiological Goals (ALARA)	286
411	412,413,41	Radioactive Waste Management	252
364	365	Accelerator Operations	225
231	232-237	Posting Requirements	213
431		Radioactive Source Control	187
564		Calibration Facilities	181
551		Rad Monitoring and Surveys Requirements	174
331	332-336,33	Controlled Areas	171
212	216	Lifetime Control Level	138
522		Technical Requirements for Internal Dosimetry	120
321	322,323,32	Radiological Work Permits	110
325		Personal Protective Equipment and Clothing	98
314		Temporary Shielding	94
621	622	General Employee Radiological Training (GERT)	94
712	713,721-2,	Radiological Records	94
775p1,2,3		Physical Protection of Records	94
451	452	Control of Radioactive Liquids	69
512p1		DOELAP Accreditation External Dosimetry	69
511p4		External Dosimetry Return Schedule	64
512p4		Extremity Monitoring in External Dosimetry	64
423		Transportation of Radioactive Materials	58
612	613,616	General Training Requirements	45
552		Rad Exposure Surveys	35
351		Conduct of Critiques	33
353		Lessons Learned	33
515		Nuclear Accident Dosimetry	26
123		Worker Responsibilities	22
651	652-654,65	Other Radiological Training	21
464		Vacuum Cleaners	16
222p3		Contamination Control Levels	14
751	752-754	Rad Surveys	14
346		Response to Abnormal Situations	12
361		Plutonium Operations	12
725		Rad Training and Qualification	3

LANL Radiation Control Actions

11:02 am
September 16, 1992

Action #	Includes	Action Name	Benefit (x 1,000).
123		Worker Responsibilities	22
132	133,135,13	Mgmt of Radiological Goals (ALARA)	286
212	216	Lifetime Control Level	138
222p3		Contamination Control Levels	14
223		Airborne Radioactivity Controls	373
231	232-237	Posting Requirements	213
312	313,315	Contamination Control Levels	3,672
314		Temporary Shielding	94
321	322,323,32	Radiological Work Permits	110
325		Personal Protective Equipment and Clothing	98
331	332-336,33	Controlled Areas	171
346		Response to Abnormal Situations	12
351		Conduct of Critiques	33
353		Lessons Learned	33
361		Plutonium Operations	12
364	365	Accelerator Operations	225
411	412,413,41	Radioactive Waste Management	252
421	422	Release of Radioactive Materials	345
423		Transportation of Radioactive Materials	58
431		Radioactive Source Control	187
441	442,443	Waste Minimization	1,770
451	452	Control of Radioactive Liquids	69
454		Vacuum Cleaners	16
511p4		External Dosimetry Return Schedule	64
512p1		DOELAP Accreditation External Dosimetry	69
512p4		Extremity Monitoring in External Dosimetry	64
515		Nuclear Accident Dosimetry	26
522		Technical Requirements for Internal Dosimetry	120
551		Rad Monitoring and Surveys Requirements	174
552		Rad Exposure Surveys	35
562		Inspection, Calibration & Pert. Tests	1,485
564		Calibration Facilities	181
612	613,616	General Training Requirements	45
621	622	General Employee Radiological Training (GERT)	94
631	632-634	Radiological Worker Training	2,250
641	642-645	Radiological Control Technician Training	2,250
651	652-654,65	Other Radiological Training	21
712	713,721-2,	Radiological Records	84
725		Rad Training and Qualification	3
751	752-754	Rad Surveys	14
775p1,2,3		Physical Protection of Records	84

***Contribution to
Benefit***

LANL Radiation Control Actions
Contribution to Benefit

11:19 ar
September 16, '12

123	Worker Responsibilities	
Section I, Worker H&S:	5	24.0%
Section II, Public H&S:	3	11.5%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	64.4%
Benefit:	22	

132	133,135,138	Mgmt of Radiological Goals (ALARA)	
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	17.5%	
Section V, Compliance:	236	82.5%	
Benefit:	286		

212	216	Lifetime Control Level	
Section I, Worker H&S:	18	12.9%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	72.7%	
Section V, Compliance:	20	14.4%	
Benefit:	138		

222p3	Contamination Control Levels	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	100.0%
Benefit:	14	

223	Airborne Radioactivity Controls	
Section I, Worker H&S:	87	23.3%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	13.4%
Section V, Compliance:	236	63.3%
Benefit:	373	

231	232-237	Posting Requirements	
Section I, Worker H&S:	87	40.8%	
Section II, Public H&S:	0	.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	47.0%	
Section V, Compliance:	26	12.2%	
Benefit:	213		

LANL Radiation Control Actions
Contribution to Benefit

11:19 am
September 16, 1992

312	313,315	Contamination Control Levels	
Section I, Worker H&S:		3,054	83.2%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		100	2.7%
Section V, Compliance:		518	14.1%
Benefit:		3,672	

314	Temporary Shielding		
Section I, Worker H&S:	72	75.7%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	23	24.3%	
Benefit:	94		

321	322,323,324	Radiological Work Permits	
Section I, Worker H&S:		99	89.6%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		12	10.4%
Benefit:		110	

25	Personal Protective Equipment and Clothing		
Section I, Worker H&S:	87	88.5%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	11	11.5%	
Benefit:	98		

