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GEN-AR-0031

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# **ACTION PLAN**

**in response to the**

**April, 1991**

**Tiger Team Assessment**

**of the**

**Energy Technology Engineering Center**



**October 1, 1991**

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United States Government

# memorandum

DATE **OCT 11 1991**

REPLY TO  
ATTN OF **DOE Field Office, San Francisco**

SUBJECT **Submittal of Revision to Final Corrective Action  
Plan in Response to Tiger Team Report**

TO **William H. Young, Assistant Secretary  
for Nuclear Energy (NE-1)**

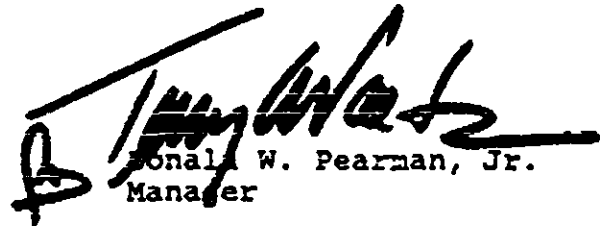
**Leo P. Duffy, Director  
Office of Environmental Restoration  
and Waste Management, (EM-1)**

The Corrective Action Plan (CAP) is attached in response to the 1991 Tiger Team assessment of the ETEC Facility. This CAP was previously submitted to your office on August 27, 1991. Subsequent to this submittal, review comments were received from Tiger Team reviewers requiring modification to the CAP.

All reviewer comments have been incorporated into this CAP and all revisions have been coordinated with the reviewers. Therefore, it is anticipated that this CAP should be fully responsive to all HQ offices.

This CAP is being implemented at this time and will be completed in 1997 providing the required funding is made available as described in the CAP. ETEC will then be in full compliance with all regulatory and DOE requirements.

The DOE Field Office, San Francisco, and ETEC are committed to an aggressive approach to the DOE long term goals and objectives for the protection of the environment, the public and the ETEC personnel. We look forward to your continued support in our efforts to achieve these goals and objectives.

  
Donald W. Pearman, Jr.  
Manager

cc: NE-40 (Griffith)  
(Hunter)  
(Semko)

# **ACTION PLAN**

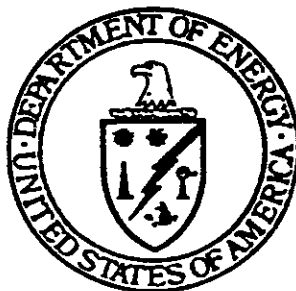
**in response to the**

**April, 1991**

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**October 1, 1991**

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## CONTENTS

### LIST OF ACRONYMS AND ABBREVIATIONS

### PREFACE

### EXECUTIVE SUMMARY

### 1.0 INTRODUCTION

- 1.1 Background
- 1.2 Purpose and Scope of the Action Plan
- 1.3 Organization of the Action Plan
- 1.4 Root Causes
- 1.5 Major Actions to Address Root Causes
- 1.6 Priority Guidelines

### 2.0 ORGANIZATION AND MANAGEMENT STRUCTURE TO IMPLEMENT THE ACTION PLAN

#### 2.1 Introduction

#### 2.2 Organizational Responsibilities

- 2.2.1 Office of Nuclear Energy
- 2.2.2 San Francisco Operations Office
- 2.2.3 DOE ETEC Site Office
- 2.2.4 Rocketdyne Division of Rockwell International Corporation
- 2.2.5 Energy Technology Engineering Center

#### 2.3 Contacts/Key Personnel

### 3.0 FINDINGS, RESPONSES, AND PLANNED ACTIONS

#### 3.1 Environmental

##### Overview

##### Root Causes and Responses

##### Findings and Action Plans

##### Air

##### Soils, Sediments, and Biota

##### Surface Water

##### Groundwater/Soil

##### Waste Management

##### Toxic and Chemical Materials

##### Quality Assurance

##### Radiation

##### Inactive Waste Sites

##### National Environmental Policy Act

CONTENTS (Continued)

3.2 Safety and Health

- Overview
- Root Causes and Responses
- Concerns and Action Plans
  - Organization and Administration
  - Quality Verification
  - Operations
  - Maintenance
  - Training and Certification
  - Auxiliary Systems
  - Emergency Preparedness
  - Technical Support
  - Security/Safety Interface
  - Experimental Activities
  - Site/Facility Safety Review
  - Radiological Protection
  - Personnel Protection
  - Worker Safety and Health (OSHA) Compliance
  - Fire Protection
  - Medical Services

3.3 Management

- Overview
- Root Causes and Response
- Findings and Action Plans

3.4 Self-Assessment

4.0 SUMMARY TABLES

Table 4-1-DOE	All DOE Funding by Priority and Fiscal Year
Table 4-1-NE	All NE Funding by Priority and Fiscal Year
Table 4-1-EM	All EM Funding by Priority and Fiscal Year
Table 4-2-DOE	All DOE Funding by Category and Priority
Table 4-2-NE	All NE Funding by Category and Priority
Table 4-2-EM	All EM Funding by Category and Priority
Table 4-3-DOE	DOE Incremental Costs Associated With the Action Plans
Table 4-3-NE	NE Funding Required for the Action Plans
Table 4-3-EM	EM Funding Required for the Action Plans
Table 4-4	Tiger Team Status Report

CONTENTS (Continued)

5.0 INTEGRATED MANAGEMENT SYSTEM FOR IMPLEMENTATION

5.1 Introduction

5.2 Integrated Management System

APPENDIX A: NEPA DETERMINATION

APPENDIX B: INDEX AND CROSS-REFERENCE FOR FINDINGS AND ACTION PLANS

APPENDIX C: ADS NUMBERS FOR ACTION PLANS

LIST OF ACRONYMS AND ABBREVIATIONS

A&C	Actions & Commitments
ACAHE	Atmospheric Fluidized Bed Combustion Air Heater Experiment
AFAL	Air Force Astronautics Laboratory
AFBC	Atmospheric Fluidized Bed Combustion
AFSTC	Air Force Space Technology Center
AFWL	Air Force Weapons Laboratory (Phillips)
AIP	Approval in Principle
ALARA	As Low as Reasonably Achievable
ALMR	Advanced Liquid Metal Reactor
ANL	Argonne National Laboratory
ANS	American Nuclear Society
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
BMP	Best Management Practice
BMPF	Best Management Practice Finding
CARB	California Air Resources Board
CDWR	California Department of Water Resources
CEQ	Council on Environmental Quality
CEQA	California Environment Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CF	Compliance Funding
CFR	Code of Federal Regulations
CHCF	Component Handling & Cleaning Facility
CHWCA	California Hazardous Waste Control Act
CMR	Cost Management Report
CMSR	Contract Management Summary Report
CREDO	Centralized Reliability Data Organization
CRIS	Calibration Recall & Information System
CWA	Clean Water Act
CX	Categorical Exclusion
CY	Calendar Year
D&D	Decontamination & Decommissioning
DCR	Document Change Request
DOE	Department of Energy
DOD	Department of Defense
DOT	Department of Transportation
DRF	Document Record File
DRR	Document Release Record
DWTSG	Double Wall Tube Steam Generator
DRACS	Direct Reactor Auxiliary Cooling System
EA	Environmental Assessment
ECM	Energy Conservation Measure
EH	DOE Office of Environment, Safety and Health
EIR	Environmental Impact Report
EIS	Environmental Impact Statement



EM DOE Office of Environmental Restoration and Waste Management  
EPA Environmental Protection Agency  
EPRI Electric Power Research Institute  
ER DOE Office of Energy Research  
ES&H Environment, Safety and Health  
ETEC Energy Technology Engineering Center  
EWR Engineering Work Request

FERC Federal Energy Regulatory Commission  
FFTF Fast Flux Test Facility  
FR Federal Register  
FONSI Finding of No Significant Impact  
FSAR Final Safety Analysis Report  
FTP Field Task Proposal  
FTS Federal Telecommunication System  
FTTM Few Tube Test Model  
FY Fiscal Year

GES Ground Engineering System  
GFE Government Furnished Equipment  
GLGP Geothermal Loan Guaranty Program  
GOCO Government-Owned, Contractor-Operated  
GPP General Plant Project

HALD High-Frequency Acoustic Leak Detection  
HCSG Helical Coil Steam Generator  
HEDL Hanford Engineering Development Laboratory  
HEPA High-Efficiency Particulate Air (Filter)  
HSSG Hockey Stick Steam Generator  
HSWA Hazardous and Solid Waste Act  
HTF Hydraulic Test Facility

ICP Institutional Conservation Program  
IHEM In-House Energy Management  
INEL Idaho National Engineering Laboratory  
INPO Institute of Nuclear Power Operations  
ISI In-Service Inspection

JAPC Japanese Atomic Power Company

KHI Kawasaki Heavy Industries

LANL Los Alamos National Laboratory  
LBL Lawrence Berkeley Laboratory  
LLNL Lawrence Livermore National Laboratory  
LLTR Large Leak Test Rig  
LLW Low-Level Waste  
LMDL-1 Liquid Metal Development Laboratory (B/032)  
LMDL-2 Liquid Metal Development Laboratory (B/057)

MOU Memorandum of Understanding  
MSCP Measurement System Calibration Procedure

NCR Non-Conformance Report  
NE DOE Office of Nuclear Energy  
NEPA National Environmental Policy Act  
NESHAP National Emission Standards for Hazardous Air Pollutants  
NFPA National Fire Protection Association  
NIST National Institute of Standards and Technology  
NRC Nuclear Regulatory Commission  
NPDES National Pollutant Discharge Elimination System  
NQA-1 Nuclear Quality Assurance Standard One  
NSF National Science Foundation

ODWR Operations Department Work Request  
OR Occurrence Report  
ORNL Oak Ridge National Laboratory  
ORTA Office of Research & Technology Applications  
OSA DOE Office of Safety Appraisals  
OSHA Occupational Safety and Health Act/Administration  
OSR Operational Safety Requirements

PERT Program Evaluation Review Technique  
PO Purchase Order  
PRISM Pool Reactor Inherently Safe Module

QA Quality Assurance  
QC Quality Control

RACS Reactor Air Cooling System  
RCRA Resource Conservation and Recovery Act  
R&D Research and Development  
RFA Request For Authorization  
RFP Request For Proposal  
RFQ Request For Quotation  
RMDF Radioactive Material Disposal Facility

S&H Safety and Health (Subteam)  
SABER Steam Accumulator Blowdown Evaluation Rig  
SAFR Sodium Advanced Fast Reactor  
SAN DOE San Francisco Operations Office  
SAR Safety Analysis Report  
SARA Superfund Amendments and Reauthorization Act  
SCTI Sodium Component Test Installation  
SCTL Sodium Components Test Laboratory  
SDD System Design Description  
SDIO Strategic Defense Initiative Organization  
SFBP Solar in Federal Buildings Program  
SFMP Surplus Facilities Management Program  
SIS Steam Injection System  
SPACE Space Power Advanced Components Engineering Facility  
SPTF Sodium Pump Test Facility  
SSFL Santa Susana Field Laboratory  
SWMU Solid Waste Management Unit

TA           Travel Authorization  
TRU          Transuranic  
TSCA        Toxic Substances Control Act  
TTF          Thermal Transient Facility

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## PREFACE

On April 12, 1991, a Department of Energy Tiger Team completed an assessment of the Energy Technology Engineering Center (ETEC). The purpose of the assessment was to provide the Secretary of Energy with an account of the status and the performance of Environment, Safety, and Health (ES&H) programs at ETEC. Detailed findings of the assessment are presented in the draft report, DOE/EH-1075., U.S. Department of Energy; Environment, Safety and Health Tiger Team Assessment, Energy Technology Engineering Center

The present document, the Draft Action Plan, presents corrective actions to correct deficiencies cited in the Tiger Team report.

Three concerns, identified in the Tiger Team Assessment as Category II, required prompt management attention. Action plans to redress these deficiencies in a timely manner were submitted to DOE on May 1, 1991. These Plans addressed safety and health deficiencies that the Tiger Team had identified as Category II and presented a timetable to correct areas of noncompliance. This Draft Action Plan includes actions described in the previously transmitted plans and presents specific actions to correct deficiencies identified by the Tiger Team.

Accordingly, this Draft Action Plan presents the organizational structure, management systems, and specific responses that are being developed to implement corrective actions and to resolve root causes identified in the Tiger Team Assessment. The San Francisco Operations Office and ETEC prepared this Draft Action Plan with input from the Office of Nuclear Energy.

## EXECUTIVE SUMMARY

The San Francisco Operations Office (SAN), and the Energy Technology Engineering Center (ETEC), under the direction of the Office of Nuclear Energy (NE), prepared this Draft Action Plan to correct deficiencies identified by the DOE Tiger Team Assessment of ETEC. A draft Tiger Team Assessment report was issued by DOE on April 12, 1991, following a four-week-long, on-site investigation of ETEC. The Draft Action Plan represents a commitment by NE, SAN and ETEC to the protection of the environment and the safety and health of employees and the public.

The Tiger Team identified 12 management findings. It identified 39 environmental findings, 22 which involved compliance issues and 17 which were best management practices findings. The TSA subteam reported 138 concerns three of which were Category II. There were findings in some performance objectives that resulted in repeating 9 of the 138 TSA concerns. Thus there were 147 TSA concerns requiring a corrective action plan. There were 4 findings against the ETEC and SAN self-assessment report. Thus, 202 corrective action plans have been generated to respond to the 39 environmental, 147 TSA, 12 management and 4 self-assessment issues.

The TSA did not result in any Category I findings or concerns; i.e., situations which pose a "clear and present danger." There were three Category II findings, and the balance of the findings are in Category III. Two of the three Category II Concerns stem from the 156 facility conditions, primarily electrical, which were found to be out of compliance with OSHA requirements. Immediate actions taken to achieve compliance are described later in this report. The third Category II concern arose as a result of a judgement by the Tiger Team that the site's industrial hygiene program was ineffective. The Tiger Team concluded that no curtailment or cessation of any operations at ETEC was warranted as a result of the findings and concerns in the Tiger Team assessment.

### Action Plans for Category II Findings

Corrective action plans for the three Category II findings were submitted to DOE by May 1, 1991. This Draft Action Plan incorporates the responses and planned actions contained in these plans as well as a longer-term strategy and specific actions for correcting the other deficiencies identified by the Tiger Team Assessment.

### Root Causes

The environmental subteam identified inadequate procedures, training, review/appraisal and resources devoted to the environmental program and insufficient QA/QC as causal factors for the findings listed. The TSA subteam cited inadequate policies and procedures, control of procedures, lack of management commitment to procedure implementation and insufficient management interest and commitment of resources to the safety and health program as causal factors resulting in their findings. The causal factors cited by the management subteam were: insufficient independent oversight, insufficient formality and rigor in operations, lack of definition in roles, responsibilities and authorities and lack of DOE oversight of ETEC operations. From these causal factors, two root causes were identified for the deficiencies noted, namely: 1) insufficient priority given to ES&H by management in the planning, guiding, assigning and overseeing of activities, and 2) ETEC does not appreciate the magnitude, scope and level of detail required to implement an effective ES&H program.

After analyzing the Tiger Team's concerns, it is concluded the underlying root cause is that a fundamental change in policy has occurred within DOE and the impact and commitment to that policy hasn't been fully addressed.

Responsibility and Accountability for ES&H

NE, SAN and ETEC management have undertaken a program to reinforce and to define more clearly the responsibilities and accountabilities for ES&H performance at all levels of their organizations. A Memorandum of Agreement has been signed by NE and SAN concerning the responsibilities of the ETEC site office. The SAN Manager has prepared policy statements that clearly define the SAN commitment to ES&H/QA excellence and define ES&H goals for all SAN and contractor organizations. SAN/NE will assure that these policy statements are promulgated throughout the SAN/NE organizations. The mission and function statements for all SAN organizational entities are being reviewed and revised to define clearly and concisely their roles and responsibilities for ES&H/QA functions and performance. Position descriptions and performance plans are being revised to set goals and to assure ES&H/QA receives the highest priority by all managers and others whose duties require ES&H/QA compliance.

The ETEC General Manager has re-emphasized line management responsibility for ES&H/QA within their units. Position descriptions are being revised to include measures of ES&H/QA performance. Goals for programmatic and operations units will be established for ES&H/QA, and performance against these goals will be reviewed as part of the General Manager's performance reviews. Specific measures of ES&H effectiveness will be included in all employee performance evaluations.

An on-going, rigorous self-assessment program will be established by DOE-SAN and ETEC as the principal mechanism to gauge the effectiveness of the ES&H programs. The SAN and ETEC self-assessments, preparatory to the Tiger Team inspection, identified a number of areas requiring attention. Many of the items have been resolved and those requiring long-term commitments are described in the action plan. As a result of the self-assessment, internal environment and safety audit procedures have been strengthened to conform to DOE guidelines and a comprehensive Functional Appraisal Program is being proposed. DOE-SAN has issued a draft management directive (MD) describing its self-assessment program



and ETEC has developed a corrective action plan to institutionalize the process along DOE guidelines. As suggested by the Tiger Team, ETEC's self-assessment will rely on more "effective use of existing DOE internal and external appraisal programs."

### Organization

The Headquarters Office of Nuclear Energy has established an Office of Nuclear Safety Self-Assessment. This Office will conduct assessments throughout the NE programs and will provide QA oversight NE-wide. In order to accomplish its overall mission and carry out its responsibilities for program and project management and the performance of administrative functions in accordance with DOE policies, SAN utilizes a variety of program, project and administrative and technical support staff, all of whom ultimately are accountable and report to the manager.

SAN is organized to implement line management accountability and responsibility for the management and oversight of the operations of its assigned M&O contractors. At ETEC, two line managers have been appointed; one for NE and one for EM. The site manager discussed below, functions as the line manager for NE Programs. To the extent possible, SAN line managers are provided with the necessary program, project and technical support personnel to carry out their assigned responsibilities for accomplishment of programs, projects, etc., in accordance with DOE policies, including the protection of the environment and the health and safety of employees and the public. To carry out this responsibility in a more effective manner, especially in the areas of safety of the facility and the conduct of operations and safeguards and security, the manager has moved line managers and program/project and technical support personnel from the Oakland office to the ETEC site. Since it is not possible to fully staff each line management organization and each site office to be self sufficient, to use its limited resources in the most efficient manner, SAN utilizes a matrix organization to provide the balance of necessary administrative and technical support to line

managers to carry out the management and oversight of the operations of its assigned M&O contractors. Together, these line management and administrative and technical support elements combine to provide a wide range of guidance to M&O contractors and to exercise management and oversight over ETEC in an integrated manner. Illustratively, to the extent that technical support personnel in the area of health and safety are not available within the line management organization, the line manager is expected to request such support from the matrix. ESS would provide such support to the line manager within available resources. Similarly, since limited resources do not permit staffing line management organizations, including site offices with the necessary administrative offices support, line managers are expected to request contractual, financial and budget, and legal support from the matrix. Contracts Management, Financial Management and the Office of Chief Counsel provide such support.

The physical relocation of line management and technical support personnel to the ETEC site, together with the formal recognition of the responsibility of PSO's for assigned sites and the proposed realignment of reporting relationships, required establishing the role of a Site Manager for each assigned site who would be accountable to the PSO and who would report administratively to the Manager.

Management and those managers providing administrative and technical support to the line managers are ultimately accountable and report to the SAN Manager. The physical transfer of some line management including technical support personnel to site offices does not change the lines of accountability and reporting relationships within SAN.

The Site Managers are responsible for the oversight of contractor facility operations (including facility safety, conduct of operations) and specifically assigned programmatic responsibilities (including institutional management). To fulfill their institutional responsibilities the Site Manager is informed of significant issues

relative to the site by the accountable SAN-Oakland Assistant Managers and their organizations.

The SAN-Oakland staff will function as staff to the Manager and Assistant Managers and will provide staff support to the Site Managers consistent with their expertise and functional responsibilities. Utilization of SAN-Oakland staff must recognize their full range of functional responsibilities and multiple site support.

### Policies and Procedures

The SAN Manager has prepared policy statements that define SAN's commitment to ES&H/QA excellence. The policy, defines ES&H/QA goals, and their implementation for SAN and its contract organizations. The Award Fee Process has been modified to enhance ES&H/QA goals by increasing ESH/QA award fee share & by establishing an annual letter outlining ESH/QA expectations in the semester plans.

Improved documentation practices and procedures are planned. All Federal (including DOE), state, and local ES&H regulations, directives, and agreements are to be reviewed to assure that they are being implemented and all applicable ES&H requirements and best management practices are being resolved. Documentation will be revised as needed and will specify appropriate compliance standards, responsibilities, and authorities.

Rocketdyne and ETEC will revise existing Environment, Health and Safety Manuals and ETEC procedures to reflect increased line management responsibilities. Each line manager will be required to prepare, maintain and implement procedures conforming with the new Manual.

SAN and ETEC will prepare a self-assessment plan in conjunction with NE to provide continuing assessments of ES&H/QA implementation. Upon approval of proposed action plans, tracking systems will be modified to

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- A. Maintenance. The most pervasive condition leading to a substantial fraction of the Tiger Team concerns was the deterioration of ETEC facilities. Of three Category II findings, two findings are attributable to maintenance deficiencies including one involving 156 OSHA violations, principally electrical. Before the Tiger Team departure, ETEC committed to a program to redress these deficiencies.

The action plans propose the re-creation of a facility maintenance crew which had been disbanded several years ago due to budget limitations. The rate of buildup of the crew will be predicated on funding. An estimated additional \$720K for FY92 is identified to initiate this program. The maintenance plan will be structured such that safety items are readily identified and corrected. Top priority will be given to re-establishing and maintaining a safe and healthful workplace.

- B. Safety, Health, Environmental and QA Oversight. An item identified in the SAN & ETEC self-assessments and the Tiger Team report was that the level of expert oversight was insufficient for ETEC to be fully responsive to the multitude of laws, rules, regulations and DOE Orders. ETEC identified, in its Self-Assessment Report, the need for safety and environmental professionals on its staff. The Tiger Team commented on deficiencies in environmental, safety, industrial hygiene, quality verification and quality audit programs. An additional \$672K for additional ES&H and QA and support (including safety committees) is estimated for FY92. Priority will be given to this increased support so that ETEC can provide the necessary expertise to carry out its operations in strict compliance with requirements.

Through its re-established Site Office, DOE will increase surveillance and audits to assure compliance with DOE orders, laws and regulations.

- C. Training. A pervasive causal factor cited by the Tiger Team for its findings and concerns was training. Funding must be made available for training of existing and additional staff to enable operations to achieve the level of excellence that is consistent with current DOE policy.

To initiate the program, additional funding of \$480K is required for training, with an additional \$100K to establish a training center in FY92. The Tiger Team commented on the decline in training between the previous and present steam generator test crews, a period which spans seven years and an attendant significant decline in DOE-NE funding support. To reverse this trend, priority will be given to appointment of a full time training coordinator and development of training resources. Programs will be developed that provide the proper level of reliance on experts, procedures and management oversight with a trained, competent crew.

- D. Operations. ETEC has had a long history of formality of operations using step-by-step procedures. The Tiger Team noted, however, that some of the support facilities (e.g., maintenance and chemistry laboratory) had lost much of this formality as evidenced by redline changes which are now routinely being made without full review and approval. This trend can be reversed within existing budgets.

A much more difficult compliance problem will be the generation of plans, reports and performance indicators

required by DOE Orders. DOE-SAN and ETEC will resolve this issue and establish creative, efficient mechanisms to achieve compliance. A number of operational activities will be required including: preparation of better planning documents, establishment of achievable ESH goals and performance indicators, and development of a procedural infrastructure. Estimated additional costs for FY92 to accomplish these activities is \$388K.

- E. Additional Groundwater and Soil Characterization. The environmental program is managed by Rocketdyne specialists for every environmental element. There is also oversight by the regulatory agencies. The Tiger Team findings were relatively modest regarding how the program was being managed but nonetheless, it was clear that the program could be improved upon. Implementation of all planned corrective action programs will require approximately \$604K in FY92 to be fully responsive to the Tiger Team.
  
- F. Radiation Environmental Monitoring and Oversight; Management of the Radiation Protection Program. Rockwell has elected to terminate all nuclear operations at the SSFL and DOE is moving forward with completing D&D of all facilities that housed nuclear operations. Over 99% of all radioactivity generated at SSFL has either decayed or been removed. About 60 curies of artificial radioactivity, 99% of which is contained, remains to be removed. D&D activities are proceeding in accordance with DOE and waste disposal site procedures. Although the Tiger Team found technical deficiencies in the environmental monitoring and oversight practices, consequences of these deficiencies are low because of the limited remaining radioactivity. The cost for correcting

the Tiger Team findings in this area is estimated at \$1.98M additional in FY92.

- G. Miscellaneous Activities. A number of performance objectives set forth in the Tiger Team checklists for evaluating ETEC require changes and improvements. Typical examples include: trending of data, occupational medicine, OSR's, self-assessment, document management system, etc. These activities amount to an estimated \$1.38M additional in FY92.
- H. Emergency Response. Emergency preparedness planning, procedures, personnel training and the emergency response center staffing require upgrading for compliance with current DOE orders. DOE/SAN will provide updated guidance to ETEC. Both DOE/SAN and ETEC will require added staffing budgets to accomplish these changes.
- J. Medical. The Rocketdyne Medical Director will be participating more directly in management ES&H committees. The medical records office will be upgraded with computer support and training periodically. Medical exams will be extended to cover more key people.

### Summary

A number of improvements are necessary for the DOE & ETEC to achieve the level of excellence that is consistent with current DOE policy. Accordingly, changes will be made at all levels. NE will increase their oversight of SAN, the ETEC Site Office, and ETEC in this action plan execution. The Site Office and the NE and EM line managers in this office, vested with on-site line management responsibility, will monitor ETEC ES&H and Action Plan activities through day-to-day surveillance, audits, and assessments. ETEC resources requests and allocations will be adjusted to assure compliance.

Clearly, changes at all levels are necessary to ensure compliance with ES&H requirements for the protection of the environment, the public and the site personnel. These changes are reflected in this document.

At ETEC, the first priority has been and will continue to be a commitment to resolve the Category II deficiencies and key environmental findings. For example, as a result of the large number of findings in the electrical compliance area ETEC formed two teams comprised of facility managers, Rocketdyne Plant Services Electrical Department managers, electrical engineers familiar with Uniform Building Codes and OSHA requirements, a construction engineer and an OSHA consultant from an outside firm. These teams surveyed all of ETEC's facilities, including active and inactive, offices and test facilities and compiled a list of safety/OSHA violations with emphasis on electrical deficiencies, but including non-electrical safety violations as well.

The result of this survey was published in a series of lists. The items on these lists are currently being worked and it is expected that most items on this list will be completed prior to the end of FY91. In addition, ETEC will move aggressively to implement action plans that address worker safety, OSHA non-compliance concerns, and other non-compliance findings. ETEC will also modify its staffing, its organizational structure, and its planning, implementation, & assessment activities.

Copies of this plan will be given to regulators having oversight responsibility of the SSFL and to interested citizens appointed to the SSFL working group. A briefing on action plans covering issues of interest to those regulators and citizens will be presented by ETEC and DOE at the next meeting of the SSFL working group (presently scheduled for September 19, 1991). Any comments advanced by the group where a response might necessitate revision to this action plan will be provided to DOE/HQ for consideration.



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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

On June 27, 1989, Secretary of Energy James D. Watkins announced a 10-point Initiative to strengthen safety, environmental protection, and waste management activities at DOE's production, research, and testing facilities. In support of the 10-point Initiative, the Secretary established independent "Tiger Teams" to conduct environmental compliance assessments at DOE facilities. The assessments are on-site, independent reviews of DOE environment, safety, and health programs to ensure compliance with applicable federal, state, and local regulations; permit requirements; agreements, orders and consent decrees; and DOE Orders. In addition, the Tiger Teams assess DOE operations for conformance with applicable "best" and "accepted" industry practices and the adequacy of DOE and site contractor management programs.

A Tiger Team Assessment was conducted at the Energy Technology Engineering Center between March 18, 1991, and April 12, 1991, and included NE, SAN and ETEC operations. A written report, "U.S. Department of Energy Environment, Safety, and Health Tiger Team Assessment, Energy Technology Engineering Center, April, 1991, (Draft) (DOE/EH-0175 Draft)" documenting the findings made by the Tiger Team, was provided at the end of the assessment.

### 1.2 PURPOSE AND SCOPE OF THE ACTION PLAN

The purpose of this Action Plan is to provide a formal written response to the Tiger Team Assessment Report and to set forth the corrective action plans to be taken by NE, SAN and ETEC to address the findings and underlying root causes. Schedules, milestones, and costs of specific actions are presented.

### 1.3 ORGANIZATION OF THE ACTION PLAN

The Action Plan is divided into five sections. The balance of this section presents an analysis of the root causes identified by the Tiger Team Assessment and describes the approach to addressing the root causes. It also describes the DOE-prescribed guidelines for prioritizing findings and planned actions. The organizational entities responsible for implementing the Plan are discussed in Section 2.

Section 3 contains three major subsections: Environment, Safety and Health, and Management. The three subsections present Tiger Team findings and root causes for the three assessment areas and the associated action plans to address the individual findings. Milestones and yearly cost tables are presented for each planned action. Root Causes and Causal Factors are identified in action plans to specific findings.

Each finding will be addressed by an action plan(s). Some of the findings identified by the Tiger Team require more than a single action for their resolution. In these cases, the principal action plan follows the finding and the other requested plans are referenced. In some cases, a single action may support resolution of a number of findings which will be referenced at the end of the action plan. In other cases, one or more action plans completely address the issues in a finding, in which case the action plan is simply a reference to the applicable action plans. An index and cross-reference associating the individual findings and actions are presented as Appendix A(1) and A(2)

Section 4 contains 9 tables that summarize incremental funding (Table 4-1-DOE through Table 4-3-EM); "Tiger Team Status Report" showing each action plan with its associated milestones (Table 4-4). If there are discrepancies between the resource estimates for EM activities in the Action Plan and the cost estimates in the site specific Five-Year Plan, the estimates in the Five-Year Plan prevail.

The Action Plan is structured to provide an organized, internally consistent compilation of corrective actions that should facilitate review and comment. The structure also supports development of a formal management information system that will be used for planning, management control, and tracking of individual plans to completion.

Section 5 illustrates application of a management system for scheduling and tracking planned actions. The system represents a tool for balancing task priorities against available time, manpower, and budget. Task timeline schedules are shown for a sample of planned actions. Such a system will be applied to all action plans and will form the basis for systematic tracking and reporting.

#### 1.4 ROOT CAUSES

The Tiger Team identified two root causes for the ES&H/QA deficiencies in its assessment of the ETEC Site. These root causes resulted from causal factors noted in the management areas. Four causal factors were identified in the Management area, five in Environment, and five in Safety and Health. In addition, the TSA subteam identified six key concerns and three Category II concerns. The Management causal factors, completed after the other subteams had identified their major concerns, cover, in general terms, substantially all the causal factors in the Environment and the Safety and Health areas. The Management causal factors are described below.

- The site contractor has not established an effective program for oversight of its ES&H activities. This situation stems from the fact that oversight of ES&H activities has been the responsibility of Rocketdyne Departments, distinct and outside of ETEC control. Because of the diverse customer base, policies and procedures exist within these departments that are not completely compatible with DOE goals and objectives.

- ES&H activities at ETEC are not being performed with the degree of formality and rigor necessary to meet DOE policies, requirements and guidelines for the operation of DOE facilities. Over a period of time production has been permitted to take priority over ES&H. Coupled with this has been a lack of direction by DOE in the implementation of DOE Orders, laws & regulations. Direction in the applicability of DOE Orders by DOE requires strengthening. The Tiger Team also expressed concern that the formality and rigor that was once present have eroded.
- Site contractor organizational and individual ES&H roles, responsibilities and authorities have not been defined, communicated or understood throughout all levels of the organization. The size of the ETEC organization has been reduced to below half of what it was a decade ago. Many support positions have been eliminated resulting in line personnel being tasked with dual responsibilities. A precursor and component of the Tiger Team assessment was a cultural survey of ETEC performed by an industrial psychologist from Brookhaven National Laboratory. The assessor found that team working and networking were highly developed which are the characteristics of a small organization. The lack of understanding is directly attributable to the decline in training which has occurred over the period.
- DOE's oversight and guidance of ES&H activities is not sufficient to ensure full implementation of DOE's ES&H initiatives. DOE must increase its oversight and guidance of ETEC operations. The course and timetable which the DOE Secretary has set to achieve accomplishment of initiatives have necessitated that immediate changes be made and greater attention be devoted to areas where risk and resource

commitment are the greatest. Lessons learned are being applied by SAN to the benefit of ETEC.

From these causal factors, the management subteam identified the two root causes which contributed most directly to the findings and concerns of the Tiger Team. The most probable root causes are as follows:

- ES&H activities at ETEC have not been accorded sufficient priority by the DOE organizations involved in the planning, guiding, assessing and overseeing of these activities. "The ETEC site represents a relatively small part of the missions of NE, EM, and SAN. At SAN it competes for limited ES&H resources and management attention with other SAN sites and programs, which have been viewed as having more immediate or visible problems." The Tiger Team further stated: "curtailment of programs at ETEC, coupled with declining budgets and the perception of low risk operations, have resulted in declining DOE guidance, resources, and oversight necessary to achieve full compliance with DOE's ES&H requirements."
- Site contractor management does not have a full appreciation of the magnitude, the scope, and the necessary level of detail required to implement the DOE ES&H initiatives and therefore, has not accomplished the required cultural change. The DOE Orders are heavily influenced by their application to nuclear facilities. Interpretation has to be made to determine the applicability of those requirements that are set for the entire DOE complex, including ETEC. This plan addresses the level of commitment to ES&H indicated by the concerns and findings of the Tiger Team and the necessary resources to meet those commitments.

## 1.5 MAJOR ACTIONS TO ADDRESS ROOT CAUSES

To respond to the root causes identified by the Tiger Team, NE, SAN and ETEC are undertaking a number of actions. Specific action plans, addressing each of the findings and concerns are presented in Section 3 of this report. The introductory discussion to the action plans, arranged by assessment area, list the causal factors cited by the Tiger Team for the assessment area together with the lists of action plans that address the causal factors and root causes.

## 1.6 PRIORITY GUIDELINES

The following priority scheme, the system prescribed by DOE for Tiger Team Action Plan activities, is being used to assign priorities to individual findings and planned actions for Safety and Health, and Management areas. The DOE Five Year Plan priority guidelines are used to assign priorities to Environmental findings and planned actions. In a manner consistent with this system, ETEC plans to use a project management system (see Section 5) to establish final action plan schedules for DOE review and approval, subject to resource and budget constraints.

Priority 1 actions are necessary to prevent significant risk to the public, worker health or safety, or the environment, whether or not they are required by statute or DOE orders.

Priority 2 actions are necessary to meet statutes or DOE orders, and the terms of compliance agreements, although lack of action would not result in a significant risk to the public, worker health or safety, or the environment.

Priority 3 actions are consistent with Best Management Practices.

Priority 4 actions are not required by law, regulation, or agreement, but would be desirable to accomplish.

Several activities must be reviewed and concurred with by the Environmental Protection Agency (EPA) and the California Department of Health Services (EHS). Consequently, the scope, costs, and schedules for any activities related to site characterization and remediation are subject to change. Planned actions will be modified as appropriate upon receipt of the final Tiger Team Report and upon receipt of comments on the Draft Action Plan.



## 2.0 ORGANIZATION AND MANAGEMENT STRUCTURE TO IMPLEMENT THE ACTION PLAN

### 2.1 INTRODUCTION

This section identifies the organizational responsibilities and management structure for implementing this action plan (see Figure 2-1). Specific action plans in Section 3 provide detailed information on actions that will be undertaken to address each individual finding and concern. Each action plan addresses planned actions, schedules for implementing the actions, and associated costs.

### 2.2 ORGANIZATIONAL RESPONSIBILITIES

#### 2.2.1 Office of Nuclear Energy

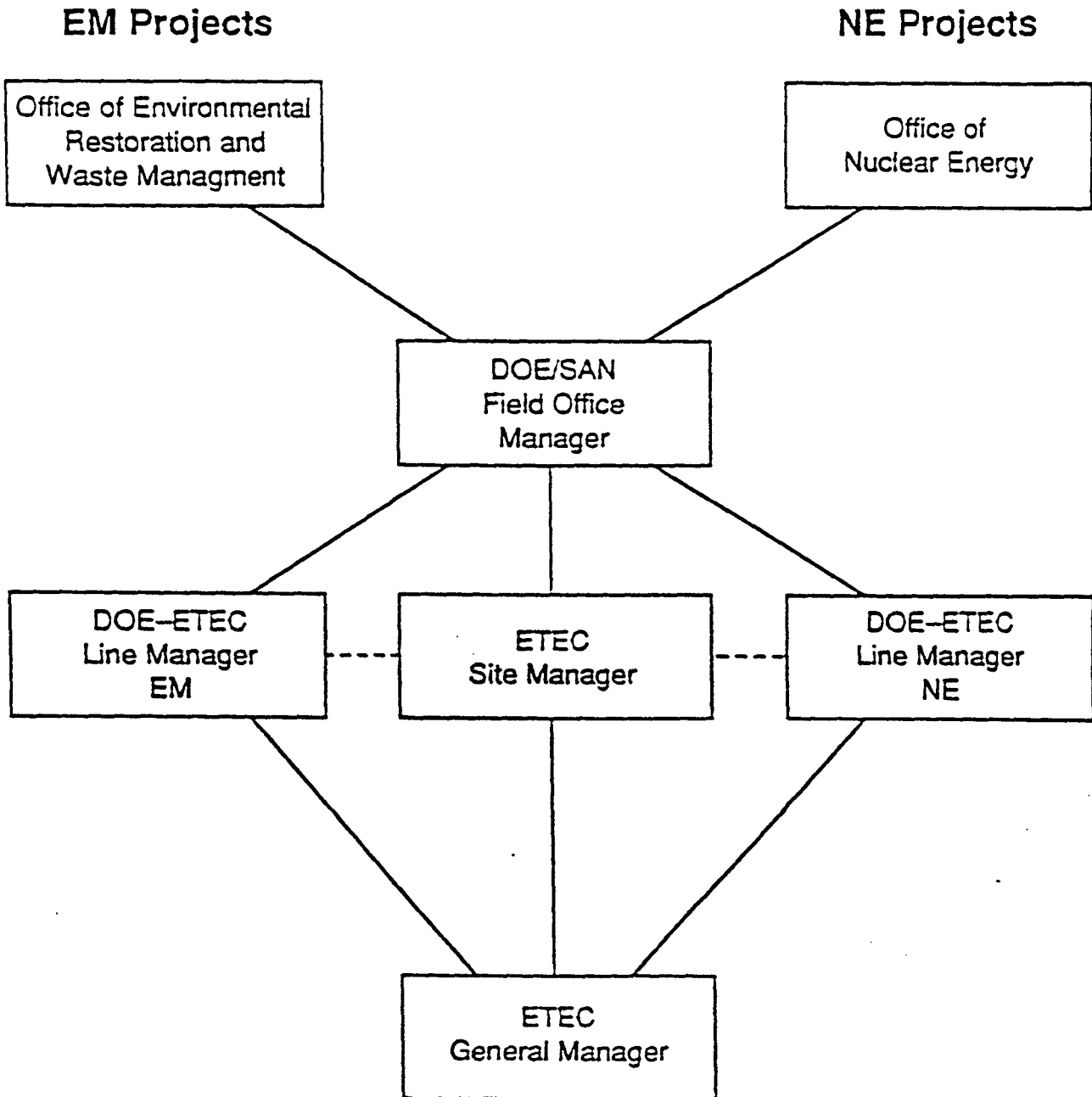
The Office of Nuclear Energy (NE) has landlord responsibilities for the Energy Technology Engineering Center and programmatic responsibilities for NE funded programs at ETEC. NE coordinates with the Offices of Environmental Restoration and Waste Management. Management agreements between NE and SAN delineate the respective roles of each in ES&H/QA.

The Office of Environmental Restoration and Waste Management also has a significant effort at ETEC involving both facility D&D operations and Environmental Restoration of contaminated soil and groundwater regimes. NE and EM coordinate activities on site to assure appropriate oversight.

#### 2.2.2 San Francisco Field Office

The San Francisco Field Office (SAN) is responsible for executing programs and representing the Department of Energy in support of Departmental objectives. The programmatic, budgetary, and scheduling guidance from DOE Headquarters Program Offices is communicated to the

MANAGEMENT ORGANIZATIONAL STRUCTURE  
(Figure 2-1)



laboratories through SAN. The SAN Office of the Manager is responsible for coordination of the technical, administrative, legal, and communication resources required for implementation of these Departmental Programs.

Activities are carried out by Senior Managers reporting to the Office of the Manager. The SAN Site Office at ETEC is responsible for coordinating the program support, project management, and business management capabilities in the management of laboratory activities, with the support and guidance of the SAN Manager and his Senior Staff.

The Assistant Manager for Energy Programs (AMEP) manages nuclear energy, and other energy research programs. The AMEP provides engineering support, project and program overview and technical assistance as required for SAN integrated management of energy laboratories and facilities. He is responsible for compliance with ESH in all programs except ERWM.

The AMENS (Assistant Manager for Environmental Management Support) provides matrix support to the AMEP for ES&H and provides overall guidance and direction for all environmental restoration and waste management activities at DOE facilities under the administrative control of SAN. Responsibilities include advice and assistance to line managers, the site office manager in the development and implementation of safety, security, environmental and health programs.

The Assistant Manger for Administration (AMA) manages the administrative functions to support the ability of SAN to efficiently perform integrated management of energy laboratories and facilities. The AMA's functions include procurement, budget planning and execution, manpower and personnel, industrial relations and planning and implementation of telecommunications, automation and other resources to meet the needs of SAN and its major contractors.

### 2.2.3 DOE/ETEC Site Office

The DOE/ETEC Site Office provides oversight for the implementation of the Energy Technology Engineering Center contract, a multiprogram, GOCO facility, through the Rocketdyne Division of Rockwell International Corporation. The Site Office represents the SAN Manager by providing the coordinated management effort with respect to integrating and balancing DOE requirements and objectives in such a manner as to accomplish a variety of R&D programs and initiatives.

The SAN Manager has delegated authority for the ETEC operation to the Site Manager. The Site Manager reports to the SAN Manager through the Assistant Manager for Energy Programs. At this time the Site Manager also serves a dual function as the NE P.M. Each P.M. is responsible for ensuring that all activities on site are carried out in a manner that meets all applicable ES&H/QA requirements and does not pose a hazard to on-site or off-site population or the environment.

ES&H/QA is a line management responsibility. As such the NE and ERWM P.M.'s are responsible for ensuring that operations conducted at ETEC are conducted in a manner that presents no hazards to employees, the public, or the environment. Oversight in this area is performed through day-to-day surveillance, informal walk-throughs and formal inspection programs. Direction and guidance on ES&H/QA issues are provided through formal transmittal of DOE Orders, Secretary of Energy Notices, formal correspondence and SAN Management Directives, as well as meetings and informal discussions. The responsibility for verification of the completed actions and for ensuring that actions are completed as scheduled rests with the line managers.

The Site Office will ensure that corrective actions are accomplished in compliance with appropriate state and federal environmental laws and regulations and DOE Orders. Action Plan progress will be monitored through the joint SAN/EETEC Tracking System. The Site Manager is the focal point for all ES&H/QA activities as they relate to ETEC. ES&H/QA

matrix support to the Area Office may be provided by other SAN organizations, acting through the Site Manager.

#### 2.2.4 Rocketdyne Division of Rockwell International Corporation

Under the terms of the present and previous contracts, Rockwell International operates the Energy Technology Engineering Center (ETEC) for DOE. The contract is renewed on a five year basis with the next renewal year to occur in 1993. In order to enable DOE to build facilities and to expend resources for Capital improvement for those facilities, Rockwell has granted the DOE an option to purchase the land on which those facilities are built. The ETEC is situated on 90 acres of this optioned land in the western portion of the 2600 acre Rockwell International Santa Susana Field Laboratory (SSFL). There are other operations at SSFL which are of direct or historical interest to the DOE and which were considered by the Tiger Team to be under their purview.

#### 2.2.5 Energy Technology Engineering Center

Rockwell International has appointed a General Manager to manage ETEC. The necessary departments have also been established to make ETEC self-sufficient. However, a certain number of financial and administrative functions are provided to ETEC by the Rocketdyne Division, the parent organization.

Of interest to the Tiger Team is that the environmental program is managed by the Director-Environment Protection. The Safety and Health program is managed by the Director Health, Safety and Fire Engineering. Emergency Preparedness and Security are managed by the Director of Industrial Security. The Occupational Medical Program is managed by the Rocketdyne Medical Director. All these directors have reporting relationships outside the ETEC reporting chain but support ETEC in a matrix capacity. Program Management responsibility within ETEC will be strengthened and technical as well as oversight functions over ES&H will

be established within ETEC. Specific actions and timetables are described in the respective actions plans.

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the action plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC Management.

Corrective actions already underway are being implemented under these same assigned responsibilities.

2.3        Contacts/Key Personnel

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### 3.0 FINDINGS, RESPONSES, AND PLANNED ACTIONS

#### 3.1 ENVIRONMENT

##### Overview

DOE and ETEC are committed to a significantly improved and coordinated Environmental Protection Program following the ETEC Self Assessment and Tiger Team Assessment. A number of actions are underway, and additional actions are planned by DOE and Rocketdyne to address the environmental assessment findings and to promote environmental excellence at ETEC. A brief summary of the means by which DOE and Rocketdyne will achieve environmental excellence is presented in this overview. The summary is not intended to be all inclusive but instead attempts to highlight some of those actions that are most significant to achieving environmental compliance and promoting excellence. Details of all actions are given in the individual action plans that respond to the specific findings. Some of the action plans may go beyond the finding to incorporate the ETEC Self Assessment and to address overall issues related to the finding. The environmental findings and action plans cover air, surface water, groundwater/soil, waste management, toxic and chemical materials, quality assurance, radiation, inactive waste sites, National Environmental Policy Act, and environmental management.

An overall strategy has been adopted which addresses the root causes associated with the environmental issues identified in the Tiger Team Report with particular emphasis on interaction with environmental regulators. This strategy has resulted from a major enhancement of the Rocketdyne Environmental Protection Program along with a strengthening of the oversight program. The recent reorganization of Rockwell environmental organizations has focused corporate attention into the vital area of concern. The responsibilities and accountabilities of all line managers are being emphasized, and the system for communicating environmental issues to all personnel is being strengthened. Finally, the level of direct communication and interaction with regulatory organizations is being enhanced to provide greater opportunity for identification and timely resolution of environmental issues.



The Environmental Subteam identified 39 findings in its assessment of the DOE activities within the Santa Susana Field Laboratory. None of the findings reflect situations that present an immediate risk to public health and the environment. Twenty-two findings reflect problems that did not meet the requirements of Federal, State of California laws and regulations, DOE Orders or Site standard operating procedures. Action plans AP001 through AP039 address the findings.

### Root Cause Responses

The root cause of two findings deals with policy, and these findings are addressed in action plans AP035 and AP038. The root cause for the remaining 37 findings deal with policy implementation.

Eight causal factors were identified as contributing to the occurrence of the Environmental Subteam findings. The five causal factors that appeared most frequently are: procedures, appraisal/ reviews, training, resources, and quality assurance/control. The following corrective action plans have been prepared to address and correct the cited causal factors.

1. PLANS & PROCEDURES needed to insure implementation of policies and standards, were either absent, incomplete or informal.

#### Action Plans

AP001	Upgrade T059, T020, RMDF Stack Sampling System
AP002	Meteorological Data for AIRDOS-PC Code
AP003	Provide Compliant Ambient Air Sampling Program
AP005	Stormwater and Sediment Characterization- Northwest Slope
AP006	ID and Implement Secondary Containment
AP007	Revisions to the SPCC and the FSCP
AP008	Drinking Water Monitoring
AP009	Sewage Collection System Investigation and Repair
AP013	Well Monitoring/Maintenance/Abandonment/ Closure/Decommissioning
AP014	Decontamination of Sampling Equipment
AP016	Waste Minimization Plan
AP018	Waste Verification Plan - RMDF and HWSA
AP019	Sewage Sludge Monitoring Plan

Action Plans

AP021	Storage of Incompatible Chemicals
AP022	Quality Assurance Surveys of Vendor Analytical Labs
AP023	ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab
AP024	Environmental Records QA
AP029	Environmental Surveillance Plan
AP030	No Contingency Plan for Transuranic Waste
AP031	Procedure or Surveys of Radioactive Materials Shipments
AP032	Site Investigations/Remedial Activities Plan
AP033	Business Plan Amendment Document & Acutely HAZMAT Regulation
AP036	NEPA Organization
AP037	NEPA Determinations
AP038	NEPA Record Keeping and Tracking
AP039	NEPA Documentation

2. APPRAISALS/REVIEWS were frequently identified in conjunction with the procedures causal factor, in that the procedural deficiencies were not subject to the appropriate appraisals and reviews by SAN, the Site Office, and the Site Contractor.

Action Plans

AP004	Inadequate Physical Control of the Former Sodium Disposal Facility
AP011	Charact. and Monitoring of Vadose Zone Underlying B/886
AP015	Organic Vapor Monitoring Program
AP020	Incomplete Hazard Identification
AP025	Pollution Prevention Awareness Program Plan
AP027	Lack of Approved Environmental Protection Imp. Plan
See also AP001, AP003, AP005, AP006, AP007, AP008, AP009, AP013, AP014, AP019, AP022, AP023, AP024, AP030, AP032, AP034, AP036, AP037 listed above.	

3. TRAINING of SAN, Site Office and Site Contractor employees was not sufficient for employees to understand and implement elements of their assigned responsibilities.

AP001	Upgrade T059, T020, RMDF Stack Sampling System
AP002	Meteorological Data for AIRDOS-PC Code
AP003	Provide Compliant Ambient Air Sampling Program
AP007	Revisions to the SPCC and the FSCP
AP013	Well Monitoring/Maintenance/Abandonment/ Closure/Decommissioning
AP014	Decontamination of Sampling Equipment
AP016	Waste Minimization Plan

Action Plans

AP018	Waste Verification Plan - RMDF and HWSA
AP020	Incomplete Hazard Identification
AP021	Storage of Incompatible Chemicals
AP022	Quality Assurance Surveys of Vendor Analytical Labs
AP024	Environmental Records QA
AP029	Environmental Surveillance Plan
AP032	Site Investigations/Remedial Activities Plan
AP033	Business Plan Amendment Document & Acutely HAZMAT Regulation
AP034	
AP036	NEPA Organization
AP037	NEPA Determinations
AP038	NEPA Record Keeping and Tracking

4. RESOURCES were not adequately allocated, or there was a lack of available resources, to address previously identified deficiencies.

Action Plans

AP010	Groundwater Protection Management Plan
AP012	Hydrogeologic Regime Characterization
AP035	NEPA Compliance

See also AP006, AP011, AP014, AP025, AP036, AP037, AP038 listed above.

5. QUALITY ASSURANCE/CONTROL was not adequate enough by SAN the Site Office, or the Site Contractor to resolve previously identified deficiencies.

Action Plans

AP019	Sewage Sludge Monitoring Plan
AP020	Incomplete Hazard Identification
AP021	Storage of Incompatible Chemicals
AP027	Lack of Approved Environmental Protection Imp. Plan
AP029	Environmental Surveillance Plan
AP033	Business Plan Amendment Document & Acutely HAZMAT Regulation

Findings and Action Plans

Finding No: A/CF-1

Finding Description: Priority: 1

Particulate radionuclide stack sampling within Area IV of the SSFL had not been evaluated in accordance with 40 CFR 61, and deficiencies in the radioactive stack monitoring were noted at the active Radioactive Materials Disposal Facility (RMDF), the inactive Hot Lab, and the former Space Nuclear Auxiliary Power (SNAP) reactor facility which are not in accordance with 40 CFR 61, DOE 5400.xy (Draft), or best management practice. Also, siting rationale had not been developed in accordance with DOE 5400.xy (Draft) using the methods specified by 40 CFR 61.

Root Cause:

M2 - Assessment and Oversight, M4 - Goals and Objectives

Compliance Protocol:

DOE Orders 5400.1, 5400.5, 40 CFR 61 Subpart H, 40 CFR 60, ANSI N13.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not have sampling systems on buildings T020, RMDF, and T059 stacks which comply with the design recommendations of ANSI N13.1 and 40 CFR 60. (This is related to the siting rationale deficiency.

ETEC has not evaluated release points according to 40 CFR 61 and DOD 5400.xy (Draft) for their estimated release potentials to determine the emission measurement requirements.

ETEC has not been reporting doses due to releases from Bldg. T059 per NESHAP regulations.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP001	Upgrade T059, T020, RMDF Stack Sampling System
AP026	Development & Implementation of Environmental Monit. Plan

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ACTION PLAN AP001 (For Finding No: A/CF-1)

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Action Plan Number: AP001

Plan Title: Upgrade T059, T020, RMDF Stack Sampling System

Plan Description:

Objectives of each of the sampling system upgrades are to 1) characterize the duct flow profiles with two traverses at right angles per method 2 of 40 CFR 60, Appendix A, thereby justifying a single probe head, 2) characterize the particle size distribution both upstream and downstream of the HEPA filter system, 3) reduce the length of the sampling tube together with associated bends and restrictions, thereby eliminating most potential for material deposition, 4) correct sample flow to be isokinetic, thereby eliminating potential errors due to large particles that may be present if the HEPA filter fails.

The redesign of the T059 stack and sampling system has already been initiated. The stack height has been extended and the current sampler placed at 8 diameters downstream of the nearest disturbance and 2 diameters upstream of the last disturbance. Design of an improved sample probe head and sample line is currently underway. The T059 sample will have an alarm meter incorporated.

The RMDF sampler monitor will be moved closer to the probe head on the second catwalk, thereby significantly reducing the sample line-length. The T020 stack sampling system will be redesigned to minimize deposition points. Specific design details of the new RMDF and T020 systems will of course not be available until the work is funded.

EETEC will evaluate all potential radioactive material release points at SSFL as prescribed in 40 CFR 61, DOE 5400.xy (Draft), DOE 5400.1 and DOE 5400.5 to determine and justify emission measurement techniques.

Also see AP026 for related actions on environmental monitoring.

EETEC will evaluate all sources to calculate potential offsite doses without benefit of HEPA filters at the source. If the projected doses are less than 1% of 10 mrem/y (0.1 mrem/y), continuous monitoring will not be required per 40 CFR 61.93. Based on this evaluation EETEC will confer with DOE regarding the future sampling frequency. The analyses will specify all conservative assumptions made, including worst case work-place concentrations, no HEPA filters and worse case meteorology. This analysis will be formally documented for all EETEC facilities and kept on file for DOE and EPA review. Thereafter, if doses are shown to be <0.1 mrem/year, use of the upgraded sampling systems will be utilized (per CFR 61.93) on a periodic basis only to demonstrate continued negligible releases.

This plan applies to RAD/CF-1, TS.5-2 and A/CF-1.

**BACKGROUND AND PERSPECTIVE**

Several corrective actions were implemented during the Tiger Team visit to address the issues raised in this finding:

1. The RMDF sample tube was removed to eliminate two bends (where heavy particles could deposit) and replace a tygon tube with a metal insert which was another location for material deposit.
2. The Bldg T059 sample head was attached to the stack at a fixed location.



Finding No: A/CF-2

Finding Description: Priority: 3

The Site Contractor does not use meteorological data which are representative of site conditions as required by DOE 5400.1.

Root Cause:

M3 Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not use site specific meteorology data in the model used for public dose estimates

The currently used wind data used as input by ETEC for public dose estimates by the AIRDOS-PC, are for the Burbank airport. These data are not closely representative of SSFL site conditions.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP002	Meteorological Data for AIRDOS-PC Code

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ACTION PLAN AP002 (For Finding No: A/CF-2)

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Action Plan Number: AP002

Plan Title: Meteorological Data for AIRDOS-PC Code

Plan Description:

ETEC will take action to assure the meteorology (wind data) is the most representative for the SSFL site or nearby areas as specified by the Protocols. The actions include the following.

ETEC will review the meteorological requirements of protocols and other regulations addressing the determination of public doses due to air emissions from DOE facilities to assure these are met.

ETEC will prepare a "Reasonable Maximum Exposure Scenario" evaluation to examine use of current meteorological data and the relative sensitivity of data obtained.





Finding No: SSB/BMPF-1

Finding Description: Priority: 1

The former Sodium Disposal Facility (B-886) is not properly secured to prevent access to, and control contaminants spreading from, soil by unauthorized personnel, livestock, burrowing rodents, or erosion, which is not consistent with good management practices.

Root Cause:

M1- Ownership, M2- Assessment and Oversight

Compliance Protocol:

BMP

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The former Sodium Disposal Facility (B-886) is not physically secured to prevent access to, and control contaminants spreading from soil by unauthorized personnel, livestock, burrowing rodents, or erosion.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP004	Inadequate Physical Control of the Former Sodium Disposal
ACTION PLAN AP004 (For Finding No: SSB/BMPF-1)	

Action Plan Number: AP004

Plan Title: Inadequate Physical Control of the Former Sodium Disposal

Plan Description:

Rocketdyne is presently preparing a closure plan for the former Sodium Disposal Facility (B-886), which will include the RWQCB requirement relative to closure of the lower pond. This plan will be prepared in FY 91 and funding to initiate implementation in FY 92 is in the President's budget. Completion of the closure is scheduled for FY 93 for which funding has been requested. If an interim means of access control is deemed appropriate, then FY 92 funding is required in order to establish a full perimeter fence with locked access gates, estimated to cost 30K. This would include below grade provisions for the exclusion of burrowing rodents, and could be completed within 3 months of funding authorization and approval of NEPA determination.

Finding No: A/BMPF-1

Finding Description: Priority: 3

None of the five Site Contractor ambient radioactive particulate monitoring stations which are used to evaluate DOE activities within Area IV of the SSFL conform with the siting and sampling requirements in accordance with 40 CFR 58, EPA-600/4-77-027a, DOE 5400.xy (Draft), and DOE 5400.1, and there are no written procedures for handling samples, performing maintenance and calibration, and no chain of custody documentation in accordance with EPA's "Quality Assurance handbook for Air Pollution Measurement Systems."