331	332-336,338	Controlled Areas	
Section I, Worker H&S:		76	44.5%
Section II, Public H&S:		2	1.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		70	41.0%
Section V, Compliance:		23	13.4%
Benefit:		171	

346	Response to Abnormal Situations		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	12	100.0%	
Benefit:	12		

LANL Radiation Control Actions
Contribution to Benefit

11:19 ar
September 16, '74

351	Conduct of Critiques		
Section I, Worker H&S:	21	64.7%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	12	35.3%	
Benefit:	33		

353	Lessons Learned		
Section I, Worker H&S:	21	64.7%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	12	35.3%	
Benefit:	33		

361	Plutonium Operations		
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	12	100.0%	
Benefit:	12		

364	365	Accelerator Operations		
Section I, Worker H&S:	213	95.0%		
Section II, Public H&S:	0	0.0%		
Section III, Environment:	0	0.0%		
Section IV, Community Concern:	0	0.0%		
Section V, Compliance:	11	5.0%		
Benefit:	225			

411	412, 413, 414	Radioactive Waste Management		
Section I, Worker H&S:	9	3.4%		
Section II, Public H&S:	4	1.6%		
Section III, Environment:	0	0.0%		
Section IV, Community Concern:	50	19.8%		
Section V, Compliance:	189	75.1%		
Benefit:	252			

421	422	Release of Radioactive Materials		
Section I, Worker H&S:	5	1.4%		
Section II, Public H&S:	4	1.2%		
Section III, Environment:	0	0.0%		
Section IV, Community Concern:	100	29.0%		
Section V, Compliance:	236	68.5%		
Benefit:	345			

LANL Radiation Control Actions
Contribution to Benefit

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September 16, 1992

423	Transportation of Radioactive Materials	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	87.0%
Section V, Compliance:	8	13.0%
Benefit:	58	

431	Radioactive Source Control	
Section I, Worker H&S:	89	47.3%
Section II, Public H&S:	31	16.5%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	26.7%
Section V, Compliance:	18	9.5%
Benefit:	187	

441	442,443	Waste Minimization	
Section I, Worker H&S:	9	.5%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	15	.9%	
Section IV, Community Concern:	100	5.6%	
Section V, Compliance:	1,646	93.0%	
Benefit:	1,770		

51	452	Control of Radioactive Liquids	
Section I, Worker H&S:	0	0.0%	
Section II, Public H&S:	0	.2%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	72.7%	
Section V, Compliance:	19	27.1%	
Benefit:	69		

464	Vacuum Cleaners	
Section I, Worker H&S:	2	12.2%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	87.8%
Benefit:	16	

511p4	External Dosimetry Return Schedule	
Section I, Worker H&S:	0	.1%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	77.8%
Section V, Compliance:	14	22.2%
Benefit:	64	

LANL Radiation Control Actions
Contribution to Benefit

11:19 am
September 16, 2

512p1	DOELAP Accreditation External Dosimetry	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	72.9%
Section V, Compliance:	19	27.1%
Benefit:	69	

512p4	Extremity Monitoring in External Dosimetry	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	50	77.8%
Section V, Compliance:	14	22.2%
Benefit:	64	

515	Nuclear Accident Dosimetry	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	26	100.0%
Benefit:	26	

522	Technical Requirements for Internal Dosimetr	
Section I, Worker H&S:	0	0.0%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	83.5%
Section V, Compliance:	20	16.5%
Benefit:	120	

551	Rad Monitoring and Surveys Requirements	
Section I, Worker H&S:	0	.0%
Section II, Public H&S:	0	.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	100	57.5%
Section V, Compliance:	74	42.5%
Benefit:	174	

552	Rad Exposure Surveys	
Section I, Worker H&S:	21	59.8%
Section II, Public H&S:	0	0.0%
Section III, Environment:	0	0.0%
Section IV, Community Concern:	0	0.0%
Section V, Compliance:	14	40.2%
Benefit:	35	

LANL Radiation Control Actions
Contribution to Benefit

11:19 am
September 16, 1992

562	Inspection, Calibration & Pert. Tests		
Section I, Worker H&S:	0	.0%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	1,485	100.0%	
Benefit:	1,485		

564	Calibration Facilities		
Section I, Worker H&S:	0	.1%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	27.6%	
Section V, Compliance:	131	72.3%	
Benefit:	181		

612	613,616	General Training Requirements	
Section I, Worker H&S:	29	65.2%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	0	0.0%	
Section V, Compliance:	16	34.8%	
Benefit:	45		

1	622	General Employee Radiological Training (GERT)	
Section I, Worker H&S:	29	31.3%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	50	53.2%	
Section V, Compliance:	15	15.5%	
Benefit:	94		

631	632-634	Radiological Worker Training	
Section I, Worker H&S:	250	11.1%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	4.4%	
Section V, Compliance:	1,900	84.4%	
Benefit:	2,250		

641	642-645	Radiological Control Technician Training	
Section I, Worker H&S:	250	11.1%	
Section II, Public H&S:	0	0.0%	
Section III, Environment:	0	0.0%	
Section IV, Community Concern:	100	4.4%	
Section V, Compliance:	1,900	84.4%	
Benefit:	2,250		

LANL Radiation Control Actions
Contribution to Benefit

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September 16, 1992

651	652-654,657	Other Radiological Training	
Section I, Worker H&S:		5	25.4%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		16	74.6%
Benefit:		21	