Root Cause:

M2 - Assessment and Oversight, M1 - Ownership

Compliance Protocol:

DOE 5400.1, DOE 5400.xy (Draft), EPA's Quality Assurance Handbook for Air Pollution Measurement Systems

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC lacks personnel with appropriate training in air sampling principles, techniques and regulations.

The present program for sampling radioactive particulates in ambient air lacks documentation of the rationale for siting and is deficient in procedures for operation, management and quality assurance.

Based on the compliance protocols, the current ambient air sampling program is deficient in siting and operation and lacks justification for the number of sampling stations.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP003	Provide Compliant Ambient Air Sampling Program
AP026	Development & Implementation of Environmental Monit. Plan

ACTION PLAN AP003

(For Finding No: A/BMPF-1)

Action Plan Number: AP003

Plan Title: Provide Compliant Ambient Air Sampling Program

Plan Description:

Alternatives will be studied for cost, schedule and probable effectiveness in training Radiation Protection and Health Physics Services (RP&HPS) staff in the principles, techniques and regulations regarding particulate air sampling. One alternative is to arrange for core staff members to attend a commercially offered course or to prepare and present this training "in-house." (One of our part-time employees has considerable experience in workplace air sampling and is a co-author of DOE's "Health Physics Manual of Good Practices for the Prompt Detection of Plutonium in the Workplace." He also authored the "Airborne Radioactive Materials, Evaluation and Controls" section of Westinghouse Hanford's current Radiation Protection Policy Manual.)

Prior to establishing new siting requirements for the ambient air monitors, the submission to DOE/SAN for exemption of the requirement for an on-site met. tower will have been made (AP002). If the exemption is granted, then location of the air monitors will be made on the basis of available met. data approved by DOE/SAN. If the exemption is not granted, then various siting options, including boundary locations, and uniform locations will be submitted to DOE/SAN for approval.

Actions and milestones responsive to the issues of the environmental plan and operating procedure documentation, as well as, actions necessary for justification of siting and number of sampling points are included in AP026.

Implementation of changes in air sampling station design, siting and operating procedures will follow acceptance of the environmental plan's section on sampling aerosols in ambient air and completion of the associated procedures. (See AP026)

Periodic sampling will be continued and (subject to funding) upgraded in all areas which are potential sources of contamination where remediation is completed.

Milestone 1: Develop procedure which requires periodic training on sampling eq	Date: 04/30/92
Milestone 2: Develop procedures on specific siting requirements.	Date: 06/30/92
Milestone 3: DOE/SAN to approve siting locations.	Date: 08/01/92
Milestone 4: Implement training for RP&HPS staff.	Date: 08/01/93
Milestone 5: Procure new equipment; install at new locations.	Date: 12/15/93
Milestone 6: Initiate periodic sampling program.	Date: 12/15/93
Milestone 7: Conduct appraisal of Air Sampling Program.	Date: 03/15/94

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
A/BMPF-1	Inadequate Characterization of Radioactive Particulates
A/CF-1	Inadequate Stack Emissions Monitoring Methods
QA/BMPF-1	Inadequate Environmental Monitoring Program
RAD/CF-2	No Supporting Data to Eliminate Routine Environmental Surv.

ADS No: 4013AA , ,

Funding Comments:

Implementation requires funding of AP026 and AP096.

Based on a sensitivity evaluation using a variety of wind data, and worst case scenarios, ETEC will petition the DOE site representative for an exemption from any requirement for the establishment and operation of a meteorological monitoring system at the SSFL site.

In this study, existant wind data specific to the SSFL site and wind data for other DOE sites and cities, available with AIRDOS-PC, will be used with SSFL worst case emission data to evaluate the significance of various wind data sets to derived public dose estimates. Rocketdyne will also evaluate the worst-case scenario of assuming that the wind always blew toward the closest receptors, and that the stability class was the one which produced the greatest impact.

If DOE/SAN does not grant an exemption, then a funding request will be submitted for the construction of a meteorology tower and a 2-3 year period of data gathering.

This action plan is closely related to AP028.

Milestone 1: Perform requirements review.	Date: 12/20/91
Milestone 2: Perform a sensitivity evaluation.	Date: 02/28/92
Milestone 3: Petition for onsite meteorology exemption.	Date: 03/31/92
Milestone 4: Prepare and submit ADS for meteorology tower.	Date: 05/31/92
Milestone 5: Prepare and release operating procedures.	Date: 01/20/93
Milestone 6: Complete training of personnel.	Date: 01/20/93
Milestone 7: Hire qualified specialist for meteorology tower.	Date: 01/20/93
Milestone 8: Complete procurement and installation.	Date: 02/15/93
Milestone 9: Start meteorology tower operations.	Date: 03/01/93

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
A/CF-2	Inadequate Meterological Data
RAD/CF-1	AIRDOS-PC Modeling Deficiencies

ADS No: 4013AA , ,

Funding Comments:

Funding for required manpower is included in existing budget.

An ADS may be prepared and submitted in May, 1992, for additional funds to purchase and install a meteorology tower, hire a qualified specialist, train other ETEC personnel, operate the meteorology tower and reduce the data to useable form. ROM costs are:

FY1993 Procure and install meteorology tower 150  
 FY1994 Hire one specialist and train operator 200  
 FY1995-1997 Operate meteorology tower 160/hr.





Finding No: SSB/BMPF-2

Finding Description: Priority: 3

Stormwater and drainageway sediments downgradient of the northwest portion of SSFL Area IV have not been adequately evaluated to assess contaminant migration in accordance with generally accepted best management practices.

Root Cause:

M2 - Assessment and Oversight; M5 - Policy

Compliance Protocol:

Best Management Practices; DOE Order 5400.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inadequate characterization of stormwater and sediment downgradient of the northwest portion of SSFL Area IV.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP005	Stormwater and Sediment Characterization - Northwest Area

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ACTION PLAN AP005 (For Finding No: SSB/BMPF-2)

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Action Plan Number: AP005

Plan Title: Stormwater and Sediment Characterization - Northwest Area

Plan Description:

Rocketdyne Environmental will develop a workplan to characterize the stormwater and sediment downgradient of the northwest portion of SSFL Area IV to assess contaminant migration in accordance with generally accepted best management practices, as required by DOE Order 5400.1, Chapter IV, Section 5b.

The workplan will include a sampling strategy of approximately thirty soil samples per channel. The majority of the samples will be collected from surface soils (0 to 6 inches), with samples collected from deeper intervals (1 to 1 1/2 feet) near source areas, if present. Analytical parameters for soils in the two channels in the vicinity of the former Sodium Disposal Facility, B/886, will include volatile organics, semi-volatile organics, PCBs, biphenyls, terphenyls, hydrocarbons, metals, and radioactivity screens (alpha, beta, and gamma). The soil samples collected from the other three channels will be analyzed for the same parameters, with the exception of the phenolic





Finding No: SW/BMPF-1

Finding Description: Priority: 3

Secondary containment practices at SSFL are not in accordance with recommendations in the Hazardous Materials Response Business Plan and Inventory (Business Plan) or generally accepted best management practices. Additionally, the Business Plan secondary containment recommendations are contrary to generally accepted industrial practices.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

40 CFR 300; 40 CFR 112; 40 CFR 264, 265, and 262; CAC, Title 19; CAC, Title 22

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC must affect a more proactive approach to effectively identify and implement secondary containment to above ground storage of hazardous materials.

ETEC must resolve the issue of secondary containment of oil filled transformers. Although these are not above ground 'storage' facilities and therefore not covered as such in the Business Plan, the Tiger Team raised the question as to whether their added containment should be a Best Management Practice.

Incorrect secondary containment recommendations in the Business Plan.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP006	ID and Implement Secondary Containment
AP007	Revisions to the SPCC and the FSCP

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ACTION PLAN AP006 (For Finding No: SW/BMPF-1)

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Action Plan Number: AP006

Plan Title: ID and Implement Secondary Containment

Plan Description:

There are basically two parts to this action Plan:

1. Identification and implementation of secondary containment.



Finding No: SW/BMPF-2

Finding Description: Priority: 3

The Spill Prevention Control and Countermeasures (SPCC) Plan and the Facility Spill Contingency Plan (FSCP) for Oil and Hazardous Materials contain inaccuracies, inconsistencies, and deficiencies which are not in accordance with generally accepted best management practices.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

40 CFR 300; 40 CFR 262, 264, and 265; CAC Title 22, Chapter 6.95; 40 CFR 112

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inaccuracies, inconsistencies, and deficiencies in the Spill Prevention Control and Countermeasures (SPCC) plan and Facility Spill Control Plan (FSCP) for Oil and Hazardous Materials for SSFL.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP007	Revisions to the SPCC and the FSCP

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ACTION PLAN AP007 (For Finding No: SW/BMPF-2)

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Action Plan Number: AP007

Plan Title: Revisions to the SPCC and the FSCP

Plan Description:

Environmental will develop a Hazardous Materials Response Business Plan and Inventory (Business Plan) methodology (refer to corrective action plan AP033) which will outline all of the revisions necessary to the existing Business Plan necessitated by the findings. The Business Plan includes the FSCP and the SPCC.

This methodology will include updating the current tank inventory, spill control equipment locations, and spill control "cabinet" inventories. The Business Plan document will also address certain changes to the SPCC and FSCP, including the inclusion of the date on the approval page certifying the document and an action plan for the overflow of the water reclamation ponds.

The methodology will also address the necessary typographical corrections, including a method to ensure all of the phone numbers are correct and in agreement with one another throughout the



Finding No: SW/BMPF-3

Finding Description: Priority: 4

The Site Contractor does not monitor the quality of dispensed bottled drinking water at DOE facilities.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Site Contractor does not monitor the quality of dispensed drinking water.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP008	Drinking Water Monitoring
ACTION PLAN AP008 (For Finding No: SW/BMPF-3)	

Action Plan Number: AP008

Plan Title: Drinking Water Monitoring

Plan Description:

Although bottled drinking water is purchased from a licensed supplier, there is no requirement to have the supplier certify the grade or quality, nor does the site perform independent checks on the quality of the dispensed water.

A procedure will be prepared and implemented that requires an outside contractor to sample dispensed water from water coolers and vending machines on a quarterly basis to assure its quality. (Los Angeles drinking water purity requirements.) The water supplier will also be required to provide water quality data.



Finding No: SW/BMPF-4

Finding Description: Priority: 3

The Site Contractor does not have a preventative maintenance program for periodic inspection and repair of sanitary sewer lines in accordance with best management practice.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

Best Management Practices

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Sewage Treatment Plant No. 3, which receives sewage from the DOE facilities, may also receive inorganic and organic chemicals as well as radionuclides, since only administrative controls are employed at some sources where wastewater enters the sewage system.

There is no established inspection program for the sanitary sewers.

It is not possible to determine if exfiltration is occurring during dry weather. While there are periodical high flows during the rainy seasons, the Site Contractor does not know if these occur from damaged sewer lines, poorly secured manholes, or malfunctioning sanitary equipment.

Excessive infiltration rates during period of rain indicates that sewer lines may be broken and manholes poorly secured. This infiltration also indicates that exfiltration is occurring during the dry seasons, thus possibly contaminating the adjacent soil and groundwater below the pipeline.

This plan has been divided into two phases as noted below.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP009	Sewage Collection System Investigation and Repair





Finding No: GW/CF-1

Finding Description: Priority: 2

Rocketdyne does not have a comprehensive Groundwater Protection Plan or a Groundwater Monitoring Plan as required by DOE Order 5400.1.

Root Cause:

M3 - Resources

Compliance Protocol:  
DOE Order 5400.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of a comprehensive Groundwater Protection Management Plan in accordance with DOE Order 5400.1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP010	Groundwater Protection Management Plan

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ACTION PLAN AP010 (For Finding No: GW/CF-1)

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Action Plan Number: AP010

Plan Title: Groundwater Protection Management Plan

Plan Description:

A Groundwater Monitoring Plan is required by DOE Order 5400.1, as part of the Groundwater Protection Management Plan and must be in place where subsurface investigations are occurring.

Rocketdyne Environmental will develop a specific Groundwater Monitoring Plan to determine and document the effects of DOE activities/operations on groundwater quality and quantity and to demonstrate compliance with DOE requirements and applicable Federal, state, and local regulations. The groundwater monitoring plan requires state approval.

The Plan will reference that the following has been accomplished, is currently being addressed, or is planned, and that Rocketdyne has already performed most of the work of obtaining data for the purpose of determining baseline conditions of groundwater quality and quantity:

Demonstrate compliance with and implementation of all applicable Federal, state, and local regulations, and DOE Orders.

Provide data to permit the early detection of groundwater pollution or contamination.

Provide a reporting mechanism for detected groundwater pollution or contamination.

Identify existing and potential groundwater contamination sources and maintain surveillance of these sources.

Provide data upon which decisions can be made concerning land disposal practices and the management and protection of groundwater resources.

The SSFL Area IV Groundwater Monitoring Plan will also address sampling collection, analysis, and data management specific to the groundwater monitoring program outlines in the Area IV Groundwater Protection Management Plan.

Rocketdyne Environmental will develop a Groundwater Protection Management Plan specifically for SSFL Area IV. This plan will include the following:

- o Documentation of the current groundwater regime with respect to quality and quantity.
- o Design and implementation of a groundwater monitoring program to support resource management and to comply with all applicable environmental laws and regulations and coordinate with regulatory agencies.
- o Design and implementation of a management program for groundwater protection and remediation.
- o Identification of areas that may be contaminated with hazardous substances.
- o Identification of strategies to control sources of contaminants.
- o Design and implementation of a remedial action program, including decontamination and decommissioning, and other remedial programs contained in applicable DOE Orders.

Milestone 1: Start development of draft comprehensive Groundwater Protection.	Date: 11/15/91
Milestone 2: Survey and identification of contaminated areas completed.	Date: 01/15/92
Milestone 3: Groundwater Monitoring Plan completed with state approval.	Date: 03/15/92
Milestone 4: Draft comprehensive Groundwater Protection Management Plan Comp.	Date: 04/15/92
Milestone 5: Comprehensive Groundwater Protection Management Plan completed.	Date: 05/15/92
Milestone 6: DOE approval.	Date: 07/15/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
GW/CF-1	Lack of a Groundwater Protection Management Plan

ADS No: 4013AA , ,

Funding Comments:

Funding is included in the SSFL overhead budget. Direct funding is not requested.



Finding No: GW/CF-2

Finding Description: Priority: 3

The Hydrogeologic Assessment Report (HAR), as requested by the Los Angeles Regional Water Quality Control Board for the former Sodium Disposal Facility (B/886), does not meet all the requirements of the California Toxic Pits Cleanup Act (TPCA), Section 25208.8. The HAR does not include a description of the vadose zone contamination nor does it include a demonstration that the monitoring system and methods used at the facility are capable of detecting seepage from the impoundment before hazardous waste constituents enter the waters of the State.

Root Cause:

M3 - Resources, M2 - Assessment and Oversight

Compliance Protocol:

Toxic Pits Cleanup Act, California Health and Safety Code, Title 22, Section 25208.8

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of characterization of the vadose zone underlying the former Sodium Disposal Facility, B/886.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP011	Character. and Monitoring of Vadose Zone Underlying B/886.

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ACTION PLAN AP011 (For Finding No: GW/CF-2)

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Action Plan Number: AP011

Plan Title: Character. and Monitoring of Vadose Zone Underlying B/886.

Plan Description:

Finding GW/CF2 asserts the sandstone vadose zone underlying the former Sodium Disposal Facility, B/886, is highly fractured, thus serving as a potentially "significant long-term source for continued contaminant leaching." Based on surface geology and information obtained during construction of three Chatsworth Formation monitor wells in the vicinity of the former Sodium Disposal Facility, the sandstone vadose zone in this area is not highly fractured and therefore would not likely be a significant long-term source of contaminant leaching. Low permeability in the saturated zone as demonstrated by the long time required for recovery after purging wells in this area suggests a similar low permeability in the unsaturated zone of the Chatsworth Formation.

A workplan will be developed by Rocketdyne Environmental to characterize the vadose zone beneath the former Sodium Disposal Facility. This workplan will include the following elements: all soils, fill or hardware would be removed. Geologic mapping would be conducted to determine the location and possible orientation of any apparent fractures or bedding planes. The geologic mapping results would be used to determine in part the locations of approximately ten core holes. Continuous cores would be collected and logged at each boring site to a depth of 50 feet. The core samples will be analyzed for the presence of volatile organics, semi-volatile organics, PCBs, terphenyls, biphenyls, hydrocarbons, metals and radioactivity (alpha, beta, and gamma). A limited number of deeper cores would be collected if significant contamination is found in the upper 50 feet of the vadose zone.

Rocketdyne Environmental will develop a workplan to demonstrate that Rocketdyne has a monitoring system in place for both groundwater and the vadose zone that is capable of detecting leachate migration from the impoundment, prior to entering the water of the State.

The exact number and location of groundwater monitoring wells in the vicinity of the former Sodium Disposal Facility, B/886, will be determined as part of the CERCLA closure and remediation process. It is estimated that three Chatsworth Formation wells and one Shallow Zone well would be constructed to evaluate groundwater flow conditions, to monitor the impact of the former Sodium Disposal Facility on groundwater quality, and serve as a component of future potential groundwater quality remediation systems.

Sufficient rounds of water quality samples to prove effectiveness of the source clean up will be collected from the estimated four wells. Water quality parameters to be examined will include volatile organics, semi-volatile organics, PCBs, biphenyls, terphenyls, hydrocarbons, metals, and radioactivity (alpha, beta, gamma and tritium).

Post closure monitoring will be conducted as a part of the SSFL groundwater monitoring program.

Milestone 1: Geologic mapping completed.	Date: 03/01/92
Milestone 2: Work Plan completed.	Date: 04/01/92
Milestone 3: Installation of additional monitor wells constructed.	Date: 07/01/92
Milestone 4: Specified well sampling and analysis per findings objectives comp	Date: 07/01/92
Milestone 5: Geologic coring performed.	Date: 09/15/92
Milestone 6: Closure plan report completed.	Date: 01/01/93

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
GW/CF-2	Inadequate Characterization of Hydrogeologic Regime

ADS No: 4013AA , ,

Funding Comments:

Cost estimate based on estimates provided by Groundwater Resources Consultants, Inc. Costs as



Finding No: GW/BMPF-1

Finding Description: Priority: 3

The hydrogeologic regime underlying SSFL Area IV has not been adequately characterized to define the aquifer physical parameters, the nature and extent of the contamination in the saturated and unsaturated zones, and the rate and directions of contaminant migration in the subsurface in accordance with generally accepted best management practices.

Root Cause:

M3 - Resources

Compliance Protocol:

Best Management Practice

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inadequate characterization of the hydrogeologic regime of the aquifer and vadose zone underlying former hazardous waste disposal areas in SSFL Area IV.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP012	Hydrogeologic Regime Characterization

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ACTION PLAN AP012 (For Finding No: GW/BMPF-1)

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Action Plan Number: AP012

Plan Title: Hydrogeologic Regime Characterization

Plan Description:

Environmental will develop a plan to adequately characterize the hydrogeologic regime of the aquifer and vadose zone underlying former hazardous waste disposal areas in SSFL Area IV.

The workplan will outline a characterization program of sufficient detail to define the aquifer physical parameters, including flow velocity, transmissivity/conductivity, flow directions, and vertical/horizontal gradients. Additionally, the characterization will define the nature and distribution of aquifer and vadose zone contamination, including contaminants present both on-site and off-site, and the rate of contaminant migration. Also refer to corrective Action plan AP011 concerning the hydrogeologic assessment for the former Sodium Disposal Facility, B/886.

Additional groundwater characterizations are covered under AP010.





Finding No: GW/BMPF-2

Finding Description: Priority: 3

Approximately thirty percent of the wells used for monitoring contamination from DOE facilities and operations and managed by Rocketdyne under the ETEC contract are inadequately secured, maintained, labeled, inventoried, and/or constructed. One well was improperly abandoned which is not in accordance with current industry/regulatory practice and California Water Well standards.

Root Cause:

M2 - Assessment and Oversight, M3 - Oversight, M5 - Policy

Compliance Protocol:

OSWER Directive 9950.3, Operation and Maintenance Inspection Guide (RCRA) Ground Water Monitoring Systems; Califor

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inadequate well abandonment practices.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP013	Well Monitoring/Maint/Abandonment/Closure/Decommissioning
ACTION PLAN AP013 (For Finding No: GW/BMPF-2)	

Action Plan Number: AP013

Plan Title: Well Monitoring/Maint/Abandonment/Closure/Decommissioning

Plan Description:

The groundwater monitoring well maintenance program will be formalized in writing by Rocketdyne Environmental. The formalized program will include an inventory of wells and a procedure for the inspection and repair of wells which are inadequately secured, labeled, and/or constructed. In addition, any well-like structure which is found will be investigated and a determination made as to whether or not the structure is a well. If it is determined that the structure is a well, it will either be abandoned according to the Rocketdyne well abandonment/closure/decommissioning document or brought up to current standards and used as a monitoring well.

The formalized Well Maintenance Program will also include an agreement from the California Department of Health Services for the open borehole construction utilized for the Chatsworth Foundation.

As soon as the Well Maintenance Program has been thoroughly developed and formalized in writing, it

will be implemented by Rocketdyne Environmental and Plant Services. The Well Maintenance Program and associated field forms will be presented in the updated facility-wide Groundwater Sampling and Analysis Plan and the Area IV Groundwater Monitoring Plan.

Rocketdyne Environmental will prepare a well abandonment/closure/decommissioning document for closure of all well structures. This document outline methods in accordance with all applicable Federal, state, and local regulations and applicable DOE Orders and will be coordinated with and reviewed by the state.

The well abandonment/closure/decommissioning document will outline the proper methods to eliminate the well structure and borehole as a means for the preferential migration of pollutants and contaminants. The procedure will also address closing the well structure in such a manner as to pose no potential hazard to humans or animals.

The well abandonment/closure/decommissioning document will also include methods for surveying the well structure in order to determine the condition.

The procedure will be based on one of the following standards, depending on the specific situation: 2.1.27.1, 2.1.27.2, 2.1.27.3, or 2.1.27.4 (refer to "Scientific and Technical Standards for Hazardous Waste Sites", Vol 1, Pgs. 58-59, published by the California Department of Health Services).

This document will be utilized for the closure of all wells.

The well-type structure identified near B/003 will be investigated by Rocketdyne Environmental and a determination made as to whether or not the structure is a well. If it is determined that the structure is a well, it will be properly closed in accordance with the well abandonment/closure/decommissioning document prepared by Rocketdyne Environmental.

Milestone 1: Formalize a written monitoring well maintenance program.	Date: 11/30/91
Milestone 2: Abandonment/closure/decommissioning document submitted to CA.	Date: 12/30/91
Milestone 3: Initiate investigation & determination as to whether or not it is	Date: 04/01/92
Milestone 4: Well abandonment/closure/decommissioning document finalized.	Date: 05/15/92
Milestone 5: Acceptance by CA DHS of open borehole construction.	Date: 09/15/92
Milestone 6: Release procedures.	Date: 10/01/92
Milestone 7: Complete personnel training.	Date: 10/30/92
Milestone 8: Initiate proper closure of well(s).	Date: 11/01/92
Milestone 9: Verify completion in accordance with plan.	Date: 04/01/93

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
GW/BMPF-2	Inadequate Well Maintenance and Abandonment

ADS No: 4013AA , ,

Funding Comments:

Funding is included in the SSFL overhead.



Finding No: GW/BMPF-3

Finding Description: Priority: 4

Non-dedicated equipment used for sampling groundwater wells was not adequately decontaminated by Rocketdyne between sample locations, and the progression of groundwater sampling was not conducted in accordance with standard industry/regulatory agency practices.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

Generally accepted Best Management Practices.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inadequate decontamination of non-dedicated sampling equipment and incorrect progression of groundwater sampling.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP014	Decontamination of Sampling Equipment Document

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ACTION PLAN AP014 (For Finding No: GW/BMPF-3)

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Action Plan Number: AP014

Plan Title: Decontamination of Sampling Equipment Document

Plan Description:

Rocketdyne Environmental will formalize in writing a Decontamination of Sampling Equipment document and present the document in the updated Facility Groundwater Sampling and Analysis Plan and the SSFL Area IV Groundwater Monitoring Plan. Decontamination procedures will include equipment washing with non-phosphate laboratory detergent and triple rinsing with a sufficient volume of distilled water to eliminate potential residuals in the sampling equipment. The procedure will also include a quality assurance program to confirm the effectiveness of the decontamination program. This quality assurance procedure will involve collecting blanks from non-dedicated sampling equipment.

Because of the size and complexity of the site, it would significantly increase the time and cost for quarterly sampling of the wells to proceed in a sampling requirement of least contaminated to most contaminated. The hot spots have been identified, there is historical well data, and the new Decontamination of Sampling Equipment are all being used to assure and/or identify that no cross contamination between wells has occurred.



Finding No: GW/BMPF-4

Finding Description: Priority: 3

Organic vapor monitoring is not conducted prior to and during monitoring well purging and sampling activities, which is inconsistent with EPA Guidance Documents and standard industry/regulatory agency practices.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

EPA/NIOSH/OSHA Manual, Oct 85, "US EPA Occupation Safety and Health Manual for Hazardous Waste Site Activities", Be

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of vapor monitoring prior to and during groundwater monitoring well purging and sampling activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP015	Organic Vapor Monitoring Program

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ACTION PLAN AP015 (For Finding No: GW/BMPF-4)

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Action Plan Number: AP015

Plan Title: Organic Vapor Monitoring Program

Plan Description:

Rocketdyne Environmental will develop an Organic Vapor Monitoring Program. The program will require organic vapor monitoring to be conducted prior to and during all monitoring well purging and sampling activities in SSFL Area IV.

This program will utilize a photoionization detector (PID) during sampling to monitor the headspace. A HNU PID will be procured and maintained for use during groundwater sampling.

- Milestone 1: HNU PID procured and ready for use. Date: 06/15/91
- Milestone 2: Organic Vapor Monitoring program including instructions finalized Date: 07/01/91



Finding No: WM/CF-1

Finding Description: Priority: 2

ETEC does not have in place a coordinated, effective waste minimization program. In addition, the waste minimization plan, on which most of the program must be based, does not adequately address all of the basic elements that are required in the implementation guidance, DOE Order 5400.1.

Root Cause:

M3 - Resources, M5 - Policy

Compliance Protocol:

DOE Order 5400.1, DOE Order 5400.3, DOE Order 5820.2, California SB 14

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of a coordinated, effective Waste Minimization Program and a Waste Minimization Plan.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP016	Waste Minimization Plan

ACTION PLAN AP016 (For Finding No: WM/CF-1)

Action Plan Number: AP016

Plan Title: Waste Minimization Plan

Plan Description:

EPA and the State of California DHS currently requires generators of hazardous waste (HW) to practice waste minimization. The DOE requirements for regulated waste minimization are established by DOE Order 5400.1.

Rocketdyne Environmental will develop a Waste Minimization Program (WM). The program will require an initial procurement of the necessary resources to be dedicated to increasing WM activities. The necessary resources include: experienced personnel, literature describing successful hazardous/radioactive waste minimization programs, recycling equipment, and equipment for converting HW to non-hazardous waste.

Rocketdyne Environmental will develop a formalized WM program, which will include the following:

- Rocketdyne Environmental will issue a WM Policy, which references the WM Plan.



- Rocketdyne Environmental will develop a WM Plan in accordance with all applicable DOE Orders and federal, state, and local regulations including California SB 14 (The Hazardous Waste Source Reduction and Management Review Act of 1989), the Pollution Prevention Act of 1990, and California 939. The WM Plan will include the following:

- o A procedure to conduct a detailed evaluation of each department's current hazardous and non-hazardous waste streams by type and volume (see EPA 625/7-88/003: "Waste Minimization Opportunity Assessment Manual" and the "Guidance Manual for the Hazardous Waste Source Reduction and Management Review Act of 1989" published by the California Department of Health Services). The non-hazardous waste stream evaluation will begin with high volume items such as metal scraps, glass bottles, aluminum cans, wood scraps, white paper, and cardboard.

- o A method for developing and evaluating source reduction measures including input changes, operations improvements, production process changes, product reformulations, recycling, and administrative steps such as inventory control and employee training. Where feasible, the evaluation procedure will encourage substitution of materials to more environmentally safe products. The hazardous materials elimination team is currently working on evaluating substitution products and will continue to work in this capacity.

- o An audit program and a source reduction evaluation program designed to audit departmental compliance with the WM Plan and the WM Program. The source reduction evaluation program will evaluate the WM Plan's effectiveness in comparison to the stated WM Plan's goals.

- o Goals based on 1990 waste disposal figures and the departmental waste stream evaluation, outlined previously.

- o Provisions for division-wide recycling of non-hazardous materials.

- o An employee suggestion program to solicit, evaluate, and implement ideas on WM, source reduction, and recycling. Suggestions would be evaluated by a recycling/WM committee, chaired by the Waste Reduction Coordinator, and would be implemented upon approval of the committee.

- A Waste Reduction Coordinator will be designated. His/her responsibilities will include the following:

- o Management of the WM Plan and WM Program.

- o Oversight of the annual WM audits.

- o Interaction with the departments to provide WM goals and process substitutions based on auditing results and the WM Program and WM Plan.

- o Coordination with the Hazardous Materials Elimination Team chairperson.

- Training of waste generators and interactive communication will be given a high priority by management.

- Short waste minimization/recycling articles will be written by Rocketdyne Environmental to appear in the Rockwell News as an employee education awareness tool.



Finding No: WM/CF-2

Finding Description: Priority: 1

The Radioactive Materials Disposal Facility (RMDF) is currently storing small quantities of restricted mixed wastes for purposes other than accumulating such quantities to facilitate proper recovery, treatment or disposal, which is not in accordance with the requirements of 40 CFR 268.50.

Root Cause:

M5 - Policy

Compliance Protocol:  
40 CFR 268.50

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Improper storage of land disposal restricted (LDR) mixed waste.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP017	Storage of Land Disposal Restricted Waste (LDR) Mixed Waste

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ACTION PLAN AP017 (For Finding No: WM/CF-2)

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Action Plan Number: AP017

Plan Title: Storage of Land Disposal Restricted Waste (LDR) Mixed Waste

Plan Description:

ETEC is revising its LDR waste procedures to assure compliance with 40CFR268.

ETEC is characterizing its waste and is providing input to DOE-SAN for case-by-case Extension Applications for storage of the COR wastes at ETEC.

ETEC is developing procedures for the treatment of small quantities of specific mixed wastes that are currently in interim storage under the existing Part A permit.

ETEC submitted a proposal to DOE-HQ-EM to treat oil mixed waste at the SSFL RMDF using molten salt oxidation. The proposed funding is \$500K with the project beginning in October 1991.



Finding No: WM/BMPF-1

Finding Description: Priority: 1

Rocketdyne waste verifications of DOE hazardous and mixed waste shipped to the Area II Hazardous Waste Storage Area (HWSA) and the Area IV Radioactive Materials Disposal Facility (RMDF), respectively, are not conducted in accordance with generally accepted best management practices.

Root Cause:

M2 - Assessment and Oversight; M3 - Resources

Compliance Protocol:

CAC, Title 22, Section 67102; 40 CFR 264.13 and 265.13; Best Management Practices

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inadequate waste verifications for mixed waste shipped to RMDF.
- Inadequate verification of hazardous waste at the HWSA.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP018	Waste Verification Plan - RMDF and HWSA

---

ACTION PLAN AP018 (For Finding No: WM/BMPF-1)

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Action Plan Number: AP018

Plan Title: Waste Verification Plan - RMDF and HWSA

Plan Description:

Rocketdyne will develop a Waste Verification Plan for radioactive and mixed waste shipped to the RMDF facility. This plan will implement operational changes to the RMDF facility to (1) routinely inspect and verify wastes to be received for storage and/or disposal for accurate characterization; (2) train generator and RMDF personnel on proper waste analysis and characterization procedures; and (3) implement effective procedures for analysis of wastes with appropriate waste generator data available and reviewed at random (or at periodic intervals). Annual audits will be conducted by ETEC QA to ensure compliance with the plan.

Rocketdyne Environmental will develop the Waste Verification Plan for RMDF in conjunction with Nuclear Operations. This plan will be coordinated with the Waste Verification Plan for the HWSA.



Finding No: WM/BMPF-2

Finding Description: Priority: 3

A hazardous waste determination on sludge from the wastewater treatment plant, STP-3, which receives sanitary wastewater from DOE operations, has not been made.

Root Cause:

M2 - Assessment and Oversight; M5 - Policy

Compliance Protocol:

RCRA 40 CFR 261, Parts C and D; Best Management Practices

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of a sewage sludge monitoring program.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP019	Sewage Sludge Monitoring Plan

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ACTION PLAN AP019 (For Finding No: WM/BMPF-2)

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Action Plan Number: AP019

Plan Title: Sewage Sludge Monitoring Plan

Plan Description:

Rocketdyne Environmental will develop a Sewage Sludge Monitoring Program. This program will include a quarterly sampling program. The program will involve drawing a representative sampling of the sludge blanket prior to disposal on a quarterly basis. This sample will be analyzed for hazardous waste characteristics as defined by 40 CFR 261 using the most appropriate analytical method. In addition, the sample will be analyzed for gross alpha and gross beta, gamma, and tritium contamination. Upon concurrence that the accumulated sludge is non-hazardous, it will be removed for proper sludge disposal.

This program will include methods for sampling and a quality assurance program.

- |  |                |
|--|----------------|
| Milestone 1: Draft Sewage Sludge Monitoring Program completed. | Date: 06/01/93 |
| Milestone 2: Sewage Sludge Monitoring Program finalized.       | Date: 07/15/93 |
| Milestone 3: Procedures released.                              | Date: 08/01/93 |
| Milestone 4: Training completed.                               | Date: 09/01/93 |





Finding No: TCM/CF-1

Finding Description:

Priority: 2

Several hazardous chemical storage containers, including tanks and drums, were not marked with hazard warnings in accordance with OSHA and CAL/OSHA hazard communication requirements and site contractor operating policies and procedures, and hazard warnings were not posted on some chemical storage cabinets as required by best management practices.

Root Cause:

M1-Ownership, M2-Assessment and Oversight

Compliance Protocol:

29 CFR 1910.1200 and 8 CAC 5194

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o One denatured ethanol tank and six drums at the Component Handling and Cleaning Facility, Bldg. T463, were not identified as containing flammable liquids nor was the specific type of alcohol identified. Hazard warnings were affixed to the drums under their drum covers; however, this would not satisfy the need for the hazard to be immediately visible to persons in the area.

One drum of friable asbestos-containing material was not marked with the asbestos warning.

Concentrated caustic and sulfuric acid tanks in the Water Treating Area at the Sodium Components Test Installation were not identified as containing corrosive materials.

A propane tank outside Bldg. T013 was not identified as containing a flammable gas.

Additionally, counter to best management practices, two cabinets at Bldgs. T065 and T036 (see Finding TCM/CF-1) which contained incompatible chemicals, were not posted with hazard warnings associated with the chemicals stored, and one of the two cabinets was not identified as a chemical storage cabinet.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP020	Incomplete Hazard Identification



Finding No: TCM/BMPF-1

Finding Description: Priority: 3

Counter to best management practice, incompatible chemicals are being stored together in chemical cabinets at Buildings T065 and T360 and on a pallet within a common containment area in Building 360.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

Rockwell Operating Policy M-514, "Hazardous Substances"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Per ROP M-514, HS&E and Industrial Security should be notified of intent to store hazardous chemicals, and their approval should be received prior to implementation.

Picric acid was stored with reactive metal salts.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP021	Storage of Incompatible Chemicals

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ACTION PLAN AP021 (For Finding No: TCM/BMPF-1)

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Action Plan Number: AP021

Plan Title: Storage of Incompatible Chemicals

Plan Description:

Background:

ETEC has addressed the specific finding. The picric acid has been removed from the particular cabinet and placed in a metal, fire resistant acid cabinet, located outside Bldg. T065. The sodium arsenite, potassium ferricyanide, and cuprous cyanide have been removed to other designated chemical storage cabinets within Bldg T065. New chemical storage cabinets have been placed in Building T360, and the chemicals have been properly segregated by type in these cabinets. The chemicals stored on the pallets have been removed from the site.

Plan:



Finding No: QA/CF-1

Finding Description: Priority: 2

The environmental analytical laboratory is not conducting vendor laboratory environmental data reviews, does not routinely assess vendor laboratories environmental data and quality assurance programs as required by NQA-1, and has no contractual mechanism to do so.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Site Contractor's vendor laboratories provide DOE with organic and inorganic analytical services for many of DOE's air, groundwater, and surface water environmental samples (I-QA-21). Quality assurance monitoring of vendor laboratories is the responsibility of the Environmental Analytical Laboratory. However, environmental data generation by vendor laboratories is not subject to routine QA/QC review (I-QA-15 and 21). Additionally, contractual agreements with the vendor laboratories do not include provisions for routine review of the vendor laboratories internal analytical quality controls and procedures (QA-31 and 32). The Site Contractor's procedure for periodic supplier reviews does not address audits of vendor laboratories internal and external control procedures (QA-1 and R5.1).

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP022	Quality Assurance Surveys of Vendor Analytical Labs

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ACTION PLAN AP022 (For Finding No: QA/CF-1)

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Action Plan Number: AP022

Plan Title: Quality Assurance Surveys of Vendor Analytical Labs

Plan Description:

ETEC QA will prepare vendor survey requirements in accordance with ETEC Procedure 4-7, "Evaluation and Approval of Procurement Sources" for analytical laboratories. The survey requirements will specify review of all data submitted by the vendor's laboratory. Action Plan AP023 covers QA surveillance and audit functions including implementing procedure review for completeness and



Finding No: QA/CF-2

Finding Description: Priority: 2

QA/QC for the Site Contractor's Environmental Analytical Laboratory is not managed in accordance with provisions of NQA-1 in that the Laboratory QA/QC Coordinator and the Laboratory Manager share QA/QC responsibilities.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Site Contractor's Environmental Analytical Laboratory (B-300) is responsible for the analysis of DOE environmental samples and for monitoring data quality for DOE environmental samples analyzed onsite and at vendor laboratories. The Site Contractor's QA organization plan shows the Laboratory QA/QC Coordinator reporting to the Laboratory Manager (QA-11), effecting shared QA/QC responsibilities by the QA/QC Coordinator and the Lab Manager (I-QA-4). The Site Contractor's QA organization plan provide no independent QA/QC assessment of the Environmental Analytical Laboratory's activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP023	ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.

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ACTION PLAN AP023 (For Finding No: QA/CF-2)

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Action Plan Number: AP023

Plan Title: ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.

Plan Description:

See discussions in AP022 regarding conduct of QA surveillance and audits of analytical lab.

ETEC QA will perform routine surveillance of the Rocketdyne Analytical Laboratory in accordance with ETEC Procedure 4-7, "Evaluation and Approval of Procurement Sources." Quality audits will be performed annually.





Finding No: QA/CF-3

Finding Description: Priority: 2

Environmental data corrections are not routinely signed and dated at the site contractor's Environmental Analytical Laboratory (B/300) and the Radiation Measurements Laboratory. Radiation survey data corrections are not routinely signed and dated at the site contractor's Radioactive Material Disposal Facility and records are not archived in accordance with NQA-1 requirements.

Root Cause:

Procedure

Compliance Protocol:

DOE Order 5700-6B, ASME Standard NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o That records corrections be independently reviewed and signed/dated by reviewer.
- o That environmental records be protected as required by ASME NQA-1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP024	Environmental Records QA

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ACTION PLAN AP024 (For Finding No: QA/CF-3)

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Action Plan Number: AP024

Plan Title: Environmental Records QA

Plan Description:

1. Records quality requirements will be incorporated in project/program plans.
2. Ongoing QA surveillance of the Analytical Chemistry Laboratory, RMDF and the Radiation Measurements Laboratory will be instituted.
3. Annual QA audits of the Analytical Chemistry Laboratory, RMDF and the Radiation Chemistry Laboratory will be performed.



Finding No: QA/CF-4

Finding Description: Priority: 2

The Pollution Prevention Awareness Program Plan has not been written, and the informal pollution prevention activities conducted by Rocketdyne do not include incentive and award programs, nor do mission statements and project plans include pollution prevention requirements, which is inconsistent with DOE Order 5400.1.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE Order 5400.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of a formal Pollution Prevention Awareness Program Plan.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP025	Pollution Prevention Awareness Program Plan
AP016	Waste Minimization Plan

ACTION PLAN AP025 (For Finding No: QA/CF-4)

Action Plan Number: AP025

Plan Title: Pollution Prevention Awareness Program Plan

Plan Description:

Rocketdyne Environmental will develop a Pollution Prevention Awareness Program Plan designed to encourage pollution prevention at the source through product reformulation, process modifications, equipment redesign, recycling, and resale of waste materials rather than disposal. The plan will assert Rocketdyne's recognition that prevention is more environmentally effective, technically sound, and less costly than conventional control procedures.

The plan will be implemented by a Pollution Prevention Coordinating committee composed of representatives from engineering, manufacturing, laboratory organizations, and will be chaired by a Pollution Prevention Coordinator from Rocketdyne Environmental. The activities of this committee will be coordinated with the activities of the Waste Reduction Coordinator (refer to corrective action AP016) and the Hazardous Materials Elimination Team chairperson.



Finding No: QA/BMPF-1

Finding Description: Priority: 3

The Site Contractor has not developed a comprehensive environmental monitoring plan and implemented environmental monitoring programs as specified by DOE 5400.1 to aid in the proper characterization of environmental releases as required by best management practices.

Root Cause:

M2 - Assessment and Oversight, M4 - Resources, M5 - Policy

Compliance Protocol:

DOE Orders 5400.1, 5400.5 and 10 CFR 834 (Draft) and DOE/EH-0173T

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC has not yet prepared a comprehensive environmental monitoring plan as required by 5400.1.

ETEC has not implemented such a plan as required by 5400.1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP026	Development & Implementation of Environmental Monit. Plan

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ACTION PLAN AP026 (For Finding No: QA/BMPF-1)

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Action Plan Number: AP026

Plan Title: Development & Implementation of Environmental Monit. Plan

Plan Description:

The corrective action plan may be conveniently split into two parts (1) plan preparation, and (2) program implementation.

1) Plan Preparation: DOE-SAN prepared a suggested outline for an environmental program plan with the objectives of fully characterizing both onsite and offsite, isotope specific (R/A) and chemical specific (non R/A) activity in all media (soil, vegetation, air, surface water, ground water, biota) out to a radius of 15 miles from the site. Preparing such a comprehensive plan has been estimated to take 0.5 EP-year with roughly half the effort going to R/A and half to non-R/A. Several options have been discussed to accomplish this:



Finding No: QA/BMPF-2

Finding Description: Priority: 3

The Environmental Protection Implementation Plan has not been approved in a timely manner as required by best management practice.

Root Cause:

Compliance Protocol:

DOE 5400.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o DOE/SAN has not approved the Environmental Protection Supplemental Plan.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP027	Environmental Protection Implementation Plan Evaluation
ACTION PLAN AP027 (For Finding No: QA/BMPF-2)	

Action Plan Number: AP027

Plan Title: Environmental Protection Implementation Plan Evaluation

Plan Description:

SAN will work with ETEC to revise and update the submitted EPIP. Each individual program summary will be evaluated for realistic milestones, program content, and program development. Formal meetings with ETEC will be held for further discussions on development of a comprehensive and meaningful document with ETEC prior to approval of the EPIP. Upon SAN approval the EPIP will be submitted to HQ for required concurrences and approval.

Milestone 1: Review requirements of DOE 5400.1.	Date: 06/26/91
Milestone 2: Review existing EPIP.	Date: 07/07/91
Milestone 3: Comment on EPIP.	Date: 08/16/91
Milestone 4: DOE/SAN approve/disapprove EPIP.	Date: 09/06/91
Milestone 5: ETEC to resubmit EPIP after comments are incorporated.	Date: 10/15/91
Milestone 6: DOE/SAN evaluate revised EPIP.	Date: 11/15/91
Milestone 7: DOE and ETEC conference on EPIP.	Date: 11/30/91
Milestone 8: DOE/SAN approves and submit plan to HQ for approval.	Date: 12/15/91
Milestone 9: DOE/HQ approve plan.	Date: 01/30/92





Finding No: RAD/CF-1

Finding Description: Priority: 3

Some assumptions and data used in the EPA AIRDOS-PC model by Site Contractor personnel are not conservative in that not all emission sources are included in the model and the radioactive emission release rates and meteorological data used in the model are not in accordance with DOE 5400.5.

Root Cause:

M2 Assessment and Oversight, M3 Resources

Compliance Protocol:

DOE Orders 5400.1, 5400.5, 5400xy, 40CFR61

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The assumptions and release data used by ETEC with AIRDOS-PC were not conservative in that radioactive material releases from all DOE facilities were not included in the public dose estimates.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP028	Evaluation of Source Terms and Met. Data
AP001	Upgrade T059, T020, RMDF Stack Sampling System
AP002	Meteorological Data for AIRDOS-PC Code

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ACTION PLAN AP028 (For Finding No: RAD/CF-1)

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Action Plan Number: AP028

Plan Title: Evaluation of Source Terms and Met. Data

Plan Description:

ETEC will take action to assure that input to AIRDOS-PC for evaluation of public doses will include all source terms and the meteorology (wind data) most representative of the SSFL site or nearby areas as specified by the Protocols.

Regarding inversion cap height input, we have used 366 meters in the 1990 NESHAPS and 1990 Annual Environmental Monitoring Report data calculations. We will continue use of this value until better data become available.

Also see Action Plans AP001 and AP002 which respond to these issues.



Finding No: RAD/CF-2

Finding Description: Priority: 3

The Site Contractor modified routine environmental surveillance for radioactivity without demonstrating to SAN that the criteria requiring an environmental surveillance program, as presented in DOE 5400.xy (Draft) no longer applies to the site.

Root Cause:

M3 - Resources, M4 - Goals and Objectives, M5 - Policy

Compliance Protocol:

DOE Orders 5400.1, 5400.5, 10 CFR 834 (Draft) and DOE/EH-0173T

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC's radiological environmental monitoring has been reduced to a level that no longer meets the requirements of 5400.1, 5400.5, 10 CFR 834 or DOE/EH-0173T.

This issue is addressed in AP026 which was generated in response to finding QA/BMPF-1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP029	Environmental Surveillance Plan
AP026	Development & Implementation of Environmental Monit. Plan

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ACTION PLAN AP029 (For Finding No: RAD/CF-2)

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Action Plan Number: AP029

Plan Title: Environmental Surveillance Plan

Plan Description:

The Comprehensive Environmental Monitoring plan covers surveillance activities.

See AP026 (response to Finding QA/BMPF-1) for action plan details.

Any modifications to the future environmental monitoring program will only be made with DOE approval. ETEC will also request a decision from DOE/SAN if resumption of prior site soil and vegetation sampling is fundable prior to implementation of the AP026 scope monitoring plan.



Finding No: RAD/CF-3

Finding Description: Priority: 1

The Site Contractor's contingency plan does not address the storage of transuranic waste at the Radioactive Materials Disposal Facility (RMDF).

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE Order 5820.2A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The RMDF Operating Plan does not specifically address the storage of transuranic waste in the Selection X, Contingency Plan per the requirements of DOE Order 5820.2A.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP030	No Contingency Plan for Transuranic Waste

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ACTION PLAN AP030 (For Finding No: RAD/CF-3)

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Action Plan Number: AP030

Plan Title: No Contingency Plan for Transuranic Waste

Plan Description:

Rocketdyne currently possess 12 drums of transuranic waste (TRU) that were packaged onsite in 1986 under the guidance of, and certified by, the Idaho National Engineering Laboratory. This transuranic waste, which is stored at RMDF Bldg. T075, was generated during a unique cleanup operation and no further transuranic waste is expected to be generated.

The RMDF Operating Plan, Section X will be revised and upgraded to expand the Contingency Plan to specifically address the storage of transuranic waste. In particular, the plan will meet the requirements of DOE Order 5820.2A, Part II-4,E.6, which states in part that facilities which store transuranic waste shall be "...designed to minimize the adverse impact of fire, explosions, or accidental release of hazardous components of the waste to the environment."

The plan will be based on relocation of the transuranic waste to the below grade vaults at RMDF



Finding No: RAD/BMPF-1

Finding Description: Priority: 1

Site Contractor personnel are not performing swipe tests on radioactive waste containers in a consistent and prescribed fashion in accordance with 49 CFR 173.443.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

49 CFR 173.443

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Rocketdyne does not have a formal procedure to ensure consistency of swipe tests.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP031	Procedure For Surveys of Radioactive Material Shipments

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ACTION PLAN AP031 (For Finding No: RAD/BMPF-1)

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Action Plan Number: AP031

Plan Title: Procedure For Surveys of Radioactive Material Shipments

Plan Description:

This requirement for more formalized procedures on radiation surveys of radioactive material shipments (including swipe tests for removable contamination) had been identified as part of the ETEC Self-Assessment. The Procedure (RPHP-OI-0004) is currently in draft form. The procedure covers the following topics:

1. Performance of necessary surveys and analyses to define isotopes present and curie content of each package for outgoing shipments.
2. Performance of surveys of materials, packages/containers and vehicles to define radiation levels.
3. Survey of shipment for non-fixed (removable contamination).
4. Review of survey data, and assurance that all radiation safety requirements are met prior to





Finding No: IWS/CF-1

Finding Description: Priority: 3

Most aspects of Rocketdyne's site investigations and cleanup activities are at the Rockwell International Hot Laboratory (RIHL), the former Space Nuclear Auxiliary Power (SNAP) reactor facility (B/059A), the Old Conservation Yard, site investigations at the former Sodium Disposal Facility (B/886), the B/100 Trench, the Hazardous Waste Treatment Facility T-133, the B/056 Landfill, and the north slope of the Radioactive Materials Disposal Facility (RMDF) Leachfields, are not in conformance with DOE Order 5400.4. In addition, DOE's EPA's Solid Waste Management Units (SWMUs) for DOE at SSFL which have been identified as being of primary concern, and which are not undergoing any current cleanup activity (the former Sodium Disposal Facility, the B/100 Trench, the north slope area of the RMDF Leachfields, and soil adjacent to the RIHL), have not been cleaned up in a timely fashion in accordance with generally accepted best management practices.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources, M5 - Policy

Compliance Protocol:

DOE Order 5400.4; CERCLA requirements; OSWER Direction 9355.3-01; Best Management Practices; TPCA

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inadequate inactive waste sites cleanup.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP032	Site Investigations/Remedial Activities Plan

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ACTION PLAN AP032 (For Finding No: IWS/CF-1)

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Action Plan Number: AP032

Plan Title: Site Investigations/Remedial Activities Plan

Plan Description:

Rocketdyne Environmental will develop a comprehensive Site Management Strategy for all ETEC facilities at SSFL in accordance with the directives of DOE Order 5400.4. The Site Management Strategy will address site investigations and remediation activities. The strategy will include a Quality Assurance Program Plan, and Field Sampling Plan, a Health and Safety Plan, and a formalized



Finding No: IWS/CF-2

Finding Description: Priority: 3

Rocketdyne's Hazardous Materials Business Plan and Inventory (Business Plan) for SSFL (including DOE facilities managed by Rocketdyne under contract to DOE) has incorrectly reported the annual and maximum quantities for some hazardous materials used at SSFL, has not submitted an amended hazardous materials inventory form when new chemicals have been introduced in the work place, and has not submitted an Acutely Hazardous Materials Registration Form to the local administering agency (Ventura County Fire Department).

Root Cause:

M3 - Resources, M5 - Policy

Compliance Protocol:

40 CFR 355, 40 CFR 370, CAC Title 22, CAC Title 19

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inaccurate reporting of some annual and maximum quantities of hazardous materials.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP033	Business Plan Amendment Doc. & Acutely HAZMAT Registration

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ACTION PLAN AP033 (For Finding No: IWS/CF-2)

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Action Plan Number: AP033

Plan Title: Business Plan Amendment Doc. & Acutely HAZMAT Registration

Plan Description:

Rocketdyne Environmental will develop a Business Plan methodology outlining procedures for amendments to the existing Business Plan. This document will include procedures for all of the revisions to the existing Business Plan necessitated by these findings (refer to corrective action plans AP006 and AP007), as well as outlining methods for future updates of the Business Plan, as required by federal, state, and local rules and regulations.

The Business Plan methodology will include a revised inventory reporting procedure for the required annual update in accordance with the requirements of federal, state, and local regulations accurately reflecting actual use of hazardous materials on-site. The revised inventory reporting procedure will also include a quality assurance program to ensure the data generated by the area managers is accurate.



Finding No: IWS/CF-3

Finding Description: Priority: 2

The Site Contractor's Industrial Security Control Center was not contacted during 6 of 8 environmental spill events that occurred during the period January 1, 1990, through February 1991 which is not in accordance with the Environmental Control Manual, Operations Procedures, and the Master Emergency Plan.

Root Cause:

M-1 Ownership, M-5 Policy and Procedures

Compliance Protocol:

Rocketdyne Environmental Control Manual, Procedure ECC.00, Rocketdyne Operating Policy M-501, Master Emergency Plan

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o In reviewing the monthly activity sheets (contact logs) at the Industrial Security Control Center, and comparing these logs with known spill reports supplied by staff of the environmental unit, it was determined that the Industrial Security Control Center was not contacted regarding all spills which occurred during the selected review period of January 1, 1990, through February, 1991. During this review period, it was noted that there were eight chemical spill incidents which should have been reported to the Industrial Security Control Center. The Industrial Security Control Center records indicate that they had been contacted twice during this period regarding environmental incidents. A subsequent follow-up review of internal records by the Industrial Security Control Center confirmed that they had not been contacted.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP034	Environmental Spill Reporting Procedure

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ACTION PLAN AP034 (For Finding No: IWS/CF-3)

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Action Plan Number: AP034

Plan Title: Environmental Spill Reporting Procedure

Plan Description:

Rocketdyne procedures describing the requirements for spill response reporting will be reviewed and the essence and details of the procedures will be incorporated in an ETEC training program.

Table top exercises will be developed which will verify adequacy of the training plans and



Finding No: NEPA/CF-1

Finding Description: Priority: 2

The Site Contractor's, Site Office's, SAN's, and Program Offices' NEPA implementing procedures are either lacking, or are inconsistent with DOE NEPA requirements. In addition, the existing procedures don't ensure consistency of document flow and responsibilities in the agency-wide application of NEPA in accordance with DOE 5440.1D.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

SEN-15-90 and Interim Procedural Guidance Procedure of NE (07/31/90); DOE 5440.1D

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Site Contractor and Site Office NEPA implementing procedures are either lacking or are inconsistent with DOE requirements.

The existing NEPA procedures for the Site Contractor, SAN, and Program Office are not integrated with each other.

Although SAN has prepared a draft MD 5440.1C(N-17) which is consistent with the DOE requirements it is still not integrated with the Site Contractor and Program Office Procedures.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP035	NEPA Compliance
AP076	Safety Analysis Review and Update
AP189	Individual Roles and Training

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ACTION PLAN AP035 (For Finding No: NEPA/CF-1)

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Action Plan Number: AP035

Plan Title: NEPA Compliance





Finding No: NEPA/CF-2

Finding Description: Priority: 2

Field Work Proposals (FWPs) do not reflect early NEPA review and status of proposed actions in accordance with the Site Contractor's procedures and DOE requirements. FWPs and SAN's Activity Data Sheets (ADSS) do not include NEPA milestones in accordance with the Site Contractor's procedures and DOE requirements.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

40 CFR 1501.2, 52 FR 47662, DOE 5440.1D, SEN-15-90

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Site Contractor's 1992 FWPs submitted in response to SAN's Field Budget call do not reflect early NEPA review of proposed projects.

Neither the FWPs nor SAN's ADSS give milestones for the NEPA process.

Interviews showed that SAN, Site Office and Site Contractor were not aware of these requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP036	NEPA Organization
AP037	NEPA Determinations
AP035	NEPA Compliance

ACTION PLAN AP036 (For Finding No: NEPA/CF-2)

Action Plan Number: AP036

Plan Title: NEPA Organization

Plan Description:

Field Work Proposals (FWPs) and annual budget proposals will be given an early NEPA review and the status of proposed actions will be evaluated in accordance with DOE requirements. This will include NEPA milestones for both the FWPs and Activity Data Sheets (ADSS) to satisfy DOE requirements. This process will be adopted as part of NEPA evaluation policy with assessment and oversight provided



Finding No: NEPA/CF-3

Finding Description: Priority: 2

Determinations are lacking for Site Contractor activities managed under the Rockwell ETEC contract. Inappropriate NEPA determinations are being made by SAN and the Site Office after actions are initiated, and unauthorized determinations are being made by both Site Contractor and SAN, which are not in accordance with the applicable DOE Order, Notice, and guidelines.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

SEN-15-90, DOE 5440.1D, Interim Procedural Guidance, 52 FR 47662

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o General Plant Projects (GPP), maintenance, project design, and paper studies are being undertaken without any NEPA documentation and review by DOE.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP037	NEPA Determinations
AP035	NEPA Compliance

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ACTION PLAN AP037 (For Finding No: NEPA/CF-3)

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Action Plan Number: AP037

Plan Title: NEPA Determinations

Plan Description:

Prior to initiation of activities, comprehensive NEPA reviews and evaluation of activities will be undertaken, and NEPA documentation will be established in accordance with the applicable DOE order, notice and guidelines. ETEC procedures will be revised to identify actions to be taken for DOE in advance of projects start to avoid making inappropriate and unauthorized NEPA determinations. Actions will identify general NEPA determinations already made or new requirements if not covered. NEPA flow and responsibilities between HQ/SAN/SITE will be established via Memoranda of Understandings. General Plant Projects (GPP), maintenance, project design, and paper studies will be undertaken with appropriate NEPA evaluations, documentation and review by DOE. NE/Hqs has delegated approval authority for NEPA CX determinations to DOE/SAN. Assessments and oversight will be provided through DOE and ETEC audits and appraisals and DOE/SAN NCO oversight.