712	713,721-2,731,7	Radiological Records	
Section I, Worker H&S:		0	.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		70	83.1%
Section V, Compliance:		14	16.9%
Benefit:		84	

725		Rad Training and Qualification	
Section I, Worker H&S:		0	0.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		3	100.0%
Benefit:		3	

751	752-754	Rad Surveys	
Section I, Worker H&S:		0	0.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		0	0.0%
Section V, Compliance:		14	100.0%
Benefit:		14	

775p1,2,3		Physical Protection of Records	
Section I, Worker H&S:		0	.0%
Section II, Public H&S:		0	0.0%
Section III, Environment:		0	0.0%
Section IV, Community Concern:		70	83.1%
Section V, Compliance:		14	16.9%
Benefit:		84	

***Benefit
for Section I,
Worker Health
and Safety***

LANL Radiation Control Actions

11:36 am
September 16, 1992

Action #	Includes	Action Name	Worker ..&S (x 1,000)
312	313,315	Contamination Control Levels	3,054
631	632-634	Radiological Worker Training	250
641	642-645	Radiological Control Technician Training	250
364	365	Accelerator Operations	213
321	322,323,32	Radiological Work Permits	99
431		Radioactive Source Control	89
223		Airborne Radioactivity Controls	87
231	232-237	Posting Requirements	87
325		Personal Protective Equipment and Clothing	87
331	332-336,33	Controlled Areas	76
314		Temporary Shielding	72
612	613,616	General Training Requirements	29
621	622	General Employee Radiological Training (GERT)	29
351		Conduct of Critiques	21
353		Lessons Learned	21
552		Rad Exposure Surveys	21
212	216	Lifetime Control Level	18
411	412,413,41	Radioactive Waste Management	9
441	442,443	Waste Minimization	9
651	652-654,65	Other Radiological Training	5
123		Worker Responsibilities	5
421	422	Release of Radioactive Materials	5
464		Vacuum Cleaners	2
564		Calibration Facilities	0
132	133,135,13	Mgmt of Radiological Goals (ALARA)	0
511p4		External Dosimetry Return Schedule	0
712	713,721-2,	Radiological Records	0
775p1,2,3		Physical Protection of Records	0
222p3		Contamination Control Levels	0
551		Rad Monitoring and Surveys Requirements	0
562		Inspection, Calibration & Pert. Tests	0
512p1		DOELAP Accreditation External Dosimetry	0
346		Response to Abnormal Situations	0
361		Plutonium Operations	0
423		Transportation of Radioactive Materials	0
451	452	Control of Radioactive Liquids	0
512p4		Extremity Monitoring in External Dosimetry	0
515		Nuclear Accident Dosimetry	0
522		Technical Requirements for Internal Dosimetry	0
725		Rad Training and Qualification	0
751	752-754	Rad Surveys	0

***Benefit
for Section II,
Public Health
and Safety***

LANL Radiation Control Actions

11:49 ar
September 16, 1977

Action #	Includes	Action Name	Public H&S (x 1,000)
431		Radioactive Source Control	31
411	412,413,41	Radioactive Waste Management	4
421	422	Release of Radioactive Materials	4
123		Worker Responsibilities	3
331	332-336,33	Controlled Areas	2
451	452	Control of Radioactive Liquids	0
231	232-237	Posting Requirements	0
551		Rad Monitoring and Surveys Requirements	0
132	133,135,13	Mgmt of Radiological Goals (ALARA)	0
212	216	Lifetime Control Level	0
222p3		Contamination Control Levels	0
223		Airborne Radioactivity Controls	0
312	313,315	Contamination Control Levels	0
314		Temporary Shielding	0
321	322,323,32	Radiological Work Permits	0
325		Personal Protective Equipment and Clothing	0
346		Response to Abnormal Situations	0
351		Conduct of Critiques	0
353		Lessons Learned	0
361		Plutonium Operations	0
364	365	Accelerator Operations	0
423		Transportation of Radioactive Materials	0
441	442,443	Waste Minimization	0
464		Vacuum Cleaners	0
511p4		External Dosimetry Return Schedule	0
512p1		DOELAP Accreditation External Dosimetry	0
512p4		Extremity Monitoring in External Dosimetry	0
515		Nuclear Accident Dosimetry	0
522		Technical Requirements for Internal Dosimetry	0
552		Rad Exposure Surveys	0
562		Inspection, Calibration & Pert. Tests	0
564		Calibration Facilities	0
612	613,616	General Training Requirements	0
621	622	General Employee Radiological Training (GERT)	0
631	632-634	Radiological Worker Training	0
641	642-645	Radiological Control Technician Training	0
651	652-654,65	Other Radiological Training	0
712	713,721-2,	Radiological Records	0
725		Rad Training and Qualification	0
751	752-754	Rad Surveys	0
775p1,2,3		Physical Protection of Records	0