Finding No: NEPA/CF-4

Finding Description: Priority: 2

Indentifiable records and recordkeeping (required by DOE 5440.1C, DOE 5440.1D, and the interim SAN MD5440.1C, and Site Contractor's Procedure 1-20, Revision B) are incomplete for DOE activities managed under the Rockwell ETEC contract. There is also no centralized recordkeeping or integrated tracking system at the Site Office or SAN in accordance with best management practices.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

DOE 5440.1D, SAN MD 5440.1C (draft)

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Site Contractor's records are incompleted for NEPA reviews and recommendations to DOE for ongoing and proposed actions.

Best management practices for an integrated tracking system do not exist at the Site Contractor, Site Office, SAN, and the Program office.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP038	NEPA Recordkeeping and Tracking
AP035	NEPA Compliance

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ACTION PLAN AP038 (For Finding No: NEPA/CF-4)

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Action Plan Number: AP038

Plan Title: NEPA Recordkeeping and Tracking

Plan Description:

Identifiable records and recordkeeping practices satisfying the requirements of DOE 5440.1D will be established at the ETEC site. A centralized tracking system will be established at the Site Office. Training and recordkeeping procedural information will be provided by DOE/SAN and NE-47. Coordinated procedures will be implemented to include early planning, DOE notification and documentation flow. Assessment and oversight will be provided by DOE appraisals and ETEC audits.



Finding No: NEPA/CF-5

Finding Description: Priority: 2

DOE does not have authoritative and sufficient environmental documentation to support eligibility requirements for CXs as specified in Section D of the DOE NEPA Guidelines for DOE activities managed by the Site Contractor.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

40 CFR 1502.25; 40 CFR 1500.2(e); 52 FR 47662, 10 CFR 1021 (55 FR 46444), 55FR37174, DOE 5400.1D

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There are no records at the Site Contractor, such as check lists, to show that DOE actions have been formally screened for compliance with the CX eligibility requirements.

DOE does not have records to verify authoritative sources of information to determine potential project impacts.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP039	NEPA Documentation
AP037	NEPA Determinations

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ACTION PLAN AP039 (For Finding No: NEPA/CF-5)

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Action Plan Number: AP039

Plan Title: NEPA Documentation

Plan Description:

Initial screening of federal environmental statutes and regulations will be conducted early in activity and project development processes. Authoritative environmental documentation will be established for CX eligibility criteria support. The DOE ETEC Site will request conformation from official sources and agencies that the site facilities are not located in environmentally sensitive areas with regard to:

- a) Historical property - State Historical Preservation Society
- b) Habitat of endangered species - Dept. of Interior/Fish & Wildlife





### 3.2 Safety and Health

#### Overview

DOE and ETEC are committed to an improved Safety and Health program. The Tiger Team concluded that significant improvements are needed to achieve the performance level stipulated for the new safety culture of DOE sites. Management tools to promote and encourage safety must be strengthened. The maintenance and training activities must be brought into compliance with DOE Order requirements and the level of ES&H oversight must be increased. A culture must be developed that is cognizant of safety/OSHA requirements and intolerant of deficiencies. The Tiger Team reported 138 concerns in the various performance areas. Nine of these are repeated to address findings in some of the performance areas resulting in the 147 Corrective Action Plans presented in this section.

#### Root Causes and Responses

The Safety and Health Subteam identified 5 causal factors which led to the concerns. The following corrective action plans have been prepared to address and correct the cited causal factor.

1. Management has not effectively developed ES&H policy and procedures for ETEC operations.

##### Action Plans

AP040	Safety Responsibility and Authority
AP044	Safety Goals
AP075	Formally Articulated Safety Awareness Program
AP099	Safety Awareness Training
AP160	Compliance with DOE Prescribed Standards
AP168	Safety Practices and Compliance with Regulatory Requirements

2. Procedures that do exist are not controlled to ensure their relevance to and validity for their stated purpose.

Action Plans

AP051 Improvements to ETEC's Procedural Infrastructure  
AP057 Improved Formality of Operations  
AP091 Improper Test Procedures  
AP061 Conformance with Procedures and Directives  
AP060 Preparation and Use of Detailed Procedures

3. Even when policies and procedures do exist, Management does not demonstrate commitment to their implementation.

Action Plans

AP042 Proactive Compliance with DOE Safety & Health Requirements.  
AP043 Line Safety vs. Oversight  
AP048 Annual Performance Evaluation  
AP075 Formally Articulated Safety Awareness Programs  
AP104 Management Training on Safety

4. ETEC Management does not demonstrate an active interest in identifying and correcting ES&H issues.

Action Plans

AP045 Interface of Responsibility  
AP048 Annual Performance Evaluation  
AP056 Trend Analysis  
AP106 Hazards Reduction  
AP127 Equipment Performance Data, Evaluation and Use  
AP133 ES&H Appraisal Committee  
AP134 Periodic ES&H Review of Operations  
AP135 Triennial Review of ES&H Program  
AP147 ETEC Line Management Safety Program  
AP187 Strategic Planning  
AP200 ETEC Self-Assessment Program

5. Insufficient resources have been designated to support operation of the ETEC in conformance with DOE ES&H commitments.

Action Plans

The Action Plans presented herein represent a significant commitment of resources by DOE to the implementation of an effective ES&H program.

Findings and Action Plans

Finding No: OA.1-1

Finding Description: Priority: 3

Safety responsibilities specific to each job or position, and the commensurate authority to accomplish these responsibilities are not always clearly defined.

Root Cause:

M4 - Goals and Objectives

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o All ETEC staff do not have job descriptions defining safety responsibility and authority.
  - Safety responsibilities assigned in ETEC procedures do not assign authority.
  - Past performance evaluations have not included safety.
  - Annual updates of job descriptions are needed.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP040	Safety Responsibility and Authority
AP188	Organizational Roles
AP189	Individual Roles and Training
AP048	Annual Performance Evaluation

ACTION PLAN AP040 (For Finding No: OA.1-1)

Action Plan Number: AP040

Plan Title: Safety Responsibility and Authority

Plan Description:

The concern raised by Finding AO.1-1 points out a need for management to organize and manage the site's programs and resources so that safety and health are an integral part of personnel duties and requirements, and are consistently implemented.

The following corrective actions will be implemented to assure safety responsibilities and



Finding No: OA.1-2

Finding Description: Priority: 2

Regularly scheduled safety meetings are not always held for all staff personnel, and safety information is not always shared as a means of promoting safe operations.

Root Cause:

M1 - Ownership, M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Regularly scheduled safety meetings are not held for all hourly personnel. Despite the existence of the Employee Safety Committee, only three representatives are cited to represent ETEC, which has almost 40 hourly personnel. Of these three, not all regularly shared information disseminated at the monthly meetings. These observations are reflective of a breakdown in the effectiveness of an existing and potentially useful program.

Although safety aspects of unusual occurrences at ETEC are sometimes discussed, outside occurrences do not receive the same attention at safety or staff meetings.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP041	Scheduled Safety Meetings

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ACTION PLAN AP041 (For Finding No: OA.1-2)

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Action Plan Number: AP041

Plan Title: Scheduled Safety Meetings

Plan Description:

Elements of the Line Management Safety Program (AP147A, C) will require regularly scheduled safety meetings at ETEC, and will implement management training to enhance safety awareness. A more active involvement in the Rocketdyne Employee Safety Committee Program will results as a consequence.

The assignment of a coordinator (AP044) will address the issue of communicating DOE wide UOR items of relevance to line management; in concert with the Line Management Safety Program this information will consistently find its way to the operational levels of the organization.



Finding No: OA.1-3

Finding Description: Priority: 2

ETEC management has not been proactive in ensuring compliance with DOE safety and health requirements.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources, M4 - Goals and Objectives

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The basis of this Finding is a concern that ETEC is not safety compliance-oriented, but is instead driven by programmatic requirements. SAN has not identified a list of DOE Orders pertaining to health and safety, and no integrated management program has been in place to address such requirements. Consequently, a relatively large fraction of the Tiger Team Findings are in the Safety and Health category.

This finding is similar to PP.1-1, which cites the lack of an effective management system for implementing and enforcing health and safety requirements. AP042 therefore consists of a broad base of action - all contained in other action plans - that set up requirements and incentives to improve the safety ethic, provide resources to manage existing and expanded safety programs, and set up specific actions to respond directly to DOE Orders.

These action plans include: AP147 a Line Management Safety Program; AP148, which provide dedicated HS&E support to ETEC; AP133, which sets up an ES&H Appraisal Committee in direct compliance with DOE Order 5480.10, and which will provide periodic ETEC Management Committee input on HS&E performance and trends; and AP044 and AP048, which together establish safety performance goals and objectives.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP042	Proactive Compliance with DOE Safety & Health Requirements

Action Plan Number: AP042

Plan Title: Proactive Compliance with DOE Safety & Health Requirements

Plan Description:

AP042 consists of other action plans which together respond to the need for implementing a management ethic that is proactive in its approach to ensuring compliance with DOE safety and health requirements. These action plans will strengthen line management's ability to deal with HS&E related issues through training, and will more clearly define line management's responsibilities for safety in the workplace. The commitment of dedicated HS&E support to ETEC will ensure audit of operations and ready availability to line management of consulting capability in the HS&E area. Steps will also be taken to formalize ETEC management reviews and assessment of HS&E-related issues, and to establish a framework by which performance can be measured. The constituent actions are briefly discussed below and can be reviewed in more detail by reading the referenced Action Plans.

AP147 comprises a Line Management Safety Program that addresses the lack of an effective system by line management to implement and enforce health and safety requirements, and to maintain and assure a workplace free of health and safety concerns. The Line Management Safety Program is designed to assure that managers at ETEC have both the knowledge, procedural framework, and incentive structure necessary to instill in their individual organizations the habits, routines, and responsibilities among all workers that effectively create and maintain a workplace free of health and safety concerns. A safety incentive program will be implemented, consisting of the regular issue to employees of safety equipment and the establishment of a safety award program to be based on the attainment of safety goals.

AP148 implements the necessary ETEC-dedicated professional resources to provide necessary additional assistance in the areas of safety and industrial hygiene to the ETEC line organization. These services will include education, consultation, and audit functions. This will be accomplished through the assignment of a full-time safety engineer and a part-time industrial hygienist, both reporting functionally through ETEC's QA organization; this increased coverage will assure a readily-available HS&E resource to line management.

AP147 will reinstitute the ETEC Management Safety Committee, to be chaired by the General Manager. Quarterly meetings will be held and the agenda will include safety program performance assessments.

AP133 will establish an ETEC ES&H Appraisal Committee to provide independent audit as required in DOE Order 5480.10. This committee will systematically evaluate ETEC operations and facilities, and will report directly to the ETEC Management Safety Committee.

AP044 and AP048 will establish safety performance as a subject of personnel performance evaluations; this, with the defined management responsibilities for safety, will contribute to a sustainable implementation of a safety ethic at all levels of the ETEC organization.

Milestone 1: Part-time industrial hygienist.

Date: 10/01/91

Milestone 2: Full-time safety engineer.

Date: 10/01/91

Milestone 3: First management Safety Committee Meeting.

Date: 10/30/91

Milestone 4: Appointment ES&H Appraisal Committee.

Date: 05/30/92

Milestone 5: Develop ES&H position descriptions and guides.

Date: 08/30/92





Finding No: OA.2-1

Finding Description: Priority: 2

The distinction between the line safety assurance program and the independent safety overview program has not been defined, nor have staff been assigned to accomplish each program so as not to present a conflict or potential conflict of interest.

Root Cause:

M1 - Ownership, M2 - Assessment & Oversight, M4 - Goals and Objectives

Compliance Protocol:

ETEC Procedures Manual; General Policy Statement B, D, E4, E6., E7., Procedure 1-03 A, B4., C7., E, F.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o HS&E performs both safety support and independent safety oversight.

The ETEC Safety and Health coordinator states that he has some line safety responsibility; however, ETEC Procedure No. 1-03, "Health, Safety, and Fire Protection Program," assigns the ES&H coordinator the responsibility of performing appraisals to demonstrate implementation of DOE Orders.

ETEC does not have an internal appraisal system in place which fully complies with DOE 5482.1B. (cited in ETEC Self-Assessment, item 2.8.3.3, item 5, Internal Appraisal).

ETEC/Rocketdyne is preparing an oversight/appraisal plan which will respond to some portions of this finding (Finding MF-4, AP191).

ETEC is working toward, but presently does not have an adequate staffing level in the radiation protection organization to carry out the enhanced DOE emphasis on environment and safety.

Facility of project radiation safety plans do not entirely meet DOE 5480.11 requirements and do not have the needed degree of ownership by "Operations" management and workers.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP043	Line Safety Vs Overview Not Defined Nor Staffed
AP133	ES&H Appraisal Committee
AP136	Management Oversight/Awareness
AP148	Industrial Hygiene and Safety Engineer Oversight

AP152	Coordinated HS&E Hazard Management
AP156	Identification, Monitoring, Control of Hazards
AP191	Independent Oversight Program

Action Plan Number: AP043

Plan Title: Line Safety Vs Overview Not Defined Nor Staffed

Plan Description:

Rocketdyne is restructuring ES&H activities at ETEC. HS&E and the Environmental Department will have dedicated representatives at ETEC with responsibility for ES&H oversight. This restructuring plan will assign internal ES&H oversight responsibility to the Director, QA and Training. An office of independent oversight will be established reporting to the ETEC General Manager. Additional resources will be provided, e.g., in emergency preparedness and fire protection, to ensure adequate program accomplishment in the various functional "safety" areas. The revised HS&E and Environmental Control manuals, and Master Emergency Plan will also serve as aids to communicating the role of the QA and Training Department in providing ES&H organizational oversight. It should also be recognized that Corporate oversight is provided in the Red and Blue team concept and this will be integrated into the ETEC triennial appraisal process.

Funding required to implement this action is embodied in AP133, AP136, and AP148.

Milestone 1: Completion of initial ES&H Reorganization Plan	Date: 10/30/91
Milestone 2: Implementation of ES&H Reorganization Plan	Date: 11/01/91
Milestone 3: Internal organizational changes in QA Department.	Date: 11/15/91
Milestone 4: Initiate ETEC communication program	Date: 12/01/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.2-1	Line Safety vs Overview not defined nor staffed.
OA.4-1	Interface of Responsibility not well defined.
FR.1-1	ES&H Appraisal Committee
FR.4-1	No Periodic ES&H Review
MF.-2	Organizational Roles
MF.-4	Contractor Independent Oversight
RP.1-1	Management Oversight/Awareness
PP.1-2	No Oversight by HS&E
WS.4-7	Slings (PP.4-2)
WS.4-9	Hand Tool Use/Repair
WS.4-10	OSHA Violations App F.
PP.3-1	Coordinated Management and S&H
PP.4-2	No Identification of Hazards

ADS No: 4014AA , ,

Funding Comments:

Finding No: OA.3-1

Finding Description: Priority: 3

Written safety goals are not established and widely promulgated within ETEC.

Root Cause:

ME - Resources, M4 - Goals & Objectives

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Staff and management were not aware of safety goals.
- HS&E accident prevention goals apply to Rocketdyne.
- SCTI has only programmatic goals.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP044	Safety Goals
AP046	Performance Indicators

ACTION PLAN AP044 (For Finding No: OA.3-1)

Action Plan Number: AP044

Plan Title: Safety Goals

Plan Description:

The concern raised by OA.3-1 points out a need to develop specific safety goals and to inform employees of these goals. The corrective action has two parts:

1. Establish specific safety goals
2. Communicate goals to employees.

Establish Specific Safety Goals - In order for a safety goal to be effective it must be clearly defined, easily tracked, unambiguous, and quantitative. ETEC will review the 22 performance



Finding No: OA.4-1

Finding Description: Priority: 3

The interfaces and assignments of responsibility for ensuring support, assistance, and independent safety oversight of those activities provided by Rocketdyne to ETEC are not well defined.

Root Cause:

M5 - Policy, M2 - Assessment & Oversight M3 - Resources

Compliance Protocol:

ETEC Procedures Manual: Policy Statement D, E6., E7.,; Procedure 1-03B, C, D.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Rocketdyne provides support, assistance, and independent safety oversight to ETEC; however, the interface for accomplishing these activities and the responsibility for ensuring that DOE requirements are met are not clearly defined, understood or implemented.

HS&E management stated tht HS&E performs both safety support and independent safety oversight.

The ETEC Safety and Health coordinator stated that he has some line safety responsibility; however, ETEC Procedure No. 1-03, "Health, Safety, and Fire Protection Program," assigns the ES&H coordinator the responsibility of performing appraisals to demonstrate implementation of DOE Orders.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP045	Interface of Responsibility
AP082	ETEC Maintenance Program and Organizational Structure
AP079	Coordination of Maintenance Performed by Plant Services
AP131	Firearm Safety Audit
AP148	Industrial Hygiene and Safety Engineer Oversight
AP043	Line Safety Vs Overview Not Defined Nor Staffed
AP177	SAN Distr. DOE Order

Action Plan Number: AP045

Plan Title: Interface of Responsibility

Plan Description:

The actions described in AP048 in response to Finding OA.6-1 will lead to a process where individual line management functions, authorities, and responsibilities are clearly defined and communicated. In addition, the ETEC Procedures Manual, HS&E Manual, Environmental Control Manual and QA Manuals are being revised to more clearly define roles and interfaces between the different organizational units, emphasizing that compliance and performance with regard to ES&H and QA are line management responsibilities and line management is supported in meeting these requirements by Rocketdyne HS&E, Environmental Department and Industrial Security Department personnel. An ETEC Policy Committee has been established, consisting of ETEC Department Directors, Program Managers, Rocketdyne support organization representatives and other appropriate staff and management personnel, to provide a forum to improve the interface and interactions between programmatic line management and supporting ES&H organizations. Accountability of line management will be strengthened through the oversight activities of the newly created positions of ETEC Health and Safety Engineer, and ETEC Environmental Engineer for ES&H/QA oversight. These positions will provide an independent oversight for ES&H and QA activities. These roles and responsibilities will be incorporated into employee and management training conducted by Human Resources, the HS&E Department, the Environmental Department, and Quality Assurance Department.

Milestone 1: Submit definitions of roles and interfaces to manual preparers.	Date: 05/01/92
Milestone 2: Revise Policy and Procedures Manuals to define interface responsib	Date: 06/01/92
Milestone 3: Initiate maintenance matrix operations	Date: 07/10/92
Milestone 4: Initiate "Interface" presentations in training courses.	Date: 08/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.4-1	Interface of Responsibility not well defined.
MF.-2	Organizational Roles
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program





Finding No: OA.5-1

Finding Description:

Priority: 2

Performance indicators have not been used as a means of promoting and encouraging safety in the work place.

Root Cause:

M5 - Policy

Compliance Protocol:

SEN-29-91

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The establishment of specific safety goals.

The communication of safety goals to employees.

There is no effective and integrated ES&H performance monitoring.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP046	Performance Indicators
AP044	Safety Goals
AP075	Formally Articulated Safety Awareness Programs
AP192	Program for Effective ES&H Monitoring

ACTION PLAN AP046

(For Finding No: OA.5-1)

Action Plan Number: AP046

Plan Title: Performance Indicators

Plan Description:

EETEC is in compliance with SEN-29-91 and is in the process of implementing DOE's Performance Indicator Program. This program will be fully operational by July 1991 with quarterly reporting of 22 PIs. Interim reports are currently being submitted on a monthly basis until July when quarterly reports will be submitted.

The 22 PIs to be reported include:

- I Personnel Safety
  - 1. Collective Radiation Dose
  - 2. Skin Contaminations
  - 3. Internal Contaminations
  - 4. Radioactive & Hazardous Material Overexposure
  - 5. Lost Work Days
  - 6. Reportable Injuries/Illnesses
  
- II Operational Incidents
  - 1. Environmental Incidents
  - 2. Unplanned Safety Functions
  - 3. Violations of Operating Procedures
  - 4. OSHA Violations
  - 5. Unplanned Shutdowns
  - 6. Emergencies and Unusual Occurrence
  
- III Environmental Releases
  - 1. Radionuclide Effluent Releases
  - 2. Hazardous Substances/Regulated Releases
  - 3. Environmental Incidents
  
- IV Management
  - 1. Open DOE Audit Issues
  - 2. Open External Organization Recommendations
  - 3. Occurrence Reports with Open Corrective Actions
  - 4. Corrective Maintenance Backlog
  - 5. Preventive Maintenance Backlog
  - 6. Substance Abuse Incidents
  - 7. Volume of Solid Low Level R/A & Hazardous Waste

Full compliance with the DOE directive will require the implementation of new or modified tracking methods, and sufficient staff to prepare reports and evaluate the information to guide management in improving operations at the site.

Milestone 1: Prepare and submit interim reports to DOE.

Date: 02/18/91

Milestone 2: Identify/implement new tracking procedures.

Date: 06/01/91

Milestone 3: Submit 1st quarterly PI report to DOE.

Date: 07/01/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.3-1	Written Safety Goals not Established
OA.5-1	Performance Indicators
OP.1-1	Safety Awareness Program
PP.1-1	O&A/Line Management Control
MF.-4	Contractor Independent Oversight
MF.-5	Performance Monitoring and Assistance
MF.-3	Individual Roles and Training
OA.6-1	Annual Performance Evaluation not Regularly Performed.



Finding No: OA.5-2

Finding Description: Priority: 3

SAN has not provided the necessary oversight of ETEC activities to ensure safe operations and compliance with DOE requirements.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

NFPA 1500

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Oversight of ETEC by SAN is not effective.

SAN recognizes the need for increased oversight of activities at ETEC and is in the process of preparing a comprehensive oversight plan to formally define its oversight role. A draft oversight plan was completed in February 1991 and is now in review at SAN.

SAN has recently re-established its onsite presence at ETEC to increase its awareness of ETEC activities and to ensure compliance with DOE requirements.

It was reported that SAN has not provided to ETEC an agreed-upon list of DOE safety and health orders.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP047	Lack of SAN Oversight

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ACTION PLAN AP047 (For Finding No: OA.5-2)

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Action Plan Number: AP047

Plan Title: Lack of SAN Oversight

Plan Description:

The ETEC Site Office will develop a process, in consultation with SAN, to be used to identify which DOE Orders will be handled as ES&H orders.

SAN will finalize the position descriptions for staff at ETEC Site Office.



Finding No: OA.6-1

Finding Description: Priority: 3

Annual performance evaluations are not regularly performed, and safety had not been a consistent element in past evaluations.

Root Cause:

M4 - Goals and Objectives, M1 - Ownership

Compliance Protocol:

Policy Manual, Personnel Practices E519.1, E536, E536.1, A503; Master Agreement with UAW.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Performance evaluation of salaried personnel are not consistently performed on an annual basis.

Many hourly paid personnel never receive any kind of written or oral evaluation of their performance.

It was reported that past performance evaluations did not consistently include safety as a performance element.

Some salaried personnel were under the impression that all of their responsibilities, including safety, were in the performance evaluation; however, safety has not been included in past performance evaluations.

It was reported that expectations, which are the basis for the performance evaluation, are not always discussed with the employee at the beginning of the evaluation period.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP048	Annual Performance Evaluation
AP075	Formally Articulated Safety Awareness Programs

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ACTION PLAN AP048 (For Finding No: OA.6-1)

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Action Plan Number: AP048

Plan Title: Annual Performance Evaluation



Finding No: OA.7-1

Finding Description: Priority: 3

"Controlled Documents" are not consistently controlled, and there is not independent assurance that controlled documents are maintained current.

Root Cause:

M1 - Ownership, M3 - Resources

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC document management practices must be consistent.
- o ETEC Controlled documents must be kept current.
- o Control measures needed for SCTI procedures stored in file cabinets.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP049	ETEC Controlled Document Control

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ACTION PLAN AP049 (For Finding No: OA.7-1)

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Action Plan Number: AP049

Plan Title: ETEC Controlled Document Control

Plan Description:

ETEC will provide additional oversight to assure that controlled documents are consistently controlled, and will perform periodic audits to assure that records are kept current. Control measures will be applied to SCTI procedures.

Implementation of this plan requires approval and funding of supporting action plans. A necessary component of this plan is that personnel understand and abide by ETEC procedures for the release and control of documents. Action Plan AP096, when implemented, will satisfy this requirement. Oversight and QA surveillance are another necessary ingredient. Action Plan AP061 establishes a comprehensive program to assure vigilant conformance to procedure. A system will be set up, AP050,





Finding No: OA.7-2

Finding Description: Priority: 3

There is no requirement for periodic review and update of ETEC Procedures and, contrary to ETEC requirements, substantive pen-and-ink changes have been made to ETEC Procedures.

Root Cause:

M5-Policy/Procedure

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Establish controls to comply with revision requirements of ETEC Procedures 1-01 and 6-03.  
Establish procedure review frequency.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP050	Updating of ETEC Procedures
AP061	Conformance with Procedures and Directives
AP077	Review of Procedure Change Practices During Operation

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ACTION PLAN AP050 (For Finding No: OA.7-2)

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Action Plan Number: AP050

Plan Title: Updating of ETEC Procedures

Plan Description:

ETEC Procedure 1-01 will be revised to require that all procedures be revised every three years from last revision date. The procedures will be reviewed to assure that they are current with the last requirement and that they reflect current practices. The ETEC librarian will maintain a data base of ETEC Procedure and Department Directives and, on a monthly basis, flag those procedures requiring review. The responsible department is noted on each procedure. The responsible department head will fill out a form sent by the librarian listing the compliance requirements against which the procedure was reviewed and action taken to achieve compliance. The librarian will maintain the review records.

ETEC Procedures are audited on an 18-month cycle. This formal audit will be supplemented by routine



Finding No: OA.7-3

Finding Description: Priority: 3

Management is not ensuring that procedures are being followed, that procedures address all areas to ensure safe operation, and that procedures are always available when needed.

Root Cause:

M2- Assessment and Oversight, M3 - Resources

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Procedures are not being followed.
- o Procedures do not address all areas of ES&H.
- o Procedures are not available when needed.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP051	Improvements to ETEC's Procedural Infrastructure

ACTION PLAN AP051 (For Finding No: OA.7-3)

Action Plan Number: AP051

Plan Title: Improvements to ETEC's Procedural Infrastructure

Plan Description:

This action plan compliments Action Plan 050, 061, and Action Plan 096. Combined, these three plans will bring about a process wherein rigorous conformance to procedures is being achieved. Personnel will be trained in applicable procedure requirements for their assignments, procedures will be periodically reviewed for compliance to latest requirements, the level of QA oversight and audits will be increased and the tracking/followup system will be automated.



Finding No: OA.8-1

Finding Description: Priority: 3

Not all management and staff have received training on substance abuse and the Employee Assistance Program, and retraining for management has not been scheduled.

Root Cause:

M2-Assessment and Oversight, M1-Ownership

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Many managers staff know very little about the Employee Assistance Program.

No retraining of managers and not training of staff on substance abuse is scheduled.

Not all managers and staff receive annual drug/alcohol screening.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP052	Training on Substance Abuse

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ACTION PLAN AP052 (For Finding No: OA.8-1)

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Action Plan Number: AP052

Plan Title: Training on Substance Abuse

Plan Description:

Instruction and training for dealing with employees who appear to be impaired have been provided for all management. Rocketdyne policy is to refer such employees to the Medical Department for further evaluation. Moreover, the various employee assistance programs supporting this effort are regularly publicized in brochures to all employees and in the company newspaper. The company's program is considered an industry standard and the Rocketdyne Medical Director is regularly invited to present the program at industry conferences and to participate in policy-groups throughout the industry. The general topic of substance abuse and drug screening is presented in the next action plan.



Finding No: OA.8-2

Finding Description: Priority: 3

The criteria for medical surveillance and annual drug screening tests are not entirely consistent.

Root Cause:

M2-Assessment and Oversight

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Consistence of criteria for annual medical surveillance and drug screening.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP053	Drug Screening Criteria

ACTION PLAN AP053 (For Finding No: OA.8-2)

Action Plan Number: AP053

Plan Title: Drug Screening Criteria

Plan Description:

Drug screening criteria to protect employees, the public and property from workers involved in hazardous operations and who might become impaired have been established. These criteria are as follows:

EMPLOYEES SUBJECT TO ANNUAL DRUG SCREENING

1. Protective Services personnel who are responsible for plant safety and security. Generally, these employees have access to or carry weapons in connection with such responsibility.
2. Pilots.
3. Chauffeurs, bus drivers, over-the-road truck drivers, and ambulance drivers.
4. Employees assigned to store, transport, or handle (in connection with storage and transportation) significant volumes of hazardous solids, liquids, or gases that are:





Finding No: QV.1-1

Finding Description: Priority: 2

ETEC has not developed an integrated QA plan that meets DOE 5700.6B and SAN MD 5481.1A, including measurable quality objectives and actions required to implement stated quality assurance policy.

Root Cause:

M5 - Policy

Compliance Protocol:

DOE Order 5700.6B

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o No integrated Quality Assurance Program (QAP) exists for DOE-related activities at ETEC as required by DOE Order 5700.6B. The existing QAP Index does not meet paragraph "9 requirements."

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP054	Prepare Quality Assurance Plan
AP051	Improvements to ETEC's Procedural Infrastructure

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ACTION PLAN AP054 (For Finding No: QV.1-1)

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Action Plan Number: AP054

Plan Title: Prepare Quality Assurance Plan

Plan Description:

1. A comprehensive Quality Assurance Plan will be developed which will be responsive to the DOE Order. The plan will follow the guidelines of ASME NQA-1, "Quality Assurance Program Requirements for Nuclear Facilities." The plan will be a generic plan setting forth criteria to be followed in individual plans. The 18 point criteria of NQA-1 and the 10 point criteria of DOE Order 5700.6C will be addressed. Also, guidance on the "graded approach" expressed in DOE 5700.6C will be provided. The plan will be submitted to DOE for approval and, when approved, will constitute ETEC's documented QA program. Implementation of the program will be through the program plans (PMP's and PDP's) and the applicable ETEC procedures invoked by those plans. Thus, quality requirements will flow from the orders and QA standard through the QA plan to the specific management plans. For small projects, generic management plans will be written as allowed by DOE Order 4700.1. Approval of the management plans by ETEC QA will be evidence that appropriate quality requirements are being invoked in the respective projects/programs/documents. Further, ETEC procedures are to be



Finding No: QV.1-2

Finding Description: Priority: 2

Stop work authority is a fundamental aspect of an effective inspection program, yet ETEC inspection personnel cannot stop work.

Root Cause:

M5-Policy/Procedure

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Establish stop work authority for inspection personnel.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP055	Stop Work Authority

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ACTION PLAN AP055 (For Finding No: QV.1-2)

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Action Plan Number: AP055

Plan Title: Stop Work Authority

Plan Description:

ETEC Procedure 2-18 will be released. The procedure empowers the Manager of Quality Verification to affix withhold tags to discrepant items and to issue hold notices to stop work.

Milestone 1: Release ETEC Procedure 2-18.

Date: 06/15/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
QV.1-2	Stop Work Authority
QV.2-1	Unapproved Material Source



Finding No: QV.1-3

Finding Description: Priority: 3

Ongoing activities are not evaluated to identify short- or long-term trends that are adverse to quality.

Root Cause:

M3 - Resources

Compliance Protocol:

DOE Order 5700.6B

Issues:

Corrective action on this finding requires that the following issues be addressed.

o

No trending system exists for evaluating short- or long-term operational trends at ETEC facilities.

The QA trending system and report are simply a review of the count of items identified by the Quality Verification program. Root causes and lessons learned are not incorporated. For the 1990 trend report, the top five leading causes are "unknown, personnel error, design error, lack of control, and none established."

There is no preventive maintenance review or trending system.

These issues are addressed in the plan identified below.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP056	Trend Analysis
AP127	Equipment Performance Data, Evaluation and Use

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ACTION PLAN AP056 (For Finding No: QV.1-3)

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Action Plan Number: AP056

Plan Title: Trend Analysis



Finding No: QV.1-4

Finding Description: Priority: 3

The lack of specific procedural requirements and verification has resulted in activities that do not meet the requirements of DOE 5480.19 and 5480.11.

Root Cause:

M2 - Assessment/Oversight

Compliance Protocol:

DOE Orders 5480.19 and 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The SABER facility is being maintained using procedures for an inactive facility but is stasured as being in active standby.

The conduct of operations in the SCTI control room is very informal. Control room access is not limited nor is permission required before entry.

Communications between Shift Leader and operators lack formality; there is no identification on answering and no readback of information.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP057	Improved Formality of Operations
AP082	ETEC Maintenance Program and Organizational Structure

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ACTION PLAN AP057 (For Finding No: QV.1-4)

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Action Plan Number: AP057

Plan Title: Improved Formality of Operations

Plan Description:

Corrective actions include:

1. Modification of ETEC Procedure 6-02, "Test Facility Operation and Control," to include specific instructions about professional conduct in the control room and throughout the test facilities. Additional guidance also will be incorporated relative to control room access restrictions.



2. Modification of ETEC Procedure 6-03, "Preparation and Control of Test and Operating Procedures," to strengthen present requirements for independent verification of significant actions or conditions.
3. Retraining of operating personnel on revised ETEC Procedures 6-02 and 6-03.
4. Preparation of a Directive relating to communication of instructions, to include specific requirements for information readback to demonstrate clear and correct understanding. (The need for operator identification was not addressed in the ETEC self-assessment since the largest crew (at SCTI) has only four operators and the other facilities only two. Consequently, operator identification has not been a problem.)
5. Training of operating personnel on the new communications Directive.

Milestone 1: Prepare directive on communication protocols.	Date: 06/28/91
Milestone 2: Modify ETEC Procedure 6-02.	Date: 11/30/91
Milestone 3: Modify ETEC Procedure 6-03.	Date: 07/26/91
Milestone 4: Train personnel on the communications directive.	Date: 12/15/01
Milestone 5: Retrain personnel on ETEC 6-02 and 6-03.	Date: 01/30/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
QV.1-4	Need Specific Procedures
TC.3-1	Effective Training
MF.-6	Conduct of Operation
OA.4-1	Interface of Responsibility not well defined.
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles



Finding No: QV.1-5

Finding Description: Priority: 2

Quality audits at ETEC do not evaluate the effectiveness of program implementation as required by DOE 5700.6B, Paragraph 7a. Some audits are conducted by personnel that do not meet the technical or administrative qualifications of ANSI/ASME NQA-1.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE Order 5700.6B; ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The QA auditor rarely receives specialized technical training before an audit, and outside technical expertise is seldom used.

Most ETEC audits review and evaluate programs or review documentation; few evaluate implementation or performance.

Several technical inaccuracies were noted in ETEC audits; the auditor was not aware of the technical basis of some items evaluated.

An auditor of site radiation protection activities was conducted by an individual who was not qualified, either administratively or technically, as an auditor.

ETEC audits are conducted based on an 18-month schedule. DOE 5700.6B, Section 6.g., states "...assure that all aspects...(of the program)...include: 1. Periodic and timely reviews..." ASME NQA-1 also states: "Planned and scheduled audits shall be performed to verify compliance with all aspects of the quality assurance program and to determine its effectiveness," there is not method to determine whether this coverage is accomplished.

Objective evidence to indicate methods or basis in justification of a "SAT" or "UNSAT" determination to audit questions.

One auditor conducts almost all of the audits. One of his certifications is overdue for annual evaluation.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP058	QA Auditor Training and Audit Documentation

Action Plan Number: AP058

Plan Title: QA Auditor Training and Audit Documentation

Plan Description:

The 18-month schedule of ETEC audits has been revised and issued. This schedule changes the method in which audits are conducted. Previously, audits examined and evaluated a program and/or a specific function. The revised schedule addresses the basics of ASME NQA-1. These audits will examine and evaluate all ETEC functions related to the audited basic requirement. This will provide documented evidence evaluating the effectiveness of all aspects of the quality assurance program as directed by ASME NQA-1.

ETEC shall continue its auditor job training, guidance, and counseling under the direct supervision of the Lead Auditor as defined in Section 2.1 of Supplement 2S3 in NQA-1. Qualification requirements shall be expanded and delineated in a revision to ETEC Procedure 1-15, "ETEC Quality Assurance Audits." Specific training requirements will be included in the ETEC Training Plan. Auditors will be sent to outside training courses, when they are available, based upon management evaluation of the particular needs of each auditor. Training in audit performance will be one of the outside courses to be attended.

Where appropriate, technical specialists will be included as members of audit teams. Resources are identified under this corrective action plan to allow for this increase in scope. Moreover, guidelines will be developed to provide for implementation of performance-based auditing techniques. Development of these audit techniques will be predicated on the new DOE Order 5700.6C, to be issued soon, and guidelines provided in the EPRI publication on performance-based auditing. The guidelines will be integrated into ETEC Procedure 1-15.

As reported elsewhere within this report, the root cause analysis process is being developed and will be formalized in an ETEC procedure. The followup, reponse and closeout requirements of ETEC Procedure 1-15 will be strengthened to require the root cause analysis process to be used. Moreover, sanctions will be established, including disciplinary action, for failure to comply and/or respond in a timely fashion to outstanding audit findings and/or corrective action requests.

Milestone 1: Establish performance-based guidelines.

Date: 11/30/91

Milestone 2: Revise ETEC Procedure 1-15.

Date: 12/15/91

Milestone 3: Issue Auditor Training Plan; start training.

Date: 01/15/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
QV.1-5	Quality Audits do not Evaluate Program Implementation
QV.2-1	Unapproved Material Source
FR.4-1	No Periodic ES&H Review
RP.2-1	Internal Audit and Independent Overview



Finding No: QV.1-6

Finding Description: Priority: 2

Corrective action to identify deficiencies does not determine and correct causes. Some identified deficiencies are allowed to continue uncorrected.

Root Cause:

M2 - Ownership

Compliance Protocol:

DOE Order 5700.6B, ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Overall corrective action to audit findings is shallow, with a reluctance to identify and correct root causes. One example of the lack of corrective action is the recent use of "program is over" type dispositions. Audit findings are resolved without in-depth evaluation or corrective action. This allows recurrence of a similar condition on other programs, and does not prevent recurrence if this program is restarted. Lessons learned are therefore not determined and available for improvement of operations at ETEC or other DOE sites.

Although the audits do identify problems and act as a mechanism for corrective action, some corrective action is not performed in a timely manner.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP059	Effective and Timely Corrective Action to Audit Findings

ACTION PLAN AP059 (For Finding No: QV.1-6)

Action Plan Number: AP059

Plan Title: Effective and Timely Corrective Action to Audit Findings

Plan Description:

ETEC is developing a procedure for root cause analysis. This procedure will be expanded to include audit findings and a database tracking system will be implemented. The Quality Assurance and Training Manager will discuss ineffective and/or untimely corrective actions with upper management during the weekly general staff meeting.



Finding No: QV.1-7

Finding Description: Priority: 3

Procedures in use at ETEC do not provide a level of detail needed to direct personnel in the correct completion of work and are not always technically correct.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

DOE Order 5480.19, ETEC Procedure 6-03, 29 CFR 1910.147

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of procedures for chemistry laboratory activities, for conducting radiation surveys, and for standardization of radiation/health physics laboratory equipment.

Testing protocols for emergency diesels and battery banks which do not assure the operability of these systems and which do not require quality verification oversight.

Inadequate procedures used by Plant Services personnel performing preventive maintenance on ETEC test facility equipment. (Action plan AP082 is relevant to this issue.)

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP060	Preparation and Use of Detailed Procedures
AP082	ETEC Maintenance Program and Organizational Structure
AP092	Preventive Maintenance

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ACTION PLAN AP060 (For Finding No: QV.1-7)

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Action Plan Number: AP060

Plan Title: Preparation and Use of Detailed Procedures

Plan Description:

The requirements for preparation of ETEC facility test and operating procedures are specified in ETEC Procedure 6-03; conformance requires that procedure preparers incorporate necessary detail for safe and effective implementation. For those procedures which it governs, ETEC 6-03 provides satisfactory guidance. As stated in Tiger Team Finding MF-6, "In general, calibrating, operating, and testing procedures were very detailed, required step-by-step performance sign-off, and required several levels of review and approval at completion." The problems identified by the Tiger Team



concerning inadequate procedure detail generally involve work performed in support areas, e.g., analyses in the chemistry laboratory, health physics surveys, and maintenance by Plant Services. These problems will be rectified by the following actions:

1. A new ETEC Procedure, complementing ETEC-6-03, will be developed to: a) identify all other work activities which must be performed and documented by procedure, b) define required content of such procedures, including level of detail needed to direct personnel in the correct completion of work, and c) provide guidance for preparation, control, and implementation, including review by the manager responsible for action to verify that the procedures are technically correct.
2. A training course on the new ETEC procedure will be developed and presented to all affected personnel, including management, procedure preparers and implementers.
3. As needs arise, procedures for all covered work activities will be prepared or upgraded to comply with the new requirements and will be released for implementation.
4. ETEC Quality Assurance will audit both content and implementation of the working procedures for conformance with the new ETEC procedure. Audits will be performed within six (6) months of release of the ETEC procedure and corrective actions will be developed for any observed deviations or deficiencies.

A separate aspect of the finding arises from the fact that some work on ETEC facilities, particularly in the area of facility maintenance, is performed by persons, e.g., Rocketdyne Plant Services technicians, who are not responsible to ETEC management and who work to procedures which have not been reviewed or approved by ETEC management. Resolution of this problem is addressed in Action Plan AP-082 which responds to finding MA.1-2.

Milestone 1: Revise ETEC Procedure for work not covered by ETEC 6-03.

Date: 02/15/92

Milestone 2: Train personnel on new ETEC procedure.

Date: 04/15/92

Milestone 3: Audit compliance with new ETEC procedures.

Date: 09/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
MA.8-1	Maintenance Procedure/Control
MF.-6	Conduct of Operation
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures



Finding No: QV.1-8

Finding Description: Priority: 2

ETEC management does not require vigilant conformance with procedures, resulting in widespread procedural noncompliance to ETEC Procedures and DOE 5700.6B, including work practices that place ETEC personnel in danger.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE Order 5700.6B, ETEC Procedures, Department Directives

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of strict conformance to procedures and performance of actions outside the scope of the procedure being used.
  - Panel gauges which are used for operability acceptance but are not calibrated.
  - Inadequate attention to personal safety requirements during work performed for ETEC by Plant Services personnel.
  - Lack of enforcement of visitor log requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP061	Conformance with Procedures and Directives
AP060	Preparation and Use of Detailed Procedures
AP066	Calibration Verification
AP082	ETEC Maintenance Program and Organizational Structure
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance

ACTION PLAN AP061

(For Finding No: QV.1-8)

Action Plan Number: AP061

Plan Title: Conformance with Procedures and Directives

Plan Description:

Management has established policies and procedures to govern the conduct of activities performed by ETEC personnel but has not consistently assured that those policies and procedures are being diligently followed at the working level. - Corrective actions will be taken in response to this finding as follows:

1. Management will review existing policies and procedures for adequacy and also to assure that imposed requirements are both meaningful and necessary. Where necessary, revisions will be made to strengthen or add needed requirements or to eliminate those which do not contribute to proper and effective performance. Action Plan 050 establishes the mechanism to achieve compliance. It should be noted that the plan calls for continued review and revision as conditions/requirements change.
2. Training sessions for using personnel will be conducted and documented on those procedures and directives of primary importance for their type of activity. Where necessary, e.g., lockout/tagout practices, training will include outside service personnel who perform work on ETEC facilities. Specific emphasis will be placed on the need for procedural compliance and on actions which will be taken in the event of non-compliance. Training for Quality Assurance engineers will reinforce the need for nonconformance reports when instances of non-compliance with procedures are identified.
3. Training sessions for managers will be conducted and documented to reinforce the need for constant vigilance and, when necessary, counselling or retraining of personnel to institutionalize the habit of compliance.
4. A new policy will be established - supplementing the existing Quality Assurance Audit program - requiring periodic, unannounced assessments of procedural compliance by an ETEC top management team comprised of the ETEC General Manager, the Manager of Quality Assurance, and the Department Manager of the function being evaluated. Findings will be documented and any deficiencies will be tracked until corrective actions have been identified and carried out by the responsible manager. Findings will also be trended (see Action Plan 127) to enable management to effect improvements in operations.

Milestone 1: Review policies and procedures; modify as necessary.

Date: 11/22/91

Milestone 2: Complete compliance training for procedure users.

Date: 12/20/91

Milestone 3: Complete compliance training for managers.

Date: 12/20/91

Milestone 4: Institute top management compliance assessments.

Date: 03/30/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.7-2	Updating of ETEC Procedures
QV.1-8	Management to Req Conform
MF.-6	Conduct of Operation
QV.1-7	Procedure Detail
MA.8-1	Maintenance Procedure/Control
QV.4-1	Calibration Verification Contrary to ANSI/ASME NQA.1.
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure



Finding No: QV.1-9

Finding Description: Priority: 2

Important records are not stored and maintained, and protected from damage as required by ANSI/ASME NQA-1, DOE 5480.11, and DOE 1324.2A.

Root Cause:

M1 - Ownership, M3 - Resources

Compliance Protocol:

ANSI/ASME NQA-1, DOE 5480.11 and DOE 1324.2A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC document management practices must meet DOE storage and maintenance requirements for designated records as defined by DOE Orders and ANSI/ASME NQA-1.

Chemistry test records, maintenance records and standard certification and calibration records must be protected from fire.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP062	ETEC Document Management

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ACTION PLAN AP062                      (For Finding No: QV.1-9)

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Action Plan Number: AP062

Plan Title: ETEC Document Management

Plan Description:

ETEC will provide a centralized system for the storage and control of important documents. The actual functions of this system will be determined by AP054 (Concern RP.5-1). The system will be fully compliant with DOE Orders for document storage, and will be capable of controlling access to the documents within the system.

Implementation of this system requires sufficient resources to design, develop, implement and maintain the system.



Finding No: QV.1-10

Finding Description: Priority: 3

Current QV resource allotment cannot support a quality verification program that meets the requirements of ANSI/ASME NQA-1 and DOE 5700.6B.

Root Cause:

M3 - Resources

Compliance Protocol:

ANSI/ASME NQA-1, DOE 5700.6B

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC is not providing adequate quality verification on the Kalina construction project.
- o Union agreement prevents qualified salaried QV personnel from assisting in inspection.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP063	Quality Verification of Kalina Facility Construction Act.
AP071	Quality Verification Inspection Staffing

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ACTION PLAN AP063 (For Finding No: QV.1-10)

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Action Plan Number: AP063

Plan Title: Quality Verification of Kalina Facility Construction Act.

Plan Description:

Background:

The Kalina facility has a safety analysis document (SAD) that is currently being revised to include operational safety requirements (OSRs). As-built drawings have been assembled at milestone completion in the past, and are called for in the future. The new (issued 3/21/91) Program Management Plan calls for ETEC to provide quality verification for Kalina, and includes two readiness reviews before full-scale operation.

ETEC cannot support additional quality verification activities with existing staff.





Finding No: QV.2-1

Finding Description: Priority: 2

Items and services are procured from unapproved sources without specified quality requirements, as required by ETEC procedures and ANSI/ASME NQA-1. Where quality requirements had been invoked, they have not been consistently enforced.

Root Cause:

M-1 Ownership, M-2 Assessment and Oversight

Compliance Protocol:

ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o No material documentation was available for two subcontract jobs.

No certificate of conformance was available for the NEMA 4 items that had been installed.

A tritium chemistry target was recently surveyed by an unapproved vendor, without the use of procedures, and by personnel that have not been qualified by ETEC.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP064	Unapproved Material Source
AP055	Stop Work Authority
AP058	QA Auditor Training and Audit Documentation
AP071	Quality Verification Inspection Staffing

ACTION PLAN AP064 (For Finding No: QV.2-1)

Action Plan Number: AP064

Plan Title: Unapproved Material Source

Plan Description:

ETEC Procedure 2-03, "Program/Project Planning and Control" will be revised to require that Program Management Plans (PMP) and Project Development Plans (PDP) contain requirements for a Quality Assurance Plan for each program/project. The QA plan will define requirements, commensurate with NQA-1, for source qualification, vendor certificates of conformance, material certifications, and requirements for ETEC approval of procedures. ETEC procedures describing vendor survey/approvals and receipt inspection/source surveillance will be revised to reflect a systematic approach to all



Finding No: QV.3-1

Finding Description: Priority: 2

Most receipt inspections do not verify critical attributes of items as required by ANSI/ASME NQA-1.

Root Cause:

M-1 Ownership, M-2 Assessment and Oversight, M3 - Resources

Compliance Protocol:

ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Most inspections are Code 2-1C, Identification and Shipping Damage. Inspections are limited in an attempt to reduce cost.

ETEC program managers attempt to reduce inspection in order to minimize charge-backs for inspection services.

Use ANSI/ASME NQA-1 definitions of inspection measurement to verify whether an item or activity conforms to specified requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP065	Receipt Inspections
AP054	Prepare Quality Assurance Plan

ACTION PLAN AP065 (For Finding No: QV.3-1)

Action Plan Number: AP065

Plan Title: Receipt Inspections

Plan Description:

A comprehensive Quality Assurance Plan will be written that will be structured similar to ASME NQA-1 (AP054).

ETEC Procedure 2-03, "Program/Project Planning and Control," will be revised to require that Program Management Plans (PMPs) and Project Development Plans (PDPs) contain requirements for preparation of a Quality Assurance Plan tailored to the scope, criticality and complexity of the program/project (AP054). The Quality Assurance Plan will define quality levels and inspection levels as consistent with NQA-1.



Finding No: QV.4-1

Finding Description: Priority: 2

Many measuring and test items not calibrated in the Bldg. T066 or T011 are either used in an uncalibrated status or are standardized without procedures or traceable standards, contrary to ANSI/ASME NQA-1.

Root Cause:

M2 Assessment and Oversight

Compliance Protocol:

ASME/ANSI NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Many instruments at SCTI in the control room are past their calibration due date.
- Experimental instrumentation in the Chemistry Lab is past calibration due date, some over 10 years.
- Some standards used in the Chemistry Lab are not traceable to NIST.
- Health physics counting equipment is fully calibrated only when performance has degraded to the point of unacceptability.
- I&S personnel are approaching retirement, and the high skill level could be lost if training replacements is not started soon.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP066	Calibration Verification

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ACTION PLAN AP066 (For Finding No: QV.4-1)

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Action Plan Number: AP066

Plan Title: Calibration Verification

Plan Description:

## Background:

SCTI Control Room: Calibration of instruments in the SCTI control room was intentionally delayed during the long period of testing downtime occasioned by the removal of the Helical Coil Steam Generator and installation the Double Wall Tube Steam Generator and the Few Tube Test Model. This delay avoids the expense of performing calibrations and having the next calibration due without any testing having been accomplished. A priority has been established for completing calibrations in a sequence based on needs of the startup and testing program.

I&S Laboratory Staff Age: It is recognized by management that in many instances an aging work force may result in loss of important skills, and replacements for retirees must be found and trained. Rocketdyne has established programs where retirees may be reemployed as "Flex Force" workers or as jobshoppers. This practice is commonly employed at ETEC to fill ad hoc needs and to transfer technology and skills to new employees following the retirement of senior people.

Chemistry Laboratory: Calibrations have been requested (prior to the Tiger Team visit) for key items in the Chemistry laboratory. There is still a backlog of items with calibrations due. Certifications of NIST traceability have not been purchased with standards used for atomic absorption spectroscopy because of the additional expense, since these standards are replaced frequently. An alternate solution to purchasing the standards is source inspection to accomplish the same result. For items not frequently replaced, working standards should be analyzed against certified standards.

Health Physics/Radiation Protection: Radiation Instrument Services (RIS) people are not trained for and, consequently, do not calibrate or service the analytical-type counters located in Bldg. T020 or T100. These instrument systems are the alpha/beta gas flow proportional counters and the cryogenic gamma spectroscopy systems. These systems are performance checked daily during periods of use and calibrated either quarterly or more frequently if adjustments have been made. Performance checks and calibrations are performed by the operators trained by the manufacturer both to operate and perform minor maintenance. The performance checks and calibrations are performed with NIST-traceable standards and according to written, approved procedures. Major maintenance on these instruments is performed by the manufacturer.

## Plan:

Place out-of-calibration or out-of-service stickers on all equipment which has overdue calibrations, per ETEC Procedure 6-06. Critical instrumentation required for performance data, safe facility operation or environmental monitoring will be identified in applicable test or facility operating procedures. Calibration prerequisites will be verified for those instruments before the test/activity is allowed to proceed.

Notify test requesters in writing regarding data whose measurements have been made using out-of-calibration equipment, and prepare an NCR per ETEC Procedure 2-20.

Verify that all affected employees are trained in the implementation of the cited ETEC Procedures.

Train RIS employees in ETEC Procedure 2-20 for NCRs and in the service and calibration of alpha/beta and gamma spectroscopy systems.





Finding No: QV.5-1

Finding Description: Priority: 2

ETEC equipment and material are not controlled as required by DOE 5700.6B and ANSI/ASME NQA-1, including early detection and correction of deficiencies.

Root Cause:

M1-Ownership, M2-Assessment and Oversight, M5-Policy

Compliance Protocol:

DOE 5700.6B, ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Failure to comply with ETEC procedure 2-20 Nonconformance Report (NCR) for failed annunciator boards.

Annunciator boards stored in box without indication of status or usability.

One standard cell in use in the I&S lab was out of tolerance in 1987 without evidence of an NCR having been written.

Several examples of 440 volt panels with exposed wiring were noted.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP067	Material Control

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ACTION PLAN AP067      (For Finding No: QV.5-1)

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Action Plan Number: AP067

Plan Title: Material Control

Plan Description:

Due to the high priority of the final findings, the electrical panels were covered prior to Tiger Team departure (see also WS.4-4). The root causes to the findings are addressed in this Action Plan.

1. ETEC will review Procedure 2-20 for adequacy with respect to identification and control of safety related hardware and materials and assure that the procedure complies with the intent of



Finding No: QV.5-2

Finding Description: Priority: 2

EETC personnel do not understand their responsibilities to evaluate and report deficiencies as required by EETC procedure 2-20, DOE 5000.3A, and DOE 5700.6B.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE 5000.3A, DOE 5700.6B, EETC Procedure 2-20

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o EETC managers are responsible for reviewing events and nonconformances to determine if an Unusual Occurrence Report (UOR) is warranted per DOE 5000.3A. No training program has been developed or presented at EETC on Nonconformance Report (NCR) UOR responsibilities.

A review was conducted of unplanned plant trips and nonconformances for the past 30 months. Fifteen (13 at SCTI) unplanned plant trips were noted that were not reported with UORs. One of these, at the Thermal Transient Facility (TTF), resulted in a 300-gallon oil spill, yet was not reported as required by DOE 5000.3A and SAN MD 5000.3.

Although all personnel onsite are responsible for the identification of nonconformances and initiation of NCRs, no formal training is provided to site personnel on the NCR system.

Chemistry lab personnel are unaware of the system for reporting of nonconformances or unusual occurrences.

Radiation Protection/Health Physics personnel are often the first to detect personnel contamination that would require reporting by the UOR system, yet they are unaware of the UOR and NRC procedures.

EETC Procedure 2-20, Rev. E (March 7, 1990) requires the program/project manager to determine whether a reportable condition exists after the disposition and corrective action has been determined. This sequence would prohibit EETC from meeting the reporting requirements of DOE 5000.3A of 2 hours verbal and 24 hours written.

EETC Procedure 2-20 has two Part IIs. The Part II dealing with construction squawk reports (CSRs) states that the CSR is to be used in place of the NCR during construction. Only Quality Verification can initiate a CSR. This defeats the policy of each employee taking responsibility for identification of nonconforming conditions. There is no capacity to evaluate the CSR for potential UOR reportability. This has resulted in events that meet

reporting requirements for Unusual Occurrences not being reported to DOE.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP068	ETEC Training on NCR and UOR

ACTION PLAN AP068

(For Finding No: QV.5-2)

Action Plan Number: AP068

Plan Title: ETEC Training on NCR and UOR

Plan Description:

Review ETEC procedures for preparing NCRs and UORs.

Verify requirements that all personnel should acknowledge and actively respond to initiating NCRs when defined situations or problems are encountered.

Develop training plan for all site personnel and implement same.

Assure that plan requires auditable evidence that personnel have been trained and understand their responsibility in reporting nonconformances.

Managers must acknowledge their responsibility for timely determination or need for OR's as required by DOE 5000.3A.

Revise ETEC procedures as needed from review and lessons learned during training.

Following initial training of all levels of personnel, the applicable procedures/directives will be revisited and revised as necessary to reflect lessons learned from the training.

Revise ETEC 2-20 to clarify those inconsistencies with DOE 5000.3A, specifically in the areas of reporting NCRs and interfacing with UOR reporting requirements.

Milestone 1: Review procedures.

Date: 11/15/91

Milestone 2: Revise and release ETEC Procedure 2-20.

Date: 12/15/91

Milestone 3: Develop training plan.

Date: 12/01/91

Milestone 4: Initiate training.

Date: 01/01/92



Finding No: QV.5-3

Finding Description: Priority: 2

Items and material at ETEC are not identified, stored and handled to ensure only proper items are used as required by ETEC Procedure 4.01, "Storage and Control of Materials," and ANSI/ASME NQA-1.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

ETEC Procedure 4-01 and ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Storage of stock materials at SCTI does not meet ETEC Procedure 4-01, "Storage and Control of Material."

Items stored in Bldg. T357 are not tagged or identified to indicate status. Special process materials (304L gas tungsten arc welding wire) were not controlled or status identified.

Carbon steel and stainless steel were in contact at Bldg T901. Many items do not have any identification, tags, or status indicators.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP069	Storage and Control of Material

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ACTION PLAN AP069                      (For Finding No: QV.5-3)

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Action Plan Number: AP069

Plan Title: Storage and Control of Material

Plan Description:

Review ETEC Procedure 4-01 for applicability and adequacy.

Identify need for supplemental facility procedures/directives to cover specific needs for that facility.

Prepare procedures or facility directives covering storage and identification of materials not specifically covered by ETEC Procedure 4-01.



Finding No: QV.5-4

Finding Description: Priority: 2

Items, components, and material at ETEC are not handled, and preserved to prevent degradation as required by ETEC Procedures and ANSI/ASME NQA-1.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lubricants and preservatives are stored outdoors with loose covers and rusted containers. No temperature control is provided. No shelf life program is in existence.

The Steam Accumulator Blowdown Evaluation Rig (SABER) facility is classified as "Active Standby." No maintenance program exists for this facility as required by ETEC procedures. The facility has three pressure vessels displacing a volume of over 2000 cubic feet each. Each is currently filled with gaseous nitrogen that is pressurized to over 2000 psig. These vessels represent a major potential for damage or injury if a failure should occur.

High quality stainless steel is stored in contact with carbon steel, resulting in degraded or unusable material.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP070	Prevention of Degradation of Material

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ACTION PLAN AP070 (For Finding No: QV.5-4)

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Action Plan Number: AP070

Plan Title: Prevention of Degradation of Material

Plan Description:

Prepare a procedure that meets the intent of ANSI/ASME NQA.1 with respect to prevention of degradation.





Finding No: QV.6-1

Finding Description: Priority: 3

Only a minimal inspection program is currently implemented at ETEC.

Root Cause:

M3- Resources

Compliance Protocol:

ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There is only one inspector at ETEC to cover all activities on a site with 24-hour/day and 7-day/week operation.

This issue is addressed in the plan identified below.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP071	Quality Verification Inspection Staffing

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ACTION PLAN AP071 (For Finding No: QV.6-1)

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Action Plan Number: AP071

Plan Title: Quality Verification Inspection Staffing

Plan Description:

ETEC's QV inspection staff will be increased by one inspector. In the interim, additional QV inspection support is available from Rocketdyne on an as-needed basis. QV inspections will continue to be scheduled on back shifts and weekends when required.

Milestone 1: Hire additional inspector.

Date: 02/05/92



Finding No: QV.6-2

Finding Description: Priority: 2

Inspections are performed without the use of inspection procedures by uncertified inspection personnel. This does not meet the requirements of DOE 5700.6B and ANSI/ASME NQA-1.

Root Cause:

M3 - Resources

Compliance Protocol:

DOE 5700.6B, ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Although the QV inspector is certified in some nondestructive examination (NDE) disciplines per American Society for Nondestructive Testing (ASNT) TC-1a, he is not certified in any inspection discipline.

There is no formal training and qualification program for inspection or other QV personnel as required by ANSI/ASME-NQA-1, section 10S-1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP072	Quality Verification Inspection Training
AP051	Improvements to ETEC's Procedural Infrastructure

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ACTION PLAN AP072 (For Finding No: QV.6-2)

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Action Plan Number: AP072

Plan Title: Quality Verification Inspection Training

Plan Description:

A training program will be developed based on ANSI/ASME NQA-1 for finding requirements.

Milestone 1: Issue training plan.

Date: 01/15/92

Milestone 2: Initiate training.

Date: 02/17/92



Finding No: QV.7-1

Finding Description: Priority: 2

Special processes at ETEC are performed by personnel not certified in accordance with ANSI/ASME NQA-1.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

ANSI/ASME NQA-1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Special processes, including GTAW and SMAW, are performed by maintenance personnel. The maintenance welder's job description allows for structural welds and "critical pressure" welds. It also states that welders are to "pass and maintain all civil code requirements necessary." The current maintenance welder has been certified in GTAW in the past, but his certifications lapsed in 1988.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP073	ETEC Control of Special Process Personnel

ACTION PLAN AP073 (For Finding No: QV.7-1)

Action Plan Number: AP073

Plan Title: ETEC Control of Special Process Personnel

Plan Description:

ETEC utilizes the Rocketdyne shops for special processes in accordance with ETEC Procedure 2-35, "Utilization of Rocketdyne Plant Services for Maintenance of ETEC Real Property." This procedure will be revised to include the requirement that welder certifications be current, and that a roster of certified special process personnel be maintained. ETEC QA, during surveillance of facility operations, will verify welder qualifications. The welder certification program will be evaluated against guidelines provided by the American Welding Society.



Finding No: QV.7-2

Finding Description: Priority: 2

Special process materials at ETEC are not controlled as required by ANSI/ASME NQA-1 and AWS D1.1, "Structural Welding Code."

Root Cause:

M2 -Assessment and Oversight

Compliance Protocol:

ANSI/ASME NQA-1, AWS D1.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o A construction contractor fabrication had pieces of used welding electrode left around the work tables and on the floor. Several different types of gas tungsten arc welding (GTAW) electrodes were mixed on one work table. Two open cans of shielded metal arc welding (SMAW) electrodes of different types were left out with continuous atmospheric exposure and were not controlled to prevent use.

During this inspection, many examples were noted of uncontrolled special process material; this material was not identified or tagged to preclude improper use.

The electrode storage oven in the maintenance shop was set at 150F. American Welding Society (AWS) D1.1 code requires a setting of at least 250F for coated electrodes.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP074	ETEC Control of Special Process Material

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ACTION PLAN AP074 (For Finding No: QV.7-2)

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Action Plan Number: AP074

Plan Title: ETEC Control of Special Process Material

Plan Description:

ETEC subcontracts special processes to Rocketdyne Plant Services or trade contractors. ETEC's Quality Verification overchecks of trade contractors' construction activities are established in accordance with ETEC Quality Assurance Department Directive No. 18, "Preparation and Storage of





Finding No: OP.1-1

Finding Description: Priority: 3

No formally articulated safety awareness programs exist in the operation departments.

Root Cause:

M1 - Ownership, M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Regularly scheduled safety meetings are not held for all hourly personnel, although safety is often discussed at unit meetings and reviewed by way of entires to mandatory reading files.

The ability to cite safety performance statistics was not widespread at ETEC.

Overall, formally articulated or executed safety programs were considered lacking.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP075	Formally Articulated Safety Awareness Programs
AP147	ETEC Line Management Safety Program
AP046	Performance Indicators
AP044	Safety Goals

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ACTION PLAN AP075 (For Finding No: OP.1-1)

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Action Plan Number: AP075

Plan Title: Formally Articulated Safety Awareness Programs

Plan Description:

Other action plans include safety awareness or safety incentive programs, responding directly to Finding OP.1-1.

AP147 will implement a Safety Awareness Program, designed to be an integral part of the Line Management Safety Program. The provision of safety equipment to employees will promote safety

awareness and will visibly demonstrate management's commitment to safe work practices. As part of the Safety Awareness Program, awards will be distributed based on achievement of established safety goals. Previous incentive programs have used reduction in injury rates or lost time accident free periods as a basis for awards. An appropriate performance index will be established for ETEC using input from representative employees. Employee participation is key to establishing employee involvement and ownership. Progress towards goals will be publicized using various media to keep participants informed of goal status. The program and awards will be changed periodically to maintain interest, and can be expected to heighten employee awareness of ETEC safety performance statistics.

Elements of the Line Management Safety Program will require regularly-scheduled safety meetings at ETEC, and will implement management training to enhance safety awareness. A more active involvement in the Rocketdyne Employee Safety Committee Program will result as a consequence.

The establishment and tracking of safety performance indicators and safety goals is included in AP044 and AP046; these action plans augment those already referenced.

Milestone 1: Establish safety goals.

Date: 12/30/91

Milestone 2: Submit proposed plan to DOE.

Date: 02/28/92

Milestone 3: DOE approval and implementation.

Date: 05/30/92

Milestone 4: Submit 1st quarterly PI report to DOE.

Date: 07/23/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.5-1	Performance Indicators
OA.6-1	Annual Performance Evaluation not Regularly Performed.
OP.1-1	Safety Awareness Program
PP.1-1	O&A/Line Management Control
WS.4-7	Slings (PP.4-2)
WS.4-9	Hand Tool Use/Repair
WS.4-10	OSHA Violations App F.
MF.-3	Individual Roles and Training
MF.-4	Contractor Independent Oversight
OA.3-1	Written Safety Goals not Established
MF.-5	Performance Monitoring and Assistance

ADS No: 4017AA , ,

Funding Comments:

Funding consists of cost components of Action Plans AP147, AP044, and AP046.

Implementation of this plan requires funding from AP178.



Finding No: OP.2

Finding Description: Priority: 3

See Concern TS.2-1 and AP120.

Approved Operational Safety Requirements are not in place for ETEC facility operations.

Root Cause:

M1-Ownership

Compliance Protocol:

Best Management Practices

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o OSRs have not been formally approved and issued for ETEC facility operation while conducting tests.
- Bases for the OSRs are not referenced to specific sections of the SAD.
- OSRs are not being prepared for previously existing test systems.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP076	Safety Analysis Review and Update

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ACTION PLAN AP076 (For Finding No: OP.2)

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Action Plan Number: AP076

Plan Title: Safety Analysis Review and Update

Plan Description:

See AP120.

Milestone 1: Implement revised SAR system per AP120.

Date: 03/31/93



Finding No: OP.3-1

Finding Description: Priority: 3

The practices for revising operating procedures by red-lining do not allow for complete review of changes before implementation.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

ETEC Procedure 6-03

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Operating procedures are revisable by inserting red-line changes during actual testing. Such changes become official when approved by the Cognizant Engineer, the PIC (person-in-charge) and any other designated by the Cognizant Engineer.

A degree of awkwardness exists in the process of maintaining red-lined procedures current and communicating approved changes to all interested personnel.

The red-line review process for changes lacks the formality that this important control aspect mandates.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP077	Review of Procedure Change Practices During Operation
ACTION PLAN AP077 (For Finding No: OP.3-1)	

Action Plan Number: AP077

Plan Title: Review of Procedure Change Practices During Operation

Plan Description:

A quick, technically sound method for making and approving procedural changes during operation is essential for effective operation of most ETEC test facilities. Many test and operating procedures are written before articles undergoing test are thoroughly characterized for their behavior and/or system interactions are fully understood. Therefore, requirements for changes are almost inevitable. ETEC Procedure 6-03 prescribes the methods both for initial review and approval of such procedures, and for changes found necessary during operation. The list of reviewers/approvers for initial release is intended to be quite comprehensive to bring to bear all required expertise.

Thereafter, the appropriate level of review and approval is dependent on the nature of planned changes.

ETEC's original approach to procedure change review and approval was to require concurrence from all original approval authorities. This approach is not particularly onerous when testing is performed on a single (day) shift basis; however, it causes significant problems for 24-hour/7-day per week operations. Primary approvers often are not available during off hours. Attempts to contact them or alternates can occupy excessive operator time and detract from attention which should be focused on the operation and, under some circumstances, the delay itself can be detrimental to the operation.

Many situations requiring on-line procedural change arise for which the appropriate change is obvious and clearly does not affect the technical adequacy or objectives of the procedure. To accommodate such circumstances without undue delay, while assuring an adequate level of review and approval, ETEC Procedure 6-03 now authorizes the appropriate Cognizant Engineer to evaluate and decide approval level. Depending on the significance of the proposed change prior approval of all original approvers may be required or, as a minimum, only that of the Cognizant Engineer and the person-in-charge of the on-duty crew.

ETEC believes that the basic approach prescribed by Procedure 6-03 is sound and should be retained. However, problems with implementation and effective documentation of red-line changes do exist and require correction. The following actions will be taken to eliminate these problems:

1. ETEC Procedure 6-03 will be reviewed for clarity and will be revised, if necessary, to more clearly define authorities and responsibilities and eliminate any areas of ambiguity.
2. Cognizant engineers and facility personnel will be retrained on Procedure 6-03 sections dealing with red-line changes. Specific emphasis will be placed on approval requirements and decisions, and on the proper methods of documenting changes.
3. Quality Assurance engineers will be directed to monitor procedure change approval practices and to document, by nonconformance report, any observed deviations from proper approval or documentation requirements.

Milestone 1: Review & revise ETEC 6-03, as necessary.

Date: 08/28/91

Milestone 2: Retrain personnel on procedure change practices.

Date: 12/15/91

Milestone 3: Provide direction to QA engineers.

Date: 12/15/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.7-2	Updating of ETEC Procedures
OP.3-1	Review of Operating Procedures
MF.-6	Conduct of Operation

ADS No: 4019AA ,4020AA ,

Funding Comments:

Implementation of this plan requires funding from AP096 and AP178.



Finding No: OP.4-1

Finding Description: Priority: 2

The implementation of the new Program Operations Department Directives (PODD-5 and PODD-6) on the ETEC lock-and-tag programs does not ensure accurate documentation of the process.

Root Cause:

M2 - Assessment/Oversight

Compliance Protocol:

DOE Order 5480.19, "Conduct of Operations Requirements for DOE Facilities"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Operations personnel do not yet display sufficient familiarity to demonstrate the rigorous implementation of PODD-5 and PODD-6. Also, PODD modifications are required to strengthen independent verification provisions and to include several other actions, as required by DOE Order 5480.19, Chapter IX.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance

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ACTION PLAN AP078 (For Finding No: OP.4-1)

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Action Plan Number: AP078

Plan Title: PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance

Plan Description:

Training provided to date on Program Operations Department Directives PODD-5, "Equipment Clearance and Release Order (ECRO)," and PODD-6, "Use of Caution Tags," has not been sufficient to ensure rigorous implementation and effective documentation. Revisions to the PODDs are required to strengthen independent verification aspects, to provide for documenting as-left equipment positions and post-maintenance testing, to provide guidance concerning pre-clearance inspections and validation of status, and to address problems and meritorious operator suggestions resulting from recent application experiences. Planned corrective activities are as follows:

- Program Operations Department management will review PODD-5 and -6 for level of compliance with the requirements of DOE Order 5480.19, Chapter IX. Revisions will be made, as necessary, to achieve compliance. At a minimum, the following areas will be evaluated: independent verification,



Finding No: OP.5-1

Finding Description: Priority: 3

Interfaces between ETEC operations personnel and Rocketdyne Plant Services have not established sufficient operations control for maintaining operations stations.

Root Cause:

M5-Policy; M2-Assessment/Oversight

Compliance Protocol:

DOE 5480.19, ETEC Procedures 6-02 and 6-05

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Control of maintenance and troubleshooting activities by operations personnel is difficult when such activities are performed by Rocketdyne Plant Services personnel on facility process hardware.

Proper control has not been exercised over procedures used, components replaced, and post-maintenance testing.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP079	Coordination of Maintenance Performed by Plant Services
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP079 (For Finding No: OP.5-1)

Action Plan Number: AP079

Plan Title: Coordination of Maintenance Performed by Plant Services

Plan Description:

This proposed Action Plan entails establishing an ETEC Maintenance Unit, under a qualified maintenance manager, with experienced lead engineers to plan and direct mechanical and electrical maintenance activities, and permanently assigned mechanics and technicians. Maintenance work would be performed under ETEC supervision, using ETEC prepared and approved procedures. Specialized support would continue to be obtained from Rocketdyne Plant Services, particularly in the electrical area, but supporting personnel would be matrixed to ETEC and be functionally responsible to ETEC management. The proposed unit would include a stocking and warehousing function to maintain inventories, assure the availability of essential parts and materials, and provide proper storage to

prevent degradation. It would also include a hazardous materials specialist to assure proper storage and handling of hazardous materials; and proper labeling, storage, and disposal of hazardous waste generated during maintenance or by the operating facilities.

A number of persons who would be assigned to the ETEC Maintenance Unit are currently funded under the operating budget; however, significant additional resources are needed to permit adoption of the proposed approach. A minimum of six (6) additional people will be required and office, shop, and warehousing space must be provided. Specific actions required to eliminate present deficiencies of the maintenance and inactive facility surveillance programs are as follows:

1. Develop a detailed charter and organizational structure for an ETEC Maintenance Unit, and define requirements for office, shop, and warehousing space.
2. Obtain the necessary funding commitment from DOE.
3. Recruit a qualified maintenance manager, and experienced mechanical and electrical lead engineer, to direct maintenance procedure preparation, upgrade existing inactive facility preventive maintenance and inactive facility surveillance activities.
4. Establish guidelines and administrative procedures to assure effective, cooperative interfacing between maintenance and operating organizations.
5. Provide training to both operating and maintenance personnel to assure complete understanding of the authorities and responsibilities of each organization, requirements for turning over systems or equipment from one group to the other, and, particularly, requirements for assuring the safety of personnel and equipment.
6. Develop and implement upgraded preventive maintenance programs and periodic surveillance programs as appropriate for each facility status (i.e., active, inactive, etc.). These programs will also cover the moth balling and access control of inactive facilities.
7. Develop schedules and procedures for major facility maintenance and/or inspection activities during planned outages, e.g., periodic testing of safety relief valves or inspection of the Power Pak turbine/generator, and assure that all software and hardware is available, when needed, to minimize plant outage time.
8. Develop detailed corrective maintenance procedures for major facility components to assure proper disassembly/reassembly and to minimize outage time in the event of a problem or failure.

Milestone 1: Develop Maintenance Unit charter/organization.

Date: 10/04/91

Milestone 2: Obtain funding commitment from DOE.

Date: 10/18/91

Milestone 3: Recruit qualified personnel to staff unit.

Date: 11/29/91

Milestone 4: Establish guidelines for effective interfacing.

Date: 12/20/91

Milestone 5: Train personnel on authorities/responsibilities.

Date: 02/28/92

Milestone 6: Develop and implement improved PM programs.

Date: 02/28/92



Finding No: OP.6-1

Finding Description: Priority: 3

Shift Leaders and operators have not received training on the use of Operational Safety Requirements as the primary administrative control documents.

Root Cause:

M1 - Ownership

Compliance Protocol:

DOE 5480.19

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Operation Safety Requirements (OSRs) have been drafted for some operations but have not approved and issued.

SCTI Shift Leaders and mechanics had not been briefed or oriented on the significance and application of OSRs. (Action Plans AP097, AP120, and AP122 are relevant to this issue.)

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP080	Operator Awareness of Operational Safety Requirements
AP097	Improved Effectiveness of Operator Training
AP120	Safety Analysis Review and Update
AP122	Safety Analysis Review and Update

ACTION PLAN AP080 (For Finding No: OP.6-1)

Action Plan Number: AP080

Plan Title: Operator Awareness of Operational Safety Requirements

Plan Description:

Specification of Operation Safety Requirements in the Safety Analysis Documents (SADs) for recent modifications to SCTI has been completed by the ETEC Engineering Department and the information is now available for operator training. The following actions have been or are being taken:

1. A specific course on the significance and application of OSRs has been added to the Training Matrices for all SCTI operations personnel.
2. Training on the OSRs for all operations personnel will be completed prior to the start of



Finding No: MA.1-1

Finding Description: Priority: 2

ETEC is not in full compliance with DOE 4330.4, or with ETEC maintenance procedures in that it does not have a documented ETEC maintenance plan.

Root Cause:

M3 - Resources; M5 - Policy; M2 - Assessment/Oversight

Compliance Protocol:

DOE 4330.4; ETEC Procedures 2-30 and 6-05

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC's maintenance program is not in full compliance with DOE 4330.4.

ETEC's procedures for maintenance of real property and test facility equipment have not been fully implemented.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP081	Maintenance Planning
AP082	ETEC Maintenance Program and Organizational Structure
AP085	ETEC Maintenance Plan

ACTION PLAN AP081 (For Finding No: MA.1-1)

Action Plan Number: AP081

Plan Title: Maintenance Planning

Plan Description:

A Maintenance Management Plan (MMP) will be written to address the development of plans, schedules, and the review and analysis of performance. This plan will be given force and effect in an ETEC procedure and will thus constitute ETEC Maintenance Policy. The plan will require that detailed procedures be established and utilized for facility inspections, repairs, preventive maintenance and lock-outs. A schedule will be set to establish an ETEC site maintenance office for maintenance records. The MMP will address prioritization and management of backlog of normal repairs. The MMP will establish log books of maintenance inspections for roads, facilities, and equipment. The plan will establish a design review process for maintenance revisions that result in modifications.



Second party inspections of repairs will be required with documented acceptance criteria. The MMP will outline the necessary detail for work packages and set housekeeping criteria. Ownership of maintenance activities will be clarified.

Implementation of the MMP will occur upon obtaining the necessary funding commitment from DOE.

Implementation of the MMP will require a minimum of two EP's for program development, implement and oversight.

AP082 also addresses this finding by establishing a maintenance unit that will allow timely action and establish ownership.

Milestone 1: Prepare Maintenance Program Plan (MPP).

Date: 10/04/91

Milestone 2: Develop Maintenance Plan for Expanded Maintenance Management.

Date: 07/01/92

Milestone 3: Implement Expanded Maintenance Management Program.

Date: 10/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
MA.1-1	Document Maintenance Plan
MF.-6	Conduct of Operation
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles
AX.6	See Concern MA.6-2

ADS No: N/A

Funding Comments:

Funding for preparation of plans continued in Action Plan AP082.



Finding No: MA.1-2

Finding Description: Priority: 3

The overall ETEC maintenance program and organizational structure, including the relationship with Rocketdyne Plant Services, is not well defined or understood.

Root Cause:

M3-Resources, M5-Policy, M1-Ownership

Compliance Protocol:

DOE 4330.4, ETEC Procedures 2-30 and 6-05

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Individual ETEC facilities do not have definitive maintenance programs.

The ETEC Facility Programs organization does not play an active role in establishing requirements, managing, or tracking maintenance activities performed for ETEC by Rocketdyne Plant Services.

No overall policy exists which clearly defines the maintenance requirements for active, active-standby, and inactive-standby and inactive facilities.

Individuals responsible for facilities sometimes are unsure of facility status and related maintenance requirements.

Difficulties exist exercising control over maintenance and troubleshooting activities performed on ETEC equipment by Rocketdyne Plant Services.

Instances exist where the interface between maintenance performed by ETEC and by Rocketdyne Plant Services are unclear.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP082	ETEC Maintenance Program and Organizational Structure

Action Plan Number: AP082

Plan Title: ETEC Maintenance Program and Organizational Structure

Plan Description:

The maintenance problems identified by the Tiger Team, and by ETEC in its self-assessment, require significant changes to present practices to achieve the level of excellence expected by DOE. Two principal changes are needed. The first is separation of responsibilities for facility operation and maintenance. Budgetary restrictions in recent years have forced consolidation of these activities and use of operations personnel for both. Under this circumstance, maintenance activities suffer, particularly in the inactive facilities which have no assigned operating crew. Further, the personnel involved cannot concentrate their attention on one type of activity and do not become fully proficient in either area. The second major change requires that ETEC take control over, and responsibility for, all maintenance activities performed on ETEC facilities. ETEC has expended considerable effort, over an extended period, in an attempt to improve the quality, detail, and recognition of safety requirements in procedures used by Rocketdyne Plant Services for work on the ETEC facilities. As evidenced by numerous Tiger Team findings, results to date have been less than satisfactory.

The proposed Action Plan entails establishing an ETEC Maintenance Unit, under a qualified maintenance manager, with experienced lead engineers to plan and direct mechanical and electrical maintenance activities, and permanently assigned mechanics and technicians. Maintenance work would be performed under ETEC supervision, using ETEC prepared and approved procedures. Specialized support would continue to be obtained from Rocketdyne Plant Services, particularly in the electrical area, but supporting personnel would be matrixed to ETEC and be functionally responsible to ETEC management. The proposed unit would include a stocking and warehousing function to maintain inventories, assure the availability of essential parts and materials, and provide proper storage to prevent degradation. It would also include a hazardous materials specialist to assure proper storage and handling of hazardous materials; and proper labeling, storage, and disposal of hazardous waste generated during maintenance or by the operating facilities.

A number of persons who would be assigned to the ETEC Maintenance Unit are currently funded under the operating budget; however, significant additional resources are needed to permit adoption of the proposed approach. A minimum of six (6) additional people will be required and office, shop, and warehousing space must be provided. Specific actions required to eliminate present deficiencies of the maintenance and inactive facility surveillance programs are as follows:

1. Develop a detailed charter and organizational structure for an ETEC Maintenance Unit, and define requirements for office, shop, and warehousing space. Management policy and commitments for developing a proactive maintenance program are contained in the Maintenance Management Plan (MMP) proposed in Action Plan AP081.
2. Obtain the necessary funding commitment from DOE.
3. Recruit a qualified maintenance manager, and experienced mechanical and electrical lead engineers, to direct maintenance procedure preparation, upgrade existing inactive facility preventive maintenance and surveillance programs, and schedule and oversee performance of mechanical and electrical maintenance and inactive facility surveillance activities.

4. Establish guidelines and administrative procedures to assure effective, cooperative interfacing between maintenance and operating organizations.
5. Provide training to both operating and maintenance personnel to assure complete understanding of the authorities and responsibilities of each organization, requirements for turning over systems or equipment from one group to the other, and, particularly, requirements for assuring the safety of personnel and equipment.
6. Develop and implement upgraded preventive maintenance programs and periodic surveillance programs as appropriate for each facility status (i.e., active, inactive, etc.). These programs will also cover the moth balling and access control of inactive facilities.
7. Develop schedules and procedures for major facility maintenance and/or inspection activities during planned outages, e.g., periodic testing of safety relief valves or inspection of the Power Pak turbine/generator, and assure that all software and hardware is available, when needed, to minimize plant outage time.
8. Develop detailed corrective maintenance procedures for major facility components to assure proper disassembly/reassembly and to minimize outage time in the event of a problem or failure.

Milestone 1: Develop Maintenance Unit charter/organization.	Date: 12/20/91
Milestone 2: Obtain funding commitment from DOE.	Date: 12/20/91
Milestone 3: Recruit qualified personnel to staff unit.	Date: 11/29/91
Milestone 4: Establish guidelines for effective interfacing.	Date: 12/20/91
Milestone 5: Train personnel on authorities/responsibilities.	Date: 02/28/92
Milestone 6: Develop and implement improved PM programs.	Date: 02/28/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles



Finding No: MA.1-3

Finding Description: Priority: 3

The maintenance program conducted by ETEC on active and inactive facilities has not been effective in preventing the deterioration of these facilities.

Root Cause:

M3-Resources; M5-Policy; M2-Assessment/Oversight

Compliance Protocol:

DOE 4330.4; ETEC Procedure 6-05

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inactive ETEC facilities have not been properly mothballed and are not being maintained to control deterioration.

Most active ETEC facilities are relatively old and require increasing maintenance. Resources devoted to maintenance have not been sufficient.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP083	Maintenance Program Improvement
AP082	ETEC Maintenance Program and Organizational Structure

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ACTION PLAN AP083 (For Finding No: MA.1-3)

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Action Plan Number: AP083

Plan Title: Maintenance Program Improvement

Plan Description:

Corrective action for items listed under this finding are contained in Action Plan AP082. Item 6 states that ETEC will develop and implement upgraded preventive maintenance programs and periodic surveillance programs as appropriate for each facility status (i.e., active, inactive, etc.). The Maintenance Management Program (MMP) established in AP081 will set forth requirements for inspection, preventive maintenance, warehousing of facility components, and annual evaluation of need and eventual demolition of unneeded facilities. This program will also provide for the records management program to maintain standby and active facility configuration files. The plan will be developed such that flexibility in schedule exists to accommodate funding levels provided by DOE.





Finding No: MA.1-4

Finding Description:

Priority: 3

The current dual responsibilities of operators for maintenance as well as operation has resulted in plant maintenance items being deferred or neglected.

Root Cause:

M3-Resources; M5-Policy; M2-Assessment/Oversight

Compliance Protocol:

DOE 4330.4; ETEC Procedure 6-05

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o A group responsible for maintenance no longer exists at ETEC; operations personnel perform both functions.
- Operations personnel emphasize operational issues rather than maintenance.
- Current dual responsibilities result in communications problems between crews.
- Maintenance operations frequently are preempted by operational requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP084	Maintenance Program Priority
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP084

(For Finding No: MA.1-4)

Action Plan Number: AP084

Plan Title: Maintenance Program Priority

Plan Description:

With the establishment of an ETEC maintenance unit, operating personnel will be relieved of responsibility for provision of major maintenance services. However, the facility manager will still be held accountable for the operation and reliability of his facility. What is envisioned is that the maintenance management plans, described in AP081 and AP085, will have the concurrence of the affected facility managers before implementation. Tasks delineated in the plans for the respective facilities will be contained in a computer data base. The system will generate reports

of required maintenance activities and be sent to responsible personnel for review, scheduling, and F.M. approval to proceed. Upon completion of the tasks, both the maintenance technician and assigned facility maintenance coordinator will sign the report attesting to completion of the required maintenance task.

Milestone 1: Develop Maintenance Unit charter/organization.	Date: 10/04/91
Milestone 2: Obtain funding commitment from DOE.	Date: 10/18/91
Milestone 3: Recruit qualified personnel to staff unit.	Date: 11/29/91
Milestone 4: Establish guidelines for effective interfacing.	Date: 12/20/91
Milestone 5: Train personnel on authorities/responsibilities.	Date: 02/28/92
Milestone 6: Develop and implement improved PM programs.	Date: 02/28/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
MA.1-4	Deferred Maint/OPNS
MF.-6	Conduct of Operation
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles

ADS No: N/A

Funding Comments:

Funding for corrective actions required by this finding is provided under AP082.



Finding No: MA.2-1

Finding Description: Priority: 3

In most cases the conduct of maintenance on ETEC test equipment does not address deficiencies in a controlled fashion and does not effectively minimize deterioration of this equipment.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources, M5 - Policy

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Loose insulation, faulty electrical enclosures, loose fasteners, defective gauges, missing lights, deterioration and leakage of gas lines.

Required maintenance is not accomplished in a timely period.

To much reliance on verbal instruction and worker knowledge.

Post-maintenance test requirements and certification of the satisfactory completion of maintenance work is not formalized.

Lack of ownership and responsibility among maintenance personnel.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP085 (For Finding No: MA.2-1)

Action Plan Number: AP085

Plan Title: ETEC Maintenance Plan

Plan Description:

This action plan is satisfied by the generation of the Maintenance Management Program (MMP) described in Action Plan AP081.

A MMP will be written to address the development of plans, schedules, and the review and analysis of performance. The plan will require that detailed procedures be established and utilized for facility inspections, repairs, preventive maintenance and lock-outs. A schedule will be set to establish an ETEC site maintenance office for maintenance records. The MMP will address prioritization and management of backlog of normal repairs. The MMP will establish log books of maintenance inspections for roads, facilities, and equipment. The plan will establish a design review process for maintenance revisions that result in modifications. Second party inspections of repairs will be required with documented acceptance criteria. The MMP will outline the necessary detail for work packages and set housekeeping criteria. Ownership of maintenance activities will be clarified.

As stated in Action Plan AP084, the facility manager will retain responsibility for the operation and reliability of his facility and, thus, for the proper maintenance of his facility. The maintenance manager, described in Action Plan AP082, will be responsible for the provision of maintenance reviews. The responsibility will be established for the setting of maintenance and quality standards to prevent deterioration of facilities, the scheduling of maintenance and inspection activities, the provision of requisite parts and the creation of a trained maintenance crew. The accountabilities and ownership will be clearly established as will the system for scheduling, tracking and followup.

Milestone 1: Prepare Maintenance Program Plan (MPP).

Date: 10/04/91

Milestone 2: Develop Maintenance Plan for Expanded Maintenance Management.

Date: 07/01/92

Milestone 3: Implement Expanded Maintenance Management Program.

Date: 10/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
MA.1-1	Document Maintenance Plan
MA.2-1	Maintenance Deficiencies
MA.4-2	Planning and Scheduling
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX.6	See Concern MA.6-2
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.5-1	Not Successful in Reducing Deterioration of Facilities
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles
MF.-6	Conduct of Operation



Finding No: MA.3-1

Finding Description:

Priority: 3

Maintenance facilities and equipment at the SCTI and other ETEC facilities are sub-standard, particularly with regard to parts control and shop facilities.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Slings, chokers, ladders, and support fixtures are not properly employed.
- Maintenance facility is not properly located, lighted or organized.
- Safety devices at ETEC are not inspected and controlled.
- Parts warehousing is not orderly and controlled.
- A formal parts control system is not in place.
- Stock levels of spares are not maintained.
- Cannibalization of inactive facilities is excessive.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP086	ETEC Shop Facilities
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP086 (For Finding No: MA.3-1)

Action Plan Number: AP086

Plan Title: ETEC Shop Facilities

Plan Description:

Plan AP082 establishes that a proposed Maintenance Unit will include a stocking and warehousing function to maintain inventories, assure the availability of essential parts and materials, and

provide proper storage to prevent degradation. Plan AP082 also responds to cannibalization by controlling access to inactive facilities.

Plan AP082 will address inspection and control of safety devices in the development of procedures for inspection activities.

Action Plans AP081 and AP084 describe the Maintenance Management Program (MMP) which will be written to set forth the specifics of the program. The level of detail will be sufficient to precisely describe the elements of the program. The elements themselves, however, cannot be defined until funding guidance is received from DOE. However, with the funding estimates provided in the above cited action plans, maintenance standards fully in compliance with the DOE orders will be set together with the necessary activities such as training, component/part inventory, inspection, surplus/mothballing decision, deactivation, etc.

Milestone 1: Develop Maintenance Unit charter/organization.

Date: 10/04/91

Milestone 2: Develop and implement improved PM programs.

Date: 02/28/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles
MF.-6	Conduct of Operation

ADS No: N/A

Funding Comments:

Implementation of this plan requires funding from AP082.





Finding No: MA.4-1

Finding Description: Priority: 3

Facility maintenance activities at ETEC are currently being conducted without guidance or input from DOE with respect to planning for 1991 and with respect to long range planning.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight

Compliance Protocol:

DOE 4330.4, Maintenance Management Program

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The old DOE Order 4330.4, Real Property Maintenance Management, was in effect at the time ETEC submitted their FY 1991 Annual Work Plan and Long Range Work Plan.

Field operations are required to review and approve the Annual Work Plan and Long Range Work Plans for sites under their jurisdiction.

SAN has not provided comments on their review of the ETEC FY 1991 Annual Work Plan and Long Range Work Plan.

Issuance of the new DOE Order 4330.4A, Maintenance Management Program (10-17-90), was pending when ETEC submittals arrived, but distribution to the field did not begin until 4-23-91.

The new DOE Order 4300.4A substantially changes and increases the management of maintenance of DOE property. The new order covers all property - not just real property. The submittals required will be different, with new names.

This concern was not addressed in the ETEC or San Self-Assessments.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP087	Provide Guidance for ETEC Maintenance Plan

Action Plan Number: AP087

Plan Title: Provide Guidance for ETEC Maintenance Plan

Plan Description:

Background:

ETEC submitted their FY 1991 Annual Work Plan and Long Range Work Plan in November, 1990, greatly changing and improving the format and content, in accordance with DOE requests. At that time the old DOE Order 4330.4, "Real Property Maintenance Management," was still in effect. The new DOE Order 4330.4A, "Maintenance Management Program," had been printed, was ready to be shipped, but was held up pending resolution of differences between NE and NS. The new order was an expansion of maintenance responsibilities and program, covering all property instead of just real property. The names of the submittal documents were changed and the responsibility for determining documentary compliance with the new Order was left to the field operations. SAN wanted to: (a) withhold comment until the new order arrived so that new requirements could be included, and (b) concentrate on identifying maintenance deficiencies and Maintenance Program weaknesses, stimulate their identification in the ETEC Self-Assessment, thereby ensuring their inclusion in the corrective action plan. Withholding comment was an error since it took so long for the Order to be issued.

The new Order has now arrived. In the new terminology, the Annual Work Plan and the Long Range Work Plan will both be incorporated into the "Maintenance Plan." The "Backlog of Maintenance and Repair" becomes the "Maintenance Backlog." SAN can now request that the submittal documents reflect the new requirements.

Plan:

SAN is fully committed to achieving full compliance with DOE Order 4330.4A, "Maintenance Management Program." SAN will:

1. Distribute the new DOE Order 4330.4A, "Maintenance Management Program," along with Change 1 and Note.
2. Comment on ETEC submittal documents for Maintenance Management, reflecting requirements in the new DOE Order 4330.4A.
3. Attend DOE HQ Maintenance Policy Conference to discuss the new DOE Order 4330.4A.
4. Prepare and issue a new SAN Management Directive (SAN MD) to implement DOE Order 4330.4A. The requirement for Heads of Field Offices to determine submittal requirements for documentation will be fulfilled.

Milestone 1: Distribute new Order.	Date: 05/31/91
Milestone 2: Comment on ETEC submittal documents.	Date: 06/06/91
Milestone 3: Attend DOE Maintenance Policy Conference.	Date: 06/30/91
Milestone 4: Issue SAN MD.	Date: 10/31/91



Finding No: MA.4-2

Finding Description:

Priority: 3

In most instances, planning, scheduling, and work control for maintenance activities at the SCTI and at other ETEC facilities are not conducted in compliance with ETEC Procedure 6-05.

Root Cause:

M3 - Resources, M2 - Organization

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Work packages will include sufficient detail.

- o Post-maintenance requirements and acceptance criteria will be documented.

- o Maintenance will be better planned.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP088	ETEC Test Facility Maintenance
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP088

(For Finding No: MA.4-2)

Action Plan Number: AP088

Plan Title: ETEC Test Facility Maintenance

Plan Description:

AP085 states that the maintenance management program will outline the necessary detail for work packages. The action plan also states that second party inspections of repairs will be required with documented acceptance criteria.

Both AP085 and AP082 address maintenance planning in that AP085 is a maintenance plan and AP082 will develop a maintenance unit with experienced lead engineers to plan and direct maintenance activities.

Action Plans AP081 and AP084 describe the creation of the Maintenance Management Program (MMP) which



Finding No: MA.5-1

Finding Description: Priority: 2

Periodic inspections and corrective maintenance of inactive facilities do not preclude the existence of hazardous conditions of which control the deterioration of these facilities.

Root Cause:

M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inactive facilities will be properly mothballed and receive corrective maintenance.

Access to inactive facilities will be controlled. Inspections will be conducted at one-year intervals at inactive facilities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP089	ETEC Inactive Facilities
AP082	ETEC Maintenance Program and Organizational Structure

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ACTION PLAN AP089 (For Finding No: MA.5-1)

---

Action Plan Number: AP089

Plan Title: ETEC Inactive Facilities

Plan Description:

See Finding No. MA.2-1 (AP082)

Plan AP082 proposes to develop and implement upgraded preventive maintenance programs and periodic surveillance programs as appropriate for each facility status (i.e., active, inactive, etc.). These programs will also cover the moth balling and access control of inactive facilities.

Action Plan AP081 and AP084 describe the Maintenance Management Program (MMP) which will be written. Certainly, periodic inspections and corrective maintenance will be principal ingredients of the plan. Another necessary element of the plan will be the ES&H considerations which must conform to safety regulations as well as the DOE orders. Thus, safety practices, either by inclusion or reference in the MMP, will be specified, such as access control, securing unsafe locations until





Finding No: MA.5-2

Finding Description: Priority: 3

The general upkeep and housekeeping at the SCTI do not meet good industry practices.

Root Cause:

M3 - Resources

Compliance Protocol:

Best Management Practices

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Loose insulation, unsecured panels, loose fasteners, defective gauges, missing lights will receive corrective maintenance.

No corrective maintenance procedures for Power Pak.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP090	Housekeeping
AP085	EETC Maintenance Plan
AP082	EETC Maintenance Program and Organizational Structure

ACTION PLAN AP090 (For Finding No: MA.5-2)

Action Plan Number: AP090

Plan Title: Housekeeping

Plan Description:

See Finding No. MA.2-1 (AP085) (AP082). Action Plan AP085 states that the Maintenance Management Program (MMP) will outline the necessary detail for work packages and set housekeeping criteria. AP082 addresses the developing of corrective maintenance procedures for major facility components.

Existing procedures (e.g. EETC Procedure 1-03) are in place which address the general responsibility of all personnel to maintain a safe and healthful work place. Action Plan AP096 describes the proposed training program. A key element of the program will be to educate the workforce with established procedures governing their assignment. Actions have been established to increase this awareness.



Finding No: MA.6-1

Finding Description: Priority: 3

ETEC facilities do not have fully implemented preventive maintenance procedures as required by ETEC Procedure 6-05.

Root Cause:

M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Preventive maintenance tasks have been deferred. Preventive maintenance procedures have not been completed as required by ETEC Procedure 6-05.

No documented preventive maintenance programs or procedures were noted on initial tour of Bldgs. T013 and T133.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP091	Preventive Maintenance Implementation
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure

---

ACTION PLAN AP091 (For Finding No: MA.6-1)

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Action Plan Number: AP091

Plan Title: Preventive Maintenance Implementation

Plan Description:

See Finding No. MA.2-1 (AP085) (AP082).

Action Plan AP082 states that the management maintenance program will require that detailed procedures be established and utilized for facility inspections, repairs, preventive maintenance, and lockouts. Action Plan AP082 will develop and implement upgraded preventive maintenance programs and periodic surveillance programs as appropriate for each facility status (i.e., active, inactive, etc.).



Finding No: MA.6-2

Finding Description: Priority: 4

Preventive maintenance procedures being used by the Rocketdyne Plant Services organization do not, in some instances, demonstrate the operability of the equipment being tested.

Root Cause:

M3 - Resources, M2 - Leadership

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Maintenance procedures in some cases do not include values or tolerances for the necessary parameters.

Preventive maintenance procedures are not accurate.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP092	Preventive Maintenance
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure

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ACTION PLAN AP092                      (For Finding No: MA.6-2)

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Action Plan Number: AP092

Plan Title: Preventive Maintenance

Plan Description:

See Finding MA.2-1 (AP085) (AP082).

Action Plan AP085 states that the maintenance management program will require that detailed procedures be established and utilized for facility inspections, repairs, preventive maintenance, and lockouts. Action Plan AP082 will develop and implement upgraded preventive maintenance programs and periodic surveillance programs as appropriate for each facility status (i.e., active inactive, etc.).



Finding No: MA.6-3

Finding Description: Priority: 2

In some instances, Rocketdyne Plant Services personnel do not follow lockout procedure as required by 29 CFR 1910.147.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Plant Services personnel performed preventive maintenance on an air conditioning unit with electrical power turned off but not locked out while work was in progress, and the work area was not properly tagged when the personnel left to pick up required parts.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP093	Tagout Lockout Procedure
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance

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ACTION PLAN AP093 (For Finding No: MA.6-3)

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Action Plan Number: AP093

Plan Title: Tagout Lockout Procedure

Plan Description:

Correction of the issues raised by this finding will be accomplished through implementation of Action Plan AP078 which will strengthen ETEC's existing lockout tagout directive (PODD-5) and Action Plan AP082 which will place maintenance personnel (such as those from Plant Services) under the technical direction of ETEC management and require compliance with ETEC procedures and departmental directives. In addition, ETEC Procedure 2-35, "Utilization of Rocketdyne Plant Services" is being revised to provide the facility manager greater visibility over Plant Services technicians and to allow for inspection/buyoff of their completed work by the facility manager.

Action Plan AP085 states that the maintenance management program will require that detailed procedures be established and utilized for facility inspections, repairs, preventive maintenance and





Finding No: MA.7-1

Finding Description: Priority: 3

Predictive maintenance is not used to develop and refine maintenance procedures.

Root Cause:

M3 - Resources

Compliance Protocol:

Best Management Practice

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Predictive maintenance information must be developed.

Systems must be in place to monitor degradation of systems, components, and structure in inactive facilities to predict maintenance requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP094	Predictive Maintenance

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ACTION PLAN AP094 (For Finding No: MA.7-1)

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Action Plan Number: AP094

Plan Title: Predictive Maintenance

Plan Description:

A predictive maintenance program shall be established and utilized to monitor; determine trends; analyze parameters, properties and performance characteristics or signatures of equipment in order to forecast equipment degradation so that "as needed" planned maintenance can be performed prior to equipment failure. The program will be an adjunct to the Maintenance Management Program described in AP082. Implementation of the program will be the responsibility of the newly-created maintenance manager. However, the effort entails the development of analytical models, acquisition of component data and performing the predictive analysis. The engineering department will be tasked with this responsibility. To the extent funded, these activities will be described and authorized in appropriate work breakdown structures. In addition to predictive models, it is expected that reliability and availability parameters will also be established.

Criteria used for the program include:



Finding No: MA.8-1

Finding Description: Priority: 3

Maintenance procedures at the SCTI and other ETEC test facilities are not in every case prepared and controlled in accordance with DOE 1324.2 or ETEC Procedure 6-03.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

DOE 1324.2; ETEC Procedure 6-03

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o SCTI maintenance records were unacceptably vulnerable to loss or damage.

Many procedures, including maintenance procedures, are prepared with less detail than required by ETEC 6-03.

Procedures contain many red-marked changes for which proper review and approval is difficult to establish.

Access to SCTI procedures is not controlled.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP095	Preparation and Control of Maintenance Procedures
AP062	ETEC Document Management
AP060	Preparation and Use of Detailed Procedures
AP082	ETEC Maintenance Program and Organizational Structure
AP085	ETEC Maintenance Plan

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ACTION PLAN AP095                      (For Finding No: MA.8-1)

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Action Plan Number: AP095

Plan Title: Preparation and Control of Maintenance Procedures

Plan Description:

AP062 will provide a centralized system for the storage and control of important documents.

For those procedures which it governs, ETEC 6-03 provides satisfactory guidance. AP060 will provide a new ETEC procedure, complementing ETEC 6-03, to identify all other work which must be performed and documented by procedure. ETEC Quality Assurance will audit both content and implementation of procedures.

Action Plan AP085 will outline a schedule to establish an ETEC site maintenance office for maintenance records. Both AP085 and AP082 address maintenance procedure preparation and implementation. AP085 will require that detailed procedures be established and utilized for facility inspections, repairs, preventive maintenance, and lockouts. AP082 will develop detailed corrective maintenance procedures.

This Action Plan will develop the level of detail and rigor to be contained in maintenance procedures, the control of in-work procedures and the retirement of completed work orders. The system will compliment the maintenance planning and tracking system. To assure that accuracy and currency are maintained, the use of electronic media will be investigated and implemented where feasible. Funding estimates include provisions for local area networking of the procedure system.

Milestone 1: Develop Maintenance Unit charter/organization.	Date: 10/04/91
Milestone 2: ETEC procedures for work not covered by ETEC 6-03.	Date: 11/01/91
Milestone 3: Audit compliance with new ETEC procedures.	Date: 05/29/92
Milestone 4: Initiate ETEC Document Control System.	Date: 06/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
MA.8-1	Maintenance Procedure/Control
QV.1-9	Maintenance of Record Storage
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
MF.-6	Conduct of Operation
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles
AX.6	See Concern MA.6-2



Finding No: TC.1-1

Finding Description: Priority: 2

No comprehensive training and qualification program has been implemented at ETEC to meet requirements of DOE 5480.20.

Root Cause:

M3-Resources

Compliance Protocol:

DOE 5480.20 - General Requirements and Category B.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Training and qualification/certification requirements do not exist for each work classification at ETEC.

Training records are not stored in a systematic and auditable manner.

Operations training often consists of reading a new procedure revision to operators as the procedure becomes effective.

No clearly defined and understood training structure is in place at ETEC.

Although a "Training Coordinator" has been appointed at ETEC, this person also functions in two other roles within the organization.

A regular, ongoing training schedule is not utilized at ETEC.

Instructor performance and program effectiveness are not routinely evaluated.

No training performance indicators have been defined.

Rocketdyne trains many ETEC workers in activities that are not ETEC-specific.

There is not program for certification of Rocketdyne instructors, and lesson plans are not available for all programs presented.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP096	No Training and Qualification Program

Action Plan Number: AP096

Plan Title: No Training and Qualification Program

Plan Description:

The position of ETEC Training Coordinator will be designated as a full-time position with the responsibility for preparing and governing the ETEC Training Plan. The coordinator will, with management assistance, prepare a training implementation matrix as required by DOE Order 5480.20. Job or task analyses will be conducted to determine the necessary training required to perform assigned tasks effectively and safely. Each work classification will be sufficiently detailed so that required experience is defined and necessary training implemented.

Training records will be maintained by the training coordinator for all training activities at ETEC. Training schedules will be implemented and controlled through the office of the training coordinator.

As part of the training plan and training implementation matrix, the following will be required:

The training and qualification requirements of personnel will be established.

A method will be established to document and track the training and qualification of personnel.

The annual review of training and qualification needs will be conducted by management.

Management will document this review and develop a training plan for all personnel.

Management will be responsible to assure that training has been completed.

Performance/training requirements for managers will be established to assure training plans are prepared (if required) and implemented.

Managers will determine which employees lack adequate technical skills so that training can be initiated.

Certification/qualification requirements for instructors will be documented and adequacy verified.

Instructor performance will be routinely evaluated for adequacy and effectiveness.

Lesson plans/course outlines will be prepared for all training programs.

Performance indicators will be established to evaluate training adequacy.

The interaction between ETEC and Rocketdyne training function will be defined and utilization of Rocketdyne training will be based on their acceptability to the criteria contained in the ETEC training plan.





Finding No: TC.3-1

Finding Description: Priority: 2

Operations personnel training has not been effective, as evidenced by incorrect personnel actions and conduct of operations that does not meet DOE 5480.19.

Root Cause:

M2-Assessment/Oversight; M3-Resources

Compliance Protocol:

DOE 5480.5; DOE 5480.19; ETEC Procedure 1-02

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The conduct of operations in the SCTI control room is very informal. Control room access is not limited nor is permission required before entry. (Action Plan AP057 is relevant to this issue.)

An SCTI Shift Leader was not fully cognizant of the function and status of an auxiliary flash tank level controller.

Remote communications between the SCTI Shift Leader and operators lack formality; there is no identification on answering and no readback of information. (Action Plan AP057 is relevant to this issue.)

Operator training has become less structured and effective. A separate training area is no longer used, training is mostly a cursory review of procedures or documents, and the amount of information absorbed by attendees is not consistently determined. (Action Plans AP096 and AP101 are relevant to this issue.)

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP097	Improved Effectiveness of Operator Training
AP057	Improved Formality of Operations
AP096	No Training and Qualification Program
AP101	No Training Support Facility

Action Plan Number: AP097

Plan Title: Improved Effectiveness of Operator Training

Plan Description:

Two of the issues under this heading were identified as requiring attention in the SCTI Conduct of Operations and are scheduled for corrective action in AP057. These actions include:

Modification of ETEC Procedure 6-02, "Test Facility Operations and Control," to include specific instructions about professional conduct in the control room and throughout the test facilities. Additional guidance also will be incorporated relative to control room access restrictions.

Preparation of a Directive relating to communication of instructions, to include specific requirements for information readback to demonstrate clear and correct understanding. (The need for operator identification was not addressed in the ETEC Self-Assessment since the largest crew [at SCTI] has only four operators and the other facilities only two. Consequently, operator identification has not been a problem.)

A separate and properly set-up area where training can be conducted without distraction, will be provided to enhance future programs and learning capability. A comprehensive ETEC training plan will be established to support: 1) advance preparation of procedures and other training materials, 2) development of a comprehensive training and evaluation program, and 3) sufficiently early acquisition of operating crew personnel to allow training to proceed on a non-interference basis with plant startup activities.

Milestone 1: Prepare Directive on Communication Protocol.	Date: 06/28/91
Milestone 2: Modify Procedure 6-02.	Date: 11/30/91
Milestone 3: Revise ETEC training plan.	Date: 11/30/91
Milestone 4: Prepare training implementation matrix.	Date: 11/30/91
Milestone 5: Establish training in training support facility.	Date: 10/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OP.6-1	Shift Leader/Operator Training
TC.3-1	Effective Training
QV.1-4	Need Specific Procedures
MF.-6	Conduct of Operation
TC.1-1	No Training and Qualification Program
TC.8-1	No Training for Inspectors
MF.-2	Organizational Roles
TC.7-1	No Training Support Facility

ADS No: 4019AA

Funding Comments:

Funding for this Action Plan is contained in AP096.



Finding No: TC.4-1

Finding Description: Priority: 3

Personnel who may not know or understand personnel protection safety information can be "certified" as successfully completing training. Training does not require evidence of knowledge through practical or written examination as required by DOE 5480.20.

Root Cause:

M2-Assessment and Oversight, M3-Resources, M5-Policy

Compliance Protocol:

DOE 5480.11 and 5480.20

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not have a comprehensive general employee training (GET) policy or program in place which meets the requirements of DOE 5480.20.

The RP&HPS radiation protection orientation training for occupational workers does not fully comply with DOE 5480.11 or DOE 5480.20.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP098	Revise Radiation Orientation Training
ACTION PLAN AP098 (For Finding No: TC.4-1)	

Action Plan Number: AP098

Plan Title: Revise Radiation Orientation Training

Plan Description:

A review of the relatively new DOE 5480.11 and "brand new" DOE 5480.20 requirements for GET is necessary to identify the scope of revisions for the radiation protection orientation. Testing, for example, is a new requirement.

Based upon the review and in concert with other disciplines, the present radiation protection orientation will be restructured and revised to meet DOE requirements. Tests will be devised, both to ascertain understanding and to promote discussion with the instructor. Emphasis will be placed on individual employee responsibility.



Finding No: TC.4-2

Finding Description: Priority: 2

Personnel protection training does not address and prepare workers for many occupational hazards and conditions in the ETEC facilities, as required by OSHA regulations and DOE Orders.

Root Cause:

M1-Ownership, M3-Resources, M5-Policy

Compliance Protocol:

29 CFR 1910.1200, 29 CFR 1910.1450, 29 CFR 1910.1025, DOE 5480.10

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Tiger Team found numerous non-compliances.

A portable diesel air compressor outside Bldg. T020 represented a substantial noise hazard when running.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP099	Safety Awareness Training

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ACTION PLAN AP099 (For Finding No: TC.4-2)

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Action Plan Number: AP099

Plan Title: Safety Awareness Training

Plan Description:

Expand ETEC Procedure 1-03 to include training requirements for ETEC personnel related to health and safety issues in compliance with applicable DOE Orders and Federal regulations.

In the interim, provide training in general environment, safety and health areas for all personnel.

ES&H will provide guidelines to ETEC management regarding a Safety Awareness Program that will be presented to operating/facility personnel on a monthly basis. Resources for this item are contained in AP147.

Implement the Safety Awareness Program. Resources for this item are contained in AP147.



Finding No: TC.5-1

Finding Description: Priority: 3

A maintenance training and qualification program has not been implemented to meet ETEC Procedure 6-05, DOE 5480.20, and DOE 5480.19.

Root Cause:

M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o A training program has not been established and implemented for initial and continuing training for maintenance personnel.

Special processes, including GTAW and SMAW, are performed by Rocketdyne maintenance personnel. The maintenance welder's job description allows for structural welds and "critical pressure" welds. It also states that welders are to "pass and maintain all civil code requirements necessary." The current maintenance welder has been certified in GTAW in the past, but his certifications lapsed in 1988.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP100	Training and Control of Maintenance Personnel
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure

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ACTION PLAN AP100 (For Finding No: TC.5-1)

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Action Plan Number: AP100

Plan Title: Training and Control of Maintenance Personnel

Plan Description:

Training for ETEC personnel required to perform maintenance activities will be defined and implemented as part of the ETEC training plan and implementation matrix found in action plan AP096 for Finding TC.1-1.

ETEC utilizes the Rocketdyne shops for special processes in accordance with ETEC Procedure 2-35,





Finding No: TC.7-1

Finding Description: Priority: 3

No training support facility with equipment and materials is available at ETEC to support training functions.

Root Cause:

M3-Resources

Compliance Protocol:

None.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o No specific training facility has been designated at ETEC.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP101	No Training Support Facility

ACTON PLAN AP101	(For Finding No: TC.7-1)
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Action Plan Number: AP101

Plan Title: No Training Support Facility

Plan Description:

ETEC has a number of office building which are currently unoccupied and designated as inactive. One of these, Bldg. T039, is ideally suited for utilization as the ETEC Training Support Facility. Modular, moveable, wall sections can be installed to establish a number of training related areas; 1) A 15-20 person training room, which could also be utilized for the video taping of training classes; 2) a training equipment storage area; 3) a training library; 4) cubicals for utilization as self-study areas; and 5) office areas for the Training Coordinator, training assistant, and secretarial functions, including computer equipment and copying capabilities.

Available training aids (video cameras and monitors, video tape copying and editing equipment, visual aid equipment, etc.) which are now spread throughout ETEC test facilities and office buildings will be centralized and controlled by the ETEC Training Coordinator.

Milestone 1: Designate training facility.

Date: 06/01/92

Milestone 2: Complete facility modifications.

Date: 09/01/92

Milestone 3: Establish training function.

Date: 10/01/92



Finding No: TC.8-1

Finding Description: Priority: 3

There is no formal training and qualification program for inspection or other quality verification personnel as required by ANSI/ASME NQA-1 and DOE 5480.20.

Root Cause:

M-3 Resources, M-2 Assessment and Oversight

Compliance Protocol:

ASME NQA-1 and DOE 5480.20

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Although inspection personnel are certified in some NDE disciplines, they are not trained and certified in any inspection discipline.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP102	Training of Inspectors
AP096	No Training and Qualification Program

ACTION PLAN AP102 (For Finding No: TC.8-1)

Action Plan Number: AP102

Plan Title: Training of Inspectors

Plan Description:

A training program will be developed and implemented based on the requirements of ANSI/ASME NQA-1 and DOE Order 5480.20. The program will encompass training and certification in job related NDE disciplines and required inspection methods and techniques.

Milestone 1: Issue training plan.

Date: 01/15/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
TC.8-1	No Training for Inspectors
TC.1-1	No Training and Qualification Program
TC.3-1	Effective Training
MF.-2	Organizational Roles



Finding No: TC.9-1

Finding Description: Priority: 2

Radiological protection personnel are not trained and qualified as required by DOE 5480.19 and DOE 5480.11.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE 5480.19, DOE 5480.20 and DOE 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC has not had a training program for RP&HPS personnel meeting the requirements of DOE 5480.11, 5480.19, and 5480.20.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP103	Provide Radiation Protection Training

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ACTION PLAN AP103      (For Finding No: TC.9-1)

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Action Plan Number: AP103

Plan Title: Provide Radiation Protection Training

Plan Description:

As a result of the ETEC Self-Assessment effort, a training plan for RP&HPS personnel was very recently developed, approved and documented (RPHP-OI-0003). It is believed that implementation of the training called for in this plan will fulfill the pertinent DOE 5480.11 requirements; however, it will be reviewed for compliance with 5480.19 and 5480.20. Because the RP&HPS technicians are either persons of long experience and proved competence or contract technicians who possess formal certification in basic health physics, initial certification and examination is not appropriate. The structure of the program is to assure requalification and continuing education. The program requires repeat radiation safety training and examination, repeat training in protective equipment and techniques, required reading of appropriate orders, regulations and standards and attendance at a pertinent offsite course or professional society meeting at least once each two years.