***Benefit
for Section III,
Environmental
Risks***

LANL Radiation Control Actions

11:57 am
September 16, ' 2

Action #	Includes	Action Name	Environment (x 1,000)
441	442,443	Waste Minimization	15
123		Worker Responsibilities	0
132	133,135,13	Mgmt of Radiological Goals (ALARA)	0
212	216	Lifetime Control Level	0
222p3		Contamination Control Levels	0
223		Airborne Radioactivity Controls	0
231	232-237	Posting Requirements	0
312	313,315	Contamination Control Levels	0
314		Temporary Shielding	0
321	322,323,32	Radiological Work Permits	0
325		Personal Protective Equipment and Clothing	0
331	332-336,33	Controlled Areas	0
346		Response to Abnormal Situations	0
351		Conduct of Critiques	0
353		Lessons Learned	0
361		Plutonium Operations	0
364	365	Accelerator Operations	0
411	412,413,41	Radioactive Waste Management	0
421	422	Release of Radioactive Materials	0
423		Transportation of Radioactive Materials	0
431		Radioactive Source Control	0
451	452	Control of Radioactive Liquids	0
464		Vacuum Cleaners	0
511p4		External Dosimetry Return Schedule	0
512p1		DOELAP Accreditation External Dosimetry	0
512p4		Extremity Monitoring in External Dosimetry	0
515		Nuclear Accident Dosimetry	0
522		Technical Requirements for Internal Dosimetry	0
551		Rad Monitoring and Surveys Requirements	0
552		Rad Exposure Surveys	0
562		Inspection, Calibration & Pert. Tests	0
564		Calibration Facilities	0
612	613,616	General Training Requirements	0
621	622	General Employee Radiological Training (GERT)	0
631	632-634	Radiological Worker Training	0
641	642-645	Radiological Control Technician Training	0
651	652-654,65	Other Radiological Training	0
712	713,721-2,	Radiological Records	0
725		Rad Training and Qualification	0
751	752-754	Rad Surveys	0
775p1,2,3		Physical Protection of Records	0

***Benefit
for Section IV,
Community
Concern***

LANL Radiation Control Actions

12:01 pm
September 16, 1992Community Concern
(x 1,000)

Action #	Includes	Action Name	Community Concern (x 1,000)
212	216	Lifetime Control Level	100
231	232-237	Posting Requirements	100
312	313,315	Contamination Control Levels	100
421	422	Release of Radioactive Materials	100
441	442,443	Waste Minimization	100
522		Technical Requirements for Internal Dosimetry	100
551		Rad Monitoring and Surveys Requirements	100
631	632-634	Radiological Worker Training	100
641	642-645	Radiological Control Technician Training	100
331	332-336,33	Controlled Areas	70
712	713,721-2,	Radiological Records	70
775p1,2,3		Physical Protection of Records	70
132	133,135,13	Mgmt of Radiological Goals (ALARA)	50
223		Airborne Radioactivity Controls	50
411	412,413,41	Radioactive Waste Management	50
423		Transportation of Radioactive Materials	50
431		Radioactive Source Control	50
451	452	Control of Radioactive Liquids	50
511p4		External Dosimetry Return Schedule	50
512p1		DOELAP Accreditation External Dosimetry	50
512p4		Extremity Monitoring in External Dosimetry	50
564		Calibration Facilities	0
621	622	General Employee Radiological Training (GERT)	50
123		Worker Responsibilities	0
222p3		Contamination Control Levels	0
314		Temporary Shielding	0
321	322,323,32	Radiological Work Permits	0
325		Personal Protective Equipment and Clothing	0
346		Response to Abnormal Situations	0
351		Conduct of Critiques	0
353		Lessons Learned	0
361		Plutonium Operations	0
364	365	Accelerator Operations	0
464		Vacuum Cleaners	0
515		Nuclear Accident Dosimetry	0
552		Rad Exposure Surveys	0
562		Inspection, Calibration & Pert. Tests	0
612	613,616	General Training Requirements	0
651	652-654,65	Other Radiological Training	0
725		Rad Training and Qualification	0
751	752-754	Rad Surveys	0

***Benefit
for Section V,
Regulatory
Compliance***

LANL Radiation Control Actions

12:04 pm
September 16, '92

Action #	Includes	Action Name	Compliance (x 1,000)
631	632-634	Radiological Worker Training	1,900
641	642-645	Radiological Control Technician Training	1,900
441	442,443	Waste Minimization	1,646
562		Inspection, Calibration & Pert. Tests	1,485
312	313,315	Contamination Control Levels	518
132	133,135,13	Mgmt of Radiological Goals (ALARA)	236
223		Airborne Radioactivity Controls	236
421	422	Release of Radioactive Materials	236
411	412,413,41	Radioactive Waste Management	189
564		Calibration Facilities	131
551		Rad Monitoring and Surveys Requirements	74
231	232-237	Posting Requirements	26
515		Nuclear Accident Dosimetry	26
314		Temporary Shielding	23
331	332-336,33	Controlled Areas	23
212	216	Lifetime Control Level	20
522		Technical Requirements for Internal Dosimetry	20
451	452	Control of Radioactive Liquids	19
512p1		DOELAP Accreditation External Dosimetry	19
431		Radioactive Source Control	18
612	613,616	General Training Requirements	16
651	652-654,65	Other Radiological Training	
621	622	General Employee Radiological Training (GERT)	15
123		Worker Responsibilities	14
222p3		Contamination Control Levels	14
464		Vacuum Cleaners	14
511p4		External Dosimetry Return Schedule	14
512p4		Extremity Monitoring in External Dosimetry	14
552		Rad Exposure Surveys	14
712	713,721-2,	Radiological Records	14
751	752-754	Rad Surveys	14
775p1,2,3		Physical Protection of Records	14
321	322,323,32	Radiological Work Permits	12
346		Response to Abnormal Situations	12
351		Conduct of Critiques	12
353		Lessons Learned	12
361		Plutonium Operations	12
325		Personal Protective Equipment and Clothing	11
364	365	Accelerator Operations	11
423		Transportation of Radioactive Materials	8
725		Rad Training and Qualification	3