Training is designed to motivate individual professional self-improvement and maintenance of competence.



Finding No: TC.10-1

Finding Description: Priority: 3

Ineffective training of supervisors and managers results in noncompliance with DOE 5480.20.

Root Cause:

M3-Resources, M5-Policy

Compliance Protocol:

DOE 5480.20

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC personnel have not been trained on DOE 5000.3A, Unusual Occurrence Reporting.

Although all site personnel are responsible for identifying and initiating nonconformance reports, no formal training is provided on the NCR system.

Chemistry Lab personnel are not trained in radiation safety (although the lab stores tritium and has two (2) x-ray devices) and are unaware of the NCR and UOR reporting systems.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP104	Management Training on Safety

ACTION PLAN AP104 (For Finding No: TC.10-1)

Action Plan Number: AP104

Plan Title: Management Training on Safety

Plan Description:

The position of ETEC Training Coordinator will be designated as a full-time position with the responsibility for preparing, with management input, a Training Implementation Matrix to define and describe the selection, qualification, and training requirements of DOE Order 5480.20. The ETEC Training Plan will be expanded to include all areas of training defined in this matrix and will include training on UORs and NCRs.

ETEC will review DOE Orders, and Federal, state, and local requirements for incorporation of required training into the matrix.

The reporting of nonconformances and unusual occurrences are included in ETEC procedures; a training





Finding No: AX.1-1

Finding Description: Priority: 3

Auxiliary systems at the Sodium Component Test Installation are not identified as such, and functional requirements for these systems are not defined, documented, or maintained.

Root Cause:

M3-Resources

Compliance Protocol:

SAN MD 5481.1a

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o SCTI auxiliary systems are not clearly defined/described.

Safety assessment documents and SDD's are not current.

Operational Safety Requirements (OSRs) per SAN MD 5481.1a are not in effect, therefore safety and performance requirements for auxiliary systems are not identified.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP105	Identification of Safety Requirements for Auxiliary Systems
AP120	Safety Analysis Review and Update
AP109	Reliability and Availability of Engineered Safety Systems

ACTION PLAN AP105 (For Finding No: AX.1-1)

Action Plan Number: AP105

Plan Title: Identification of Safety Requirements for Auxiliary Systems

Plan Description:

OSRs that are prepared and incorporated into ETEC Safety Analysis Documents (SADs), pursuant to SAN MD 5481.1a, address only limits and controls related to the subject tests and modifications. Consequently, the unmodified portion of the facility is not demonstrated in the Safety Analysis Document (SAD). Auxiliary systems in the SCTI balance of plant are therefore not clearly identified or described.

In development of the maintenance management systems (see AP081 and AP082), facility configuration records will be updated to clearly define the different parts of the plant. In addition to



Finding No: AX.3

Finding Description:

Priority: 2

See Concern MA.5-1.

Root Cause:

M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Inactive facilities will be maintained.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP106	Hazard Reduction, Control of Hazardous Materials
AP085	ETEC Maintenance Plan
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP106 (For Finding No: AX.3)

Action Plan Number: AP106

Plan Title: Hazard Reduction, Control of Hazardous Materials

Plan Description:

See Action Plans AP081, AP082, AP085 and AP106.

Establishment of the maintenance program described in those plans will cause the creation of a comprehensive management system to control the maintenance and safe status of buildings and materials contained therein.

Milestone 1: Implement improved PM program per AP082.

Date: 02/28/92



Finding No: AX.5-1

Finding Description: Priority: 2

In some instances, operation procedures, control mechanisms, and equipment maintenance at ETEC facilities do not ensure control and containment of hazardous airborne effluents.

Root Cause:

M3 - Resources

Compliance Protocol:

NEPA

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Provide resources to assure that:

Fume hoods in Bldg. T065 are provided with monitoring systems to determine if the exhaust air flow has been interrupted.

Fume hoods are inspected regularly to assess whether there is damage from corrosive vapors.

Exhaust flow from the mercury cabinets in Bldg T065 is not monitored for mercury content.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP107	Control of Hazardous Effluence to Air

ACTION PLAN AP107 (For Finding No: AX.5-1)

Action Plan Number: AP107

Plan Title: Control of Hazardous Effluence to Air

Plan Description:

Purchase and install devices to indicate air flow in fume hoods, and to sound an alarm at loss of flow.

Prepare and implement a procedure to inspect the exhaust ventilation system on a regular basis.

Add mercury-sensors and alarms to the exhaust from the mercury storage cabinets.



Finding No: AX.6

Finding Description: Priority: 4

See Concern MA.6-2.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Emergency equipment will be tested to demonstrate its ability to operate under emergency conditions.

Emergency equipment testing will be a part of the regularly scheduled preventive maintenance program.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP108	Vital Supply Systems
AP085	ETEC Maintenance Plan

ACTION PLAN AP108 (For Finding No: AX.6)

Action Plan Number: AP108

Plan Title: Vital Supply Systems

Plan Description:

See Action Plans AP081, AP082 and AP085. Establishment of the maintenance program described in those plans will cause the creation of a comprehensive management system to control the maintenance and safe status of facilities and process systems contained therein.

Milestone 1: Implement improved PM program per AP082.

Date: 02/28/92





Finding No: AX

Finding Description: Priority: 3

See MA 6-2 and TS 2-1.

Root Cause:

M3 - Resources

Compliance Protocol:

SAN MD 5481.1a

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Engineered safety systems should be identified.

Engineered safety systems should be tested pursuant to OSRs.

Start-up checklists should not form the only basis for OSR maintenance and testing.

None of the ETEC facilities have in place OSRs.

OSR formats should conform to DOE guidelines.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP109	Reliability and Availability of Engineered Safety Systems
AP120	Safety Analysis Review and Update
AP092	Preventive Maintenance
AP105	Identification of Safety Requirements for Auxiliary Systems
AP082	ETEC Maintenance Program and Organizational Structure

ACTION PLAN AP109 (For Finding No: AX)

Action Plan Number: AP109

Plan Title: Reliability and Availability of Engineered Safety Systems

Plan Description:

The concern raised by this finding regards the ability of key safety systems to perform their intended functions during emergency situations.

In order to assure engineered safety systems will meet functional requirements, periodic testing and/or preventive maintenance is required. Many critical safety items in the ETEC test facilities, e.g., safety valves and plant protective system instrumentation and control components, are subjected to routine, periodic testing to assure proper settings and functionality. However, improved testing and maintenance practices, and more frequent testing schedules may be required in a number of areas. For example, deficiencies were pointed out by the Tiger Team relative to the method for testing emergency diesel/generators and batteries. To assure complete coverage of engineered safety systems, and full operational readiness and reliability, ETEC will prepare or update OSRs for all operating facilities and utilize these documents to develop maintenance and testing requirements for these critical systems.

The details of this program will be set forth in the Maintenance Management Program (MMP) (see AP081). The planning and execution required to achieve the objectives of this plan will be predicated on funding guidance received from DOE. These objectives, together with the objectives of the referenced action plans, will be prioritized to achieve the most responsive program for a given funding commitment.

Resources are required to:

1. Prepare and update maintenance testing procedures.
2. Develop and implement an improved PM program.
3. Review and update QA requirements for the PM program.

Milestone 1: Identify engineered safety systems.

Date: 06/01/92

Milestone 2: Review OSRs and revise maintenance and test requirements.

Date: 10/01/92

Milestone 3: Implement improved maintenance testing program.

Date: 01/01/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
AX.1-1	No ID for SCTI AX
AX	See MA 6-2 and TS 2-1
OP.6-1	Shift Leader/Operator Training
TS.2-1	OSR's Not in Place
QV.1-7	Procedure Detail
MA.6-2	Preventive Maintenance Procedures
OA.4-1	Interface of Responsibility not well defined.
QV.1-4	Need Specific Procedures
QV.1-8	Management to Req Conform
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control



Finding No: EP.1-1

Finding Description: Priority: 2

ETEC has not formally developed an emergency response organization as required by DOE 5500.3 and DOE N 5500.5.

Root Cause:

M5-Policy; M2-Assessment and Oversight

Compliance Protocol:

DOE 5500.3 and DOE N 5500.5

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The ETEC emergency response organization is not formally identified in ETEC Emergency Plan Implementing Procedures (EPIPs). (See Section EP.2.)

SAN has not conducted an annual emergency preparedness appraisal since 1988.

Responsibilities and authorities for each member of the ETEC emergency management team have not been formally documented in the EPIPs. (See Section EP.2.)

ETEC does not have a full-time emergency planning specialist assigned.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP110	ETEC Documented Emergency Response Organization
ACTION PLAN AP110 (For Finding No: EP.1-1)	

Action Plan Number: AP110

Plan Title: ETEC Documented Emergency Response Organization

Plan Description:

Please see the Plan Description under AP112 regarding EPIPs.

Industrial security, emergency response and emergency planning services are provided to ETEC by the Rocketdyne Division. It should be noted that ETEC makes up a small part of the SSFL emergency response area and an even smaller part of the overall Rocketdyne emergency planning system. Further, ETEC has been designated as a low-hazard DOE facility and, as such, risk management



Finding No: EP.1-2

Finding Description: Priority: 2

SAN has not conducted annual emergency preparedness appraisals for ETEC, as required by DOE 5500.1A.

Root Cause:

Compliance Protocol:

DOE Order 5500.1A, "Emergency Management System"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The ETEC emergency response organization is not fully identified.

San has not conducted an annual emergency preparedness appraisal.

Responsibilities and authorities for each member of ETEC emergency management team have not been formally documented.

ETEC does not have a full-time emergency planning specialist assigned.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP111	Emergency Preparedness
AP113	SAN Guidance on Emergency Preparedness

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ACTION PLAN AP111 (For Finding No: EP.1-2)

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Action Plan Number: AP111

Plan Title: Emergency Preparedness

Plan Description:

**Background**

The concerns stated are an accurate description of the current situation. SAN is in the process of correcting these deficiencies, and has already commenced remedial action. SAN is currently delineating areas of responsibility for emergency preparedness. The responsibility for emergency preparedness at ETEC will be the responsibility of the newly established SAN ETEC Site Office. With





Finding No: EP.2-1

Finding Description: Priority: 3

ETEC has not developed emergency plan implementing procedures to address the provisions of the Rocketdyne Master Emergency Plan and the requirements of DOE 5500.2A, DOE 5500.3, and DOE N 5500.3.

Root Cause:

M2-Assessment & Oversight; M5-Policy

Compliance Protocol:

DOE 5500.2A, DOE 5500.3, and DOE N 5500.3

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not have a Master Emergency Plan (MEP), but uses the guidance established in the Rocketdyne MEP and its supporting policies.

ETEC does not have emergency plan implementing procedures that enforce the provisions of the Rocketdyne MEP and are ETEC specific.

ETEC does not have any emergency plan implementing procedures (EPIPs) that address emergency assessment, emergency action levels, emergency classification system, notification and reporting of emergencies, protective action guidance, and recovery and re-entry operations.

ETEC does not have any emergency planning administrative procedures that address review, revision, and distribution of controlled documents and surveillance of emergency equipment, resources, and materials.

The SAN Site Office has not developed a SAN-ETEC emergency plan and EPIPs.

These concerns were addressed in the ETEC Self-Assessment.

See Concerns OA.7-2, OA.5-2, OA.7-3, and QV.1-7.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP112	Emergency Plan Implementing Procedures
AP117	Emergency Plan Implementing Procedures for Emergencies



Finding No: EP.2-2

Finding Description: Priority: 2

SAN is not in compliance with DOE Order 5500.1A in providing guidance to ETEC on emergency preparedness functions.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE Order 5500.1A, "Emergency Management "System"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not have a Master Emergency Plan (MEP), but uses the guidance established in the Rocketdyne MEP and its supporting policies.

ETEC does not have emergency plan implementing procedures that enforce the provisions of the Rocketdyne MEP and are ETEC specific.

ETEC does not have any emergency plan implementing procedures (EPIPs) that address emergency assessment, emergency action levels, emergency classification system, notification and reporting of emergencies, protective action guidance, and recovery and re-entry operations.

ETEC does not have any emergency planning administrative procedures that address review, revision, and distribution of controlled documents and surveillance of emergency equipment, resources, and materials.

The SAN Site Office has not developed a SAN-ETEC emergency plan and EPIPs.

These concerns were addressed in the ETEC Self-Assessment.

See Concerns OA.7-2, OA.5-2, OA.7-3, and QV.1-7.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP113	SAN Guidance on Emergency Preparedness



Finding No: EP.3-1

Finding Description: Priority: 2

The ETEC emergency planning training program is not properly documented, evaluated, upgraded and maintained current as required by DOE 5500.3, DOE N 5500.5, and DOE 5500.1A.

Root Cause:

M5 - Policy

Compliance Protocol:

DOE 5500.3, N 5500.5 and 5500.1A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC has not developed an emergency preparedness administrative procedure to outline and address an emergency response training program that would include a training matrix and annual training schedule.

Initial and annual training of the emergency management staff has not been conducted. See Concern TC.10-1.

The effectiveness of the emergency preparedness training has not been periodically evaluated to make training program improvements.

SAN personnel assigned to emergency response positions at ETEC have not received ETEC emergency response orientations.

This concern was not addressed in the ETEC Self-Assessment.

See Concerns TC.1-1 and OA.7-3.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP114	ETEC Emergency Training Program

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ACTION PLAN AP114 (For Finding No: EP.3-1)

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Action Plan Number: AP114

Plan Title: ETEC Emergency Training Program



Finding No: EP.4-1

Finding Description: Priority: 2

ETEC does not have an emergency planning exercise/drill program as required by DOE 5500.1A, DOE 5500.3, and DOE N 5500.5.

Root Cause:

M5 - Policy

Compliance Protocol:

DOE 5500.1A, 5500.3, N5500.5

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC has not developed an emergency preparedness administrative procedure to address scenario development, format, annual drill schedule, exercise objectives, and post-exercise activities (i.e., critiques both verbal and written).

Quarterly communications drills have not been conducted.

ETEC has not developed a drill and exercise master plan schedule such that over a period of time all the procedures, personnel, facilities, and onsite and offsite emergency response groups are involved and tested per the criteria established by DOE 5500.1A, DOE 5500.3, and DOE N 5500.5.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP115	Emergency Planning Exercise/Drill Program

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ACTION PLAN AP115 (For Finding No: EP.4-1)

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Action Plan Number: AP115

Plan Title: Emergency Planning Exercise/Drill Program

Plan Description:

Within the next four months, Emergency Preparedness will create a procedure that documents how we develop scenarios, format, annual drill scheduling, exercise objectives, and post-exercise activities. As the TSA exercise and subsequent critiques clearly show, Emergency Preparedness develops thorough scenarios; however, we do not have a documented procedure.





Finding No: EP.5-1

Finding Description: Priority: 2

The emergency response facilities at ETEC do not contain the resources, equipment, space, and materials to comply with DOE 5500.1A, DOE 5500.3, and DOE N 5500.5.

Root Cause:

M3 - Resources

Compliance Protocol:

DOE 5500.1A, 5500.3, and N5500.5

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Adequate work space has not been provided in the ETEC satellite Emergency Operations Center (EOC). The EOC does not have sufficient documentation available to assist EOC support staff in performing their emergency response functions (i.e., Safety Analysis Documents, Material Safety Data Sheets, DOE and SAN Orders, ETEC procedures for normal and emergency operations, health physics procedures).

EOC status boards did not address all information needed to be presented to the EOC Emergency Manager and support staff. There was no method to capture the information displayed on status boards for historical purposes.

The EOC does not have facsimile capability to transmit hard copy of reports to offsite agencies.

This concern was not addressed in the ETEC Self-Assessment.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP116	Emergency Response Facility

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ACTION PLAN AP116 (For Finding No: EP.5-1)

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Action Plan Number: AP116

Plan Title: Emergency Response Facility



Finding No: EP.6-1

Finding Description:

Priority: 2

EETC has not developed emergency plan implementing procedures that address required notifications, emergency action levels, and emergency classification system as required by DOE 5500.2A, DOE N 5500.5, and DOE 5000.3A.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

DOE 5500.2A, N 5500.5 and 5000.3A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o EETC has not developed emergency action levels (EALs) as required by DOE 5500.3 and DOE 5500.2A.

EETC does not have a procedure on protective action guidance for both onsite and offsite populations.

EETC does not have a procedure to address the emergency classification system, nor was this emergency plan implementing procedure (EPIP) coordinated with state and local emergency management agencies.

The provisions of DOE 5000.3A, including proper reporting format, are not contained in a written procedure.

Detailed EPIPs have not been developed to address the notification and reporting requirements of DOE 5000.3A.

EETC report format for reporting of emergency events has not been formally submitted to the state and local emergency management agencies for approval action.

This concern was not addressed in the EETC Self-Assessment.

See Concern OA.7-3.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP117	Emergency Plan Implementing Procedures for Emergencies



Finding No: EP.7-1

Finding Description: Priority: 2

ETEC has not developed procedures to address personnel protection guidance for both onsite and offsite populations as required by DOE 5500.1A, DOE N 5500.5, and DOE 5500.3.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE 5500.1A, N 5500.5 and 5500.3

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC has not developed a site evacuation procedure to provide an effective and tested procedure to ensure that protective actions can be accomplished.

Not all ETEC assembly areas have a public address unit installed to provide instructions to assembled ETEC personnel during an emergency.

ETEC report format for reporting of emergency events has not been formally submitted to state and local emergency management agencies for approval.

This concern was addressed in the ETEC Self-Assessment.

See Concern OA.1-3.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP118	Procedures for Personnel Protection Guidance

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ACTION PLAN AP118 (For Finding No: EP.7-1)

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Action Plan Number: AP118

Plan Title: Procedures for Personnel Protection Guidance

Plan Description:

ETEC has not developed a site evacuation procedure since there are no known credible emergencies for which the correct action would be evacuation of the entire site. However, to alleviate any disagreement of whether a site-wide evacuation may be required, Rocketdyne's Emergency Preparedness will create a documented site evacuation procedure within six months.



Finding No: TS.1

Finding Description: Priority: 3

See Concern OA.1-1.

Root Cause:

M5 - Policy

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Written job/position descriptions do not define safety responsibilities and authority.
- o All ETEC staff do not have job descriptions defining safety responsibility and authority.
- o Safety responsibilities assigned in ETEC procedures do not assign authority.
- o Past performance evaluations have not included safety.
- o Some managers feel authority comes by virtue of position.
- o Annual updates of job descriptions are needed.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP119	Control of Technical Support Activities
AP040	Safety Responsibility and Authority
ACTION PLAN AP119 (For Finding No: TS.1)	

Action Plan Number: AP119

Plan Title: Control of Technical Support Activities

Plan Description:

- o Job descriptions will be updated to define safety responsibilities and authority.
- o ETEC procedures will be reviewed to clearly define safety responsibilities and authority.





Finding No: TS.2-1

Finding Description: Priority: 3

Approved Operational Safety Requirements are not in place for ETEC facility operations.

Root Cause:

M1 - Ownership

Compliance Protocol:

Best Management Practice

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o OSRs have not been formally approved and issued for ETEC facility operations while conducting tests. Recent drafts of OSRs have some deficiencies in format and content.

OSRs do not exist for test systems existing before the effectivity of SAN MD 5481.1A because they were grandfathered under older safety criteria.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP120	Safety Analysis Review and Update

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ACTION PLAN AP120 (For Finding No: TS.2-1)

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Action Plan Number: AP120

Plan Title: Safety Analysis Review and Update

Plan Description:

Action is required to fully, correctly and consistently implement SAN MD 5481.1A "Safety Analysis and Review System" into ETEC operations. ETEC procedures do not adequately communicate the following: the desired format and content for OSRs, the requirements for formal review and documentation of whether safety analysis performed before the issue of SAN MD 5481.1A adequately assess the risk, and the required level of detail (format and content) in documenting QA and codes and standards in the SADs. A new ETEC procedure on OSRs is being written to conform to draft DOE Order N5480.22 "Technical Specifications and Operational Safety Requirements" and will be issued when completed.

The current ETEC procedure on safety analyses ("2-34 Preparation of ETEC Safety Analysis



Finding No: TS.2-2

Finding Description: Priority: 3

ETEC has not documented evaluations showing whether existing safety documentation "adequately assesses the risk," as required by DOE 5481.1B, Chapter I, Part 4, and by SAN MD 5481.1A, Chapter I, Part 4.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE 5481.1B, Chapter I, Part 4; DOE MD 5481.1A, Chapter I, Part 4

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Documentation does not demonstrate that ETEC has conducted formal evaluations of the adequacy of the safety documentation that existed at the time SAN MD 5481.1A requirements were imposed.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP121	Safety Analysis Review and Update

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ACTION PLAN AP121 (For Finding No: TS.2-2)

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Action Plan Number: AP121

Plan Title: Safety Analysis Review and Update

Plan Description:

This corrective action plan is incorporated into corrective action plan AP120.

Safety analysis written before the effective date of DOE MD 5481.1A will be formally reviewed to determine if the analysis documents are an adequate assessment of the risk. If so, this will be documented, if not, a revised safety analysis will be prepared.

- |  |                |
|--|----------------|
| Milestone 1: ETEC Safety Analysis procedure released.                          | Date: 09/30/91 |
| Milestone 2: Release revised Safety Analysis Document on SCTI.                 | Date: 12/15/91 |
| Milestone 3: Review and document review on Safety Analyses on non-active ETEC  | Date: 03/31/92 |
| Milestone 4: Release revised Safety Analysis Documents on all active ETEC faci | Date: 09/30/92 |
| Milestone 5: Release revised Safety Analysis Documents on non-active ETEC faci | Date: 03/31/93 |



Finding No: TS.2-3

Finding Description: Priority: 3

The contents and formats of approved and draft ETEC SARs and SADs do not fully comply with SAN MD 5481.1A guidance for Operational Safety Requirements, quality assurance, and details of safety analyses. Further, not all of these documents meet the DOE 5481.1B and SAN MD 5481.1A requirements for documentation of conformance with applicable guides, codes, and standards.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

SAN MD 5481.1A; DOE 5481.1B

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The contents and formats of ETEC SARs and SADs do not comply with the guidance of SAN MD 5481.1A.

A draft SAD has the Quality Assurance section and code-related deficiencies not corrected.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP122	Safety Analysis Review and Update

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ACTION PLAN AP122 (For Finding No: TS.2-3)

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Action Plan Number: AP122

Plan Title: Safety Analysis Review and Update

Plan Description:

This corrective action plan is incorporated into corrective action plan AP120.

The current ETEC procedure on safety analyses ("2-34 preparation of ETEC Safety Analysis Documentation") will be revised. Upon completion of the changes to existing ETEC procedures, the task of updating safety analyses for all active ETEC facilities will begin with the objective of achieving compliance with updated ETEC procedures and hence, implementation in a complete, correct, and consistent manner.



Finding No: TS.2-4

Finding Description: Priority: 3

The ETEC safety analysis documents do not address all significant safety issues.

Root Cause:

M1 - Ownership

Compliance Protocol:

Best Management Practice

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC did not have documentation showing zone dimensions were appropriate for current programs at TTF.

Safety concerns related to the D&D activities were identified.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP123	Safety Analysis Review and Update

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ACTION PLAN AP123 (For Finding No: TS.2-4)

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Action Plan Number: AP123

Plan Title: Safety Analysis Review and Update

Plan Description:

The current ETEC procedure on safety analyses ("2-34 Preparation of ETEC Safety Analysis Documentation") will be revised. Upon completion of the changes to existing ETEC procedures, the task of updating safety analyses for all active ETEC facilities will begin with the objective of achieving compliance with updated ETEC procedures and hence, implementation in a complete, correct, and consistent manner.

A specific objective of safety analysis design reviews will be to assure that all risks are covered by the analysis. ETEC Procedure 2-34, "Preparation of ETEC Safety Analysis Documentation," describes the approach, method and procedure to accomplish this objective.

This task will result in OSRs being written for use in test operations in all ETEC facilities where





Finding No: TS.3-1

Finding Description: Priority: 3

ETEC does not have a clear requirement for validation of safety-related engineering calculations or independent review of engineering documents other than drawings.

Root Cause:

M5-Policy

Compliance Protocol:

Best Management Practice

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Table 1 of EDD-10 states that independent checking is optional for specifications, calculations, procedures, studies and reports unless otherwise specified in the Project Development Plan.

Validation of engineering calculations is performed on a case by case basis.

Independent safety related appraisals and reviews not clearly defined (OA.2-1).

Lack of procedures (OA.7-3).

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP124	Validation of Safety Calculations

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ACTION PLAN AP124 (For Finding No: TS.3-1)

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Action Plan Number: AP124

Plan Title: Validation of Safety Calculations

Plan Description:

The plan to address TS.3-1 requires: a) identification of documents requiring checking and validation, b) definition of checking and validation options and responsibilities, and c) procedure revision.

The basic requirement of NQA-1 is that design adequacy shall be verified by other than those who designed the item. In the supplementary definitions, verification is identified as "...reviewing,



Finding No: TS.3-2

Finding Description: Priority: 3

ETEC direction on use of design codes, standards, and regulations mandated by DOE 6430.1A, Section 0106, and DOE 5480.4 does not provide a comprehensive review of all potentially applicable criteria.

Root Cause:

M4 - Goals and Objectives, M5 - Policy

Compliance Protocol:

DOE 6430.1A, Section 0106, and DOE 5480.4

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o DOE 5480.4 is not listed in ETEC Procedure 3-11 as requiring use as applicable (TS.3-2).

No systematic review by ETEC to determine if applicable sections of DOE 5480.4 are covered in applicable sections of DOE 6430.1A (TS.3-2).

Reference to 6430.1A as a guide and checklist in EDD-12 is inconsistent with mandatory use as applicable in ETEC Procedure 3-11 (TS.3-2).

ETEC is proceeding without formal response to request for waiver from DOE 6430.1A (TS.3-3 - ETEC using unapproved deviation from DOE 6430.1A).

SAN has not provided the necessary oversight at ETEC activities (AO.5-2 - Lack of DOE/SAN oversight).

Inadequate procedures (OA.7-3 - Management not enforcing procedures).

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP125	ETEC Direction on Codes and Standards

---

ACTION PLAN AP125 (For Finding No: TS.3-2)

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Action Plan Number: AP125

Plan Title: ETEC Direction on Codes and Standards



Finding No: TS.3-3

Finding Description: Priority: 2

ETEC is proceeding in accordance with a requested proposal to deviate from across-the-board application of DOE 6430.1A, even though the requested deviation has not been approved by DOE.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

DOE Order 6430.1A, "General Design Criteria"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC Engineering Department Directive EDD-12, "Design Requirements," February 22, 1991, in Appendix A, Part 2.3, states that the design criteria prepared is encouraged to use DOE 6430.1A as a guide and checklist for selecting appropriate requirements and topics to be covered by the design criteria document. This advisory statement is not consistent with the mandatory use of DOE 6430.1A as applicable that is specified in ETEC Procedure 3-11.

ETEC has taken the position that ETEC design practices generally result in compliance with DOE 6430.1A and has requested, in an October 26, 1988, letter to SAN, approval to deviate from across-the-board application of DOE 6430.1A. To date there has been no formal SAN response to this request. However, ETEC is proceeding in accordance with the proposed deviation.

This concern was not addressed in the ETEC Self-Assessment.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP126	Application of Codes and Standards

---

ACTION PLAN AP126 (For Finding No: TS.3-3)

---

Action Plan Number: AP126

Plan Title: Application of Codes and Standards

Plan Description:

Background:



Finding No: TS.4-1

Finding Description: Priority: 3

ETEC has no formal, structured comprehensive program for compiling, trending, and evaluating all relevant equipment performance data.

Root Cause:

Compliance Protocol:

DOE 4330.4

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC has no formal program other than CREDO to collect, evaluate and use equipment performance data.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP127	Equipment Performance Data, Evaluation and Use

---

ACTION PLAN AP127 (For Finding No: TS.4-1)

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Action Plan Number: AP127

Plan Title: Equipment Performance Data, Evaluation and Use

Plan Description:

Develop a formal procedure for the accumulation of equipment performance data, utilizing checkout, test and operating data, NCR and UOR reports, maintenance reports, the CREDO data base, and external information, to evaluate the data and make it a useful tool for utilization by Engineering and Operations.

Train personnel and implement this procedure.

Milestone 1: Develop procedure.

Date: 04/01/92

Milestone 2: Complete training and indicate implementation.

Date: 09/30/92





Finding No: TS.5-1

Finding Description: Priority: 1

Not all potentially contaminated air exhausted from Bldg. T059 passes through high-efficiency particulate air filters, nor are all exhaust air streams monitored.

Root Cause:

M2 Assessment and Oversight

Compliance Protocol:

DOE 5480.10

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Air from the vacuum equipment room was exhausted without being HEPA filtered. In the event air in this room becomes contaminated there is a potential for release to the atmosphere.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP128	Contaminated Air Filtering

---

ACTION PLAN AP128 (For Finding No: TS.5-1)

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Action Plan Number: AP128

Plan Title: Contaminated Air Filtering

Plan Description:

Upon recognition of a potential problem with the vacuum equipment room exhaust system by the Tiger Team, ETEC issued a work order to modify the system, such that the exhaust was redirected into an existing NEPA filter system. This plan, therefore, only addresses the removal of this concern from the Tiger Team Assessment.

Milestone 1: Complete modification.

Date: 04/19/91

Milestone 2: Submit Action Plan.

Date: 05/31/91



Finding No: TS.5-2

Finding Description: Priority: 1

Current air sampling practices do not ensure accuracy of radioisotope release data for Bldg. T059.

Root Cause:

M2 - Assessment and Oversight, M4 - Goals and Objectives

Compliance Protocol:

DOE Order 5600.1, 5400.5, 40 CFR 61 Subpart H, 40 CFR 60, ANSI N13.1

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Bldg. T059 stack sampling system does not comply with ANSI N13.1 recommendations.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP129	Upgrade Building T059 Effluent Sampling
AP001	Upgrade T059, T020, RMDF Stack Sampling System

---

ACTION PLAN AP129 (For Finding No: TS.5-2)

---

Action Plan Number: AP129

Plan Title: Upgrade Building T059 Effluent Sampling

Plan Description:

This issue is addressed in Action Plan AP001 which was generated in response to Finding A/CF-1.

Milestone 1: Implement effluent monitoring system per AP001.

Date: 06/01/93

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
TS.5-2	Air Sampling Practices
A/CF-1	Inadequate Stack Emissions Monitoring Methods
RAD/CF-1	AIRDOS-PC Modeling Deficiencies



Finding No: SS.2-1

Finding Description:

Priority: 3

Instructions stipulating unimpeded ingress and egress of emergency vehicles were not included in the Post Orders of the guard post at the entrance to SSFL.

Root Cause:

M5-Policy

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o During an Emergency Response practice exercise, it was observed that access of emergency vehicles to and from the ETEC site is not impeded by Protective Services personnel. Discussion with Protective Services management confirmed the practice to be clearly understood.

There was no instructions in the Post Orders for the guard post at the entrance to SSFL that specified unimpeded ingress and egress of emergency vehicles.

The concern cited below was not addressed in the ETEC Self-Assessment. Since the observation, the Post Orders (and the General Order Manual) have been amended to respond to the concern.

See Concern OA.7-3

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP130	Emergency Ingress/Egress

---

ACTION PLAN AP130 (For Finding No: SS.2-1)

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Action Plan Number: AP130

Plan Title: Emergency Ingress/Egress

Plan Description:

It has always been clearly understood by Protective Services Management that access of emergency vehicles to and from the ETEC site would not be impeded by Protective Services personnel. However,



Finding No: SS.4-1

Finding Description: Priority: 3

No Operational Assurance (annual audit) program is in place for firearms safety at ETEC, as required by DOE 5480.16, Chapter III, Section 1.b.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE Order 5480.16

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of an Operational Assurance program.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP131	Firearm Safety Audit

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ACTION PLAN AP131 (For Finding No: SS.4-1)

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Action Plan Number: AP131

Plan Title: Firearm Safety Audit

Plan Description:

Protective Services personnel carry weapons as mandated by other government agencies. Protective Services personnel are registered as guards and licensed to carry weapons by the California Department of Consumer Affairs. As the licensor, the State of California has the right to audit the firearms safety program at SSFL any time; however, the State has never conducted such as audit.

DOE/SAN is in the process of formalizing a letter to ETEC which will state DOE Order 5480.16 is not applicable to ETEC operations. Even though the order is not applicable, we welcome any agency, whether the State or DOE, to audit our firearm safety program. In fact, Mr. R. Haddock, DOE, will conduct such an audit on 1 May 1991 and will arrange to audit the Rocketdyne Firearm Safety Program on a regular basis.





Finding No: EA 2

Finding Description: Priority: 3

See Concern TS.2-1.  
Approved Operational Safety Requirements are not in place for ETEC facility operations.

Root Cause:

M1-Ownership

Compliance Protocol:

BMP

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not currently have Operational Safety Requirements for use in conducting tests.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP132	Safety Analysis Review and Update

ACTION PLAN AP132 (For Finding No: EA 2)

Action Plan Number: AP132

Plan Title: Safety Analysis Review and Update

Plan Description:

Operational safety requirements (OSR) will be written for use in test operations in all ETEC facilities where they are needed to assure safety (AP120).

Milestone 1: New ETEC OSR procedure released.

Date: 10/30/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
EA 2	See TS.2-1 No OSRs



Finding No: FR.1-1

Finding Description: Priority: 2

The ES&H independent internal appraisal system is not "clearly defined in writing," as required by DOE 5482.1B, Section 9.d(2)(b).

Root Cause:

M1-Lack of Ownership

Compliance Protocol:

DOE Order 5482.1B, Section 9.d.(2)(b)

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not have an internal appraisal system in place which fully complies with DOE 5482.1B to the extent it is clearly defined in writing.

ETEC does not have an internal appraisal system in place which fully complies with DOE 5482.1B to the extent it is independent of the persons responsible for the work.

ETEC performs operational readiness reviews, but to the extent membership has input from DOE prevents it from being completely internal as required by DOE 5482.1B.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP133	ES&H Appraisal Committee
AP191	Independent Oversight Program
AP043	Line Safety Vs Overview Not Defined Nor Staffed
ACTION PLAN AP133 (For Finding No: FR.1-1)	

- Action Plan Number: AP133

Plan Title: ES&H Appraisal Committee

Plan Description:

Background:

An internal (within ETEC) appraisal system is required by DOE Order 5482.1B to assure management that adequate ES&H considerations have been taken into account. The scope of the appraisal shall include design, construction and operation of facilities. The appraisal shall be concerned with

limiting risks (to acceptably low levels) to the safety/health of operating personnel, the general public, protection of the environment and protection of property.

Two independent examination procedures (audits) have been prepared by Rocketdyne: An Environmental Department Procedure (EC01.60) issued 12/12/90 provides for annual audits of existing active and inactive facilities. A Safety Department procedure (B-05) issued 3/11/91 provides for regularly scheduled audits of operations.

Plan:

An ETEC procedure (defined in writing) shall be prepared which charters an ES&H Appraisal Committee. This committee shall implement the following objectives:

Membership shall be independent of the persons responsible for performance of the work.

The composition shall provide for the spectrum of expertise needed (e.g., Industrial Safety, Radiation Protection, Environmental Compliance, QA, Engineering Disciplines, etc.).

The activities shall be documented (agenda, action items, closeout reports).

The activities shall be reported to the ETEC General Manager.

The appraisal/review shall occur at periodic intervals with sufficient scope and frequency to assure ES&H effectiveness.

The review topics shall include (but not be limited to):

Administrative Actions (audits, inspections, SARs, OSRs, Incident Reports, Organization and Staffing, etc.).

Health/Safety (Fire, OSHA, Radiation, Medical, Security, QV, auxiliary systems, technical support, siting, facilities, etc.).

Environmental (air, soils, water waste management, toxics and chemicals, QA, inactive sites, NEPA, et al).

The committee shall establish a schedule for reviews which correlates to the important schedule milestones for operations (design reviews, readiness reviews, startups, etc.), and which provides for each facility being examined at least annually. The committee shall meet monthly and a standardized agenda shall be applied to each facility/activity. Action items (with schedules) will be issued to the responsible manager (copies to the ETEC General Manager), and action item followup to closeout performed.

The effectiveness of this appraisal system will be evaluated triennially under AP135.

Milestone 1: Prepare ETEC Procedure (ES&H Internal Appraisal).

Date: 10/15/91

Milestone 2: Appoint ES&H appraisal committee.

Date: 11/20/91

Milestone 3: Initiate monthly committee actions.

Date: 12/01/91



Finding No: FR.4-1

Finding Description: Priority: 2

The practice of periodic ES&H reviews of operations, as required by DOE 5482.1B, Section 9.d(2)(e), has not been established.

Root Cause:

M1-Ownership

Compliance Protocol:

DOE Order 5482.1B, Section 9.d.(2)(e)

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not have an internal appraisal system in place which fully complies with DOE 5482.1B to the extent of failure to assure that each operation is appraised at a frequency to assure adequate ES&H coverage. The planned ES&H Appraisal Committee (AP133) will review each operation a minimum of annually.

Periodic Safety Department reviews have not been conducted in the past, but ETEC/Rocketdyne has prepared a procedure (B-05) and is commencing implementation.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP134	Periodic ES&H Review of Operations
AP191	Independent Oversight Program
AP043	Line Safety Vs Overview Not Defined Nor Staffed
AP148	Industrial Hygiene and Safety Engineer Oversight
AP058	QA Auditor Training and Audit Documentation
AP133	ES&H Appraisal Committee

ACTION PLAN AP134

(For Finding No: FR.4-1)

Action Plan Number: AP134

Plan Title: Periodic ES&H Review of Operations

Plan Description:

Background:

An internal (within ETEC) appraisal system is required by DOE Order 5482.1B to assure management

that adequate ES&H considerations have been taken into account. The scope of the appraisal shall include design, construction, and operation of facilities. The appraisal shall be concerned with limiting risks (to acceptably low levels) to the safety/health of operating personnel, the general public, protection of the environment and protection of property.

Two independent examination procedures (audits) have been prepared by Rocketdyne: An Environmental Department Procedure (EC01.60) issued 12/12/90 provides for annual audits of existing active and inactive facilities. A Safety Department Procedure (B-05) issued 3/11/91 provides for regularly scheduled audits of operations.

Plan:

Periodic reviews of all operations will be performed by a newly created ES&H Appraisal Committee, see AP133, in response to Finding FR.1-1.

Tiger Team assessment report states "A recently issued Rocketdyne Health and Safety Audit Program, 'March 11, 1991) mandates annual safety audits, which would satisfy the requirement specified by DOE 5482.1B, Section 9.d.(2)(e). However, this practice has not yet been implemented." (refer to page 4-123, 3rd paragraph).

The performance of periodic audits by the Safety Department staff of all operations (per HS&E procedure B-05), and by the Environmental Control Department of all operations (per EC procedure 01.60) coupled with the planned annual ES&H Appraisal committee reviews (AP133) of all operations/activities will collectively resolve this finding. The ES&H Appraisal committee will examine the findings of audits performed by all entities for completion of action items, and for lessons learned. Results, conclusions, and recommendations of the committee will be forwarded to responsible managers for action.

Milestone 1: Initiate monthly committee actions.

Date: 12/01/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
FR.4-1	No Periodic ES&H Review
OA.2-1	Line Safety vs Overview not defined nor staffed.
FR.1-1	ES&H Appraisal Committee
MF.-4	Contractor Independent Oversight
OA.4-1	Interface of Responsibility not well defined.
MF.-2	Organizational Roles
PP.1-2	No Oversight by HS&E
WS.4-7	Slings (PP.4-2)
WS.4-9	Hand Tool Use/Repair
WS.4-10	OSHA Violations App F.
QV.1-5	Quality Audits do not Evaluate Program Implementation
QV.2-1	Unapproved Material Source
RP.2-1	Internal Audit and Independent Overview





Finding No: FR.5-1

Finding Description: Priority: 3

Triennial management reviews of the ES&H internal appraisal system, required by DOE 5482.1B, Section 9.d(2)(d), are not being performed.

Root Cause:

M5 - Policy

Compliance Protocol:

DOE ORder 5482.1B

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Triennial evaluations of the ES&H system are not being performed as required.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP135	Triennial Review of ES&H Program
AP200	ETEC Self-Assessment Program

ACTION PLAN AP135 (For Finding No: FR.5-1)

Action Plan Number: AP135

Plan Title: Triennial Review of ES&H Program

Plan Description:

Triennial reviews of the ES&H program will be institutionalized into the self-assessment process as described in corrective action plan AP200.

Milestone 1: Write and release ETEC procedure.

Date: 10/15/91

Milestone 2: Begin Self-Assessment process.

Date: 11/15/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
FR.5-1	Triennial Management appraisal
MF.-1	Strategic Planning
SA-1	ETEC Self-Assessment Program



Finding No: RP.1-1

Finding Description: Priority: 2

There is insufficient oversight by all levels of management and supervision within Radiation Protection and Health Physics Services, resulting in a general lack of radiation safety awareness and acceptance of the established procedures and accepted practices required by DOE 5480.11.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC is working toward, but presently does not have an adequate radiation protection organization to carry out the enhanced DOE emphasis on environment and safety.

Facility or project radiation safety plans do not entirely meet DOE 5480.11 requirements and do not have the needed degree of ownership by "Operations" management and workers.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP136	Management Oversight/Awareness

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ACTION PLAN AP136 (For Finding No: RP.1-1)

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Action Plan Number: AP136

Plan Title: Management Oversight/Awareness

Plan Description:

In order to further strengthen RP&HPS, the manager will reanalyze his organization's structure and staff needs in light of the Tiger Team findings and submit revised needs to his management. He will restructure the group to provide himself with experienced lead HPS in two major areas: 1) operational or field radiation protection activities, and 2) health physics services, such as dosimetry, computations, source and RGD inventory, RSO activities, central counting laboratory, procedure development and control, and reporting to outside agencies. An experienced radiation protection engineer has recently been added to the staff to fill one of the above functions.

Job descriptions will be written for each position in RP&HPS.



Finding No: RP.2-1

Finding Description: Priority: 3

The internal audit program does not provide the level of independent oversight of the radiation protection program required by DOE 5482.1B, Section 9.d, DOE 5480.20, and DOE 5480.11.

Root Cause:

M5 - Policy/Procedure

Compliance Protocol:

DOE Orders 5482.1B, 5480.20, and 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Provide lead auditor/audit team members with greater experience in radiation protection.
- Expand audit scope to assess performance through field investigations.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP137	Level of Independent Oversight at Radiation Protection Prog.
AP058	QA Auditor Training and Audit Documentation

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ACTION PLAN AP137 (For Finding No: RP.2-1)

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Action Plan Number: AP137

Plan Title: Level of Independent Oversight at Radiation Protection Prog.

Plan Description:

ETEC will establish a staff position of independent oversight. This individual will conduct independent oversights of Quality Assurance, Environmental, the Radiation protection Program, and other functions as assigned. This individual shall be qualified to perform such oversights and receive such additional training as necessary. Auditor certification will be in accordance with NQA-1 requirements.

Our internal quality audit program will be expanded to include evaluation of effectiveness of program implementation as described in AP058.



Finding No: RP.2-2

Finding Description: Priority: 2

SAN does not regularly audit ETEC for compliance with DOE 5480.11.

Root Cause:

M1 - Ownership

Compliance Protocol:

DOE 5482.1B, Section 8.e(2)

Issues:

Corrective action on this finding requires that the following issues be addressed.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP138	SAN Audit of ES&H Programs

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ACTION PLAN AP138 (For Finding No: RP.2-2)

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Action Plan Number: AP138

Plan Title: SAN Audit of ES&H Programs

Plan Description:

The SAN Environment and Safety Support Division provides Health Physics support to the Nuclear Energy Division for performing audits of DOE 5480.11 compliance.

A five year schedule for annual radiation safety appraisals has been developed for ETEC. This schedule will be included in the SAN Oversight Plan for ETEC that is being developed.

Compliance with DOE 5480.11 is a Performance Objective Criteria in the ETEC Award Fee Evaluation. Therefore, as a supplement to the annual appraisals, compliance with DOE 5480.11 will be reviewed semi-annually under the Award Fee process.

Milestone 1: Begin audits of ETEC programs.

Date: 11/15/91





Finding No: RP.3-1

Finding Description:

Priority: 2

The lack of procedures compromises the technical basis and justification for a number of the components of the radiation protection program required by DOE 5480.11.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o RP&HPS lacks adequate procedures and program documents to demonstrate compliance and application of the technical basis for radiation protection programs required by DOE 5480.11.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP139	Procedures for Radiation Protection

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ACTION PLAN AP139 (For Finding No: RP.3-1)

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Action Plan Number: AP139

Plan Title: Procedures for Radiation Protection

Plan Description:

A concerted effort has been in progress since mid-calendar year 1990 to review, upgrade and augment the technical discipline of the ETEC radiation protection program as expressed in its procedures and program documents. That effort has largely been designed to meet the program elements expressed in DOE 5480.11. This effort will continue to be emphasized until the RH&HPS staff believe that all facets of the DOE 5480.11, "Radiation Protection Program," have been adequately addressed for Rocketdyne application.

The ETEC Self-Assessment identified procedures and documents to be written or revised and established priorities. Most of the high priority items were completed. Those remaining to be completed with a high priority are: Radiation Dosimetry Program, Radiation Safety Training Plan, and Environmental Monitoring Program. The Radiation Safety Plan for RIHL requires only minor



Finding No: RP.4-1

Finding Description: Priority: 2

Current Radiation Protection and Health Physics Services procedures and health physics reviews do not address all external exposure issues as required by DOE 5480.11.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The ETEC external radiation exposure evaluation and control program is not totally responsive to DOE 5480.11 requirements.

ETEC lacks a program plan document which addresses the external radiation exposure evaluation and control program.

The Rocketdyne HS&E policy and standards document G-01 should be revised to correct errors and to reflect DOE 5480.11 requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP140	External Exposure Procedure

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ACTION PLAN AP140 (For Finding No: RP.4-1)

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Action Plan Number: AP140

Plan Title: External Exposure Procedure

Plan Description:

The ETEC Self-Assessment effort identified the need to upgrade some portions of the program and to develop a program plan document compliant with external radiation elements in 5480.11. The Self-Assessment recognized that some required practices and procedures were lacking. Prior to the Tiger Team Assessment, progress had been made in defining program needs and in writing a comprehensive and compliant program plan for external radiation exposure evaluation and control.

That effort will continue to receive emphasis and priority for completion. A first draft is about



Finding No: RP.5-1

Finding Description: Priority: 2

Current Radiation Protection and Health Physics Services procedures do not fully describe the conduct and operation of the external radiation dosimetry program required by DOE 5480.11.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC lacks a program plan/procedure document which fully describes the external radiation dosimetry program.

The ETEC external radiation dosimetry program is not totally responsive to DOE 5480.11 requirements.

As a noted variance from 5480.11 requirements, the ETEC external radiation dosimeter is not DOELAP approved.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP141	External Exposure Dosimetry Procedures
ACTION PLAN AP141 (For Finding No: RP.5-1)	

Action Plan Number: AP141

Plan Title: External Exposure Dosimetry Procedures

Plan Description:

As described in AP140 for response to Concern RP.4-1, review of 5480.11 external radiation dosimetry requirements is in progress. The review will provide the basis for writing a program plan/procedures document for external radiation exposure evaluation and control which is compliant with 5480.11. The document will provide the technical basis for implementing program upgrades. A first draft is 30% complete. Completion and approval is planned in this fiscal year with program changes to be implemented in FY92.



Finding No: RP.5-2

Finding Description: Priority: 2

A policy and procedure for the use of Direct Reading Dosimeters for radiation exposure monitoring does not exist at ETEC.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight

Compliance Protocol:

No applicable external regulation/requirement exists, Internal Requirements are in Facility Plans

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC lacks a comprehensive policy and procedure for use of direct reading dosimeters (DRDs).  
Affected ETEC operations personnel do not always follow the DRD procedures now existing in facility radiation safety plans.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP142	Dosimeter Procedures

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ACTION PLAN AP142 (For Finding No: RP.5-2)

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Action Plan Number: AP142

Plan Title: Dosimeter Procedures

Plan Description:

The policy and procedures for use of DRDs and management/applications of DRD results will be included in the program plan document for external radiation evaluation and control. This document is in the draft writing process at present. Although present facility radiation safety plan documents contain procedures for use of DRDs, the overall external radiation evaluation and control document will re-establish a consistent "good practices" approach and, if necessary, the facility radiation safety plans will be revised to conform. The overall policy and procedure will address DRD applications, use of logs, utilization of data and recordkeeping.

To improve understanding of these procedures and improve the "ownership" by workers in the radiation safety program, meetings with RP&HPS and pertinent operation's managers, supervisors and workers are





Finding No: RP.6-1

Finding Description: Priority: 2

ETEC has not demonstrated that the air sampling program will meet the requirements of the DOE Performance Standard for Internal Dosimetry Programs or DOE 5480.11.

Root Cause:

MA - Assessment and Oversight, M4 - Goals and Objectives

Compliance Protocol:

DOE Order 5480.11, DOE/EH \_\_Draft 8.0, Nov. 1989 titled "Draft Performance Standard for Internal..."

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The ETEC internal dosimetry program is not documented to meet the requirements of DOE 5480.11 and the draft DOE Performance Standard for Internal Dosimetry.

ETEC has not performed sufficiently detailed analyses of airflow patterns at DOE facilities which require air sampling for worker protection.

Detailed procedures for analysis of air samples are not available. Also, corrections for alpha radiation counting losses due to filter dust loading are not utilized.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP143	Internal Dosimetry Program
ACTION PLAN AP143 (For Finding No: RP.6-1)	

Action Plan Number: AP143

Plan Title: Internal Dosimetry Program

Plan Description:

The ETEC Self-Assessment identified the need to document the internal assessment and control program and this document is scheduled for development. The DOE Order requirements and the draft performance standard for internal dosimetry will be used as guides to assure a compliant program.

Workplace assessment of exposure potentials and monitoring of control measures to prevent airborne contamination are dependent upon the workplace air sampling program. Particularly since facility configurations are dynamic in D&D projects, the facility air sampling monitoring program will be



Finding No: RP.7-1

Finding Description: Priority: 2

Current Radiation Protection and Health Physics Services procedures do not fully describe the conduct and operation of the internal radiation dosimetry program required by 5480.11.

Root Cause:

M2 - Assessment and Oversight, M4 - Goals and Objectives

Compliance Protocol:

DOE Order 5480.11 and DOE/EH\_\_ Draft 8.0, Nov. 1989 titled "Draft Performance Standard for..."

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There is no procedure or technical basis for the operation of the internal dosimetry program at ETEC.

Urinalysis is used as the bioassay technique for the determination of insoluble Co-60 in Bldg. T059 workers. There has been no technical analysis of the suitability of this technique.

There are no policies to ensure that bioassay samples fulfill chain-of-custody issues.

The Radiation Worker training program makes no mention of the internal dosimetry program.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP144	Evaluation of Internal Dosimetry Program

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ACTION PLAN AP144 (For Finding No: RP.7-1)

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Action Plan Number: AP144

Plan Title: Evaluation of Internal Dosimetry Program

Plan Description:

ETEC will take actions to assure the Internal Dosimetry program meets the requirements of protocols comprising the regulatory/technical basis for detection and evaluation of internally deposited radionuclides, including the following:

A protocol comparison review of existing RP&HPS internal dosimetry procedures and instruction will be made. The procedures have existed for several years and require up-dating to reflect the current

program level and current materials in process. The procedures will be periodically reviewed and up-dated to assure compliance with changing protocols.

An evaluation will be performed of insoluble cobalt-60 in Bldg T059 D&D workers exposed to that material. The first step will be to perform an evaluation of the necessity for performing internal dosimetry for these workers. This evaluation will include a review of breathing zone air (BZA) monitoring results to determine if inhalation is a significant potential route of intake for vaporized metal aerosols at concentrations equivalent to >2% of the time weighted Co-60 DAC. This will provide information on the severity of these exposures and also provide guidance for exposure reductions by engineered controls. Additional controls or other exposure limiting measures can be implemented if review of the BZA data identifies a need based on estimates of internal dose and comparing intake vs ALI. The recommendations of the ICRP relative to retention and excretion of cobalt compounds as well as the recommendations of the DOE Draft Performance Standard for Internal Dosimetry Programs will also be considered. Additionally, the annual doses equivalent to the analytical laboratory limits of detection (LD) for radionuclides in urine should be reviewed. This will provide a perspective on the possibility of undetected worker internal exposure greater than 100 mrem (0.001 Sv) due to intake of conservatively classed airborne radioactive materials and the elapsed time interval between successive specimens.

The compliance protocols do not require formal chain-of-custody for bioassay samples. However, as a matter of good practice, the current procedures for receipt, storage and processing in-vitro specimens will be reviewed and modified to reflect a consideration for the integrity of specimens presented by radiation workers for analysis.

The finding that the radiation worker training program does not mention the internal dosimetry program will be addressed in AP098 which addresses worker training. Radiation workers have periodically received indoctrination on internal dosimetry at group meetings about worker safety, but this has not been incorporated into the formal worker training syllabus.

Milestone 1: Perform protocol review, update procedures.

Date: 03/31/92

Milestone 2: Evaluate requirement & suitability for Co-60 bioassay

Date: 03/31/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
RP.7-1	Internal Exposure Documents

ADS No: 4018AA , ,

Funding Comments:

Funding requirement is included in AP136 for Finding RP.1-1.



Finding No: RP.10-1

Finding Description: Priority: 2

Current contamination control, posting practices, policies, and radiation monitoring are not consistently conducted or enforced in a manner that ensures positive control of contamination as required by DOE 5480.11.

Root Cause:

M2 - Assessment and Oversight, M4 - Goals and Objectives

Compliance Protocol:

DOE Order 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Rocketdyne does not have a formal documented procedure for area radiation and contamination surveys.

Several items related to this issue have already been addressed prior to the Tiger Team visit.

1. The existing facility radiation safety plan for Bldgs. T020, T059 and the RMDF specify the frequency and location of routine radiation and contamination surveys.

2. The "Radiation Survey Reports" used to document radiation, contamination and alpha, beta and gamma analysis have been revised to record more pertinent information and include step by step instruction about how to complete the form.

3. Posting of the most recent radiation and contamination surveys has been initiated so facility staff are aware of the current radiation levels in various buildings and rooms.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP145	Contamination Control



Finding No: RP.11-1

Finding Description: Priority: 2

The ALARA program does not meet the requirements of DOE 5480.11 and the DOE ALARA Manual.

Root Cause:

M5 - Policy

Compliance Protocol:

DOE 5480.11

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Rocketdyne/ETEC does not have a policy statement establishing and authorizing a formal ALARA program.

Even though ALARA is an operating philosophy nominally functioning throughout the radiation protection program, there is no formal ALARA program structure.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP146	Study Approaches & Establish Appropriate ALARA Program

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ACTION PLAN AP146 (For Finding No: RP.11-1)

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Action Plan Number: AP146

Plan Title: Study Approaches & Establish Appropriate ALARA Program

Plan Description:

A member of the RP&HPS staff has been designated as the ALARA Program Coordinator and will be responsible to recommend a formal program structure and then, to administer the approved program.

The ALARA Program Coordinator will take into account the small size of the affected work force and the very low radiation exposure potential to structure an appropriate and meaningful program. The DOE ALARA Program Manual (actually a Health Physics Manual of Good Practices..) and 10 CFR 35.20 will be utilized for guidance.

In formulating the program for recommendation to Rocketdyne and ETEC management for approval, the following considerations will be made regarding scope:





Finding No: PP.1-1

Finding Description: Priority: 2

Line management has not developed an effective system to implement and enforce health and safety requirements and to maintain workplaces free of health and safety concerns.

Root Cause:

M1- Ownership, M2- Assessment & Oversight, M4- Goals and Objectives

Compliance Protocol:

DOE Order 5482.1B

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Procedure No. 1-03, "Health, Safety and Fire Protection Program" is general in nature and does not contain guidelines defining the line management system to implement and enforce health and safety requirements.

A Rocketdyne Health, Safety and Environment (HS&E) Procedures Manual provides generic procedures for Rocketdyne Division, but not specifically for ETEC. The procedures do not provide guidance to the line regarding program implementation and application.

No formal or uniform system is in place for line management to implement, enforce, and ensure safe work practices and safe facility conditions.

Procedure C-01 of the Rocketdyne HS&E Manual, "Employee Health and Safety Committee," defines a process intended to educate employees in health and safety issues. This Committee meets monthly and comprises representatives of SSFL operations. Three members are ETEC workers who are rotated annually. Thus only a small percentage of the workers participate in this educational process.

A requirements of the Employee Health and Safety Committee members is to regularly inspect work areas and to identify and report unsafe practices and conditions. However, ETEC members prepare few reports and those which are submitted are superficial in nature. Inspection reports are not retained by the Department Head or line manager.

Committee members are not provided any significant training in the recognition of workplace hazards or in OSHA regulations.

The three ETEC Committee members assigned do not represent all ETEC work areas/activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP147	ETEC Line Management Safety Program
AP044	Safety Goals

AP046 Performance Indicators

Action Plan Number: AP147

Plan Title: ETEC Line Management Safety Program

Plan Description:

Procedural additions and modifications will be made to the ETEC Procedures Manual, to assure maintenance of an ES&H-compliant workplace and to formalize the implementation of safety-related training to jobs and HS&E involvement in programs. Early safety involvement in significant facility modifications or construction programs will also be established through a formalized HS&E interface. With respect to other personnel protection-related findings, we plan modifications and additions to the Rocketdyne HS&E Manual; however, with one exception, these changes are separately organized into other action plans, in an effort to present a more direct response to other findings.

A:

Awareness programs to provide a visible, goal-oriented demonstration of DOE and management commitment to safety, in order to enhance and sustain a safety ethic and awareness among all ETEC employees.

Safety-related training throughout ETEC will be modified and enhanced. A keystone in this plan is the implementation of a supervisor's safety development program designed to enable management to assume assigned lead responsibility for maintenance of a hazard-free environment. A comprehensive course in safety development will be provided to all managers to engender hazard recognition and understanding of safety and industrial hygiene issues, and regulatory compliance. Additional courses in self-inspection, and point-of-operations training will facilitate management's ability to effectively train ETEC employees.

Modifications will be made to the ETEC Procedures Manual to require a more proactive management role for safety awareness.

1. Periodic safety meetings will be required for all test, laboratory, or development departments. The requirement for safety meetings will be established in ETEC Procedure 1-03 under the responsibilities for ETEC managers; the specific departmental requirements will be defined in departmental directives. The frequency and formality of these meetings will be left to the discretion of the responsible manager, depending on the nature of his particular operations. For example, at SCTI, it is expected that weekly safety meetings held on each of the two shifts by the shift supervisor will continue, in order to assure the participation by all operations staff within a one-month cycle. For smaller operations such as the analytical laboratory, monthly frequency may be more appropriate.
2. Responsible ETEC manager will be required to define mandatory and optional training based on employee classification or assignment, as appropriate. This requirement will be established in ETEC Procedure 1-03 under the responsibilities for ETEC managers. The departmental requirements will be documented in the departmental directives.
3. An ETEC Safety Committee will be re-established, to meet on a quarterly basis. Minutes of safety meetings will be prepared and distributed. The requirement for this committee will be defined in ETEC Procedure 1-03 under the responsibilities of the General Manager, who will chair the

meetings. Support organizations also attending this meeting will include Protective Services, HS&E, Plant Services, and Environmental Control. The purpose of this committee will be to establish a forum at which safety concerns and issues are addressed and resolved, and to provide a vehicle for continued self-assessment; evaluation of findings and performance indicators, identification of trends and problems, and implementation of corrective actions. The Safety Committee will review progress against established safety goals as defined by the Safety Coordinator; the definition and tracking of these goals is addressed by AP044. Provisions will be established in the committee charter to enable workers to raise safety issues to their representative on the safety committee. Published minutes containing an attendance record, report on business, and agreements and commitments will be reported by the chairman.

4. HS&E approvals will explicitly be required for facility acceptance testing. HS&E involvement in the ETEC Acceptance Test Program will also be implemented by a formalized interface for construction or modification of all major facilities. This change will be implemented in ETEC Procedure 6-01, Facility Acceptance Testing. The modification is expected to ensure a more proactive approach to the consideration of safety-related issues during the design and construction phases of major test programs.

5. ETEC has recently published a revision to ETEC Procedure 1-03, "Health, Safety and Fire Protection Program," which defines the responsibilities and accountabilities for all ETEC personnel. As set forth in ETEC Procedures 1-03, managers will be held accountable for the conduct of self-inspections, training of their employees, and enforcement of work rules and safe work practices in their assigned areas. Managers will be expected to utilize their representatives to the Rocketdyne Employee Health and Safety Committee in a more effective manner. These employees may aid their manager in the required self-inspections and awareness programs.

6. The training agenda for the safety committee established in HS&E Procedure C-01, "Employee Health and Safety Committee" will be enhanced to place greater stress on regulatory requirements. This is not a change to the ETEC procedures, but it is included in this action plan because of its particular relevance to ETEC Operations.

B:

A Safety Awareness Program will be implemented that includes provision of safety equipment, and the distribution of awards based on achievement of established safety goals.

Safety equipment will be provided to ETEC employees on a recurring basis. Employees will receive a pair of prescription safety glasses and safety shoes at company expense. Glasses will be replaced bi-annually or when damaged, and shoes will be provided on an annual basis.

Greater use of performance indicators will be utilized to monitor safety performance at ETEC. Accident/injury experience data is currently tracked and will be widely distributed on a quarterly basis to insure visibility. A safety incentive program will be established for the ETEC organization to permit recognition of achievement of accident prevention goals. Previous incentive programs have used reduction in injury rates or lost time accident free periods as a basis for awards. An appropriate performance index will be established for ETEC using input from representative employees. This employee participation is key to establishing employee involvement and ownership. Progress toward goals will be publicized using various media to keep participants informed of goal status. The program and award will be changed periodically to maintain interest.

C:

Safety-related training throughout ETEC will be modified and enhanced.

ETEC's commitment to excellence in this area will be addressed by providing training to all line managers to insure they have the tools necessary to assume their defined responsibilities. A 24-hour safety training program based on the National Safety Council's "Supervisor's Development Program" will be presented to all members of ETEC management to insure a basic understanding of industrial hygiene, and safety issues. This training will be tailored to site-specific needs, with an emphasis on compliance with regulator requirements and DOE Orders. It is appropriate that for the inauguration of a course of this intensity, a policy letter from the General Manager of ETEC be issued to voice top management's commitment to a renewed emphasis on safety through cultural change at ETEC.

Training courses in self-inspection and point-of-operation training will be developed by HS&E, and offered for line management and supervisory personnel. The purpose of this training is two-fold: 1) to provide the ETEC line organization an effective capability for assuring that ETEC workplaces are free of health and safety hazards; and 2) to assure, through effective field training of operations personnel in site-specific hazards, a system whereby the entire organization contributes to and becomes capable of assuring a safe workplace.

Milestone 1: Issue General Manager's Safety Letter.	Date: 07/21/91
Milestone 2: Proposed Safety Awareness plan to DOE.	Date: 02/28/92
Milestone 3: DOE approval & implementation for safety awareness program.	Date: 05/30/92
Milestone 4: Modification to ETEC Procedure 1-03.	Date: 10/30/91
Milestone 5: First Management Safety Committee Meeting.	Date: 10/30/91
Milestone 6: Departmental directives defining training.	Date: 04/30/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OP.1-1	Safety Awareness Program
PP.1-1	O&A/Line Management Control
WS.4-7	Slings (PP.4-2)
WS.4-9	Hand Tool Use/Repair
WS.4-10	OSHA Violations App F.
MF.-3	Individual Roles and Training
MF.-4	Contractor Independent Oversight
OA.3-1	Written Safety Goals not Established
OA.5-1	Performance Indicators
MF.-5	Performance Monitoring and Assistance

ADS No: 4017AA , ,

Funding Comments:

Finding No: PP.1-2

Finding Description: Priority: 2

The Rocketdyne Health, Safety and Environment Department does not provide the necessary oversight and technical support to ensure line management implementation of safety and health requirements.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

Rocketdyne HS&E Procedure B-05, "Health and Safety Audit Program"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Only 60% of one safety engineer's time is allocated to ETEC operations. He provides safety oversight and support to ETEC but not in a proactive and organized manner.

No HS&E industrial hygienist has ETEC as an assigned responsibility. No regular industrial hygiene oversight or review of operation for hazards is performed.

"Health and Safety Audit Program," HS&E Procedure B-05 defines an HS&E program to schedule and plan audits for each fiscal year, but it has not been implemented yet.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP148	Industrial Hygiene and Safety Engineer Oversight

ACTION PLAN AP148 (For Finding No: PP.1-2)

Action Plan Number: AP148

Plan Title: Industrial Hygiene and Safety Engineer Oversight

Plan Description:

An industrial hygienist will be given an assignment to regularly support and provide oversight to ETEC operations as part of an overall assignment to SSFL. It is anticipated that the required level of support will be 0.4 EP.

A full-time safety engineer will be assigned to ETEC. The safety engineer will be solely dedicated to ETEC, and will charge direct to an ETEC account. The safety engineer will report administratively to Rocketdyne HS&E but operationally to ETEC QA.



Finding No: PP.2-1

Finding Description: Priority: 1

Guidelines to ensure the generation of reliable data are not in place for environment, safety, and health monitoring activities; and proper and reliable monitoring procedures are not always being applied.

Root Cause:

M1 - Ownership, M2 - Assessment & Oversight, M3 - Resources

Compliance Protocol:

None

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o This Finding cites a number of gaps in monitoring, and lack of assurance of consistent application of reliable methods in the area of industrial hygiene (IH).

Accordingly, a number of guidelines and procedures will be established to ensure reliable results for industrial hygiene monitoring and related analytical activities. The procedures will conform with OSHA requirements and NIOSH guidelines. These procedures will comprise a basis reference document for conducting sampling and evaluations of chemical hazards in the work environment, and will be added to the Rocketdyne HS&E Manual.

Bulk asbestos samples will be analyzed by an accredited laboratory under the PAT Program. Procedures for the collection and analysis of bulk asbestos samples will be prepared and added to the Environmental Control Procedures Manual. Addition of the asbestos-related procedures to the EC Manual is based on the fact that sampling of asbestos at ETEC and Rocketdyne relates primarily to matters of environmental control.

The determination of significant hazards, as cited in the diesel exhaust-related monitoring example at Bldg. T059 under this Finding, will be more completely addressed by the introduction of a full-time safety engineer and a part-time IH professional (AP148); the latter is expected to spend 40% of total time at ETEC, engaged in identification and evaluations of health hazards. This coverage will assure a complete consideration of IH-related hazard potentials, which, upon identification, will become the subject for risk evaluations to determine controlling hazards and the needs for monitoring.

The Line Management Safety Program as described under (AP147) will assure that health monitoring procedures are applied or considered where appropriate in two ways. The two features of this program that are relevant to this Action Plan are: 1) modifications to the ETEC Procedures Manual requiring HS&E involvement and approval in the facility acceptance; and, 2) the training of ETEC management in safety recognition and compliance.



These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP149	Industrial Hygiene-Related Procedure Modifications
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ACTION PLAN AP149 (For Finding No: PP.2-1)	

Action Plan Number: AP149

Plan Title: Industrial Hygiene-Related Procedure Modifications

Plan Description:

Procedures will be developed and added to the Health, Safety & Environment Procedures Manual that address guidelines and procedures for health monitoring activities. The procedures will conform to OSHA requirements following the guidelines in the OSHA Industrial Hygiene Field Operations Manual and NIOSH-recommended guidelines and will comprise a basic set of reference documents for conducting sampling and evaluations of chemical hazards in the work environment.

The procedures will include requirements for the following:

1. Sampling strategy/protocol (including chain of custody where appropriate)
2. Quality assurance/field sampling parameters
3. Sampling equipment calibration and maintenance
4. Laboratory/analytical techniques, and use of blanks and reference samples

A procedure defining the collection and analysis of bulk asbestos samples will be prepared and added to the Environmental Control Procedures Manual. The procedure will require that asbestos samples be analyzed by an accredited laboratory under the PAT or NIST/NVLAP program as appropriate.

Also refer to AP147, which includes modifications to the ETEC Procedures Manual that assure a closer HS&E interface with operations, and define HS&E training requirements for line management.

Milestone 1: Implement HS&E Manual changes.  
Milestone 2: Implement EC Manual changes.

Date: 12/30/92  
Date: 12/30/92



Finding No: PP.2-2

Finding Description: Priority: 1

Numerous safety and health procedures, specifications, and guidelines are either not in conformance with Orders and regulations, are not applied and enforced, or are not available, as required by DOE 5483.1A, DOE 5480.10, and various OSHA standards.

Root Cause:

M1 - Ownership, M2 - Assessment & Oversight, M3 - Resources

Compliance Protocol:

29 CFR 1910.1001.d, 1910.1200, 1910.1450, 1910.146, DOE 5480.10, 5483.1A., RD HS&E B-05, D-03, D-06, E-03, K-03

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The absence or insufficiency of HS&E programs and procedures as required by OSHA or DOE Orders, and lack of application or enforcement of Rocketdyne's HS&E Procedures in a number of areas will be addressed with comprehensive modification of the HS&E Procedures Manual. Plans and procedures to be included in this Action Plan are listed below:

- Chemical Hygiene Program
- ETEC Hazard Communication Program
- Asbestos Abatement by Subcontractors
- Personnel Monitoring for Asbestos
- Carcinogen Control Program
- Lead Standard
- Confined Space Entry Procedure

Compliance with HS&E procedures at ETEC will be addressed through the Line Management Safety Program (AP147), and additional HS&E resources specifically committed to ETEC (AP148).

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
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AP150	Compliance-Related Changes to HS&E Manual
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Action Plan Number: AP150

Plan Title: Compliance-Related Changes to HS&E Manual

Plan Description:

This Action Plan addresses a broad category of industrial hygiene and safety related practices that respond to regulatory requirements and guidance. The following comprise this action plan:

- Chemical Hygiene Program
- ETEC Hazard Communication Program
- Asbestos Abatement by Subcontractors
- Personnel Monitoring for Asbestos (during abatement operation)
- Carcinogen Control Program
- Lead Standard
- Confined Space Entry Procedure

**CHEMICAL HYGIENE PROGRAM:**

Chemical Hygiene Program is under development; this is also being performed for other locations at Rocketdyne to which such a program applies. The components of this program will include:

1. Hazard Identification
2. General Safe Work Practices and Conduct
3. Special Precautions for Particularly Hazardous Substances/Operations
4. Safety Precautions for Physical Hazards Associated with Chemical Use
5. Industrial Hygiene Monitoring
6. Exposure Control Measures
7. Medical Program
8. Recordkeeping
9. Training
10. Material Safety Data Sheets
11. Labeling
12. Chemical Spills
13. Waste Management and Disposal
14. Standard Operating Procedures for Individual Laboratories: individual locations will apply the Rocketdyne Plan to their operating procedures; at ETEC, this will be done by incorporating the Chemical Hygiene Plan into the Departmental Directive for the Analytical Laboratory.

A Chemical Hygiene Officer (CHO) will be designated by the HS&E director. The CHO will be a person qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan; for ETEC, this person will be the industrial hygienist committed by AP148.

Each manager of the affected departments will designate a contact person to interface with the CHO. The duties of the contact person include (but are not limited to):

1. Serving as a liaison between HS&E and management.
2. Assisting the CHO in evaluating potential chemical and/or physical hazards in the department.

3. Maintaining chemical inventory for the department and providing HS&E with a chemical inventory list and any updates to the list.
4. Providing the CHO with required documents.
5. Assisting the CHO in revising/creating laboratory-specific standard operating procedures.
6. Attending meetings upon the request of the CHO.
7. Assisting the CHO with developing the Chemical Hygiene Training Program specific to their department.
8. Conducting the Chemical Hygiene Training.
9. Maintaining the following documents:
  - training
  - chemical inventory
  - material safety data sheets
  - chemical hygiene plan specific to the department.

Chemical inventories will continue to be maintained, with the following stipulations:

1. The chemical inventory list will continue to be input by HS&E into an electronic data base, and classified according to hazard.
2. The list will be sorted by hazard classification and provided to the contact person to use in the Chemical Hygiene Training.
3. MSDSs will be provided to the various labs by the HS&E Department.

**EETEC HAZARD COMMUNICATION PROGRAM:**

HS&E will implement a Hazard Communication Program specific to EETEC operations. The program will consist of the following:

1. A Written Hazard Communication Program
2. Evaluation of Hazardous Materials
3. Hazardous Materials Disclosure
4. Labeling Requirements
5. Material Safety Data Sheets Available in Each Work Area
6. Chemical Inventory
7. Employee Training and Information - 2 Levels of Training Required:
  - General Hazard Communication Training - given by the Training Department

- Point of Operation Training - given by the contact person or manager.

8. Management of Outside Contractors/Visitors, including hazards communication and hazards control, protective equipment, etc.

Each manager of the affected departments will designate a contact person to interface with HS&E. The duties of the contact person will include, but are not limited to:

1. Liaison between HS&E and management.
2. Assisting HS&E in evaluating potential chemical and/or physical hazards in the department.
3. Maintaining chemical inventory for the department and providing HS&E with a chemical inventory list and any updates to the list.
4. Providing HS&E with required documents.
5. Attending coordination meetings upon the request of HS&E.
6. Developing a Point of Operation Training Program specific to their department; at ETEC, the requirements for such training will be defined in the Departmental Directive.
7. Conducting the Point of Operation Training for employees in the department, and for new or transferred employees prior to employees performing duties.
8. Maintaining the following documents:

- training
- chemical inventory
- material safety data sheets
- written department-specific hazard communication program

The chemical inventory list will be maintained by HS&E on an electronic data base and will be classified according to hazard. The list will be referenced by the contact person during Point of Operation Training.

#### ASBESTOS ABATEMENT BY SUBCONTRACTORS:

Asbestos abatement activities at Rockwell are conducted by state certified contractors. At ETEC limited asbestos abatement is conducted by ETEC personnel as part of the D&D work being performed. In either case, the activities must be conducted in accordance with 29 CFR 1926.58 to assure protection of contractor and ETEC personnel. Better coordination between HS&E and Environmental Control is needed to assure required oversight of asbestos activities. The Rocketdyne Asbestos Management Program has been drafted and will include provisions for this interface. This program plan is scheduled for completion May 3, 1991.

Rocketdyne will discontinue in-house evaluations and all bulk asbestos determinations will be performed by an outside accredited laboratory. Abatement specifications will be prepared for use by subcontractors and will provide for HS&E oversight. Requirements for clearance sampling will be proceduralized and performed as required by 29 CFR 1926.58.

In the area of limited in-house abatement that is performed with Rocketdyne employees, a procedure will be written to define industrial hygiene practice in accordance with OSHA regulations. This is defined in the next subsection of this Action Plan. Attendance sheets will continue to be maintained, as in the case for the D&D work performed at Building T020. ETEC employees doing gasket, floor and ceiling tile removal will continue to be trained, but improved recordkeeping for such training will be enforced. Committed HS&E support to Rocketdyne (AP148) will assure that the maintenance of such records are audited.

Monitoring will be accomplished during these activities where appropriate. In the case of recent floor tile removals, sufficient prior experience had indicated that exposure was not occurring during these operations. Rocketdyne will continue to rely on prior site-specific IH monitoring to determine the appropriate need for monitoring on new jobs. Routine post-removal samples will continue to be taken and records maintained.

In the area of medical monitoring for asbestos workers, the prescribed medical questionnaire will be adopted. A procedural change will be made to assure compliance.

#### PERSONNEL MONITORING FOR ASBESTOS:

A set of HS&E procedures will be developed to specifically define industrial hygiene practices to be enforced for Rockwell workers performing operations with or abatement involving asbestos. The procedures will reference 29 CFR 1926.58, and will contain the following elements:

##### 1. General Monitoring:

- Breathing zone samples will be taken to determine employee exposure.
- Representative 8-hour TWA employee exposure monitoring will be conducted for each shift, by employee and job classification.

##### 2. Initial Monitoring -- general monitoring requirements will apply, with the following exceptions:

- If adequate monitoring data after 12/20/85 is available, it can be relied upon to satisfy 29 CFR 1926.58.
- If the contamination is shown not to be capable of being released in airborne concentrations at or above the action level.

##### 3. Monitoring Frequency (Periodic Monitoring) and Patterns:

- If initial monitoring results are equal to or greater than the action level (0.1 fibers/cubic centimeter, (f/cc)) - monitor every six months.
- Changes in monitoring frequency will be implemented if initial or periodic monitoring indicates that exposures are below the action level; in such event, monitoring may discontinue for employees working in the affected areas.

4. Additional Monitoring: changes in production, process, control equipment, personnel or work practices that may result in new or additional exposures above the action level or when the employer has any reason to suspect that a change may result in new or additional exposures above the action level, additional monitoring will be required.

5. Method of Monitoring: personal samples will be taken according to Appendix A of 1926.58.

##### 6. Employee Notification of Monitoring:

- Employees will be notified in writing of their monitoring results within 15 days from the time HS&E receives the results. This written notification may be in the form of individual notices, or

they may be posted in an area accessible to the employee.

- Corrective actions will be included in the written notifications if monitoring results exceed the Permissible Exposure Limit (PEL) of 0.2 f/cc.

#### CARCINOGEN CONTROL PROGRAM:

In accordance with DOE 5480.10, a Carcinogen Control Program will be developed. Elements of the procedural implementation of this program will address:

1. Purpose
2. Policy
3. Applicability:
  - OSHA carcinogens
  - ACGIH carcinogens
4. Requirements
  - Written procedures
  - Regulated areas
  - Engineering controls
  - Signs and warning labels
  - Work practice guidance
  - Emergency procedures
5. HS&E/Department Interface:
  - Each manager of affected departments will designate a contact person to interface with HS&E.
  - The contact person will assist the HS&E in the evaluation of the work area for carcinogen use, and the implementation of aspects of the Carcinogen Control Program for their department.

Carcinogen hazards will be identified from the chemical inventories established by the Hazard Communication and Chemical Hygiene Programs. OSHA carcinogens will be registered with the carcinogen control unit. The provisions for each registered Fed/OSHA carcinogen will be implemented. Purchase requisitions will continue to be reviewed by HS&E for new purchases of hazardous chemicals, specifically with respect to carcinogens. HS&E will evaluate areas utilizing carcinogens by:

- Evaluating processes
- Conducting monitoring (if required)
- Recommending engineering controls

#### LEAD STANDARD:

A procedure will be added to the Rocketdyne HS&E Manual to implement a lead standard that unifies the safety and industrial hygiene-related practices relating to the use of lead at Rocketdyne. Components of the lead programs will include:

1. Exposure Monitoring
2. Exposure Controls
3. Required Personal Protective Equipment
4. Safety Work Practices
5. Medical Surveillance





Finding No: PP.2

Finding Description: Priority: 2

See Concerns PP.1-2, PP.3-3, PP.4-2, and PP.5-2.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M4 - Goals and Objectives

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o D&D activities in radiation areas are conducted under a Controlled Work Permit; however, industrial hygiene issues relating to such non-radioactive hazards as lead and asbestos are not provided similar emphasis. The implementation of dedicated HS&E professionals to ETEC (AP148), and the implementation of procedures addressing the use of NIOSH-accepted IH protocols will address this concern.

The preparation of operating procedures specifying the use of protective equipment without input from HS&E staff will be eliminated by the provision of ready access to HS&E professionals at ETEC. The training of line management and supervision in hazard recognition and safety awareness as covered in AP147 will assure that the preparation of procedures that involve health and safety risks are passed through HS&E, per ETEC Procedure. And, the implementation of closer HS&E involvement on facility acceptance as covered in coordination between the line organization and HS&E.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP151	See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2

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ACTION PLAN AP151 (For Finding No: PP.2)

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Action Plan Number: AP151

Plan Title: See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2



Finding No: PP.3-1

Finding Description: Priority: 2

A coordinated management approach to evaluate and control health and safety hazards, involving both line management and Health, Safety and Environment, has not been established at ETEC.

Root Cause:

M1 - Ownership M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Line management does not apply a systematic approach to implementation, application and enforcement of health and safety requirements. This will be addressed by elements of the Line Management Safety Program, described by AP147.

Health, Safety and Environment does not currently conduct a formalized or planned audit program for verification and oversight of line management and construction management safety and health programs. The provision of dedicated HS&E support to ETEC (AP148) address this issue, and also address the need to develop HS&E personnel with specific knowledge of hazards associated with ETEC operations.

The construction management program will in the future more effectively consider health and safety issues in the planning and oversight of subcontractor activities. This will be addressed by procedural modifications to assure HS&E involvement in Facility Acceptance Testing (AP147), and by procedural modifications and construction training as described in AP155, which responds directly to construction-related Finding PP.4-1.

The periodic evaluation by HS&E of hazard controls such as regulated area containments and personal protective equipment usage, and the performance of industrial hygiene surveys is addressed by dedicated HS&E support (AP148), by the implementation of procedures to assure compliance with OSHA regulations and DOE Orders (AP150), and by guidelines to assure NIOSH-accepted industrial hygiene practice (AP149).

The ability of management to effectively assess and respond to health and safety issues is enabled by AP133, which establishes an ES&H Appraisal Committee that will comply with DOE requirements for independent appraisal in this area, and which reports to ETEC General management.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP152	Coordinated HS&E Hazard Management



Finding No: PP.3-2

Finding Description: Priority: 2

Management of asbestos-containing materials and abatement activities does not demonstrate compliance with 29 CFR 1926.58 and does not ensure that hazard controls are applied.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight

Compliance Protocol:  
29 CFR 1926.58

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Limited surveys for asbestos, proper posting of asbestos-containing facilities, industrial hygiene monitoring for ETEC D&D asbestos operations, assurance of proper containment, and insufficient HS&E oversight of subcontractors are cited.

The use of proper methods for analysis and monitoring will be assured through procedural changes for industrial hygiene practice to the HS&E manual (AP149), and the implementation of procedures related to personnel monitoring for asbestos (AP150).

The conduct of subcontractor-performed abatement activities will be addressed by the Rocketdyne Asbestos Management Program, as described in AP150 under Asbestos Abatement by Subcontractors. This includes the taking of clearance samples; the elimination of in-house evaluations, and the reliance on accredited outside laboratories for analysis.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP153	Asbestos Management
AP149	Industrial Hygiene-Related Procedure Modifications

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ACTION PLAN AP153 (For Finding No: PP.3-2)

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Action Plan Number: AP153

Plan Title: Asbestos Management

Plan Description:

AP153 responds directly to Finding PP.3-2; however, the actions necessary to address the component concerns are included in other Action Plans. These Action Plans include:



Finding No: PP.3-3

Finding Description: Priority: 2

The design and management of regulated areas does not ensure containment and control of hazards and is not consistent with various regulatory requirements and DOE 5480.10.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE Order 5480.10

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The management and design of regulated areas intended to restrict access to radiation or other hazards has been observed to either permit potential gaps in protection (i.e, containment of the hazard), or breaches in procedure (as in the case of improper posting of confined space entry areas).

Full implementation of ETEC Procedure 1-03, "Health and Safety and Fire Protection Program" will ensure that proper controls will be established during all potentially hazardous operations. Controls will be established pertinent to the hazard present and may include the use of containment measures or establishment of regulated areas as prescribed for carcinogens in DOE Order 5480.10.

With the assignment of an industrial hygienist to ETEC on a regular basis, proper oversight will be provided to the kind of operations cited in the finding and insure control parameters are established for all hazardous operations (AP148).

Review, inspection, and concurrence in the design of regulated areas will be addressed by the HS&E interface to be established for Facility Acceptance in AP147.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP154	Design and Management of Regulated Areas





Finding No: PP.4-1

Finding Description: Priority: 3

The construction program, including its procurement aspects, does not apply an effective system to implement and enforce safety requirements and correct noncompliances.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The construction program at ETEC does not apply a system to identify, track and correct occupational safety and health concerns. Specifically, construction coordinators were deemed deficient in addressing health and safety issues.

Significant construction safety noncompliances were identified during the Tiger Team Assessment.

Contractors have not been penalized for poor safety performance, and ETEC maintains no record of safety performance.

Subcontractors are permitted to enter confined spaces under their own procedures, without review by HS&E staff.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP155	Construction Safety

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ACTION PLAN AP155 (For Finding No: PP.4-1)

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Action Plan Number: AP155

Plan Title: Construction Safety

Plan Description:

This Action Plan consists of development and provision of safety training for Construction Coordinators, revision of Procedure N-01 of the HS&E Procedures Manual, and review and revision of

the Flysheet on rules and regulations for contractors. Additionally, it references Action Plans AP147 and AP148.

Contractor safety is current being reviewed at Rocketdyne to insure contractor activities are conducted in a manner that does not affect the safety of Rocketdyne contractor employees. Current procurement procedures provide for issuance of safety requirements that must be followed by the contractor. Additionally, ETEC procedures require each contractor to submit a health and safety plan for review and approval prior to contract award.

Oversight of construction activities is the responsibility of the assigned construction coordinator; this oversight includes safety-related monitoring. A safety engineer is assigned to support ETEC, to work with the construction coordinator and to assure discrepancies are identified and corrected. The safety engineer enlists the support of the industrial hygienists, as necessary, to provide oversight and training support.

It is evident that a key to the implementation of safety-related procedures and to the coordination of professional HS&E support lies in management training and provision of sufficient HS&E oversight. The implementation of a dedicated safety engineer to ETEC (AP148), together with required management safety training (AP147) to include construction coordinators, will result in more effective implementation and enforcement of safety requirements for ETEC construction programs.

A heightened awareness of safety-related issues among construction coordinators and the committed presence of a safety engineer to ETEC will result in closer monitoring of safety-intensive construction activities, such as subcontractor-performed confined space entry. The degree to which such work may be directed by Rockwell will be reviewed with Rockwell's legal counsel.

Sustainment training in construction safety will be provided for construction coordinators under this Action Plan to insure they are capable of identifying noncompliances. Regular scheduled site visits will be conducted by the assigned safety engineer, to work with the coordinator in reviewing construction activities. These visits will be documented in the site log book along with the observation, and disposition of discrepancies.

HS&E Procedure N-01, "Contractor Safety," will be substantially revised to provide additional guidance for construction coordinators and a feedback mechanism to Procurement to advise of unacceptable contractor safety performance.

The "Flysheet" on rules and regulations for contractors will be reviewed and revised. A procedure for contractor asbestos abatement is currently located in the "Flysheet." Special attention will be given to this section in the review process.

Milestone 1: Revision of HS&E Procedure N-01

Date: 07/30/91

Milestone 2: Construction Coordinator safety training.

Date: 10/30/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
PP.4-1	QV2-1 Implement/Enforce Safety Requirements



Finding No: PP.4-2

Finding Description: Priority: 2

A program is not in place to identify, evaluate, monitor, and control credible exposures to chemical, physical, and safety hazards, in violation of various DOE Orders such as DOE 5480.10, and OSHA regulations such as 29 CFR 1926.58.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

DOE Order 5480.10, 29 CFR 1926.58

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Industrial hygiene surveys have not been conducted to assess hazards and implement systems to manage health and safety concerns, as in cited instances of potential exposure to benzene, lead, mercury, and asbestos. Industrial hygiene monitoring is not being performed to any significant extent. ETEC is unaware of the degree of hazard. Exposure monitoring for operations, required by regulation, is not performed. This concern will be addressed by the addition of dedicated HS&E resources to ETEC.

Operating departments have developed procedures specifying respiratory protection without benefit of exposure monitoring data or HS&E guidance to determine its need or appropriateness.

Lacking identification and evaluation, exposure controls and procedural guidelines have not been considered for many hazards.

Improper or inappropriate methods have been utilized by line management as in the case of bulk asbestos analyses and diesel emissions monitoring; HS&E review was absent in these instances.

According to Health, Safety & Environment Procedure D-06, "Energy Control and Power Lockout," Health, Safety & Environment is to conduct periodic, random audits to verify procedures are followed. These audits are not conducted.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP156	Identification, Monitoring, Control of Hazards

Action Plan Number: AP156

Plan Title: Identification, Monitoring, Control of Hazards

Plan Description:

This Action Plan addresses the implementation of a program to identify, evaluate, monitor, and control credible exposure to chemical, physical, and safety hazards, with attention to compliance with DOE Order 5480.10 and OSHA requirements. The Plan incorporates other Action Plans AP133, AP147, AP148, AP149, and AP150, which together provide for dedicated HS&E support to ETEC, additional guidelines in the HS&E manual to: unify the monitoring and evaluation of hazards in conformance with NOISH guidelines and OSHA standards; the addition of programs to address toxics as required by OSHA regulations; and, HS&E oversight in accordance with DOE Orders. These Action Plans are discussed in terms of their relevance to Finding PP.4-2 below.

AP148: The provision of roughly 0.4 EP industrial hygiene support will permit the conduct of existing HS&E programs and applications of exposure monitoring and evaluation in a way that is responsive to the particular needs of ETEC. The established level of support assures the availability of an individual that is familiar with planned and existing ETEC operations.

The industrial Hygienist (IH) will conduct, in accordance with ROP M-500, "Health, Safety & Environment," risk assessment surveys to ensure that all health hazards associated with ongoing operations are identified and evaluated, and that appropriate control measures are implemented. A schedule for conducting these surveys will be developed. Operations involving mercury, lead, benzene, asbestos, inorganic arsenic, cadmium and other carcinogens, will receive first priority, in accordance with procedural additions to be implemented under AP150, and by methods defined under AP149. An initial survey will be scheduled first to assess operations and identify and document potential health hazards.

Monitoring will be performed to establish an exposure baseline for identified potential hazards. Areas where exposures are determined to exceed regulatory requirements will have control measures implemented. As a result of monitoring, regulated areas where listed chemical carcinogens are used will be established, in accordance with the procedure on carcinogens which will be developed under AP150.

Monitoring for operations involving mercury, lead, benzene, asbestos, inorganic arsenic, cadmium and other listed carcinogens, required by regulation, will be scheduled and conducted, as needed. Periodic monitoring will be conducted to verify the adequacy of controls established.

The IH will document risk assessments in written reports. The reports will include recommended exposure control corrective actions for all identified deficiencies. ETEC managers will receive copies of the reports to inform them of the degree of hazard present and how it should be controlled. Implementation of controls will be tracked on the Health, Safety & Environment Audit Database.

AP147: In order to assure safety surveillance and oversight by line management self-inspections, safety awareness training and training in Point-of-Operations Training will be given to line management. Self-inspection will be key to assuring that procedures, such as HS&E D-06, are consistently followed.



Finding No: PP.5-1

Finding Description: Priority: 2

A program in compliance with 29 CFR 1910.1200, "Hazard Communication," and information systems required by 29 CFR 1920.1450, "Occupational Exposures to Hazardous Chemicals in Laboratories," are not in place.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources, M4 - Goals and Objectives

Compliance Protocol:

29 CFR 1910.1200, 29 CFR 1910.1450

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o A site-specific hazard communication program and chemical hygiene plan are not in place.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP157	Hazard Communications

ACTION PLAN AP157 (For Finding No: PP.5-1)

Action Plan Number: AP157

Plan Title: Hazard Communications

Plan Description:

Background:

Hazard communications training is available, but not applied uniformly where required. Additionally, some employees have exceeded expiration dates on periodic retraining. The unified application of safety programs will be assured through the training of line management and supervision in safety awareness and hazard identification and by procedural modifications to the ETEC procedures (AP147), which will specifically require the maintenance of training requirements of personnel by function and/or work assignment.

The assignment of dedicated HS&E personnel to ETEC (AP148) will provide for oversight to assure that hazard identification is without gaps and in accordance with applicable regulations. Training of line management, which is part of the Line Management Safety Program, will provide ETEC-wide support by way of the ability to perform self-assessment.





Finding No: PP.5-2

Finding Description: Priority: 2

Effective mechanisms to inform workers and supervisors of hazards associated with their activities are not applied, resulting in lack of hazard recognition and control, as well as noncompliance with various OSHA standards and DOE 5480.10.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources, M4 - Goals and Objectives

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Employees are not always aware of important hazards requiring implementation of controls or regulatory requirements.

Safety meetings, bulletins, and other mechanisms for communication of safety issues and sustainment training are not well organized.

Hazard warnings are not always in place for hazardous areas.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP158	Mechanisms for Hazard Recognition and Control

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ACTION PLAN AP158 (For Finding No: PP.5-2)

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Action Plan Number: AP158

Plan Title: Mechanisms for Hazard Recognition and Control

Plan Description:

This Action Plan specifically responds to the need for a mechanism whereby hazard recognition programs and practices are systematically and effectively applied. The objective of this mechanism is to enable the operations staff to become capable and motivated to perform hazard recognition and to understand hazard identification required by procedures and regulations.

AP158 consists of Action Plans AP147 and AP148 as described below:

AP147 will establish training for line management and supervision in safety awareness, hazard



Finding No: PP/TC

Finding Description: Priority: 2

See Findings TC.1-1 and TC.4-2

Root Cause:

M-1 Ownership, M-2 Assessment & Oversight, M-3 Resources, M-4 Goals and Objectives

Compliance Protocol:

DOE Order 5820.20

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The lack of a comprehensive training plan by job classification or work area will be addressed by AP147, which requires implementation of job- or work-area-specific training requirements.

No control mechanism is in place to ensure that those requiring training receive it.

Various workers engaged in asbestos abatement and chemical handling have not received associated training.

No lead or benzene training is provided. Asbestos abatement training consists of only a 2-hour course.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP159	Training Plan and Specific Hazard Training

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ACTION PLAN AP159 (For Finding No: PP/TC)

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Action Plan Number: AP159

Plan Title: Training Plan and Specific Hazard Training

Plan Description:

This Action Plan responds to the need for training coordination and qualification, the need to implement a comprehensive training plan, and the need to provide hazard-specific training.

Personnel protection training is provided for workers performing specified tasks and includes

respiratory protection, and issue of protective garments or equipment. Where potential hazards have not been recognized, some training requirements may not have been accomplished in a timely manner. Reiteration of the requirements of ETEC Procedure 1-03, "Health, Safety, and Fire Protection Program," will aid in ensuring timely identification of needs. Implementation of the "Health and Safety Audit Program," HS&E Procedure B-05 will provide necessary oversight to the training of concern. To a significant extent, the education of line management, and the provision of dedicated HS&E resources to ETEC will, through full implementation of existing procedures, respond to this Finding. Additionally, hazard communication programs in response to DOE Orders and regulations are being added to the HS&E procedures.

AP159 therefore consists of Action Plans AP096, AP147, AP148, and AP150, as described below:

AP096 will implement a training coordinator, and will define training qualification requirements. This coordinator function will augment the Rocketdyne training system that already serves to provide records of training and to recall employees for sustainment training. However, if an employee does not respond to a re-training notice, no further notices are sent. This plan specifies appointment of a full-time training coordinator and initiation of the training program by November, 1991.

AP147 will therefore together assure that line management takes a more proactive role to assurance of currency in training. AP147 will establish training for line management in safety awareness, hazard identification, and self-assessment. Through changes in ETEC procedures, AP147 will assure the unified application of safety training by requiring the maintenance of training requirements for personnel by function and/or work assignment. These requirements will be unit-specific, and therefore will be incorporated into the Departmental Directives.

AP148 will establish committed HS&E support at ETEC through roughly 0.4 EP in industrial hygiene and a full-time safety engineer. The assignment of dedicated HS&E personnel to ETEC will provide oversight to assure that hazard identification is without gaps and in accordance with applicable regulations. Audit is one of many functions for the HS&E support, as reflected by the functional reporting of this resource through the Manager of ETEC QA.

AP150 establishes a lead program and other hazard communication programs, which involve training requirements and directly address the communication to workers of hazards specific to the workplace. An asbestos program is also being established under AP150.

Milestone 1: Implement Training Program

Date: 06/30/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
PP/TC	Training for PP TC1-1/4-2

ADS No: 4017AA

Funding Comments:

Implementation of this plan requires funding from AP096.



Finding No: WS.3

Finding Description: Priority: 2

Compliance with occupational health standards for general industry. (See Appendix E to the Tiger Team Assessment report DOE/EH-0175.)  
See Concern PP.5-1.

Root Cause:

M1 Ownership, M2 Assessment and Oversight, M3 Resources

Compliance Protocol:

OSHA Standards and DOE Orders

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Development of chemical hygiene plan.
- Revision of hazard communication program plan.
- Additional exposure assessments.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP160	Compliance with DOE Prescribed Standards
AP150	Compliance-Related Changes to HS&E Manual

ACTION PLAN AP160 (For Finding No: WS.3)

Action Plan Number: AP160

Plan Title: Compliance with DOE Prescribed Standards

Plan Description:

A draft chemical hygiene plan has been prepared and will be completed in conjunction with the respective laboratories. It is planned that modifications will be made to the division's hazard communication program that will address the issues of information sharing with the subcontractors on site. HS&E Procedure N-01 is also being modified and will provide another checkpoint for assuring hazard communication information is provided to subcontractor employees.

Initial contact has been made with the ETEC laboratory personnel relative to an assessment of employee exposure to the arsenic trioxide that is used as a laboratory standard. Since this is an infrequent operation, the schedule for completion of this evaluation cannot be fixed. Results of the assessment will be documented and controls implemented as appropriate.





Finding No: WS.3-1

Finding Description: Priority: 1

ETEC is not in compliance with the monitoring requirements for 29 CFR 1910.95 Occupational Noise Exposure; 29 CFR 1910.1028, Benzene; 29 CFR 1910.1018, Inorganic Arsenic; 29 CFR 1910.1025, Lead; and 29 CFR 1926.58, Asbestos, Tremolite, Anthophyllite, and Actinolite.

Root Cause:

M1 - Ownership; M2 - Assessment and Oversight; M3 - Resources

Compliance Protocol:

29 CFR 1910.95; 29 CFR 1910.1028; 29 CFR 1910.1018; 29 CFR 1910.25; 29 CFR 1910.58

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Establish a monitoring plan and insure availability of industrial hygiene support.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP161	Industrial Hygiene Monitoring Program

ACTION PLAN AP161	(For Finding No: WS.3-1)
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Action Plan Number: AP161

Plan Title: Industrial Hygiene Monitoring Program

Plan Description:

The lack of industrial hygiene monitoring to assess potential extant in several ETEC activities is indicative of a lack of professional support to the organization. It is planned that an industrial hygienist be assigned to ETEC to insure early hazard recognition, evaluation, and control (refer to corrective action plan AP148). In advance of DOE approval of funding for this position, an industrial hygienist has been assigned from HS&E to develop an exposure evaluation strategy for the several areas noted in the finding, e.g., a noise survey has been conducted at B/020, an analysis of the ethyl alcohol for benzene content is in process, and plans are in place to evaluate mercury and diesel exhaust concerns (refer to corrective action plan AP156).

The continued presence and active involvement of the assigned industrial hygienist will assure that appropriate control parameters are established to maintain employee exposures within acceptable limits.



Finding No: WS.4-1

Finding Description: Priority: 2

EETEC does not comply with 29 CFR 1910, Subpart E, "Means of Egress."

Root Cause:

M2- Assessment and Oversight, M5-Policy

Compliance Protocol:

29 CFR 1910, Subpart E, "Means of Egress"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Emergency lighting is not provided or is inoperable in several locations.

Passage doors which do not afford a means of egress are not posted "Not an Exit."

One means of egress in Bldg. T065 has a lock and hasp on the outside of the door, allowing the door to be locked from the outside.

All exits are not identified and posted as exits.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP162	Means of Egress

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ACTION PLAN AP162      (For Finding No: WS.4-1)

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Action Plan Number: AP162

Plan Title: Means of Egress

Plan Description:

1. Locate and update floor plans of all facilities.
2. If unable to locate floor plans, prepare a small scale drawing showing the locations of rooms, doors, hallways, etc.
3. Determine location of all building exits.
4. Assure all exits are properly marked per the regulation.



Finding No: WS.4-2

Finding Description: Priority: 2

ETEC does not comply with 29 CFR 1910.151(C), regarding suitable facilities for quick drenching or flushing of the eyes and body.

Root Cause:

M1- Ownership, M5 - Policy, M2 - Assessment and Oversight

Compliance Protocol:

29 CFR 1910.151(C)

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The portable eye wash station at Bldg. T029 was not operable.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP163	Use of Safety Equipment.

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ACTION PLAN AP163 (For Finding No: WS.4-2)

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Action Plan Number: AP163

Plan Title: Use of Safety Equipment.

Plan Description:

Repair of the portable eye wash required immediate action. Repair was made and the unit was returned to its station prior to Tiger Team departure. Maintenance, including testing, of safety equipment is covered under Action Plan AP082.

Corrective actions to address root causes are provided in this corrective action plan (AP163).

Review ETEC Procedures 1-02 (Training) and 1-03 (ES&H).

Expand ETEC Procedures 1-03 to include training requirements for ETEC personnel related to health and safety issues in compliance with applicable DOE Orders and federal regulations.

In the interim, provide training in general environment, safety and health areas for all personnel. ES&H will provide guidelines to ETEC management regarding a Safety Awareness Program that will be presented to operating/facility personnel on a monthly basis. Resources for this item are contained



Finding No: WS.4-3

Finding Description: Priority: 2

ETEC does not comply with 29 CFR 1910, Subpart O, "Machinery and Machine Guarding."

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

29 CFR 1910, Subpart O

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC does not comply with 29 CFR 1910, Subpart O.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP164	Machinery and Machine Guarding

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ACTION PLAN AP164 (For Finding No: WS.4-3)

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Action Plan Number: AP164

Plan Title: Machinery and Machine Guarding

Plan Description:

Management training will be provided to insure non-compliance items will be recognized so corrective actions can be accomplished (refer to corrective action plan AP147). With the addition of a full-time safety engineer to ETEC (see corrective action plan AP148) and implementation of the health and safety audit program and managers' self-inspection programs (AP147), these kinds of discrepancies should be avoided in the future.

The training program proposed in AP096 will provide for training of workers on safety practices.

Appropriate corrective actions have been completed or planned for those discrepancies cited in support of the expressed finding.

Maintenance and inspection of all facilities and materials, equipment and machines contained therein is covered by Action Plan AP082. The program will provide for maintaining equipment in compliance with safety regulations.





Finding No: WS.4-4\*

Finding Description: Priority: 1

Electrical hazards presented an imminent danger to employees. ETEC does not comply with 29 CFR 1910.304, "Wiring Design and Protection," and 29 CFR 1920.305, "Wiring Methods, Components and Equipment for General Use." \*Category II

Root Cause:

M1- Ownership, M2 - Assessment and Oversight

Compliance Protocol:

29 CFR 1910.304, 29 CFR 1910.305

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o 440 energized box in T355 with water in area.
- o Metal storage shed in T066 with power strip not properly grounded.
- o Bldg T023 energized panel with missing cover.
- o Bldg T463 energized panel with open slots.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP165	Electrical Hazards
ACTION PLAN AP165 (For Finding No: WS.4-4*)	

Action Plan Number: AP165

Plan Title: Electrical Hazards

Plan Description:

Due to high priority of findings, concerns were corrected prior to Tiger Team departure. Corrective actions to address root causes are provided in the corrective action plan AP166. The corrective action plan calls for inspection and testing by personnel trained in electrical safety.



Finding No: WS.4-5\*

Finding Description: Priority: 2

ETEC does not comply with 29 CFR 1910, Subpart S, "Electrical."  
\*Category II.

Root Cause:

M1 - Ownership, M5 - Policy, M3 - Resources

Compliance Protocol:

29 CFR 1910, Subpart S, "Electrical"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Flexible cords and cables are used as a substitute for fixed wiring of buildings.

Electrical receptacles installed in locations where they could become damp or wet were not suitable for the location.

The plan consists of two sections:

Elimination of OSHA Electrical Deficiencies and Achievement of OSHA Compliance Excellence

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP166	Electrical Compliance/Achievement of OSHA Compliance Exc.

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ACTION PLAN AP166                      (For Finding No: WS.4-5\*)

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Action Plan Number: AP166

Plan Title: Electrical Compliance/Achievement of OSHA Compliance Exc.

Plan Description:

During its investigation, the ETEC Tiger Team identified 81 serious electrical deficiencies. To correct these, and other deficiencies, the following actions have been, or are being implemented:

1. Establish special task teams, comprised of ETEC personnel and Plant Services management, to thoroughly re-inspect ETEC facilities in accordance with 29 CFR 1910, Subpart S.
2. Perform inspections. Clearly mark discrepant items for easy identification and log each

finding, by building number/responsible manager, to facilitate identification of discrepant items and tracking of corrective actions.

Note: Facility managers assigned to task teams only inspect facilities other than those for which they have responsibility.

3. Prepare a composite listing of electrical deficiencies identified by the Tiger Team and ETEC/Plant Services task teams. The engineers and electricians shall be trained in electrical safety.
4. Provide qualified electricians and engineering direction as necessary to work off all items on the composite deficiency list.
5. Status and report on corrective activities to ETEC and Rocketdyne management on a weekly basis until all items are closed.
6. Establish a procedure requiring the facility manager to perform a review of all electrical work, when such work has been completed.
7. Provide sufficient training for plant operators and maintenance personnel to enhance understanding of 29 CFR 1910, Subpart S, requirements to facilitate recognition and prompt reporting of discrepancies to management.

The second part of this action plan deals with the achievement of compliance excellence. The prevalence of electrical problems identified by Tiger Team members, and later, by ETEC/Plant Services task teams demonstrates that significant measures must be taken to achieve the level of safety demanded by both DOE and Rocketdyne. Improved understanding of requirements is essential at all levels of the organization, additional technical and safety support and heightened management involvement must be provided from within ETEC, and more critical and extensive oversight must be provided by Rocketdyne H&S specialists. Additionally, ETEC must assume responsibility for, and direct control of, electrical installation and maintenance work being performed on the DOE facilities. Specific actions which are proposed to address and correct past problems are as follows:

8. Provide specific training on 29 CFR 1910, Subpart S, to all ETEC facility managers, operations engineers, and shift leaders. An independent, certified instruction organization shall be utilized for initial training. Resources for this item are contained in AP147.
9. Obtain an expanded commitment from the Rocketdyne HS&E organization for more extensive and more critical oversight of ETEC activities.
10. Formalize the process of plant safety inspections. Establish specific periodicity based on facility status, participants on the inspection team, and requirements for documenting findings and tracking corrective actions.
11. Formalize the conduct of plant safety meetings to assure that all operations personnel participate on a routine basis. Plans for safety meetings are costed in AP147. Meetings will be structured to provide a forum to convey recent findings and corrective actions, and as an opportunity for the staff to present any concerns and suggestions for further improvement. Meeting minutes will be prepared and distributed to affected employees and ETEC top management.



Finding No: WS.4-6

Finding Description: Priority: 3

ETEC does not comply with 29 CFR 1910.22(d), "Loading Protection."

Root Cause:

M-3 Resources

Compliance Protocol:

OSHA 29 CFR 1910.22(d)

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Analyze all industrial floors at the ETEC site and post the load limits as required.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP167	Floor Load-Ratings Posting

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ACTION PLAN AP167 (For Finding No: WS.4-6)

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Action Plan Number: AP167

Plan Title: Floor Load-Ratings Posting

Plan Description:

Analyze all industrial floors at the ETEC site and post the load limits as required.

Milestone 1: Complete analysis of each industrial floor.

Date: 09/30/92

Milestone 2: Procure and post load ratings.

Date: 04/30/93

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
WS.4-6	Load Ratings Not Posted

ADS No: N/A , ,

Funding Comments:

Implementation of this plan requires funding from AP147 and AP148.

Finding No: WS.4-7

Finding Description: Priority: 2

ETEC does not comply with 29 CFR 1910.184, "Slings."

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

29 CFR 1910.101, 184, and 242

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC managers require training on health and safety compliance requirements.

Safety oversight must be provided.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP168	Safety Practices and Compliance with Regulatory Requirements
AP147	ETEC Line Management Safety Program
AP148	Industrial Hygiene and Safety Engineer Oversight

ACTION PLAN AP168 (For Finding No: WS.4-7)

Action Plan Number: AP168

Plan Title: Safety Practices and Compliance with Regulatory Requirements

Plan Description:

To address the awareness issue, a mandatory training program will be conducted for all operations management to insure they have the requisite knowledge to recognize unsafe practices and conditions and assume the responsibility for their correction. This program is described under Finding PP.1-1 (AP147). Lack of adequate safety oversight will be corrected by assigning a professional safety engineer to ETEC on a full time basis. This is described in response to Finding PP.1-2 (AP148). These actions in concert with the re-establishment of the ETEC Management Safety Committee (AP147) which will provide management oversight and direction will enable ETEC to institutionalize these activities.

Corrective action has been completed on most of the specific deficiencies identified in support of the Findings. The two remaining deficiencies have estimated completion dates established and will





Finding No: WS.4-8

Finding Description: Priority: 2

ETEC does not comply with 29 CFR 1910.101, "Compressed Gases (general requirements)."

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

29 CFR 1910.101, 184 and 242

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC managers require training on health and safety compliance requirements.
- Safety oversight must be provided.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP169	Health and Safety Practices and Compliance with Regulatory R

ACTION PLAN AP169 (For Finding No: WS.4-8)

Action Plan Number: AP169

Plan Title: Health and Safety Practices and Compliance with Regulatory R

Plan Description:

See AP168.

Milestone 1: Full-time safety engineer.

Date: 10/01/91

Milestone 2: First management Safety Committee meeting.

Date: 10/30/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
WS.4-8	Compressed Gas Use

ADS No: 4017AA , ,

Funding Comments:

Implementation covered by AP168.



Finding No: WS.4-9

Finding Description: Priority: 2

ETEC does not comply with 29 CFR 1910.242, "Hand and Portable Powered Tools and Equipment (general)."

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

29 CFR 1910.101, 184 and 242

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC managers require training on health and safety compliance requirements.

Safety oversight must be provided.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP170	Health and Safety Practices and Compliance with Regulatory R
AP147	ETEC Line Management Safety Program
AP148	Industrial Hygiene and Safety Engineer Oversight

ACTION PLAN AP170 (For Finding No: WS.4-9)

Action Plan Number: AP170

Plan Title: Health and Safety Practices and Compliance with Regulatory R

Plan Description:

To address the awareness issue, a mandatory training program will be conducted for all operations management to insure they have the requisite knowledge to recognize unsafe practices and conditions and assume the responsibility for their correction. This program is described under Finding PP.1-1 (AP147). Lack of adequate safety oversight will be corrected by assigning a professional safety engineer to ETEC on a full time basis. This is described in response to Finding PP.1-2 (AP148). These actions in concert with the re-establishment of the ETEC Management Safety Committee (AP147) which will provide management oversight and direction will enable ETEC to institutionalize these activities.



Finding No: WS.4-10

Finding Description: Priority: 2

ETEC does not comply with OSHA Section 5(a)(1), "General Duty Clause."

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

20 CFR 1910.101, 184 and 242

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC managers require training on health and safety compliance requirements.
- Safety oversight must be provided.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP171	Health & Safety Practices & Compliance with Reg. Requirement
AP147	ETEC Line Management Safety Program
AP148	Industrial Hygiene and Safety Engineer Oversight

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ACTION PLAN AP171 (For Finding No: WS.4-10)

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Action Plan Number: AP171

Plan Title: Health & Safety Practices & Compliance with Reg. Requirement

Plan Description:

To address the awareness issue, a mandatory training program will be conducted for all operations management to insure they have the requisite knowledge to recognize unsafe practices and conditions and assume the responsibility for their correction. This program is described under Finding PP.1-1 (AP147). Lack of adequate safety oversight will be corrected by assigning a professional safety engineer to ETEC on a full time basis. This is described in response to Finding PP.1-2 (AP148). These actions in concert with the re-establishment of the ETEC Management Safety Committee (AP147) which will provide management oversight and direction will enable ETEC to institutionalize these activities.

Corrective action has been completed on most of the specific deficiencies identified in support of



Finding No: WS.5-1

Finding Description: Priority: 2

ETEC does not ensure that subcontractors control fall hazards to employees during construction activity as required by 29 CFR 1926, Subpart L.

Root Cause:

M-1 Ownership, M-2 Oversight and Assessment, M-3 Resources

Compliance Protocol:

DOE Orders and OSHA Standards 29 CFR 1926, Subpart L

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Ensure professional safety staff are familiar with specific regulations.
- o Provide proper oversight of construction activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP172	Contractor Surveillance

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ACTION PLAN AP172 (For Finding No: WS.5-1)

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Action Plan Number: AP172

Plan Title: Contractor Surveillance

Plan Description:

These three findings, WS.5-1, WS.5-2 and WS.5-3, have been consolidated into one action plan as they address the same issue, lack of oversight at contractor work sites. A safety engineer has now been assigned full time to support the ETEC operations (AP148) which will provide the necessary resources to accomplish the oversight set forth in ETEC Procedures 2-1, "Construction Management" and 2-38, "Construction Service Contracts."

In service training will be provided to the professional staff to insure their knowledge of applicable regulations is sufficient for conducting oversight of construction projects. This knowledge will be shared with the ETEC construction coordinators through the training to be provided to them (AP155).





Finding No: WS.5-2

Finding Description: Priority: 2

EETC does not ensure that subcontractors comply with construction electrical standards as required by 29 CFR1926, Subpart K, "Electrical."

Root Cause:

M-1 Ownership, M-2 Oversight and Assessment, M-3 Resources

Compliance Protocol:

DOE Orders, OSHA Standards 29 CFR1926, Subpart K, "Electrical"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Ensure professional safety staff are familiar with specific regulations.
- o Provide proper oversight of construction activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP173	Contractor Surveillance
AP172	Contractor Surveillance

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ACTION PLAN AP173 (For Finding No: WS.5-2)

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Action Plan Number: AP173

Plan Title: Contractor Surveillance

Plan Description:

Reference AP172.

Milestone 1: Construction Coordinator safety training.

Date: 10/30/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
WS.5-2	Subcontractor Elec Comp
WS.5-1	Control of Subcontractor Safety
WS.5-3	Welding & Cutting



Finding No: WS.5-3

Finding Description: Priority: 2

ETEC does not assure that subcontractors comply with 29 CFR1926.350 "Welding and Cutting."

Root Cause:

M-1 Ownership, M-2 Oversight and Assessment, M-3 Resources

Compliance Protocol:

DOE Orders, OSHA Standards 29 CFR1926.350, "Welding and Cutting"

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Ensure professional safety staff are familiar with specific regulations.

Provide proper oversight of construction activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP174	Contractor Surveillance
AP172	Contractor Surveillance

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ACTION PLAN AP174 (For Finding No: WS.5-3)

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Action Plan Number: AP174

Plan Title: Contractor Surveillance

Plan Description:

Reference AP172.

Milestone 1: Construction Coordinator safety training.

Date: 10/30/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
WS.5-3	Welding & Cutting
WS.5-1	Control of Subcontractor Safety
WS.5-2	Subcontractor Elec Comp



Finding No: FP.2-1

Finding Description: Priority: 2

Not all ETEC facilities are in compliance with NFPA 101 relating to illumination of exit signs and emergency lighting.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

NFPA 101; DOE 5480.7

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Lack of a written program to ensure compliance with NFPA 101.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP175	Exit Signs and Emergency Lighting

---

ACTION PLAN AP175 (For Finding No: FP.2-1)

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Action Plan Number: AP175

Plan Title: Exit Signs and Emergency Lighting

Plan Description:

Rocketdyne's Fire Protection Engineering (FPE) has always, and continues to, conduct Fire Protection Appraisals (FPAs) in accordance with NFPA Standard 101. Certain deficiencies in wall separation have been identified in these FPAs. Where deemed necessary, proper exemptions have been requested from DOE regarding inadequate fire barriers. The FPAs have also recognized that panic hardware opening devices have not been installed in some buildings. While this is not a code requirement, FPE understands such hardware is in accordance with generally accepted best management practices. Therefore, all new facilities are reviewed for the appropriateness of panic hardware.