***Missing, Unused, or
Questionable Data***

12:24 am
September 16, 2

Missing, Unused, or Questionable RadCon Action Data

123 Worker Responsibilities
Unchanged assessments in Section IV

222p3 Contamination Control Levels
Unchanged assessments in Section IV

312 313,315 Contamination Control Levels
Baseline assessments in Section I => 1.357383276108 deaths.

346 Response to Abnormal Situations
Unchanged assessments in Section I

511p4 External Dosimetry Return Schedule
Assessments in Section I => change in severity of worker H&S effects

512p1 DOE LAP Accreditation External Dosimetry
Assessments in Section I => change in severity of worker H&S effects

512p4 Extremity Monitoring in External Dosimetry
Unchanged assessments in Section I

522 Technical Requirements for Internal Dosimetry
Unchanged assessments in Section I

551 Rad Monitoring and Surveys Requirements
Assessments in Section I => change in severity of worker H&S effects

564 Calibration Facilities
Assessments in Section I => change in severity of worker H&S effects

***Detailed
Radiation-Control
Data***

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 123

Includes:

Name of Action: Worker Responsibilities

Evaluator: Graf, McAtee, Huchton, Wahl

Date of Evaluation: 9/14/92

Last Review:

Benefit:

22
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? yes Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.5 C2: 1.4 D1: 3.9 D2: 3.9	A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.5 C2: 1.2 D1: 3.2 D2: 3.2	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? no C1: C2: D1: D2:
Baseline: 14 Modified: 9	Baseline: 3 Modified: 1	Baseline: 0 Modified: 0	Baseline: 50 Modified: 50	Baseline: 14 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 132
Includes: 133,135,138
Name of Action: Mgmt of Radiological Goals (ALARA)
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 286
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 1.0 A2: 1.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.9 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 2.0 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 1.0 D1: 5.0 D2: 1.0
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 100	Baseline: 236
Modified: 0	Modified: 0	Modified: 0	Modified: 50	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 212
Includes: 216
Name of Action: Lifetime Control Level
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 138
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.5 C2: 2.2 D1: 2.5 D2: 2.5	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.0 C2: 1.0 D1: 5.0 D2: 1.0
Baseline: 24 Modified: 6	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 100 Modified: 0	Baseline: 20 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 222p3

Benefit:

Includes:

14
(x1,000)

Name of Action: Contamination Control Levels

Evaluator: Graf, McAtee, Huchton, Wahl

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 1.0 A2: 1.0 B1: 4.0 B2: 4.0 C1: 1.5 C2: 1.4 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.0 A2: 1.0	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? no C1: C2: D1: D2:
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 14
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pr
September 16, 92

Action #: 223

Benefit: 37:
(x1,000)

Includes:

Name of Action: Airborne Radioactivity Controls

Evaluator: Graf, McAtee, Huchton, Wahl

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.8 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 2.0 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 1.0 D1: 5.0 D2: 1.0
Baseline: 144 Modified: 57	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 100 Modified: 50	Baseline: 236 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 231
Includes: 232-237
Name of Action: Posting Requirements
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 213
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? yes Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.8 D1: 3.9 D2: 3.9	A1: 3.0 A2: 3.0 B1: 3.3 B2: 2.8 C1: 1.5 C2: 1.5 D1: 2.0 D2: 2.0	Res:19.0 A1: A2: B1: B2:	A1: 2.5 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 144 Modified: 57	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 150 Modified: 50	Baseline: 26 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pr
September 16, 1992

Action #: 312
Includes: 313,315
Name of Action: Contamination Control Levels
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 3,67%
(x1,000)

Last Update: 9/14/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? no Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.9 C2: 2.4 D1: 3.6 D2: 3.6	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 3.0 A2: 2.0	A1: 3.2 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 1.0 D1: 5.0 D2: 1.0
-Baseline:- 3,393	-Baseline:- 0	-Baseline:- 0	-Baseline:- 200	-Baseline:- 518
Modified: 339	Modified: 0	Modified: 0	Modified: 100	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 314
Includes:
Name of Action: Temporary Shielding
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 94
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.7 C2: 2.5 D1: 2.8 D2: 2.8	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 3.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 119 Modified: 47	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 23 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 p
September 16, 9

Action #: 321
Includes: 322,323,324
Name of Action: Radiological Work Permits
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 11
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.1 C2: 1.9 D1: 3.8 D2: 3.8	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 164 Modified: 65	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 12 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 325

Benefit:

98

Includes:

(x1,000)