FPE will conduct a survey of each DOE building over the next four months to determine the adequacy of exit signs and emergency lighting. In addition, the documented Fire Protection Program will be amended to demonstrate how the adequacy of exits signs and emergency lights is verified.



Finding No: FP.6-1

Finding Description: Priority: 2

Rocketdyne has not implemented a physical fitness program for fire fighters as required by NFPA 1500.

Root Cause:

M2 - Assessment and Oversight, M3 - Resources

Compliance Protocol:

NFPA 1500

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, a DOE mandatory standard, requires the development and implementation of a physical fitness program. On September 19, 1988, DOE Headquarters issues a memo regarding the implementation of NFPA 1500. No guidance was contained for Section 8 of NFPA 1500, which covers the physical fitness program. The memo indicated that "the Director of DOE medical programs" was expected to issue guidance at some future date, but such guidance has not yet been provided. Section 8 of the revised NFPA 1500 Implementation Plan, which was attached to the memo of September 29, 1988, required "each department to develop a physical fitness maintenance program."

Under emergency fire fighting conditions, fire fighters may be subjected to significant mental and physical demands associated with wearing fire-fighting clothing and breathing apparatus; pulling and positioning fire hose lines; and enduring high temperatures and toxic and smoke-filled environments.

SAN has not yet provided guidance and direction to Rocketdyne for the development and implementation of a physical fitness program for fire fighters as required by NFPA 1500.

This issue was identified in the ETEC Self-Assessment.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP176	Physical Fitness Program for Fire Fighters





Finding No: FP.6-2Finding Description: Priority: 2

SAN has not provided evidence and direction for implementation of a physical fitness program for fire fighters as required by NFPA 1500.

Root Cause:

M2 - Assessment and Oversight, M5 - Policy

Compliance Protocol:

NFPA 1500

Issues:

Corrective action on this finding requires that the following issues be addressed.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP177	SAN Distr. DOE Order

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ACTION PLAN AP177 (For Finding No: FP.6-2)

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Action Plan Number: AP177

Plan Title: SAN Distr. DOE Order

Plan Description:

The ETEC Medical Director is presently developing the criteria to again implement the referenced physical fitness program in the near future (POC was Larry Rodman, Rocketdyne Fire Protection Engineer).

This program was discontinued by the ETEC Medical Director in memorandum dated January 7, 1991 (Attachment A). The ETEC Fire and Security departments have been crossed trained so that the fire and security personnel positions are interchangeable. There is also a concurrence from SAN to delete physical fitness in memorandum dated March 11, 1986 from the acting Assistant Manager for Defense Programs (Attachment B). ESS was not aware of the deletion of the physical fitness program based on the ETEC recent memorandum dated January 7, 1991. The physical fitness program will be resumed in the near future at ETEC.

Milestone 1: Define Fitness Training Plan.

Date: 11/01/91

Milestone 2: Initiate training.

Date: 11/01/91



Finding No: FP.6-3

Finding Description: Priority: 2

The staffing level of the Rocketdyne Fire Department is not commensurate with the fire risk, and does not comply with NFPA 1500.

Root Cause:

M3 - Resources

Compliance Protocol:

NFPA 1500

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o On the day and evening shifts, only one fire department pump operator is available plus four area inspections who are on patrol and are cross-trained in fire protection and security for fire fighting purposes.

On the midnight to morning shift there is no fire pumper operator available. There are four area inspectors who are on patrol that are cross-trained in fire and security (who have to return to the fire station to man the fire pumper), one lieutenant or sergeant, and one gate guard.

Mutual aid fire fighting assistance for the ETEC site is available from Ventura County Fire Department, Los Angeles County Fire Department, and Los Angeles City Fire Department. However, the closest assistance is at least 20 minutes from ETEC facilities. See Concern OA.4-1.

The Rocketdyne Fire Department at SSFL is not augmented by an onsite trained fire brigade or volunteer fire personnel.

The staffing or manning requirements for a minimally acceptable fire company of four members responding on or arriving with each engine or ladder company to any type of fire according to NFPA 1500, A-6-2-1 are not being met.

The ETEC Self-Assessment recognized that they are not in full compliance with NFPA 1500.

See Concern TC.1-1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP178	Staffing Level of the Fire Department

Action Plan Number: AP178

Plan Title: Staffing Level of the Fire Department

Plan Description:

There has been a tremendous amount of discussion in the Fire Industry in regard to NFPA 1500. Unfortunately in 1987 when NFPA 1500 was developed, the intent of the committee was not to force many private fire brigades to be abandoned; however, this has in fact turned out to be the case.

In 1980, Federal OSHA enacted its requirements for private fire brigades. This was to be the first time in history where industrial fire brigades were being brought under the jurisdiction of an authority with law enforcement powers. In 1987, NFPA 1500, STANDARD ON FIRE DEPARTMENT OCCUPATIONAL SAFETY AND HEALTH PROGRAM, was issued. This document applied to all fire departments and fire brigades and was far more stringent than OSHA's regulations. As Industrial Risk Insurers write in their Fourth Quarter 1990 issue of the SENTINEL, "This acted as an additional disincentive. The high cost of complying with NFPA 1500 has prompted far too many people to abandon the idea of a fire brigade altogether."

Due to this controversy, NFPA is in the process of rewriting NFPA 600, PRIVATE FIRE BRIGADES, to cover all fire brigades. The new proposed standard is in the Fall Technical Committee Report and the standard will be voted on at the Fall meeting in Montreal this year.

As Jeff Mattern reports in the April 1991 issue of the NFPA publication, NEWS BULLETIN, INDUSTRIAL FIRE PROTECTION SECTION, the main controversy is the difference between a municipal fire department as opposed to an industrial fire brigade. He reports "Those of us who have been involved in the public fire service and who are now involved in the industrial sector know very well that there are distinct differences between the two. We also recognize that the same degree of safety is needed for fighting a typical industrial fire as is needed to fight a 'municipal' fire. The big difference is that the method of fire fighting on the industrial site is controlled by performance-based standards for site-specific hazards."

Concern FP.6-3 is concerned with the staffing level of the Rocketdyne Fire Department. NFPA 1500, Chapter 6-2.1 states "The fire department shall provide an adequate number of personnel to safely conduct emergency scene operations. Operations shall be limited to those that can be safely performed by the personnel available at the scene." The Appendix to this chapter is not part of the requirements but is included for information purposes only. The Appendix states the following:

"A-6-2.1 The limitation of emergency scene operations to those that can be safely conducted by the number of personnel on the scene is intended to reduce the risk of fire fighter death or injury due to understaffing. While members can be assigned and arrive at the scene of an incident in many different ways, it is strongly recommended that interior fire fighting operations should not be conducted without an adequate number of qualified fire fighters operating in companies under the supervision of company officers.

"It is recommended that a minimum acceptable fire company staffing level should be four members responding on or arriving with each engine and each ladder company responding to any type of fire. Companies responding in high fire risk areas should have a minimum acceptable staffing of six fire fighters on engine companies. These recommendations are based on experience from actual fires and indepth fire simulations, critically and objectively evaluating fire company effectiveness. These



Finding No: FP.6-4

Finding Description: Priority: 4

The Rocketdyne Fire Department does not have a training program in place for advancement of fire fighter personnel, or a standard for measuring the proficiency of Fire Department personnel.

Root Cause:

M3 - Resources

Compliance Protocol:

None.

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There is no training program developed for fire officer level or for fire fighter levels II or III advancement.

There is not a standard in place to measure the proficiency of Fire Department personnel.

The fact that ETEC is not in full compliance with NFPA 1500 was addressed in the ETEC Self-Assessment.

See Concern TC.1-1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP179	Advancement and Training Program for the Fire Department

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ACTION PLAN AP179 (For Finding No: FP.6-4)

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Action Plan Number: AP179

Plan Title: Advancement and Training Program for the Fire Department

Plan Description:

The Rocketdyne training program is consistent with criteria for an industrial fire brigade. Professional development and advancement are provided consistent with Union contract constraints and the implications involved. Rocketdyne recognizes that there are no code requirements to have such advancement levels but does recognize the importance of an advancement program within the Protective Service Department. A progression program does exist which identifies the requirements to progress from Fire Protection Officer to Sergeant, Lieutenant, Captain and Manager of Protective Services.



Finding No: FP.6-5

Finding Description: Priority: 2

The Rocketdyne Fire Department does not have an assigned safety officer as required by NFPA 1500.

Root Cause:

M3-Resources

Compliance Protocol:

NFPA 1500

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There is no safety officer trained or assigned to the Fire Department.

The fact that ETEC is not in full compliance with NFPA 1500 was addressed in the ETEC Self-Assessment.

See Concern TC.1-1.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP180	Assigned Safety Officer for Fire Department

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ACTION PLAN AP180 (For Finding No: FP.6-5)

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Action Plan Number: AP180

Plan Title: Assigned Safety Officer for Fire Department

Plan Description:

Please see the Plan Description under the AP178 regarding the controversy of NFPA 1500.

Rocketdyne Protective Services has in the past utilized assistance from the Rocketdyne Safety Department. However, there is no safety office directly assigned to the Fire Department. Within the next four months, Protective Services will assign an individual of their department to be a safety officer. Protective Services will then utilize the assistance of the Safety Department to serve as advisor to the Fire Department. However, predicated upon the amending of NFPA 600 and 1500, requirements may change as well as our corrective action plan.





Finding No: MS.1-1

Finding Description: Priority: 3

The Medical Director is not appropriately involved or supported to be fully informed and able to provide timely input to top management, as required by DOE 5480.8.

Root Cause:

Procedure/Policy

Compliance Protocol:

5480.8

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Medical Director participate in accident investigations.

Medical Director participate in formulating/reviewing all health and safety policies and procedures.

There be more meetings/contacts between the Medical Director and other health and safety professionals.

That Medical Department have more training, support and equipment for use of computers.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP181	Medical Director Involvement

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ACTION PLAN AP181 (For Finding No: MS.1-1)

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Action Plan Number: AP181

Plan Title: Medical Director Involvement

Plan Description:

Policies/Procedures will be revised to implement the following actions:

1. The Medical Director will be appointed to the Senior Management Incident Review Committee, the Crisis Management Team, and the Environmental Task Team and will participate as required.
2. The Medical Director, the Director of Health and Safety, and the Director of Environment are



Finding No: MS.2-1

Finding Description: Priority: 3

Medical records are not complete as required DOE 5480.8 and do not meet OSHA standards.

Root Cause:

M3 - Resources, M5 - Policy

Compliance Protocol:

DOE Order 5482.8

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o All visits to Medical Department be recorded in the patients' medical record.

That history form for asbestos exposure, verified by OSHA, be used.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP182	Medical Records

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ACTION PLAN AP182 (For Finding No: MS.2-1)

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Action Plan Number: AP182

Plan Title: Medical Records

Plan Description:

1. Policy and practice have been revised to require that all visits to the Medical Department be recorded in patient's medical record.
2. Policy and practice have been revised and asbestos exposure record forms have been ordered. These data will be collected and maintained by the Medical Department.

Milestone 1: Revise Medical Department policy.

Date: 05/31/92



Finding No: MS.3-1

Finding Description: Priority: 3

The medical facilities are not sufficiently spacious and do not provide for privacy as required by DOE 5480.8 or community standards.

Root Cause:

M3 - Resources, M5 - Policy/Procedure

Compliance Protocol:

DOE Order 5480.8

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o That access and layout of the Canoga medical facility be revised to provide smooth patient flow, patient privacy, and office space for staff.

That the SSFL medical facility have the aesthetics improved.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP183	Medical Facilities Upgrade

ACTION PLAN AP183 (For Finding No: MS.3-1)

Action Plan Number: AP183

Plan Title: Medical Facilities Upgrade

Plan Description:

Upgrade of the Canoga medical facility was planned and is scheduled to begin November 1991. The concerns identified by the Tiger Team will be addressed. This effort will be accomplished with company funds.

Rocketdyne Plant Services will establish required updates to the SSFL medical facility and, when funded, will improve the aesthetics.

Milestone 1: SSFL Medical facility redesign

Date: 02/01/92

Milestone 2: SSFL medical facility remodel

Date: 04/01/92



Finding No: MS.3-2

Finding Description: Priority: 3

Staffing is inadequate to meet routine and emergency requirements and does not meet industry or DOE 5480.8 standards.

Root Cause:

Policy/Procedures

Compliance Protocol:

DOE Order 5480.8

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Many examinations do not include physical examination by a physician or physicians assistant/
  - Routine tours of the plant facilities are not made.
  - Regular staff meetings are not conducted.
  - Training and continuing medical education opportunities are limited by staffing requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP184	Medical Department Staffing

ACTION PLAN AP184 (For Finding No: MS.3-2)

Action Plan Number: AP184

Plan Title: Medical Department Staffing

Plan Description:

Policies and procedures will be implemented to accomplish the following:

1. Staffing is to meet routine and emergency requirements, and training and continuing education opportunities will be expanded to standards as set forth in DOE Order 5480.8, according to funding availability.
2. All ETEC personnel will be examined according to 5480.8. See MS.3-3 for funding.





Finding No: MS.3-3

Finding Description: Priority: 3

The physical examination program does not meet requirements of Rocketdyne policies and procedures or OSHA or DOE 5480.8 standards.

Root Cause:

M3 - Resources, M5 - Policy

Compliance Protocol:

DOE Order 5480.8

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o That voluntary, routine periodic (medical) examinations be offered to all ETEC employees per DOE Order 5480.8.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP185	Medical Examinations
ACTION PLAN AP185 (For Finding No: MS.3-3)	

Action Plan Number: AP185

Plan Title: Medical Examinations

Plan Description:

A program of routine, periodic examination will be set up for all ETEC employees working on DOE contracts.

As soon as staffing levels, identified in Action Plan AP184, are reached, physicians/physician assistants will be utilized on all surveillance examinations of ETEC/AI employees working on DOE contracts.

Physical examinations will be an integral part of preplacement examination for employees assigned to DOE-funded activities.



Finding No: MS.4-1

Finding Description: Priority: 3

Compliance with company and regulatory standards cannot be ensured without a review and audit program.

Root Cause:

M3 - Resources, M5 - Policy

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o That Medical Services institute a program of routine audit of performance review records.

Copies of relevant policies, practice and procedures documents and OSHA and DOE standards be made readily available for reference and familiarity and that they be effectively communicated.

Policies, practices and procedures be reviewed on a regular basis.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP186	Medical Audit Program

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ACTION PLAN AP186 (For Finding No: MS.4-1)

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Action Plan Number: AP186

Plan Title: Medical Audit Program

Plan Description:

The Medical Director periodically meets with Medical Directors of other Rockwell Divisions. Arrangements will be made for medical professionals from other Rockwell Divisions to perform regular audits of the Rocketdyne Medical Program.

A program will be set up, in concert with the Director of Health & Safety, and Director of Environment, to establish a reference library in the Medical Department of relevant documents and to maintain those documents current.



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### 3.3 Management

#### Overview

The Tiger Team noted that ETEC facilities have been classified as low hazard, low risk and, as a result, there has not been the inherent awareness for formality and rigor in the performance and documentation of ES&H activities at ETEC. Nonetheless, the team felt that certain fundamental management practices must be in place to achieve the DOE initiatives in ES&H excellence. The Tiger Team identified a number of weaknesses in the management system that resulted in the 12 management findings. This section presents the corrective action plans that address these findings.

#### Root Causes and Responses

The causal factors leading to the 12 findings together with the corrective action plans that address these factors are presented below:

1. The site contractor has not established an effective program for oversight of its ES&H activities.

##### Action Plan

AP147	ETEC Line Management Safety Program
AP148	Industrial Hygiene and Safety Engineer Oversight
AP134	Periodic ES&H Review of Operations
AP191	Independent Oversight Program

2. ES&H activities at ETEC are not being performed with the degree of formality and rigor necessary to meet DOE policies, requirements and guidelines for the operation of DOE facilities.

##### Action Plan

AP057	Improved Formality of Operations
AP061	Conformance with Procedures and Directives
AP060	Preparation and Use of Detailed Procedures
AP095	Preparation and Control of Maintenance Procedures
AP118	Procedures for Personnel Protection Guidance
AP125	ETEC Direction on Codes and Standards

3. Site contractor organizational and individual ES&H roles, responsibilities and authorities have not been defined, communicated or understood throughout all levels of the organization.

Action Plan

AP189	Individual Roles and Training
AP187	Strategic Planning
AP192	Program for Effective ES&H Monitoring
AP198	Distribution of Directives to ETEC
AP136	Management Oversight/Awareness
AP074	Formally Articulated Safety Awareness Program

4. DOE's oversight and SAN's guidance of ES&H activities at ETEC is not sufficient to ensure full implementation of DOE's ES&H initiatives.

Action Plan

AP138	SAN Audits
AP177	SAN Distr. DOE Orders
AP198	Distribution of Directives to ETEC

Findings and Action Plans



Finding No: MF.-1

Finding Description: Priority: 3

ETEC does not have an integrated sitewide strategic planning process which incorporates ES&H activities on a prioritized basis.

Root Cause:

M1 - Ownership

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o ETEC strategic planning is fragmented.

An integrated strategic plan for staffing and funding of ES&H activities does not exist.

No comprehensive assessment plan for operation oversight.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP187	Strategic Planning
AP200	ETEC Self-Assessment Program

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ACTION PLAN AP187 (For Finding No: MF.-1)

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Action Plan Number: AP187

Plan Title: Strategic Planning

Plan Description:

Currently ETEC's strategic planning in the area of ES&H is fragmented and almost non-existent. Long-range strategic planning has not been a high priority task because: 1) ETEC operations are considered low-intermediate risk, and 2) the extent of continued operations at ETEC has been uncertain due to decreasing interest in liquid metal reactor programs and competition for limited existing funds.

The recent Tiger Team Assessment pointed out that ES&H must be of highest priority and an ongoing part of operations. The strategic planning process will be upgraded and will be developed and implemented in response to Tiger Team findings.

The Strategic Plan will identify generic ES&H deficiencies, establish strategies for correcting deficiencies that address root causes, outline quantitative and qualitative goals, and establish strategies for the prioritization and allocation of resources.

Specific topics to be addressed include:

- Policy
- Oversight and Assessment
- Training
- Attitude and Cultural Changes
- ES&H Enhancement Strategies
- Resource Allocation and Schedules

The Strategic Plan will assure the correction of existing problems and define a continuous improvement process for ES&H at ETEC based on lessons learned.

The strategic plan will be implemented through all of the current action plans, action plans that may result from future assessments/audits, and through changes to procedures and organizational structure as outlined in the action plans.

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the action plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC Management.

The QA Manager has assigned an ES&H coordinator to conduct an on-going review/audit of Rocketdyne and ETEC procedures and operations for compliance with 29CFR and AOCFR DOE Orders and other regulatory requirements. The ES&H coordinator will maintain cognizance of the progress made by line and program management.

Milestone 1: Complete & implement Strategic Plan.

Date: 06/01/92



Finding No: MF.-2

Finding Description: Priority: 3

Lack of clear organizational ES&H roles, responsibilities and authorities.

Root Cause:

M1 - Ownership

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There is not a clear understanding by all of the organizational units involved in ES&H activities as to their roles, responsibilities and authorities, as well as the relationships among such units.

There is lack of clear definition in the formal assignments of responsibilities between the line safety organizations and the safety oversight organizations.

Interfaces between ETEC operations personnel and Rocketdyne Plant Services are insufficiently clear to establish the authority for control over maintenance activities.

There is absence of ES&H expertise in ETEC line organizations.

ES&H activities lack cohesion and are organizationally fragmented.

Stop work authority is not fully understood throughout the company.

Multiple organizations manage the inactive waste program without recognition of the need for coordination.

Confusion exists with regard to responsibility for assuring visitors are knowledgeable of potential hazards.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP188	Organizational Roles
AP045	Interface of Responsibility
AP079	Coordination of Maintenance Performed by Plant Services
AP082	ETEC Maintenance Program and Organizational Structure
AP042	Proactive Compliance with DOE Safety & Health Requirements

AP043 Line Safety Vs Overview Not Defined Nor Staffed  
AP096 No Training and Qualification Program

Action Plan Number: AP188

Plan Title: Organizational Roles

Plan Description:

In light of the limited scope of operations at ETEC, a dedicated ES&H unit totally funded by DOE is not warranted nor practical. However, the addition of ES&H personnel to the ETEC staff, and the reorganization of ES&H functions will significantly improve the existing situation. The following actions will be taken:

1. Environmental and safety/health functions will be combined under the same manager in the ETEC organization.
2. ES&H oversight and line activities will be separated.
3. ES&H functions will be elevated organizationally to provide more visibility and influence.

Combining environmental and safety/health activities under a single manager will simplify the organizational structure, eliminate ambiguous responsibilities and authorities, and provide cohesion to a fragmented organization.

Separation of line and oversight activities will provide top management the opportunity to organizationally elevate the importance of this critical function.

A dedicated ES&H staff familiar with DOE requirements and part of the ETEC organization will eliminate competition for ES&H resources, improve the effectiveness of this activity, and encourage ETEC line management to better utilize these resources.

The revision of ETEC's organizational infrastructure to consolidate and elevate ES&H functions and more closely reflect other DOE laboratories and field offices, and the addition of experienced ES&H personnel will:

1. simplify organization interfaces,
2. eliminate redundancies and ambiguities,
3. clearly delineate responsibilities and authorities,
4. enhance and encourage full utilization of resources, and
5. reflect the importance that DOE puts on ES&H.

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the action plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an

interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC Management.

The QA Manager has assigned an ES&H coordinator to conduct an on-going review/audit of Rocketdyne and ETEC procedures and operations for compliance with 29CFR and AOCFR DOE Orders and other regulatory requirements. The ES&H coordinator will maintain cognizance of the progress made by line and program management.

Milestone 1: Part-time industrial hygienist.	Date: 10/01/91
Milestone 2: Full-time safety engineer.	Date: 10/01/91
Milestone 3: Revise Policy and Procedures Manual to define interface responsibi	Date: 11/22/91
Milestone 4: Develop Maintenance Unit charter/organization.	Date: 10/04/91
Milestone 5: Implementation of ES&H Reorganization Plan.	Date: 10/01/91
Milestone 6: Prepare ETEC Training Plan.	Date: 12/01/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.1-1	Job Description/Safety Responsibilities
MF.-2	Organizational Roles
MF.-3	Individual Roles and Training
OA.4-1	Interface of Responsibility not well defined.
OP.5-1	Coordination of ETEC and Rocketdyne
QV.1-4	Need Specific Procedures
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
MA.1-1	Document Maintenance Plan
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
MA.6-3	Tagout Lockout Procedure
MA.8-1	Maintenance Procedure/Control
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-6	Conduct of Operation
OA.1-3	ETEC Not Proactive
OA.2-1	Line Safety vs Overview not defined nor staffed.
FR.1-1	ES&H Appraisal Committee



Finding No: MF.-3

Finding Description: Priority: 3

The Site Contractor has not communicated personal ES&H responsibility and accountability throughout all levels of the organization or provided the necessary training to ensure effective performance of ES&H responsibility.

Root Cause:

M1 - Ownership

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Awareness of ES&H goals is lacking.

Organizational goals have not been translated into personal goals.

Job descriptions do not include ES&H responsibilities.

Training commensurate with employee responsibility has not been provided.

ETEC management has not identified site-wide training requirements.

The existing training program is fragmented, incomplete and informal.

Training deficiencies have resulted in a lack of understanding of DOE ES&H requirements.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP189	Individual Roles and Training
AP188	Organizational Roles
AP048	Annual Performance Evaluation
AP044	Safety Goals
AP147	EETEC Line Management Safety Program



Action Plan Number: AP189

Plan Title: Individual Roles and Training

Plan Description:

ETEC management has demonstrated a commitment to the policy that ES&H is the responsibility of every employee and is an integral part of the employee job. However, ETEC has not taken formal action to assure the success of this policy.

To correct this deficiency, the following actions will be taken:

1. ES&H responsibilities and authorities (specific/general) will be established for each job position.
2. ES&H performance will become part of each employee's annual performance review.
3. A training certification and career development program will be established and implemented for all employees.

The establishment of a site-wide training and certification program will:

1. clarify and delineate responsibilities/authorities,
2. provide cohesion to a fragmented training program, and
3. foster personal interest and growth in this critical area.

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the action plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC management.

The QA Manager has assigned an ES&H coordinator to conduct an on-going review/audit of Rocketdyne and ETEC procedures and operations for compliance with 29CFR and AOCFR DOE Orders and other regulatory requirements. The ES&H coordinator will maintain cognizance of the progress made by line and program management.



Finding No: MF.-4

Finding Description:

Priority: 2

The Site Contractor does not have an independent ES&H oversight program consistent with applicable requirements for assuring comprehensive, effective, and objective ES&H review.

Root Cause:

M5 - Policy, M3 - Resources

Compliance Protocol:

DOE Order 5482.1B

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Triennial review of ES&H system.

Internal appraisals of safety functional disciplines.

Perform annual facility appraisals covering all safety disciplines.

Provide independent review of the Radiation Protection and Health Physics activities.

Provide oversight of the Environmental Control and Energy Conservation Organizations.

Establish multidisciplinary appraisal activities.

Implement a comprehensive tracking, trending and root cause analysis system.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP191	Independent Oversight Program
AP148	Industrial Hygiene and Safety Engineer Oversight
AP147	ETEC Line Management Safety Program
AP046	Performance Indicators
AP133	ES&H Appraisal Committee

Action Plan Number: AP191

Plan Title: Independent Oversight Program

Plan Description:

Corrective actions to the issues identified by this finding are addressed in the respective Action Plans enumerated below:

AP191 Independent Oversight Program  
 AP148A Industrial Hygiene Oversight  
 AP148B Safety Engineering Oversight  
 AP147A HS&E Modification to ETEC Procedures  
 AP133 HS&E Safety Appraisal Committees  
 AP046 Performance Indicators

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the actions plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC Management.

The QA Manager has assigned an ES&H coordinator to conduct an on-going review/audit of Rocketdyne and ETEC procedures and operations for compliance with 29CFR and AOCFR DOE Orders and other regulatory requirements. The ES&H coordinator will maintain cognizance of the progress made by line and program management.

Milestone 1: Identify/implement new tracking procedures.	Date: 06/01/91
Milestone 2: Part-time industrial hygienist.	Date: 06/03/91
Milestone 3: Full-time safety engineer.	Date: 09/30/91
Milestone 4: Implement HS&E Manual changes.	Date: 12/30/92
Milestone 5: Implement EC Manual changes.	Date: 12/30/92
Milestone 6: Appoint ES&H appraisal committee.	Date: 05/30/92



Finding No: MF.-5

Finding Description: Priority: 3

ETEC management does not have an effective and integrated ES&H performance monitoring and assessment system on which to determine the status, of and base decisions regarding ES&H.

Root Cause:

M5 - Policy

Compliance Protocol:

N/A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o There is no effective and integrated ES&H performance monitoring.

There are no ES&H performance indicators in use at ETEC.

The limited QA & OSHA trending does not convey a comprehensive picture of ETEC ES&H activities.

No central data base exists for doing trending analyses.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP192	Program for Effective ES&H Monitoring
AP046	Performance Indicators

ACTION PLAN AP192 (For Finding No: MF.-5)

Action Plan Number: AP192

Plan Title: Program for Effective ES&H Monitoring

Plan Description:

The self-assessment, QA and ES&H oversight established in Action Plans 200 and 191 will provide feedback on the effectiveness of action plan implementation for ES&H compliance.

In addition, performance indicator (PI) data will be submitted to the PI coordinator on a quarterly basis by responsible managers appointed by ETEC's General Manager. The PI coordinator will compile

the data and report the results and trends in the Contractor PI Report. The Contractor Report will be submitted to the Operations (Field) Office for preparation of the Field Office PI Report and to selected ETEC management. The General Manager and direct reports will review the results, identify deficiencies, and formulate actions required to improve operations. The results of corrective actions will be reported in subsequent Contractor PI Reports.

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the action plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC Management.

The QA Manager has assigned an ES&H coordinator to conduct an on-going review/audit of Rocketdyne and ETEC procedures and operations for compliance with 29CFR and AOCFR DOE Orders and other regulatory requirements. The ES&H coordinator will maintain cognizance of the progress made by line and program management.

Milestone 1: Identify/implement new tracking procedures.

Date: 06/01/91

Milestone 2: Submit first quarterly PI report to DOE.

Date: 07/01/91

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
OA.5-1	Performance Indicators
MF.-5	Performance Monitoring and Assistance
OA.3-1	Written Safety Goals not Established
OP.1-1	Safety Awareness Program
PP.1-1	O&A/Line Management Control
MF.-4	Contractor Independent Oversight

ADS No: 4014AA ,4020AA ,4017AA

Funding Comments:

Implementation of this plan requires funding from AP200.

Finding No: MF.-6

Finding Description:

Priority: 2

The requirements and guidelines for the conduct of operations at ETEC facilities have not been adequately implemented.

Root Cause:

M5-Policy; M2-Assessment/Oversight; M1-Ownership

Compliance Protocol:

DOE 5480.19

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o A policy of strict procedural adherence has not been effectively communicated to all personnel.

The General Policy Statement and implementing instructions related to procedure development, use and adherence promulgated in the ETEC Procedures Manual have not been effectively implemented.

ETEC administrative procedures contain generalized requirements without reference to specific implementing procedures, documentation requirements, or accountability for the actions required.

Program Operations Department Directive P0DD-5, Equipment Clearance and Release Order (ECRO), does not adequately address documentation of as-left equipment positions and post-maintenance and post-modification testing, and there are numerous discrepancies in documenting and controlling safety clearances.

The change control process for test and operating procedures is inadequately controlled and improperly applied.

Acceptance criteria are not adequately specified ATP's on operator standard round sheets and out-of-tolerance readings are not adequately highlighted or acknowledged.

Controls over maintenance and modification activity, and documentation of such activities, are inadequate.

Configuration control for plant procedures, equipment and systems is not adequately formalized and is not always maintained.

ETEC procedures do not require any independent verification of electrical or mechanical equipment positioning for important process applications.



Management and QA oversight related to the conduct of operations is not adequately structured, documented or effective in identifying and correcting deficiencies and in addressing root causes and actions to prevent recurrence.

There is no ETEC-wide policy requiring formal management and supervisory walk-throughs.

No QA audits have been performed directly addressing conduct of operations.

Supervisory, management, and QA reviews of completed operating and test procedures fail to identify technical and documentation errors and omissions, and repetitive deficiencies are not documented, tracked or trended, or formally elevated to higher management.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP193	Conduct of Operations Improvements
AP057	Improved Formality of Operations
AP060	Preparation and Use of Detailed Procedures
AP061	Conformance with Procedures and Directives
AP077	Review of Procedure Change Practices During Operation
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance
AP081	Maintenance Planning
AP082	ETEC Maintenance Program and Organizational Structure
AP083	Maintenance Program Improvement
AP084	Maintenance Program Priority

ACTION PLAN AP193

(For Finding No: MF.-6)

Action Plan Number: AP193

Plan Title: Conduct of Operations Improvements

Plan Description:

Most of the issues identified under this Finding are covered in the various Action Plans referenced above. Actions planned to address the remaining issues are as follows:

1. Several actions are planned to enhance the content of operator round sheets and to assure more effective utilization. These include:
  - a. review by facility management of each parameter recorded on individual round sheets and inclusion of acceptance criteria wherever quantitative information is requested.
  - b. enhanced training of operations personnel on the proper execution of the round sheets, with special emphasis on highlighting out-of-specification conditions and on the inclusion of definitive

remarks about actions taken when out-of-specification conditions are observed.

c. institutionalizing the practice of periodic surveillance of operator rounds by facility management. This requirement will be added to ETEC Procedure 6-02, "Test Facility Operation and Control."

2. Management and QA are taking various measures to improve the implementation and oversight of conduct of operations. ETEC's assessment of SCTI's compliance with DOE Order 5480.19 identified over fifty actions needed to achieve or enhance compliance. Many, such as the need for improved utilization of operator round sheets discussed above, subsequently were highlighted by Tiger Team members. These actions, when complete, will improve operations and heighten management and QA involvement with and oversight of operations. Compliance matrices similar to the one developed for SCTI will be prepared for the principal operating regimes of the other ETEC facilities. These will highlight those areas for which compliance is required and actions necessary to achieve compliance. Timely completion of such actions will be monitored. In addition, considerable effort is being devoted to the development of performance indicators and new procedures for root cause analysis and improved trend analyses which will provide management with powerful tools for evaluating future conduct of operations.

3. A specific requirement for formal management and supervisory walk-throughs of the ETEC facilities will be incorporated into appropriate ETEC procedures for evaluations of compliance with HS&E rules and regulations as well as conduct of operations.

4. Routine QA audits of conduct of operations will be added to the audit schedule after the various action items discussed above have been completed and implemented.

5. QA engineers who review completed test and operations procedures will, in future, prepare nonconformance reports (NCRs) whenever procedural deficiencies are noted. This practice will force procedure implementers to devote appropriate attention to proper performance and will automatically elevate findings of deficiency to the attention of higher management. Further, inclusion of this type of information in the NCR system will assure that deficiencies are tracked and trended.

Functional responsibility for coordination, tracking and reporting of progress in the respective action plans has been assigned to the Manager of ETEC Quality Assurance. Programmatic responsibility for implementation of the action plans has been assigned to the ETEC Facilities Program Manager.

The General Manager has assigned responsibility for preparing ETEC's contribution to the Action Plan, including coordination of all planning inputs, to the Manager of the ETEC Quality Assurance Department. This assignment will continue until the Plan receives final approval, after which the QA Manager will assist the functional and program managers in plan implementation and in an interpretative and advisory capacity.

Implementation will be accomplished by line and staff organizations at the Center. Line management in the Engineering and Operations departments is responsible for implementing corrective actions specific to their organizations, as well as for cross-cutting actions that apply to several organizations including their own. The QA Manager will be responsible for corrective actions that entail revisions to ETEC-wide policies, standards setting, and validation procedures. He will also be responsible for oversight and tracking of corrective actions. Regular reports of progress will be submitted to ETEC Management.

The QA Manager has assigned an ES&H coordinator to conduct an on-going review/audit of Rocketdyne and ETEC procedures and operations for compliance with 29CFR and AOCFR DOE Orders and other regulatory requirements. The ES&H coordinator will maintain cognizance of the progress made by line and program management.

Milestone 1: Improved reporting of procedural deficiencies.	Date: 11/01/91
Milestone 2: Formal policy/practice of management walk-throughs.	Date: 11/30/91
Milestone 3: Upgrade operator round sheets & improve utilization.	Date: 12/15/91
Milestone 4: Improve management and QA oversight of CoO.	Date: 05/27/92
Milestone 5: Initial QA audit of conduct of operations.	Date: 08/22/92

This plan applies to the following finding(s):

<u>Finding ID Number</u>	<u>Finding Description</u>
MF.-6	Conduct of Operation
QV.1-4	Need Specific Procedures
TC.3-1	Effective Training
QV.1-7	Procedure Detail
QV.1-8	Management to Req Conform
MA.8-1	Maintenance Procedure/Control
OA.7-2	Updating of ETEC Procedures
OP.3-1	Review of Operating Procedures
OP.4-1	Implement Lock & Tag Program
MA.6-3	Tagout Lockout Procedure
MA.1-1	Document Maintenance Plan
OA.4-1	Interface of Responsibility not well defined.
OP.5-1	Coordination of ETEC and Rocketdyne
MA.1-2	Maintenance Organizational Structure
MA.1-3	Preventative Maintenance Effective
MA.1-4	Deferred Maint/OPNS
MA.2-1	Maintenance Deficiencies
MA.3-1	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-2	Planning and Scheduling
MA.5-1	Not Successful in Reducing Deterioration of Facilities
MA.5-2	Ineffective Upkeep and Housekeeping
MA.6-1	Improper Preventive Maintenance Procedures
MA.6-2	Preventive Maintenance Procedures
TC.5-1	No Maintenance Training and Qualification Program
AX.3	See Concern MA.5-1
AX	See MA 6-2 and TS 2-1
MF.-2	Organizational Roles

ADS No: N/A

Funding Comments:

Funding basis:



Finding No: MF.-7

Finding Description: Priority: 3

ETEC does not have a formalized process for ensuring that ES&H requirements and future obligations are considered as part of the Site Contractor submission of proposals for Work For Others.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

DOE Order 4300.2A

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o No formalized ETEC process for considering ES&H prior to submitting Work for Others proposals to DOE-SAN.
- No formal requirement for ES&H review by ETEC or DOE of Work for Others proposals.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP194	Work-For-Others

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ACTION PLAN AP194 (For Finding No: MF.-7)

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Action Plan Number: AP194

Plan Title: Work-For-Others

Plan Description:

In order to ensure that ES&H requirements and future obligations are considered in the ETEC submission of proposals for Non-DOE Funded Work (Work for Others), ETEC Procedure No. 2-28 which describes the required method for preparation and submittal of these proposals for DOE-SAN approval has been extensively revised. The key ES&H changes to the procedure are: 1) the proposal originator is required to consult with the ETEC ES&H Coordinator regarding compliance with NEPA and all other applicable environmental, safety and health requirements - any associated cost and schedule must be included in the proposal, 2) a section has been added to define the ES&H Coordinator's support including review for compliance, assistance in the preparation of any required documentation and assistance in determining any cost and schedule implications, and 3) a revision has been made to the form "Request for Approval of Work Proposed (DOE-SAN Approval)" which adds two



Finding No: MF.-8

Finding Description: Priority: 2

DOE ES&H oversight of the contractor is inadequate to assure that an effective ES&H program exists at ETEC consistent with requirements.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight

Compliance Protocol:

Appraisals not conducted per 5482.1B, 5700.6B and SENs. No independent orgn to conduct QA audits per 5700

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o DOE 5482.1B, ES&H Appraisal Program, requires functional and management appraisals by a second line organization level.

SAN does not have an independent QA organization or staffing other than the QA capability found in the line organization.

No MOU with EM.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP195	ES&H Appraisal Plan
AP195A	
AP195B	

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ACTION PLAN AP195 (For Finding No: MF.-8)

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Action Plan Number: AP195

Plan Title: ES&H Appraisal Plan

Plan Description:

This plan describes the approach and schedule for implementing the ES&H appraisal requirements of DOE 5482.1B for functional and management appraisals by SAN.

Objective:

Institutionalize functional and management ES&H appraisals of ETEC in a three-eyar review cycle. Provide timely appraisal reports to ETEC and other HQ/SAN program managers. Follow-up reports by





Finding No: MF.-9

Finding Description: Priority: 2

The CPAF process, as implemented by SAN at ETEC, does not provide an accurate evaluation of the Site Contractor's ES&H performance and does not, therefore, furnish the appropriate incentives for enhanced ES&H performance.

Root Cause:

M1 - Ownership, M2 - Assessment and Oversight

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o CPAF process does not provide an accurate evaluation of the site contractor's ES&H performance.

The machinery of the process is in place, implementation of the process by DOE has been deficient.

SAN evaluations do not reflect actual contractor performance.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP196	Cost Plus Award Fee Process

ACTION PLAN AP196 (For Finding No: MF.-9)

Action Plan Number: AP196

Plan Title: Cost Plus Award Fee Process

Plan Description:

The Performance Evaluators, the Award Fee Board and the Fee Determination Official are aware of the discrepancy between the Award Fee Ratings and the actual situation at ETEC with regard to ES&H performance. The Award Fee Determination for the first semester FY91 is currently being conducted and this finding will be factored into all stages of the evaluation process to assure that the award fee given to the contractor is commensurate with the actual ES&H performance, considering the requirements of the award fee plan and resource limitations.

The increased emphasis on management oversight of the contractor will give the responsibility of



Finding No: MF.-10

Finding Description: Priority: 2

The ASNE's FFCTP and SAN do not perform internal independent oversight of their NEPA activities.

Root Cause:

M5 - Policy

Compliance Protocol:

SEN-15-90

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The San Francisco Operations Office does not perform internal independent oversight of its National Environmental Policy Act compliance office activities.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP197	NEPA Oversight

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ACTION PLAN AP197 (For Finding No: MF.-10)

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Action Plan Number: AP197

Plan Title: NEPA Oversight

Plan Description:

SAN established the Office of Independent Internal Oversight (OIIO) just prior to SEN-15-90 to ensure SAN's compliance with environmental, safety and security requirements. NEPA compliance was included within the scope of the responsibility of OIIO. SAN reviewed possible reassignments which would eliminate the NCO responsibility from OIIO without placing it in a position which would sacrifice its ability to independently review NEPA activities. Given the small operations office, there is no location which efficiently uses resources without creating conflicts either in compliance or in oversight. Therefore the most advantageous course was chose to ensure NEPA compliance and independent oversight. Since the vast majority of the NCO function is oversight of the line implementation and therefore does not require a second independent oversight, SAN believes they have met the intent of SEN-15-90 and have done so in a manner that provides independent oversight of virtually all NEPA activities. In addition, NEPA activities are covered by a system of checks and balances including PSO's reviews. The assignment of the NCO function to OIIO is similar to the PSO's assignment of the NCO function to Assurance Offices and should be recognized as



Finding No: MF.-11

Finding Description: Priority: 2

SAN transmittal of ES&H directives (Orders, SENs, and other Secretarial level letters) is not consistent, is not always timely and generally does not provide site-specific guidance, or lead to a common understanding with the contractor.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o Distribution of directives to ETEC has been inconsistent. Site-specific guidance not provided. Receipt by and impact on ETEC is not obtained.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP198	Distribution of Directives to ETEC

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ACTION PLAN AP198 (For Finding No: MF.-11)

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Action Plan Number: AP198

Plan Title: Distribution of Directives to ETEC

Plan Description:

This plan establishes the process for distributing directives to ETEC in accordance with SAN MD No. 1321.1B.

The matrix involved in distributing directives to ETEC will review the distribution process per SAN MD No. 1321.1B and implement a distribution process to correct deficiencies.

A SAN panel will resolve problems and implement a distribution process. The process shall assure that site-specific guidance is provided, distribution is timely, and ETEC receipt and discussion of impact is obtained.

An evaluation of the distribution process will be conducted after implementation to determine any



Finding No: MF.-12

Finding Description: Priority: 2

DOE has not clearly delineated its ES&H responsibilities for DOE-owned buildings and facilities at SSFL, nor developed a plan which addresses disposal and/or cleanup of such buildings and facilities.

Root Cause:

M2 - Assessment and Oversight

Compliance Protocol:

No contract provision or master plan for ETEC involvement or HQ responsibility in other DOE-owned buildings

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o No contract provision or master plan to determine ES&H responsibility for DOE-owned buildings at SSFL that are not in the ETEC contract. RPIS listing for DOE real property at SSFL not current and accurate.

Resolution of ownership for non-ETEC facilities at SSFL.

Update of Real Property Information Systems (RPIS).

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP199	Responsibility for DOE Buildings at SSFL

ACTION PLAN AP199 (For Finding No: MF.-12)

Action Plan Number: AP199

Plan Title: Responsibility for DOE Buildings at SSFL

Plan Description:

DOE buildings at SSFL not currently managed by ETEC will be identified by the ETEC Site Office. ES&H and maintenance requirements for these buildings will be documented. Once identified, the characterization and/or cleanup of these buildings will be the responsibility of ERWM. The accountability for completing the cleanup actions will be that of the ESO and ERWM. Recommendations by the ETEC Site Office (ESO) will be forwarded to the PSO for disposition of these buildings and/or modification of the ETEC contract to assure that all ES&H and maintenance requirements are being satisfied.





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### 3.4 SELF ASSESSMENT

#### Overview

The ETEC self-assessment program is being formalized. The self-assessment process will be an ongoing activity that will provide a review of all disciplines at ETEC for ES&H activities on a schedule that will be repeated about every three years.

#### Root Causes and Response

No causal factors or root causes were identified by the Tiger Team as part of the evaluation of our self-assessment activity.

#### Findings & Action Plans

B L A N K

Finding No: SA-1

Finding Description:

Priority: 2

The Site Contractor's self-assessment program is not yet institutionalized, but the process used generally reflects the elements of an effective self-assessment.

Root Cause:

M5-Policy and Procedures

Compliance Protocol:

SAN MD

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The audit could be improved by following the list of areas of inquiry in the Secretary's July 31, 1990 Self Assessment Guidance.

The use of the TSA criteria for the management is too restrictive and does not give adequate attention to the environmental management.

Omission of areas such as auxiliary systems, and experimental activities as well as de-emphasis of personnel protection, medical services, occupational safety, worker safety compliance, and industrial hygiene should be avoided.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP200	ETEC Self-Assessment Program

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ACTION PLAN AP200 (For Finding No: SA-1)

---

Action Plan Number: AP200

Plan Title: ETEC Self-Assessment Program

Plan Description:

An ETEC procedure will be written which defines the elements of the Self-Assessment Program and assigns responsibilities of ownership and for its implementation. This system will include a tracking system to assure closure and address root cause. As pointed out by the Tiger Team, the self-assessment process will be an on-going effort which will rely heavily on existing oversight programs. The program will be comprehensive and embody DOE audit criteria to assure that all processes, activities and programs are reviewed on an annual basis. Specific attention will be



Finding No: SA-2

Finding Description: Priority: 2

The failure of ETEC to follow standard audit practices in conducting the Self-Assessment resulted in identification of less than half of the Tiger Team Findings and Concerns.

Root Cause:

M5-Policy/Procedure

Compliance Protocol:

SAN MD

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The audit could be improved by following the list of areas of inquiry in the Secretary's July 31, 1990 Self Assessment Guidance.

The ETEC Self-Assessment tends to concentrate more on the paper/management aspects of ES&H than the implementation of ES&H as shown in Table 6.1-1 page 6-6 of the Tiger Team report.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP201	ETEC Self-Assessment Appraisal and Report

---

ACTION PLAN AP201 (For Finding No: SA-2)

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Action Plan Number: AP201

Plan Title: ETEC Self-Assessment Appraisal and Report

Plan Description:

See AP200 for a description of the plan for the ETEC Self-Assessment Program.

Milestone 1: Write and release ETEC procedure.

Date: 10/15/91

Milestone 2: Begin Self-Assessment process.

Date: 11/15/91



Finding No: SA-3

Finding Description: Priority: 3

The SAN Self-Assessment process is undergoing institutionalization, but at this time does not demonstrate major elements of a comprehensive self-assessment program.

Root Cause:

M5 - Policy and Procedures

Compliance Protocol:

S-1 Self-Assessment Guidelines of July 31, 1990

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The elements of Formal Training for Self-Assessment and Cooperation with External Oversight and Assessment Organizations were not included in the latest draft of the SAN Management Directive (MD) on Self-Assessment.

The SAN MD does not include a flowchart or description of the methodology for integrating the elements of the Self-Assessment Program, including a management feedback loop.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP202	SAN Self-Assessment Program

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ACTION PLAN AP202 (For Finding No: SA-3)

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Action Plan Number: AP202

Plan Title: SAN Self-Assessment Program

Plan Description:

As was mentioned in the finding, SAN is in the process of developing policy and guidance to its staff on the conduct of self-assessment. This is in the form of a draft MD at this time. As a result of these finding, the MD will be expanded to incorporate guidance and procedures to cover those areas.

Milestone 1: Issuance of final SAN MD incorporating Tiger Team findings.

Date: 11/30/91





Finding No: SA-4

Finding Description: Priority: 2

The uneven content, non-uniform structure, and lack of integration in the SAN Self-Assessment report limit its effectiveness as a management instrument.

Root Cause:

M5 - Policy and Procedures

Compliance Protocol:

S-1 Self-Assessment Guidelines of July 31, 1990

Issues:

Corrective action on this finding requires that the following issues be addressed.

- o The Self-Assessment Report does not clarify how the SAN Self-Assessment Program will ensure that ES&H deficiencies are identified, reported, corrected and tracked.

The SAN Self-Assessment Report does not provide a cohesive and logical summary of key findings and their root causes.

The report does not have a consistent format nor utilize a constant analytical approach.

OIIIO has not conducted assessments of support organizations such as ESS, EFM and ERWM.

These issues are addressed in the plan(s) identified below:

<u>Action Plan Numbers</u>	<u>Title</u>
AP203	SAN Self-Assessment Appraisal and Report

---

ACTION PLAN AP203 (For Finding No: SA-4)

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Action Plan Number: AP203

Plan Title: SAN Self-Assessment Appraisal and Report

Plan Description:

As was mentioned in the finding, SAN is in the process of developing policy and guidance to its staff on the conduct of self-assessment. The SAN MD on Self-Assessment will be incorporating directives for format and analytical methodology pursuant to these Tiger Team findings. OIIIO is in the process of developing a comprehensive database of all corrective actions for which SAN is responsible. The laboratories are in the process of developing similar databases for their sites.



#### 4.0 SUMMARY TABLES

Cost and Schedule data from the action plans are summarized in the tables that follow. Incremental costs are segregated by priority level and fiscal year and further segregated by funding office in the Table 4-1 series. Table 4-2 presents funding levels by the sub-priorities determined in the Executive Summary (Resources). The action plans are listed in Table 4-3 together with priority/sub-priority levels, lead office and resource requirements to implement. The split between lead office funding responsibilities is also presented in the Table 4-3 series. The status report listings, identifying milestones and dates are presented in Table 4-4.

Table 4-1-DOE All DOE Funding By Priority And Fiscal Year

10/10/91

Funding Baseline of September, 1991

	(all figures in thousands of dollars)							TOTAL
	1991	1992	1993	1994	1995	1996	1997	
DOE PRIORITY ONE	0	682	72	72	72	72	72	1,042
DOE PRIORITY TWO a (CFR)	270	690	346	346	346	346	346	2,690
DOE PRIORITY TWO b (DOE Order)	60	1,784	1,357	1,342	1,342	1,342	1,342	8,569
DOE PRIORITY THREE	0	2,752	2,706	3,010	3,041	1,940	1,535	14,984
DOE PRIORITY FOUR	0	0	0	0	0	0	0	0
DOE TOTAL	330	5,908	4,481	4,770	4,801	3,700	3,295	27,285

Table 4-1-NE All NE Funding By Priority And Fiscal Year

10/10/91

Funding Baseline of September, 1991

	(all figures in thousands of dollars)							TOTAL
	1991	1992	1993	1994	1995	1996	1997	
DOE PRIORITY ONE	0	41	36	36	36	36	36	221
DOE PRIORITY TWO a (CFR)	176	388	229	229	229	229	229	1,709
DOE PRIORITY TWO b (DOE Order)	39	904	610	600	600	600	600	3,955
DOE PRIORITY THREE	0	1,253	1,619	1,741	1,761	1,106	842	8,322
DOE PRIORITY FOUR	0	0	0	0	0	0	0	0
DOE TOTAL	215	2,587	2,494	2,606	2,627	1,971	1,708	14,206

Table 4-1-EM All EM Funding By Priority And Fiscal Year

10/10/91

Funding Baseline of September, 1991

	(all figures in thousands of dollars)							TOTAL
	1991	1992	1993	1994	1995	1996	1997	
DOE PRIORITY ONE	0	641	36	36	36	36	36	821
DOE PRIORITY TWO a (CFR)	95	302	117	117	117	117	117	981
DOE PRIORITY TWO b (DOE Order)	21	880	747	742	742	742	742	4,614
DOE PRIORITY THREE	0	1,499	1,088	1,269	1,280	835	693	6,662
DOE PRIORITY FOUR	0	0	0	0	0	0	0	0
DOE TOTAL	116	3,321	1,987	2,164	2,175	1,729	1,587	13,079

Table 4-2-DOE All DOE Funding By Category And Priority

10/10/91

Funding Baseline of August, 1991  
(all figures in thousands of dollars)

CATEGORY	PRIORITY					CATEGORY TOTAL
	1	CFR 2a	DOE Order 2b	3	4	
MAINTENANCE	0	270	0	5,261	0	5,531
ES&H/QA OVERSIGHT	0	0	1,854	600	0	2,454
TRAINING	0	1,550	695	100	0	2,345
OPERATIONS	0	435	345	394	0	1,174
SOIL/GROUNDWATER SURVEILLANCE	0	175	0	1,049	0	1,224
RADIATION MONITORING/OVERSIGHT	1,042	0	2,535	5,820	0	9,397
Miscellaneous	0	20	2,420	1,160	0	3,600
EMERGENCY RESPONSE	0	240	720	0	0	960
MEDICAL	0	0	0	600	0	600
PRIORITY TOTAL	1,042	2,690	8,569	14,984	0	27,285



Table 4-2-NE All NE Funding By Category And Priority

10/10/91

Funding Baseline of August, 1991  
(all figures in thousands of dollars)

CATEGORY	PRIORITY					CATEGORY TOTAL
	1	CFR 2a	DOE Order 2b	3	4	
MAINTENANCE	0	176	0	3,420	0	3,595
ES&H/QA OVERSIGHT	0	0	1,211	390	0	1,601
TRAINING	0	910	452	65	0	1,427
OPERATIONS	0	409	251	191	0	850
SOIL/GROUNDWATER SURVEILLANCE	0	46	0	310	0	356
RADIATION MONITORING/OVERSIGHT	221	0	0	2,550	0	2,771
Miscellaneous	0	13	1,573	1,006	0	2,592
EMERGENCY RESPONSE	0	156	468	0	0	624
MEDICAL	0	0	0	390	0	390
PRIORITY TOTAL	221	1,709	3,955	8,322	0	14,206

Table 4-2-EM All EM Funding By Category And Priority

10/10/91

Funding Baseline of August, 1991  
(all figures in thousands of dollars)

CATEGORY	PRIORITY					CATEGORY TOTAL
	1	CFR 2a	DOE Order 2b	3	4	
MAINTENANCE	0	95	0	1,841	0	1,936
ES&H/QA OVERSIGHT	0	0	643	210	0	853
TRAINING	0	640	243	35	0	918
OPERATIONS	0	26	95	203	0	324
SOIL/GROUNDWATER SURVEILLANCE	0	130	0	739	0	869
RADIATION MONITORING/OVERSIGHT	821	0	2,535	3,270	0	6,626
Miscellaneous	0	7	847	154	0	1,008
EMERGENCY RESPONSE	0	84	252	0	0	336
MEDICAL	0	0	0	210	0	210
PRIORITY TOTAL	821	981	4,614	6,662	0	13,079

Table 4-3-DOE  
Incremental Costs Associated With the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	1991	1992	(all figures in thousands of dollars)				1997	TOTAL
						1993	1994	1995	1996		
AP001	Upgrade T059, T020, RMDF Stack Sampling System	1F	EM 1.00	0	100	0	0	0	0	0	100
AP002	Meteorological Data for AIRDOS-PC Code	3F	EM 1.00	0	0	0	0	0	0	0	0
AP003	Provide Compliant Ambient Air Sampling Program	3F	EM 1.00	0	0	0	0	0	0	0	0
AP004	Inadequate Physical Control of the Former Sodium Disposal	1F	EM 1.00	0	0	0	0	0	0	0	0
AP005	Stormwater and Sediment Characterization - Northwest Area	3E	NE 0.65	0	0	0	0	0	0	0	0
AP006	ID and Implement Secondary Containment	3E	NE 1.00	0	0	200	0	0	0	0	200
AP007	Revisions to the SPCC and the FSCP	3E	EM 1.00	0	0	0	0	0	0	0	0
AP008	Drinking Water Monitoring	4G	EM 1.00	0	0	0	0	0	0	0	0
AP009	Sewage Collection System Investigation and Repair	3E	NE 1.00	0	0	30	20	20	20	20	110
AP010	Groundwater Protection Management Plan	2E	NE 0.65	0	0	0	0	0	0	0	0
AP011	Character. and Monitoring of Vadose Zone Underlying B/886.	3E	EM 1.00	0	298	10	0	0	0	0	308
AP012	Hydrogeologic Regime Characterization	3E	EM 1.00	0	255	106	0	0	0	0	361
AP013	Well Monitoring/Maint/Abandonment/Closure/Decommissioning	3E	EM 1.00	0	0	0	0	0	0	0	0
AP014	Decontamination of Sampling Equipment Document	4E	NE 0.65	0	0	0	0	0	0	0	0
AP015	Organic Vapor Monitoring Program	3E	NE 0.65	0	0	0	0	0	0	0	0
AP016	Waste Minimization Plan	2E	NE 0.65	0	20	10	10	10	10	10	70
AP017	Storage of Land Disposal Restricted Waste (LDR) Mixed Waste	1F	EM 1.00	0	500	0	0	0	0	0	500
AP018	Waste Verification Plan - RMDF and HWSA	1F	EM 0.50	0	82	72	72	72	72	72	442
AP019	Sewage Sludge Monitoring Plan	3E	EM 1.00	0	0	30	10	10	10	10	70
AP020	Incomplete Hazard Identification	2E	EM 1.00	0	0	0	0	0	0	0	0
AP021	Storage of Incompatible Chemicals	3E	NE 0.65	0	0	0	0	0	0	0	0
AP022	Quality Assurance Surveys of Vendor Analytical Labs	2B	NE 1.00	0	3	3	3	3	3	3	18
AP023	ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.	2B	NE 0.65	0	0	0	0	0	0	0	0
AP024	Environmental Records QA	2G	NE 0.65	0	0	0	0	0	0	0	0
AP025	Pollution Prevention Awareness Program Plan	2D	NE 0.65	0	20	10	10	10	10	10	70
AP026	Development & Implementation of Environmental Monit. Plan	3F	EM 0.50	0	500	600	1200	1200	800	800	5100
AP027	Environmental Protection Implementation Plan Evaluation	3D	EM 1.00	0	0	0	0	0	0	0	0
AP028	Evaluation of Source Terms and Met. Data	3F	EM 1.00	0	0	0	0	0	0	0	0
AP029	Environmental Surveillance Plan	3D	EM 1.00	0	0	0	0	0	0	0	0
AP030	No Contingency Plan for Transuranic Waste	1D	EM 1.00	0	0	0	0	0	0	0	0
AP031	Procedure For Surveys of Radioactive Material Shipments	1D	EM 1.00	0	0	0	0	0	0	0	0
AP032	Site Investigations/Remedial Activities Plan	3D	EM 1.00	0	100	0	0	0	0	0	100
AP033	Business Plan Amendment Doc. & Acutely HAZMAT Registration	3D	EM 1.00	0	0	0	0	0	0	0	0
AP034	Environmental Spill Reporting Procedure	2D	NE 0.65	0	0	0	0	0	0	0	0
AP035	NEPA Compliance	2D	NE 0.65	0	0	0	0	0	0	0	0
AP036	NEPA Organization	2D	NE 0.65	0	0	0	0	0	0	0	0
AP037	NEPA Determinations	2D	NE 0.65	0	10	10	10	10	10	10	60
AP038	NEPA Recordkeeping and Tracking	2D	NE 0.65	0	0	0	0	0	0	0	0

The funding for action plans that support both NE and EM programs at ETEC is split as 65% NE and 35% EM based on current funding levels for NE and EM at ETEC.