Name of Action: Personal Protective Equipment and Clothing

Evaluator: Graf, McAtee, Huchton, Wahl

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes	Problem? no	Problem? no	Now? no	Violation? yes
Action? yes	Action? no		5Yr? no	
A1: 3.0	A1:	Res:19.0	A1:	A1: 3.0
A2: 3.0	A2:		A2:	A2: 2.0
B1: 4.0	B1:	A1:		B1: 5.0
B2: 4.0	B2:	A2:		B2: 1.0
C1: 2.0	C1:	B1:		
C2: 1.8	C2:	B2:		
D1: 3.9	D1:			Program? no
D2: 3.9	D2:			C1:
				C2:
				D1:
				D2:
Baseline: 144	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 11
Modified: 57	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 331
Includes: 332-336,338
Name of Action: Controlled Areas
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 171
(x1,000)

Last Update: 9/14/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? yes Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.9 C2: 1.7 D1: 4.0 D2: 4.0	A1: 2.0 A2: 2.0 B1: 2.2 B2: 1.9 C1: 3.0 C2: 3.0 D1: 4.0 D2: 4.0	Res:19.0 A1: A2: B1: B2:	A1: 2.2 A2: 1.5	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 3.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 126 Modified: 50	Baseline: 2 Modified: 1	Baseline: 0 Modified: 0	Baseline: 120 Modified: 50	Baseline: 23 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 346
Includes:
Name of Action: Response to Abnormal Situations
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 12
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.8 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 57	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 12
Modified: 57	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 351

Benefit:

33

Includes:

(x1,000)

Name of Action: Conduct of Critiques

Evaluator: Graf, McAtee, Huchton, Wahl

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.7 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 57 Modified: 36	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 12 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 353
Includes:
Name of Action: Lessons Learned
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 33
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.7 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 57	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 12
Modified: 36	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 361
Includes:
Name of Action: Plutonium Operations
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 12
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? no Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: A2: B1: B2: C1: C2: D1: D2:	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 12
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 364
Includes: 365
Name of Action: Accelerator Operations
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/14/92
Last Review:

Benefit: 225
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 4.0 A2: 4.0 B1: 4.0 B2: 4.0 C1: 2.3 C2: 1.8 D1: 2.9 D2: 2.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 5.0 B2: 1.0 Program? no C1: C2: D1: D2:
Baseline: 237 Modified: 24	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 11 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 411
Includes: 412, 413, 414
Name of Action: Radioactive Waste Management
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 25:
(x1,000)

Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? yes Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 2.0 A2: 2.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.8 D1: 3.9 D2: 3.9	A1: 2.0 A2: 2.0 B1: 4.0 B2: 4.0 C1: 1.9 C2: 1.8 D1: 3.6 D2: 3.6	Res:19.0 A1: A2: B1: B2:	A1: 2.0 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 1.0 Program? yes C1: 3.0 C2: 1.0 D1: 4.0 D2: 1.0
Baseline: 14 Modified: 6	Baseline: 11 Modified: 7	Baseline: 0 Modified: 0	Baseline: 100 Modified: 50	Baseline: 189 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 421
Includes: 422
Name of Action: Release of Radioactive Materials
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 345
(x1,000)

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? yes Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: 2.0 A2: 2.0 B1: 4.0 B2: 4.0 C1: 1.9 C2: 1.8 D1: 4.0 D2: 4.0	A1: 2.0 A2: 2.0 B1: 4.0 B2: 4.0 C1: 1.9 C2: 1.8 D1: 3.6 D2: 3.6	Res:19.0 A1: A2: B1: B2:	A1: 2.5 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 1.0 Program? yes C1: 3.0 C2: 1.0 D1: 5.0 D2: 1.0
-Baseline:- 13	-Baseline:- 11	-Baseline:- 0	-Baseline:- 150	-Baseline:- 236
Modified: 8	Modified: 7	Modified: 0	Modified: 50	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 423

Benefit:

51

Includes:

(x1,000)

Name of Action: Transportation of Radioactive Materials

Evaluator: Graf, Huchton, Wahl

Date of Evaluation: 9/15/92

Last Review:

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? no Action? no	Problem? no Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: A2: B1: B2: C1: C2: D1: D2:	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 2.0 B1: 4.0 B2: 1.0
				Program? no
				C1: C2: D1: D2:
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 50	Baseline: 8
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 431
Includes:
Name of Action: Radioactive Source Control
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 187
(x1,000)

Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? yes Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.1 C2: 1.8 D1: 3.7 D2: 3.7	A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.8 D1: 3.3 D2: 3.3	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 2.0 B1: 6.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 3.5 D2: 1.0
Baseline: 118 Modified: 30	Baseline: 51 Modified: 20	Baseline: 0 Modified: 0	Baseline: 50 Modified: 0	Baseline: 18 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 441
Includes: 442,443
Name of Action: Waste Minimization
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 1,770
(x1,000)

Last Update: 9/16/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? yes	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 2.0 A2: 2.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.8 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: 1.0 A2: 1.0 B1: 3.0 B2: 2.5	A1: 3.0 A2: 2.0	A1: 4.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 2.0 D1: 5.0 D2: 1.0
Baseline: 14 Modified: 6	Baseline: 0 Modified: 0	Baseline: 17 Modified: 2	Baseline: 200 Modified: 100	Baseline: 1,647 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 451
Includes: 452
Name of Action: Control of Radioactive Liquids
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 69
(x1,000)

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? no Action? no	Problem? yes Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: A2: B1: B2: C1: C2: D1: D2:	A1: 1.0 A2: 1.0 B1: 4.0 B2: 4.0 C1: 2.3 C2: 2.1 D1: 3.3 D2: 3.3	Res:19.0 A1: A2: B1: B2:	A1: 2.0 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 1.0 Program? yes C1: 2.0 C2: 1.0 D1: 4.0 D2: 1.0
-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 100	-Baseline:- 19
Modified: 0	Modified: 0	Modified: 0	Modified: 50	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 464
Includes:
Name of Action: Vacuum Cleaners
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 16
(x1,000)

Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 2.0 A2: 2.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.9 D1: 3.6 D2: 3.6	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 6.0 B2: 1.0 Program? no C1: C2: D1: D2:
Baseline: 5	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 14
Modified: 3	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 511p4
Includes:
Name of Action: External Dosimetry Return Schedule
Evaluator: Church, Vasilik
Date of Evaluation: 9/14/92
Last Review:

Benefit: 64
(x1,000)

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 1.7 A2: 1.0 B1: 3.0 B2: 3.0 C1: 2.0 C2: 1.5 D1: 4.0 D2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0
				Program? no
				C1: C2: D1: D2:
-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 50	-Baseline:- 14
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 512p1

Benefit: 69
(x1,000)

Includes:

Name of Action: DOE LAP Accreditation External Dosimetry

Evaluator: Church, Vasilik

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 1.5 A2: 1.0 B1: 2.0 B2: 2.0 C1: 2.0 C2: 2.0 D1: 3.0 D2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.0 C2: 1.0 D1: 4.0 D2: 1.0
-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 50	-Baseline:- 19
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 512p4
Includes:
Name of Action: Extremity Monitoring in External Dosimetry
Evaluator: Church, Vasilik
Date of Evaluation: 9/14/92
Last Review:
Benefit: 64
(x1,000)
Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 1.0 A2: 1.0 B1: 2.5 B2: 2.5 C1: 2.0 C2: 2.0 D1: 3.0 D2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0 Program? no C1: C2: D1: D2:
-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 50	-Baseline:- 14
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05, pm
September 16, 2

Action #: 515

Benefit:

26

Includes:

(x1,000)

Name of Action: Nuclear Accident Dosimetry

Evaluator: Church, Vasilik

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? no Action? no	Problem? no Action? no	Problem? no	Now? no 5Yr? no	Violation? yes
A1: A2: B1: B2: C1: C2: D1: D2:	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 1.0 D1: 1.0 D2: 1.0
-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 26
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 522

Benefit: 120
(x1,000)

Includes:

Name of Action: Technical Requirements for Internal Dosimetry

Evaluator: Graf, Huchton, Wahl

Date of Evaluation: 9/15/92

Last Review:

Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.9 C2: 1.9 D1: 3.6 D2: 3.6	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 2.5 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.0 C2: 1.0 D1: 5.0 D2: 1.0
Baseline: 34 Modified: 34	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 150 Modified: 50	Baseline: 20 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 551

Benefit:

174

Includes:

(x1,000)

Name of Action: Rad Monitoring and Surveys Requirements

Evaluator: Church, Vasilik

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? yes Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 2.0 A2: 1.0 B1: 3.0 B2: 2.5 C1: 1.5 C2: 1.0 D1: 3.2 D2: 3.2	A1: 1.0 A2: 1.0 B1: 2.0 B2: 1.0 C1: 1.0 C2: 1.0 D1: 4.0 D2: 4.0	Res:19.0 A1: A2: B1: B2:	A1: 2.0 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 1.0 Program? yes C1: 2.5 C2: 1.0 D1: 3.0 D2: 1.0
-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 100	-Baseline:- 74
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 552
Includes:
Name of Action: Rad Exposure Surveys
Evaluator: Graf, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 35
(x1,000)

Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.7 D1: 3.9 D2: 3.9	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? no C1: C2: D1: D2:
-Baseline:- 57	-Baseline:- 0	-Baseline:- 0	-Baseline:- 0	-Baseline:- 14
Modified: 36	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 562

Benefit: 1,485
(x1,000)

Includes:

Name of Action: Inspection, Calibration & Pert. Tests

Evaluator: Church, Vasilik

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? no 5Yr? no	V-Compliance ----- Violation? yes
A1: 4.0 A2: 4.0 B1: 2.0 B2: 1.0 C1: 1.5 C2: 1.5 D1: 3.0 D2: 3.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 4.0 A2: 1.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.5 C2: 1.0 D1: 3.0 D2: 1.0
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 1,485
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 564

Benefit: 181
(x1,000)

Includes:

Name of Action: Calibration Facilities

Evaluator: Church, Vasilik

Date of Evaluation: 9/14/92

Last Review:

Last Update: 9/14/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 2.5 A2: 1.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.0 D1: 2.0 D2: 2.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0 Program? yes C1: 3.0 C2: 1.0 D1: 3.0 D2: 1.0
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 50	Baseline: 131
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 612
Includes: 613,616
Name of Action: General Training Requirements
Evaluator: Graf, McAtee, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 45
(x1,000)

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? no Action? no	Problem? no	Now? no 5Yr? no	Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.7 D1: 4.0 D2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0
Baseline: 80	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 16
Modified: 50	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 621
Includes: 622
Name of Action: General Employee Radiological Training (GERT)
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:
Benefit: 94
(x1,000)
Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 1.8 C2: 1.7 D1: 4.0 D2: 4.0	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.5 A2: 1.0	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.0 C2: 1.0 D1: 1.0 D2: 1.0
Baseline: 80 Modified: 50	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 50 Modified: 0	Baseline: 15 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 631
Includes: 632-634
Name of Action: Radiological Worker Training
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 2,250
(x1,000)

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? no Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.3 C2: 1.9 D1: 3.7 D2: 3.7	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 2.5 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.5 Program? yes C1: 4.0 C2: 1.0 D1: 2.5 D2: 1.0
Baseline: 297	Baseline: 0	Baseline: 0	Baseline: 150	Baseline: 1,900
Modified: 47	Modified: 0	Modified: 0	Modified: 50	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 641
Includes: 642-645
Name of Action: Radiological Control Technician Training
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review: Last Update: 9/15/92

Benefit: 2,250
(x1,000)

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.3 C2: 1.9 D1: 3.7 D2: 3.7	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 2.5 A2: 1.5	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.5 Program? yes C1: 4.0 C2: 1.0 D1: 2.5 D2: 1.0
Baseline: 297 Modified: 47	Baseline: 0 Modified: 0	Baseline: 0 Modified: 0	Baseline: 150 Modified: 50	Baseline: 1,900 Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pr
September 16, 1992

Action #: 651
Includes: 652-654,657
Name of Action: Other Radiological Training
Evaluator: Graf, McAtee, Huchton, Wahl
Date of Evaluation: 9/15/92
Last Review:

Benefit: 21
(x1,000)

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? no Action? no	Problem? no	Now? no 5Yr? no	Violation? yes
A1: 3.0 A2: 3.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.9 D1: 3.2 D2: 3.2	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 2.0 B1: 6.0 B2: 2.0 Program? yes C1: 2.0 C2: 1.0 D1: 2.0 D2: 1.0
Baseline: 14	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 16
Modified: 9	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 712
Includes: 713, 721-2, 731, 741, 743
Name of Action: Radiological Records
Evaluator: Eisle, Voltin
Date of Evaluation: 9/15/92
Last Review:

Benefit: 84
(x1,000)

Last Update: 9/15/92

I-Worker H&S ----- Problem? yes Action? no	II-Public H&S ----- Problem? no Action? no	III-Environ. ----- Problem? no	IV-Concern ----- Now? yes 5Yr? yes	V-Compliance ----- Violation? yes
A1: 1.0 A2: 1.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.0 D1: 3.2 D2: 3.2	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.7 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0
				Program? no
				C1: C2: D1: D2:
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 70	Baseline: 14
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pr
September 16, 1992

Action #: 725

Benefit:

3

Includes:

(x1,000)

Name of Action: Rad Training and Qualification

Evaluator: Graf

Date of Evaluation: 9/16/92

Last Review:

Last Update: 9/16/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? no	Problem? no	Problem? no	Now? no	Violation? yes
Action? no	Action? no		5Yr? no	
A1:	A1:	Res:	A1:	A1: 3.0
A2:	A2:		A2:	A2: 1.0
B1:	B1:	A1:		B1: 6.0
B2:	B2:	A2:		B2: 2.0
C1:	C1:	B1:		
C2:	C2:	B2:		
D1:	D1:			Program? yes
D2:	D2:			C1: 2.0
				C2: 3.0
				D1: 1.0
				D2: 1.0
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 15
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 12

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 751
Includes: 752-754
Name of Action: Rad Surveys
Evaluator: Graf, McAtee, Huchton
Date of Evaluation: 9/16/92
Last Review:

Benefit: 14
(x1,000)

Last Update: 9/16/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? no Action? no	Problem? no Action? no	Problem? no	Now? no 5Yr? no	Violation? yes
A1: A2: B1: B2: C1: C2: D1: D2:	A1: A2: B1: B2: C1: C2: D1: D2:	Res: A1: A2: B1: B2:	A1: A2:	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0
				Program? no
				C1: C2: D1: D2:
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 14
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000

LANL Radiation Control Actions

12:05 pm
September 16, 1992

Action #: 775p1,2,3

Benefit:

84

Includes:

(x1,000)

Name of Action: Physical Protection of Records

Evaluator: Eisle, Voltin

Date of Evaluation: 9/15/92

Last Review:

Last Update: 9/15/92

I-Worker H&S -----	II-Public H&S -----	III-Environ. -----	IV-Concern -----	V-Compliance -----
Problem? yes Action? no	Problem? no Action? no	Problem? no	Now? yes 5Yr? yes	Violation? yes
A1: 1.0 A2: 1.0 B1: 4.0 B2: 4.0 C1: 2.0 C2: 1.0 D1: 3.2 D2: 3.2	A1: A2: B1: B2: C1: C2: D1: D2:	Res:19.0 A1: A2: B1: B2:	A1: 1.7 A2: 1.0	A1: 3.0 A2: 1.0 B1: 6.0 B2: 2.0 Program? no C1: C2: D1: D2:
Baseline: 0	Baseline: 0	Baseline: 0	Baseline: 70	Baseline: 14
Modified: 0	Modified: 0	Modified: 0	Modified: 0	Modified: 0

All computed values x 1,000