Funding for action plans that are Landlord tasks are allocated 100% to NE.

Funding for action plans that address radiation are allocated 100% to EM since nuclear operations have never been a part of ETEC operations. The nuclear operations were part of other DOE programs not related to ETEC.

Table 4-3-DOE  
Incremental Costs Associated With the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	1991	1992	(all figures in thousands of dollars)					TOTAL
						1993	1994	1995	1996	1997	
AP039	NEPA Documentation	2D	NE 0.65	0	0	0	0	0	0	0	0
AP040	Safety Responsibility and Authority	3D	NE 0.65	0	0	0	0	0	0	0	0
AP041	Scheduled Safety Meetings	2D	NE 0.65	0	0	0	0	0	0	0	0
AP042	Proactive Compliance with DOE Safety & Health Requirements	2D	NE 0.65	0	0	0	0	0	0	0	0
AP043	Line Safety Vs Overview Not Defined Nor Staffed	2B	NE 0.65	0	6	6	6	6	6	6	36
AP044	Safety Goals	3D	NE 0.65	0	15	15	15	15	15	15	90
AP045	Interface of Responsibility	3D	NE 0.65	0	0	0	0	0	0	0	0
AP046	Performance Indicators	2G	NE 0.65	0	20	20	20	20	20	20	120
AP047	Lack of SAN Oversight	3B	NE 0.65	0	0	0	0	0	0	0	0
AP048	Annual Performance Evaluation	3B	NE 0.65	0	0	0	0	0	0	0	0
AP049	ETEC Controlled Document Control	3G	NE 0.65	0	15	15	15	15	15	15	90
AP050	Updating of ETEC Procedures	3D	NE 0.65	0	0	0	0	0	0	0	0
AP051	Improvements to ETEC's Procedural Infrastructure	3D	NE 0.65	0	25	25	25	25	25	25	150
AP052	Training on Substance Abuse	3C	NE 0.65	0	0	0	0	0	0	0	0
AP053	Drug Screening Criteria	3D	NE 0.65	0	0	0	0	0	0	0	0
AP054	Prepare Quality Assurance Plan	2B	NE 0.65	0	0	0	0	0	0	0	0
AP055	Stop Work Authority	2B	NE 0.65	0	0	0	0	0	0	0	0
AP056	Trend Analysis	3G	NE 0.65	0	0	0	0	0	0	0	0
AP057	Improved Formality of Operations	3D	NE 0.65	0	0	0	0	0	0	0	0
AP058	QA Auditor Training and Audit Documentation	2C	NE 0.65	0	100	100	100	100	100	100	600
AP059	Effective and Timely Corrective Action to Audit Findings	2D	NE 0.65	0	0	0	0	0	0	0	0
AP060	Preparation and Use of Detailed Procedures	3D	NE 0.65	0	14	0	0	0	0	0	14
AP061	Conformance with Procedures and Directives	2D	NE 0.65	0	25	25	10	10	10	10	90
AP062	ETEC Document Management	2G	NE 0.65	0	250	0	0	0	0	0	250
AP063	Quality Verification of Kalina Facility Construction Act.	3B	NE 1.00	0	0	0	0	0	0	0	0
AP064	Unapproved Material Source	2B	NE 1.00	0	0	0	0	0	0	0	0
AP065	Receipt Inspections	2B	NE 1.00	0	0	0	0	0	0	0	0
AP066	Calibration Verification	2D	NE 0.65	0	10	10	10	10	10	10	60
AP067	Material Control	2D	NE 1.00	0	0	0	0	0	0	0	0
AP068	ETEC Training on NCR and UOR	2C	NE 0.65	0	80	3	3	3	3	3	95
AP069	Storage and Control of Material	2D	NE 0.65	0	50	0	0	0	0	0	50
AP070	Prevention of Degradation of Material	2D	NE 1.00	0	60	60	60	60	60	60	360
AP071	Quality Verification Inspection Staffing	3B	NE 0.65	0	100	100	100	100	100	100	600
AP072	Quality Verification Inspection Training	2B	NE 0.65	0	10	10	10	10	10	10	60
AP073	ETEC Control of Special Process Personnel	2D	NE 0.65	0	0	0	0	0	0	0	0
AP074	ETEC Control of Special Process Material	2D	NE 0.65	0	0	0	0	0	0	0	0
AP075	Formally Articulated Safety Awareness Programs	3D	NE 0.65	0	0	0	0	0	0	0	0
AP076	Safety Analysis Review and Update	3D	NE 0.65	0	0	0	0	0	0	0	0

The funding for action plans that support both NE and EM programs at ETEC is split as 65% NE and 35% EM based on current funding levels for NE and EM at ETEC.

Funding for action plans that are Landlord tasks are allocated 100% to NE.

Funding for action plans that address radiation are allocated 100% to EM since nuclear operations have never been a part of ETEC operations. The nuclear operations were part of other DOE programs not related to ETEC.

Table 4-3-DOE  
Incremental Costs Associated With the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	1991	1992	(all figures in thousands of dollars)					1997	TOTAL
						1993	1994	1995	1996			
AP077	Review of Procedure Change Practices During Operation	3D	NE 0.65	0	0	0	0	0	0	0	0	0
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance	2D	NE 0.65	0	15	0	0	0	0	0	0	15
AP079	Coordination of Maintenance Performed by Plant Services	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP080	Operator Awareness of Operational Safety Requirements	3C	NE 1.00	0	0	0	0	0	0	0	0	0
AP081	Maintenance Planning	2A	NE 1.00	0	0	0	0	0	0	0	0	0
AP082	ETEC Maintenance Program and Organizational Structure	3A	NE 0.65	0	720	640	680	730	0	0	0	2770
AP083	Maintenance Program Improvement	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP084	Maintenance Program Priority	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP085	ETEC Maintenance Plan	3A	NE 0.65	0	0	350	355	390	410	0	0	1505
AP086	ETEC Shop Facilities	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP087	Provide Guidance for ETEC Maintenance Plan	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP088	ETEC Test Facility Maintenance	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP089	ETEC Inactive Facilities	2A	NE 1.00	0	0	0	0	0	0	0	0	0
AP090	Housekeeping	3D	NE 0.65	0	0	0	0	0	0	0	0	0
AP091	Preventive Maintenance Implementation	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP092	Preventive Maintenance	4A	NE 0.65	0	0	0	0	0	0	0	0	0
AP093	Tagout Lockout Procedure	2D	NE 0.65	0	0	0	0	0	0	0	0	0
AP094	Predictive Maintenance	3A	NE 0.65	0	0	185	190	196	205	210	0	986
AP095	Preparation and Control of Maintenance Procedures	3A	NE 1.00	0	0	0	0	0	0	0	0	0
AP096	No Training and Qualification Program	2C	NE 0.65	0	400	200	200	200	200	200	200	1400
AP097	Improved Effectiveness of Operator Training	2C	NE 0.65	0	0	0	0	0	0	0	0	0
AP098	Revise Radiation Orientation Training	3C	NE 0.65	0	0	0	0	0	0	0	0	0
AP099	Safety Awareness Training	2C	NE 0.65	0	0	0	0	0	0	0	0	0
AP100	Training and Control of Maintenance Personnel	3C	NE 0.65	0	0	0	0	0	0	0	0	0
AP101	No Training Support Facility	3C	NE 0.65	0	100	0	0	0	0	0	0	100
AP102	Training of Inspectors	3C	NE 0.65	0	0	0	0	0	0	0	0	0
AP103	Provide Radiation Protection Training	2C	EM 1.00	0	25	25	25	25	25	25	25	150
AP104	Management Training on Safety	3C	NE 0.65	0	0	0	0	0	0	0	0	0
AP105	Identification of Safety Requirements for Auxiliary Systems	3G	NE 0.65	0	150	0	0	0	0	0	0	150
AP106	Hazard Reduction, Control of Hazardous Materials	2D	NE 0.65	0	0	0	0	0	0	0	0	0
AP107	Control of Hazardous Effluence to Air	2E	EM 1.00	0	100	1	1	1	1	1	1	105
AP108	Vital Supply Systems	4G	NE 0.65	0	0	0	0	0	0	0	0	0
AP109	Reliability and Availability of Engineered Safety Systems	3G	NE 1.00	0	0	0	0	0	0	0	0	0
AP110	ETEC Documented Emergency Response Organization	2H	NE 0.65	0	0	0	0	0	0	0	0	0
AP111	Emergency Preparedness	2H	NE 0.65	0	0	0	0	0	0	0	0	0
AP112	Emergency Plan Implementing Procedures	3H	NE 0.65	0	0	0	0	0	0	0	0	0
AP113	SAN Guidance on Emergency Preparedness	2H	NE 0.65	0	0	0	0	0	0	0	0	0
AP114	ETEC Emergency Training Program	2H	NE 0.65	0	0	0	0	0	0	0	0	0

The funding for action plans that support both NE and EM programs at ETEC is split as 65% NE and 35% EM based on current funding levels for NE and EM at ETEC.

Funding for action plans that are Landlord tasks are allocated 100% to NE.

Funding for action plans that address radiation are allocated 100% to EM since nuclear operations have never been a part of ETEC operations. The nuclear operations were part of other DOE programs not related to ETEC.

Table 4-3-DOE  
Incremental Costs Associated With the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	(all figures in thousands of dollars)							TOTAL
				1991	1992	1993	1994	1995	1996	1997	
AP115	Emergency Planning Exercise/Drill Program	2H	NE 0.65	0	0	0	0	0	0	0	0
AP116	Emergency Response Facility	2H	NE 0.65	0	120	120	120	120	120	120	720
AP117	Emergency Plan Implementing Procedures for Emergencies	2H	NE 0.65	0	0	0	0	0	0	0	0
AP118	Procedures for Personnel Protection Guidance	2H	NE 0.65	0	0	0	0	0	0	0	0
AP119	Control of Technical Support Activities	3G	NE 0.65	0	0	0	0	0	0	0	0
AP120	Safety Analysis Review and Update	3G	NE 0.65	0	80	60	60	0	0	0	200
AP121	Safety Analysis Review and Update	3G	NE 0.65	0	0	0	0	0	0	0	0
AP122	Safety Analysis Review and Update	3G	NE 0.65	0	0	0	0	0	0	0	0
AP123	Safety Analysis Review and Update	3G	NE 0.65	0	0	0	0	0	0	0	0
AP124	Validation of Safety Calculations	3G	NE 0.65	0	0	0	0	0	0	0	0
AP125	ETEC Direction on Codes and Standards	3G	NE 0.65	0	0	0	0	0	0	0	0
AP126	Application of Codes and Standards	2G	NE 0.65	0	0	0	0	0	0	0	0
AP127	Equipment Performance Data, Evaluation and Use	3G	NE 1.00	0	120	120	120	120	120	120	720
AP128	Contaminated Air Filtering	1F	EM 1.00	0	0	0	0	0	0	0	0
AP129	Upgrade Building T059 Effluent Sampling	1F	EM 1.00	0	0	0	0	0	0	0	0
AP130	Emergency Ingress/Egress	3G	NE 0.65	0	0	0	0	0	0	0	0
AP131	Firearm Safety Audit	3G	NE 0.65	0	0	0	0	0	0	0	0
AP132	Safety Analysis Review and Update	3G	NE 0.65	0	0	0	0	0	0	0	0
AP133	ES&H Appraisal Committee	2B	NE 0.65	0	40	40	40	40	40	40	240
AP134	Periodic ES&H Review of Operations	2B	NE 0.65	0	0	0	0	0	0	0	0
AP135	Triennial Review of ES&H Program	3D	NE 0.65	0	0	0	0	0	0	0	0
AP136	Management Oversight/Awareness	2F	EM 1.00	0	435	420	420	420	420	420	2535
AP137	Level of Independent Oversight at Radiation Protection Prog.	3F	EM 1.00	0	120	120	120	120	120	120	720
AP138	SAN Audit of ES&H Programs	2B	NE 0.65	0	0	0	0	0	0	0	0
AP139	Procedures for Radiation Protection	2F	EM 1.00	0	0	0	0	0	0	0	0
AP140	External Exposure Procedure	2F	EM 1.00	0	0	0	0	0	0	0	0
AP141	External Exposure Dosimetry Procedures	2F	EM 1.00	0	0	0	0	0	0	0	0
AP142	Dosimeter Procedures	2F	EM 1.00	0	0	0	0	0	0	0	0
AP143	Internal Dosimetry Program	2F	EM 1.00	0	0	0	0	0	0	0	0
AP144	Evaluation of Internal Dosimetry Program	2F	EM 1.00	0	0	0	0	0	0	0	0
AP145	Contamination Control	2F	EM 1.00	0	0	0	0	0	0	0	0
AP146	Study Approaches & Establish Appropriate ALARA Program	2F	EM 1.00	0	0	0	0	0	0	0	0
AP147	ETEC Line Management Safety Program	2B	NE 0.65	40	100	100	100	100	100	100	640
AP148	Industrial Hygiene and Safety Engineer Oversight	2B	NE 0.65	20	140	140	140	140	140	140	860
AP149	Industrial Hygiene-Related Procedure Modifications	1B	NE 0.65	0	0	0	0	0	0	0	0
AP150	Compliance-Related Changes to HS&E Manual	1B	NE 0.65	0	0	0	0	0	0	0	0
AP151	See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2	2F	NE 0.65	0	0	0	0	0	0	0	0
AP152	Coordinated HS&E Hazard Management	2F	NE 0.65	0	0	0	0	0	0	0	0

The funding for action plans that support both NE and EM programs at ETEC is split as 65% NE and 35% EM based on current funding levels for NE and EM at ETEC.

Funding for action plans that are Landlord tasks are allocated 100% to NE.

Funding for action plans that address radiation are allocated 100% to EM since nuclear operations have never been a part of ETEC operations. The nuclear operations were part of other DOE programs not related to ETEC.

Table 4-3-DOE  
Incremental Costs Associated With the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	(all figures in thousands of dollars)						TOTAL	
				1991	1992	1993	1994	1995	1996		1997
AP153	Asbestos Management	2E	NE 0.65	0	0	0	0	0	0	0	0
AP154	Design and Management of Regulated Areas	2G	NE 0.65	0	0	0	0	0	0	0	0
AP155	Construction Safety	3G	NE 0.65	0	0	0	0	0	0	0	0
AP156	Identification, Monitoring, Control of Hazards	2G	EM 1.00	0	0	0	0	0	0	0	0
AP157	Hazard Communications	2G	EM 1.00	0	0	0	0	0	0	0	0
AP158	Mechanisms for Hazard Recognition and Control	2G	EM 1.00	0	0	0	0	0	0	0	0
AP159	Training Plan and Specific Hazard Training	2C	EM 1.00	0	0	0	0	0	0	0	0
AP160	Compliance with DOE Prescribed Standards	2G	NE 0.65	0	0	0	0	0	0	0	0
AP161	Industrial Hygiene Monitoring Program	1B	NE 0.65	0	0	0	0	0	0	0	0
AP162	Means of Egress	2G	NE 0.65	0	20	0	0	0	0	0	20
AP163	Use of Safety Equipment.	2A	NE 0.65	0	0	0	0	0	0	0	0
AP164	Machinery and Machine Guarding	2A	NE 0.65	0	0	0	0	0	0	0	0
AP165	Electrical Hazards	1A	NE 0.65	0	0	0	0	0	0	0	0
AP166	Electrical Compliance/Achievement of OSHA Compliance Exc.	2A	NE 0.65	270	0	0	0	0	0	0	270
AP167	Floor Load-Ratings Posting	3A	NE 1.00	0	0	0	0	0	0	0	0
AP168	Safety Practices and Compliance with Regulatory Requirements	2G	NE 0.65	0	0	0	0	0	0	0	0
AP169	Health and Safety Practices and Compliance with Regulatory R	2G	NE 0.65	0	0	0	0	0	0	0	0
AP170	Health and Safety Practices and Compliance with Regulatory R	2G	NE 0.65	0	0	0	0	0	0	0	0
AP171	Health & Safety Practices & Compliance with Reg. Requirement	2G	NE 0.65	0	0	0	0	0	0	0	0
AP172	Contractor Surveillance	2B	NE 0.65	0	0	0	0	0	0	0	0
AP173	Contractor Surveillance	2B	NE 0.65	0	0	0	0	0	0	0	0
AP174	Contractor Surveillance	2B	NE 0.65	0	0	0	0	0	0	0	0
AP175	Exit Signs and Emergency Lighting	2G	NE 0.65	0	0	0	0	0	0	0	0
AP176	Physical Fitness Program for Fire Fighters	2H	NE 0.65	0	40	40	40	40	40	40	240
AP177	SAN Distr. DOE Order	2H	NE 0.65	0	0	0	0	0	0	0	0
AP178	Staffing Level of the Fire Department	2H	NE 0.65	0	0	0	0	0	0	0	0
AP179	Advancement and Training Program for the Fire Department	4H	NE 0.65	0	0	0	0	0	0	0	0
AP180	Assigned Safety Officer for Fire Department	2H	NE 0.65	0	0	0	0	0	0	0	0
AP181	Medical Director Involvement	3J	NE 0.65	0	0	0	0	0	0	0	0
AP182	Medical Records	3J	NE 0.65	0	0	0	0	0	0	0	0
AP183	Medical Facilities Upgrade	3J	NE 0.65	0	0	0	0	0	0	0	0
AP184	Medical Department Staffing	3J	NE 0.65	0	0	0	0	0	0	0	0
AP185	Medical Examinations	3J	NE 0.65	0	100	100	100	100	100	100	600
AP186	Medical Audit Program	3J	NE 0.65	0	0	0	0	0	0	0	0
AP187	Strategic Planning	3D	NE 0.65	0	40	0	0	0	0	0	40
AP188	Organizational Roles	3G	NE 0.65	0	0	0	0	0	0	0	0
AP189	Individual Roles and Training	3C	NE 0.65	0	0	0	0	0	0	0	0
AP191	Independent Oversight Program	2B	NE 0.65	0	0	0	0	0	0	0	0

The funding for action plans that support both NE and EM programs at ETEC is split as 65% NE and 35% EM based on current funding levels for NE and EM at ETEC.

Funding for action plans that are Landlord tasks are allocated 100% to NE.

Funding for action plans that address radiation are allocated 100% to EM since nuclear operations have never been a part of ETEC operations. The nuclear operations were part of other DOE programs not related to ETEC.

Table 4-3-DOE  
Incremental Costs Associated With the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	(all figures in thousands of dollars)							TOTAL
				1991	1992	1993	1994	1995	1996	1997	
AP192	Program for Effective ES&H Monitoring	3B	NE 0.65	0	0	0	0	0	0	0	0
AP193	Conduct of Operations Improvements	2D	NE 1.00	0	75	0	0	0	0	0	75
AP194	Work-For-Others	3G	NE 1.00	0	0	0	0	0	0	0	0
AP195	ES&H Appraisal Plan	2D	NE 0.65	0	0	0	0	0	0	0	0
AP196	Cost Plus Award Fee Process	2D	NE 0.65	0	0	0	0	0	0	0	0
AP197	NEPA Oversight	2D	NE 0.65	0	0	0	0	0	0	0	0
AP198	Distribution of Directives to ETEC	2D	NE 0.65	0	0	0	0	0	0	0	0
AP199	Responsibility for DOE Buildings at SSFL	2G	NE 0.65	0	0	0	0	0	0	0	0
AP200	ETEC Self-Assessment Program	2G	NE 0.65	0	300	350	350	350	350	350	2050
AP201	ETEC Self-Assessment Appraisal and Report	2G	NE 0.65	0	0	0	0	0	0	0	0
AP202	SAN Self-Assessment Program	3G	NE 0.65	0	0	0	0	0	0	0	0
AP203	SAN Self-Assessment Appraisal and Report	2G	NE 0.00	0	0	0	0	0	0	0	0
Total of all Plans				330	5908	4481	4770	4801	3700	3295	27285

The funding for action plans that support both NE and EM programs at ETEC is split as 65% NE and 35% EM based on current funding levels for NE and EM at ETEC.

Funding for action plans that are Landlord tasks are allocated 100% to NE.

Funding for action plans that address radiation are allocated 100% to EM since nuclear operations have never been a part of ETEC operations. The nuclear operations were part of other DOE programs not related to ETEC.



Table 4-3-NE  
NE Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)						TOTAL
				1991	1992	1993	1994	1995	1996	
AP165	Electrical Hazards	1A	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP165	0	0	0	0	0	0	0
AP081	Maintenance Planning	2A*	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP081	0	0	0	0	0	0	0
AP089	ETEC Inactive Facilities	2A*	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP089	0	0	0	0	0	0	0
AP163	Use of Safety Equipment.	2A	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP163	0	0	0	0	0	0	0
AP164	Machinery and Machine Guarding	2A	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP164	0	0	0	0	0	0	0
AP166	Electrical Compliance/Achievement of OSHA Compliance Exc.	2A	OP	176	0	0	0	0	0	176
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP166	176	0	0	0	0	0	176





Table 4-3-NE  
 NE Funding Required for the Action Plans  
 Funding Baseline of October, 1991

10/10/91

PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)							TOTAL		
				1991	1992	1993	1994	1995	1996	1997			
AP092	Preventive Maintenance	4A	OP	0	0	0	0	0	0	0	0		
			CE	0	0	0	0	0	0	0	0		
			GPP	0	0	0	0	0	0	0	0		
			Total of AP092			0	0	0	0	0	0	0	0
Total of all Plans with Priority A			OP	176	468	764	796	855	400	137	3,595		
			CE	0	0	0	0	0	0	0	0		
			GPP	0	0	0	0	0	0	0	0		
Grand Total of all Plans with Priority A						176	468	764	796	855	400	137	3,595















Table 4-3-NE  
NE Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)						TOTAL	
				1991	1992	1993	1994	1995	1996		1997
AP159	Training Plan and Specific Hazard Training	2C	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP159	0	0	0	0	0	0	0	0
AP052	Training on Substance Abuse	3C	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP052	0	0	0	0	0	0	0	0
AP080	Operator Awareness of Operational Safety Requirements	3C*	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP080	0	0	0	0	0	0	0	0
AP098	Revise Radiation Orientation Training	3C	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP098	0	0	0	0	0	0	0	0
AP100	Training and Control of Maintenance Personnel	3C	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP100	0	0	0	0	0	0	0	0
AP101	No Training Support Facility	3C	OP	0	65	0	0	0	0	0	65
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP101	0	65	0	0	0	0	0	65









Table 4-3-NE  
NE Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)							TOTAL
				1991	1992	1993	1994	1995	1996	1997	
AP073	ETEC Control of Special Process Personnel	2D	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP073	0	0	0	0	0	0	0	0
AP074	ETEC Control of Special Process Material	2D	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP074	0	0	0	0	0	0	0	0
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance	2D	OP	0	10	0	0	0	0	0	10
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP078	0	10	0	0	0	0	0	0
AP093	Tagout Lockout Procedure	2D	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP093	0	0	0	0	0	0	0	0
AP106	Hazard Reduction, Control of Hazardous Materials	2D	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP106	0	0	0	0	0	0	0	0
AP193	Conduct of Operations Improvements	2D*	OP	0	75	0	0	0	0	0	75
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP193	0	75	0	0	0	0	0	0















Table 4-3-NE  
NE Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)							TOTAL	
				1991	1992	1993	1994	1995	1996	1997		
AP015	Organic Vapor Monitoring Program	3E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP015	0	0	0	0	0	0	0	0	
AP019	Sewage Sludge Monitoring Plan	3E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP019	0	0	0	0	0	0	0	0	
AP021	Storage of Incompatible Chemicals	3E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP021	0	0	0	0	0	0	0	0	
AP014	Decontamination of Sampling Equipment Document	4E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP014	0	0	0	0	0	0	0	0	
Total of all Plans with Priority E			OP	0	13	237	27	27	27	27	27	356
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
Grand Total of all Plans with Priority E				0	13	237	27	27	27	27	356	









Table 4-3-NE  
NE Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				1997	TOTAL
						1993	1994	1995	1996		
AP003	Provide Compliant Ambient Air Sampling Program	3F	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
Total of AP003				0	0	0	0	0	0	0	0
AP026	Development & Implementation of Environmental Monit. Plan	3F	OP	0	125	175	300	300	200	200	1,300
			CE	0	125	125	300	300	200	200	1,250
			GPP	0	0	0	0	0	0	0	0
Total of AP026				0	250	300	600	600	400	400	2,550
AP028	Evaluation of Source Terms and Met. Data	3F	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
Total of AP028				0	0	0	0	0	0	0	0
AP137	Level of Independent Oversight at Radiation Protection Prog.	3F	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
Total of AP137				0	0	0	0	0	0	0	0
Total of all Plans with Priority F			OP	0	166	211	336	336	236	236	1,521
			CE	0	125	125	300	300	200	200	1,250
			GPP	0	0	0	0	0	0	0	0
Grand Total of all Plans with Priority F				0	291	336	636	636	436	436	2,771















Table 4-3-NE  
NE Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				TOTAL	
				1993	1994	1995	1996	1997			
AP194	Work-For-Others	3G*	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	
		Total of AP194			0	0	0	0	0	0	0
AP202	SAN Self-Assessment Program	3G	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	
		Total of AP202			0	0	0	0	0	0	0
AP008	Drinking Water Monitoring	4G	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	
		Total of AP008			0	0	0	0	0	0	0
AP108	Vital Supply Systems	4G	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	
		Total of AP108			0	0	0	0	0	0	0
Total of all Plans with Priority G			OP	0	500	409	409	370	370	370	2,430
			CE	0	163	0	0	0	0	163	
			GPP	0	0	0	0	0	0	0	
Grand Total of all Plans with Priority G				0	663	409	409	370	370	370	2,592









Table 4-3-NE  
 NE Funding Required for the Action Plans  
 Funding Baseline of October, 1991

10/10/91

PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				1997	TOTAL
						1993	1994	1995	1996		
=====											
	Total of all Plans with Priority J		OP	0	65	65	65	65	65	65	390
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
-----											
	Grand Total of all Plans with Priority J			0	65	65	65	65	65	65	390

Table 4-3-NE  
 NE Funding Required for the Action Plans  
 Funding Baseline of October, 1991

10/10/91

PLAN ID PLAN TITLE

PRIORITY FUNDING TYPE (all figures in thousands of dollars)  
 1991 1992 1993 1994 1995 1996 1997 TOTAL

PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	1993	1994	1995	1996	1997	TOTAL
=====											
	Total of all NE Plans		OP	215	2,299	2,369	2,306	2,327	1,771	1,508	12,794
			CE	0	288	125	300	300	200	200	1,413
			GPP	0	0	0	0	0	0	0	0
-----											
	Grand Total of all NE Plans			215	2,587	2,494	2,606	2,627	1,971	1,708	14,206



Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				1997	TOTAL
						1993	1994	1995	1996		
AP165	Electrical Hazards	1A	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
		Total of AP165			0	0	0	0	0	0	0
AP081	Maintenance Planning	2A	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
		Total of AP081			0	0	0	0	0	0	0
AP089	ETEC Inactive Facilities	2A	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
		Total of AP089			0	0	0	0	0	0	0
AP163	Use of Safety Equipment.	2A	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
		Total of AP163			0	0	0	0	0	0	0
AP164	Machinery and Machine Guarding	2A	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
		Total of AP164			0	0	0	0	0	0	0
AP166	Electrical Compliance/Achievement of OSHA Compliance Exc.	2A	OP	95	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
		Total of AP166			95	0	0	0	0	0	0





Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)							TOTAL
				1991	1992	1993	1994	1995	1996	1997	
AP092	Preventive Maintenance	4A	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP092	0	0	0	0	0	0	0	0
Total of all Plans with Priority A			OP	95	252	411	429	461	215	74	1,936
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
Grand Total of all Plans with Priority A				95	252	411	429	461	215	74	1,936















Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				TOTAL	
				1993	1994	1995	1996	1997			
AP159	Training Plan and Specific Hazard Training	2C*	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0
			Total of AP159	0	0	0	0	0	0	0	0
AP052	Training on Substance Abuse	3C	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0
			Total of AP052	0	0	0	0	0	0	0	0
AP080	Operator Awareness of Operational Safety Requirements	3C	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0
			Total of AP080	0	0	0	0	0	0	0	0
AP098	Revise Radiation Orientation Training	3C	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0
			Total of AP098	0	0	0	0	0	0	0	0
AP100	Training and Control of Maintenance Personnel	3C	OP	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0
			Total of AP100	0	0	0	0	0	0	0	0
AP101	No Training Support Facility	3C	OP	0	35	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0
			Total of AP101	0	35	0	0	0	0	0	35

Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	1993	1994	1995	1996	1997	TOTAL	
(all figures in thousands of dollars)												
AP102	Training of Inspectors	3C	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP102			0	0	0	0	0	0	0
AP104	Management Training on Safety	3C	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP104			0	0	0	0	0	0	0
AP189	Individual Roles and Training	3C	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP189			0	0	0	0	0	0	0
Total of all Plans with Priority C			OP	0	263	131	131	131	131	131	918	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
Grand Total of all Plans with Priority C				0	263	131	131	131	131	131	918	

















Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				TOTAL		
				1993	1994	1995	1996	1997				
AP077	Review of Procedure Change Practices During Operation	3D	OP	0	0	0	0	0	0	0		
			CE	0	0	0	0	0	0	0		
			GPP	0	0	0	0	0	0	0	0	
			Total of AP077	0	0	0	0	0	0	0	0	
AP090	Housekeeping	3D	OP	0	0	0	0	0	0	0		
			CE	0	0	0	0	0	0	0		
			GPP	0	0	0	0	0	0	0	0	
			Total of AP090	0	0	0	0	0	0	0	0	
AP135	Triennial Review of ES&H Program	3D	OP	0	0	0	0	0	0	0		
			CE	0	0	0	0	0	0	0		
			GPP	0	0	0	0	0	0	0	0	
			Total of AP135	0	0	0	0	0	0	0	0	
AP187	Strategic Planning	3D	OP	0	14	0	0	0	0	0		
			CE	0	0	0	0	0	0	0		
			GPP	0	0	0	0	0	0	0	0	
			Total of AP187	0	14	0	0	0	0	0	14	
Total of all Plans with Priority D			OP	0	178	33	28	28	28	28	28	324
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
Grand Total of all Plans with Priority D				0	178	33	28	28	28	28	324	





Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				1997	TOTAL	
						1993	1994	1995	1996			
AP015	Organic Vapor Monitoring Program	3E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP015			0	0	0	0	0	0	0
AP019	Sewage Sludge Monitoring Plan	3E*	OP	0	0	30	10	10	10	10	70	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP019			0	0	30	10	10	10	70
AP021	Storage of Incompatible Chemicals	3E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP021			0	0	0	0	0	0	0
AP014	Decontamination of Sampling Equipment Document	4E	OP	0	0	0	0	0	0	0	0	
			CE	0	0	0	0	0	0	0	0	
			GPP	0	0	0	0	0	0	0	0	
			Total of AP014			0	0	0	0	0	0	0
Total of all Plans with Priority E			OP	0	570	151	15	15	15	15	779	
			CE	0	0	0	0	0	0	0		
			GPP	0	90	0	0	0	0	0	90	
Grand Total of all Plans with Priority E				0	660	151	15	15	15	15	869	

Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				TOTAL
				1993	1994	1995	1996	1997		
AP001	Upgrade T059, T020, RMDF Stack Sampling System	1F*	OP	0	40	0	0	0	0	40
			CE	0	60	0	0	0	0	60
			GPP	0	0	0	0	0	0	0
			Total of AP001			0	100	0	0	0
AP004	Inadequate Physical Control of the Former Sodium Disposal	1F*	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP004			0	0	0	0	0
AP017	Storage of Land Disposal Restricted Waste (LDR) Mixed Waste	1F*	OP	0	500	0	0	0	0	500
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP017			0	500	0	0	0
AP018	Waste Verification Plan - RMDF and HWSA	1F	OP	0	41	36	36	36	36	221
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP018			0	41	36	36	36
AP128	Contaminated Air Filtering	1F*	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP128			0	0	0	0	0
AP129	Upgrade Building T059 Effluent Sampling	1F*	OP	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0
			Total of AP129			0	0	0	0	0







Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)						TOTAL	
				1991	1992	1993	1994	1995	1996		1997
AP003	Provide Compliant Ambient Air Sampling Program	3F*	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP003	0	0	0	0	0	0	0	0
AP026	Development & Implementation of Environmental Monit. Plan	3F	OP	0	125	175	300	300	200	200	1,300
			CE	0	125	125	300	300	200	200	1,250
			GPP	0	0	0	0	0	0	0	0
			Total of AP026	0	250	300	600	600	400	400	2,550
AP028	Evaluation of Source Terms and Met. Data	3F*	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP028	0	0	0	0	0	0	0	0
AP137	Level of Independent Oversight at Radiation Protection Prog.	3F*	OP	0	120	120	120	120	120	120	720
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP137	0	120	120	120	120	120	120	720
Total of all Plans with Priority F			OP	0	1,246	751	876	876	776	776	5,301
			CE	0	200	125	300	300	200	200	1,325
			GPP	0	0	0	0	0	0	0	0
Grand Total of all Plans with Priority F				0	1,446	876	1,176	1,176	976	976	6,626















Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)				1997	TOTAL
						1993	1994	1995	1996		
AP194	Work-For-Others	3G	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP194	0	0	0	0	0	0	0	0
AP202	SAN Self-Assessment Program	3G	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP202	0	0	0	0	0	0	0	0
AP008	Drinking Water Monitoring	4G*	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP008	0	0	0	0	0	0	0	0
AP108	Vital Supply Systems	4G	OP	0	0	0	0	0	0	0	0
			CE	0	0	0	0	0	0	0	0
			GPP	0	0	0	0	0	0	0	0
			Total of AP108	0	0	0	0	0	0	0	0
Total of all Plans with Priority G			OP	0	205	156	156	135	135	135	921
			CE	0	88	0	0	0	0	88	
			GPP	0	0	0	0	0	0	0	
Grand Total of all Plans with Priority G				0	292	156	156	135	135	135	1,008









Table 4-3-EM  
 EM Funding Required for the Action Plans  
 Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	(all figures in thousands of dollars)						TOTAL		
				1991	1992	1993	1994	1995	1996		1997	
Total of all Plans with Priority J				OP	0	35	35	35	35	35	35	210
				CE	0	0	0	0	0	0	0	0
				GPP	0	0	0	0	0	0	0	0
Grand Total of all Plans with Priority J					0	35	35	35	35	35	35	210

Table 4-3-EM  
EM Funding Required for the Action Plans  
Funding Baseline of October, 1991

10/10/91 PLAN ID	PLAN TITLE	PRIORITY	FUNDING TYPE	1991	1992	(all figures in thousands of dollars)					TOTAL
						1993	1994	1995	1996	1997	
=====											
	Total of all EM Plans		OP	116	2,944	1,862	1,864	1,875	1,529	1,387	11,576
			CE	0	288	125	300	300	200	200	1,413
			GPP	0	90	0	0	0	0	0	90
-----											
	Grand Total of all EM Plans			116	3,321	1,987	2,164	2,175	1,729	1,587	13,079



## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP040</u>		<u>Safety Responsibility and Authority</u>		
	1	Review and update position descriptions.	11/01/91	/ /
	2	Review and update ETEC procedures.	12/01/91	/ /
	3	Implement revised performance evaluations.	04/01/92	/ /
<u>AP044</u>		<u>Safety Goals</u>		
	1	Establish goals.	12/30/91	/ /
	2	Publish 1st Quarterly Newsletter.	01/30/92	/ /
<u>AP020</u>		<u>Incomplete Hazard Identification</u>		
	1	Part-time industrial hygienist.	10/01/91	10/01/91
	2	Proposed plan to DOE.	03/30/92	/ /
	3	DOE approval and implementation.	06/30/92	/ /
	4	Modification to ETEC Procedure 1-03.	10/30/91	/ /
	5	Departmental directives defining training.	04/30/92	/ /
	6	Training completed.	06/30/93	/ /
	7	QA audit.	06/01/92	/ /
<u>AP041</u>		<u>Scheduled Safety Meetings</u>		
	1	First Management Safety Committee Meeting.	10/30/91	/ /
	2	Departmental directives defining training.	04/30/92	/ /
	3	Initiate departmental safety meetings.	11/30/91	/ /
<u>AP042</u>		<u>Proactive Compliance with DOE Safety &amp; Health Requirements</u>		
	1	Part-time industrial hygienist.	10/01/91	10/01/91
	2	Full-time safety engineer.	10/01/91	10/01/91
	3	First management Safety Committee Meeting.	10/30/91	/ /
	4	Appointment ES&H Appraisal Committee.	05/30/92	/ /
	5	Develop ES&H position descriptions and guides.	08/30/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP052</u>		<u>Training on Substance Abuse</u>		
	1	Incorporate requirements of this plan in the ETEC Training Plan.	04/30/92	/ /
<u>AP053</u>		<u>Drug Screening Criteria</u>		
	1	Review drug screening criteria.	12/30/91	/ /
<u>AP075</u>		<u>Formally Articulated Safety Awareness Programs</u>		
	1	Establish safety goals.	12/30/91	/ /
	2	Submit proposed plan to DOE.	02/28/92	/ /
	3	DOE approval and implementation.	05/30/92	/ /
	4	Submit 1st quarterly PI report to DOE.	07/23/91	07/23/91
<u>AP099</u>		<u>Safety Awareness Training</u>		
	1	Modification to ETEC Procedure 1-03.	10/30/91	/ /
	2	Departmental directives defining training.	04/30/92	/ /
<u>AP147</u>		<u>ETEC Line Management Safety Program</u>		
	1	Issue General Manager's Safety Letter.	07/21/91	06/21/91
	2	Proposed Safety Awareness plan to DOE.	02/28/92	/ /
	3	DOE approval & implementation for safety awareness program.	05/30/92	/ /
	4	Modification to ETEC Procedure 1-03.	10/30/91	/ /
	5	First Management Safety Committee Meeting.	10/30/91	/ /
	6	Departmental directives defining training.	04/30/92	/ /
		ACTION TAKEN OR LATE EXPLANATION:		
		Initiate Manager Training	06/30/92	
		Initiate Self-Inspection Training	06/30/92	
<u>AP148</u>		<u>Industrial Hygiene and Safety Engineer Oversight</u>		
	1	Provide safety performance indicators.	07/23/91	07/23/91
	2	Initiate appraisal program.	08/19/91	08/19/91
	3	Part-time industrial hygienist.	10/01/91	10/01/91
	4	Fulltime safety engineer.	10/01/91	10/01/91

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP149</u>		<u>Industrial Hygiene-Related Procedure Modifications</u>		
	1	Implement HS&E Manual changes.	12/30/92	/ /
	2	Implement EC Manual changes.	12/30/92	/ /
<u>AP150</u>		<u>Compliance-Related Changes to HS&amp;E Manual</u>		
	1	Chemical Hygiene Program	10/01/91	/ /
	2	Lead Standard	12/30/91	/ /
	3	ETEC Hazard Communication Program	02/28/92	/ /
	4	Asbestos Abatement by Subcontractor	04/30/92	/ /
	5	Carcinogen Control Program	04/30/92	/ /
	6	Personnel Monitoring for Asbestos	02/28/92	/ /
<u>AP151</u>		<u>See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2</u>		
	1	Part-time industrial hygienist.	10/01/91	10/01/91
	2	Prepare ETEC Procedure (S E&H Internal Appraisal).	11/30/91	/ /
	3	Asbestos Abatement by Subcontractor	04/30/92	/ /
	4	Personnel Monitoring for Asbestos	02/28/92	/ /
<u>AP152</u>		<u>Coordinated HS&amp;E Hazard Management</u>		
	1	Initial Monthly Appraisal Committee actions per AP133.	05/30/92	/ /
<u>AP153</u>		<u>Asbestos Management</u>		
	1	Full-time safety engineer.	10/01/91	10/01/91
	2	Part-time industrial hygienist.	10/01/91	10/01/91
	3	Implement HS&E Manual changes.	12/30/92	/ /
	4	Implement EC Manual changes.	12/30/92	/ /
	5	Chemical hygiene program.	10/01/91	/ /
	6	Asbestos Abatement by Subcontractor.	04/30/92	/ /
<u>AP154</u>		<u>Design and Management of Regulated Areas</u>		
	1	Full-time safety engineer.	10/01/91	10/01/91
	2	Part-time industrial hygienist.	10/01/91	10/01/91
	3	Modification to ETEC Procedure 1-03.	10/30/91	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP155</u>		<u>Construction Safety</u>		
	1	Revision of HS&E Procedure N-01 ACTION TAKEN OR LATE EXPLANATION: Procedure is in coordination	07/30/91	07/11/91
	2	Construction Coordinator safety training.	10/30/91	09/13/91
<u>AP156</u>		<u>Identification, Monitoring, Control of Hazards</u>		
	1	Part-time industrial hygienist.	10/01/91	10/01/91
	2	First Management Safety Committee Meeting.	10/30/91	/ /
	3	Departmental directives defining training.	04/30/92	/ /
	4	Appoint ES&H appraisal committee.	05/30/92	/ /
	5	Conduct initial health hazard survey.	05/30/92	/ /
	6	EETC Hazard Communication Program.	02/28/92	/ /
<u>AP157</u>		<u>Hazard Communications</u>		
	1	Part-time industrial hygienist.	10/01/91	10/01/91
	2	Full-time safety engineer.	10/01/91	10/01/91
	3	First Management Safety Committee Meeting.	10/30/91	/ /
	4	Departmental directives defining training.	04/30/92	/ /
<u>AP158</u>		<u>Mechanisms for Hazard Recognition and Control</u>		
	1	Part-time industrial hygienist.	10/01/91	10/01/91
	2	Departmental directives defining training.	04/30/92	/ /
	3	Proposed Plan to DOE.	03/30/92	/ /
	4	DOE approval and implementation.	06/30/92	/ /
	5	Implement Hazards Communication/Training.	07/30/92	/ /
<u>AP159</u>		<u>Training Plan and Specific Hazard Training</u>		
	1	Implement Training Program	06/30/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP160</u>		<u>Compliance with DOE Prescribed Standards</u>		
	1 -	Implement Industrial Hygiene Program.	01/30/92	/ /
	2 -	EETC Hazard Communication Program.	02/28/92	/ /
<u>AP161</u>		<u>Industrial Hygiene Monitoring Program</u>		
	1 -	Part-time industrial hygienist.	10/01/91	10/01/91
	2 -	Implement HS&E Manual changes.	12/30/92	/ /
<u>AP164</u>		<u>Machinery and Machine Guarding</u>		
	1 -	Full-time safety engineer.	10/01/91	10/01/91
	2 -	Modification to EETC Procedure 1-03.	10/30/91	/ /
	3 -	First Management Safety Committee Meeting.	10/30/91	/ /
<u>AP168</u>		<u>Safety Practices and Compliance with Regulatory Requirements</u>		
	1 -	Full-time safety engineer.	10/01/91	10/01/91
	2 -	First management Safety Committee Meeting.	10/30/91	/ /
<u>AP169</u>		<u>Health and Safety Practices and Compliance with Regulatory R</u>		
	1 -	Full-time safety engineer.	10/01/91	10/01/91
	2 -	First management Safety Committee meeting.	10/30/91	/ /
<u>AP170</u>		<u>Health and Safety Practices and Compliance with Regulatory R</u>		
	1 -	Full-time safety engineer.	10/01/91	10/01/91
	2 -	First Management Safety Committee Meeting.	10/30/91	/ /
	3 -	Complete remaining deficiencies.	08/30/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP171</u>		<u>Health &amp; Safety Practices &amp; Compliance with Reg. Requirement</u>		
	1	Full-time safety engineer.	10/01/91	10/01/91
	2	First Management Safety Committee Meeting.	10/30/91	/ /
<u>AP172</u>		<u>Contractor Surveillance</u>		
	1	Full-time safety engineer.	10/01/91	10/01/91
	2	Construction Coordinator safety training.	10/30/91	/ /
<u>AP173</u>		<u>Contractor Surveillance</u>		
	1	Construction Coordinator safety training.	10/30/91	09/13/91
<u>AP174</u>		<u>Contractor Surveillance</u>		
	1	Construction Coordinator safety training.	10/30/91	09/13/91
<u>AP027</u>		<u>Environmental Protection Implementation Plan Evaluation</u>		
	1	Review requirements of DOE 5400.1.	06/26/91	06/26/91
	2	Review existing EPIP.	07/07/91	07/03/91
	3	Comment on EPIP.	08/16/91	09/13/91
	4	DOE/SAN approve/disapprove EPIP.	09/06/91	09/13/91
	5	ETEC to resubmit EPIP after comments are incorporated.	10/15/91	/ /
	6	DOE/SAN evaluate revised EPIP.	11/15/91	/ /
	7	DOE and ETEC conference on EPIP.	11/30/91	/ /
	8	DOE/SAN approves and submit plan to HQ for approval.	12/15/91	/ /
	9	DOE/HQ approve plan.	01/30/92	/ /
<u>AP035</u>		<u>NEPA Compliance</u>		
	1	Training by DOE/SAN NCO NE-47 office in NEPA system including access to NE/HQ database.	12/15/91	/ /
		ACTION TAKEN OR LATE EXPLANATION: Bill Lambert from Doe/San will come down to provide the		

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP035</u>	(continued)	<u>NEPA Compliance</u>		
	1	Training by DOE/SAN NCO NE-47 office in NEPA system including access to NE/HQ database. ACTION TAKEN OR LATE EXPLANATION: necessary training.	12/15/91	/ /
	2	Approved NE/SAN guidance memorandum	03/15/92	/ /
	3	Conduct annual refresher training by DOE/SAN and NE-47	06/15/92	/ /
	4	Conduct annual refresher training by DOE/SAN and NE-47	06/15/93	/ /
<u>AP036</u>		<u>NEPA Organization</u>		
	1	Procedures for communications & review of actions.	12/15/91	/ /
	3	Complete implementation of procedures.	03/15/92	/ /
	4	Annual review of FWP budget submittal.	03/15/92	/ /
<u>AP037</u>		<u>NEPA Determinations</u>		
	1	Identify actions via surveys (Initial).	10/30/91	/ /
	2	Approved NEPA procedures.	03/15/92	/ /
	3	Complete training.	05/01/92	/ /
	4	Annual surveys and actions.	05/15/92	/ /
<u>AP038</u>		<u>NEPA Recordkeeping and Tracking</u>		
	1	Training by DOE/SAN, NCO, NE-47 office in NEPA system including access to DOE/HQ NEPA Teaching Computer file.	12/15/91	/ /
	2	Procedural definition of recordkeeping and tracking.	02/15/92	/ /
	3	Complete training.	04/15/92	/ /
	4	Implementation of procedures complete.	05/01/92	/ /
	5	QA audit.	06/01/92	/ /
<u>AP039</u>		<u>NEPA Documentation</u>		
	1	Confirm eligibility criteria.	06/30/92	/ /
	2	Implement NE-approved checklist for all CXs.	09/30/92	/ /
<u>AP047</u>		<u>Lack of SAN Oversight</u>		
	1	DOE approved list of applicable ES&H orders. ACTION TAKEN OR LATE EXPLANATION: Due date revised from 06/30/91 by DOE/SAN	11/15/91	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

<u>Plan ID</u>	<u>Milestone Number</u>	<u>Plan Title</u>	<u>Scheduled Milestone Completion Date</u>	<u>Completed</u>
<u>AP047</u>	(continued)	<u>Lack of SAN Oversight</u>		
	1 - DOE approved list of applicable ES&H orders. ACTION TAKEN OR LATE EXPLANATION:		11/15/91	/ /
	2 - Finalization of onsite position descriptions.		07/31/91	09/01/91
	3 - Revision of AMEP mission.		11/30/91	/ /
	4 - Final draft of Oversight Plan.		11/30/91	/ /
<u>AP087</u>		<u>Provide Guidance for ETEC Maintenance Plan</u>		
	1 - Distribute new Order.		05/31/91	06/06/91
	2 - Comment on ETEC submittal documents.		06/06/91	06/06/91
	3 - Attend DOE Maintenance Policy Conference.		06/30/91	06/28/91
	4 - Issue SAN MD.		10/31/91	/ /
<u>AP111</u>		<u>Emergency Preparedness</u>		
	1 - Issue SAN MOA ACTION TAKEN OR LATE EXPLANATION: ECD revised from 07/01/91 by DOE/SAN.		10/15/91	/ /
	2 - Establish and staff ETEC Site Office		10/15/91	/ /
	3 - Train and assign person as EPPC.		01/15/92	/ /
	4 - Prepare oversight plan and review/approval		02/15/92	/ /
	5 - Complete schedule for reviews and appraisals		12/01/91	/ /
<u>AP113</u>		<u>SAN Guidance on Emergency Preparedness</u>		
	1 - Issue SAN MOA. ACTION TAKEN OR LATE EXPLANATION: ECD revised from 07/01/91 by DOE/SAN.		10/15/91	/ /
<u>AP126</u>		<u>Application of Codes and Standards</u>		
	1 - Issue EFM's response to SAN/ETEC Site Office.		06/28/91	06/26/91
	2 - Issue SAN's response to ETEC.		07/03/91	07/19/91
	3 - Assign personnel to oversee ETEC Compliance w/DOE Order 6430.1A.		07/03/91	07/19/91



## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP138</u>		<u>SAN Audit of ES&amp;H Programs</u>		
	1 -	Begin audits of ETEC programs.	11/15/91	/ /
<u>AP177</u>		<u>SAN Distr. DOE Order</u>		
	1 -	Define Fitness Training Plan.	11/01/91	/ /
	2 -	Initiate training.	11/01/91	/ /
<u>AP195</u>		<u>ES&amp;H Appraisal Plan</u>		
	1 -	Complete ES&H and QA Management Plan. ACTION TAKEN OR LATE EXPLANATION: Plan on hold	12/01/91	/ /
	2 -	Approve Management Plan.	01/30/92	/ /
	3 -	Implement tracking system.	02/10/92	/ /
	4 -	Continue tracking and appraisal.	02/10/93	/ /
<u>AP198</u>		<u>Distribution of Directives to ETEC</u>		
	1 -	Meet SAN coordination committee to identify issues.	06/30/91	06/30/91
	2 -	Establish distribution process.	11/01/91	/ /
	3 -	Evaluate distribution process.	02/28/92	/ /
<u>AP199</u>		<u>Responsibility for DOE Buildings at SSFL</u>		
	1 -	Complete identification of DOE Bldgs. & contract status.	07/15/91	07/15/91
	2 -	Recommend to PSO contract revisions/dispositions.	11/30/91	/ /
	3 -	Update RPIS listing.	11/30/91	/ /
<u>AP202</u>		<u>SAN Self-Assessment Program</u>		
	1 -	Issuance of final SAN MD incorporating Tiger Team findings.	11/30/91	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP203</u>		<u>SAN Self-Assessment Appraisal and Report</u>		
	1	MS-1 OIIO complete assessment of ESS & ERWM	07/15/91	07/22/91
	2	Issue final SAN MD incorporating Tiger Team Findings.	11/30/91	/ /
	3	Complete SAN Action Plan Database & Tracking System.	11/30/91	/ /
	4	OIIO complete assessment of support organization.	09/30/92	/ /
<u>AP057</u>		<u>Improved Formality of Operations</u>		
	1	Prepare directive on communication protocols.	06/28/91	06/11/91
	2	Modify ETEC Procedure 6-02.	11/30/91	/ /
	3	Modify ETEC Procedure 6-03.	07/26/91	08/02/91
	5	Retrain personnel on ETEC 6-02 and 6-03.	01/30/92	/ /
<u>AP060</u>		<u>Preparation and Use of Detailed Procedures</u>		
	1	Revise ETEC Procedure for work not covered by ETEC 6-03.	02/15/92	/ /
	2	Train personnel on new ETEC procedure.	04/15/92	/ /
	3	Audit compliance with new ETEC procedures.	09/01/92	/ /
<u>AP061</u>		<u>Conformance with Procedures and Directives</u>		
	1	Review policies and procedures; modify as necessary.	11/22/91	/ /
	2	Complete compliance training for procedure users.	12/20/91	/ /
	3	Complete compliance training for managers.	12/20/91	/ /
	4	Institute top management compliance assessments.	03/30/92	/ /
<u>AP077</u>		<u>Review of Procedure Change Practices During Operation</u>		
	1	Review & revise ETEC 6-03, as necessary.	08/28/91	08/23/91
	2	Retrain personnel on procedure change practices.	12/15/91	/ /
	3	Provide direction to QA engineers.	12/15/91	/ /
<u>AP078</u>		<u>PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance</u>		
	1	Management review of PODD-5 and -6 completed.	07/26/91	06/21/91
	2	Recommendations obtained from users.	07/26/91	07/26/91
	3	Revisions to PODD-5 and -6, as appropriate, completed.	08/30/91	08/16/91
	4	Training and qualification of appropriate personnel completed.	08/30/91	08/16/91
	5	Formalization of management review process completed.	11/30/91	/ /
	6	Review process initiated.	01/15/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP079</u>		<u>Coordination of Maintenance Performed by Plant Services</u>		
	1	Develop Maintenance Unit charter/organization.	10/04/91	/ /
	2	Obtain funding commitment from DOE.	10/18/91	/ /
	3	Recruit qualified personnel to staff unit.	11/29/91	/ /
	4	Establish guidelines for effective interfacing.	12/20/91	/ /
	5	Train personnel on authorities/responsibilities.	02/28/92	/ /
	6	Develop and implement improved PM programs.	02/28/92	/ /
<u>AP095</u>		<u>Preparation and Control of Maintenance Procedures</u>		
	1	Develop Maintenance Unit charter/organization.	10/04/91	/ /
	2	EETC procedures for work not covered by ETEC 6-03.	11/01/91	/ /
	3	Audit compliance with new ETEC procedures.	05/29/92	/ /
	4	Initiate ETEC Document Control System.	06/01/92	/ /
<u>AP097</u>		<u>Improved Effectiveness of Operator Training</u>		
	1	Prepare Directive on Communication Protocol.	06/28/91	06/28/91
	2	Modify Procedure 6-02.	11/30/91	/ /
	3	Revise ETEC training plan.	11/30/91	/ /
	4	Prepare training implementation matrix.	11/30/91	/ /
	5	Establish training in training support facility.	10/01/92	/ /
<u>AP193</u>		<u>Conduct of Operations Improvements</u>		
	1	Improved reporting of procedural deficiencies. ACTION TAKEN OR LATE EXPLANATION: ETEC 6-02 will be revised to strengthen our implementation of procedures.	11/01/91	/ /
	2	Formal policy/practice of management walk-throughs.	11/30/91	/ /
	3	Upgrade operator round sheets & improve utilization.	12/15/91	/ /
	4	Improve management and QA oversight of CoO.	05/27/92	/ /
	5	Initial QA audit of conduct of operations.	08/22/92	/ /
<u>AP046</u>		<u>Performance Indicators</u>		
	2	Identify/implement new tracking procedures.	06/01/91	07/12/91
	3	Submit 1st quarterly PI report to DOE.	07/01/91	06/30/91

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP008</u>		<u>Drinking Water Monitoring</u>		
	1	Prepare procedures.	07/01/93	/ /
	2	Contract with outside firm to assess purity.	10/01/93	/ /
<u>AP073</u>		<u>ETEC Control of Special Process Personnel</u>		
	1	Revise ETEC Procedure 2-35. ACTION TAKEN OR LATE EXPLANATION: In review.	09/01/91	/ /
	2	Evaluate Rocketdyne welder certification program.	02/15/92	/ /
<u>AP081</u>		<u>Maintenance Planning</u>		
	1	Prepare Maintenance Program Plan (MPP).	10/04/91	/ /
	2	Develop Maintenance Plan for Expanded Maintenance Management.	07/01/92	/ /
	3	Implement Expanded Maintenance Management Program.	10/01/92	/ /
<u>AP082</u>		<u>ETEC Maintenance Program and Organizational Structure</u>		
	1	Develop Maintenance Unit charter/organization.	12/20/91	/ /
	2	Obtain funding commitment from DOE.	12/20/91	/ /
	3	Recruit qualified personnel to staff unit.	11/29/91	/ /
	4	Establish guidelines for effective interfacing.	12/20/91	/ /
	5	Train personnel on authorities/responsibilities.	02/28/92	/ /
	6	Develop and implement improved PM programs.	02/28/92	/ /
<u>AP083</u>		<u>Maintenance Program Improvement</u>		
	1	Develop Maintenance Unit charter/organization.	10/04/91	/ /
	2	Develop and implement improved PM programs.	02/28/92	/ /
<u>AP084</u>		<u>Maintenance Program Priority</u>		
	1	Develop Maintenance Unit charter/organization.	10/04/91	/ /
	2	Obtain funding commitment from DOE.	10/18/91	/ /
	3	Recruit qualified personnel to staff unit.	11/29/91	/ /
	4	Establish guidelines for effective interfacing.	12/20/91	/ /
	5	Train personnel on authorities/responsibilities.	02/28/92	/ /
	6	Develop and implement improved PM programs.	02/28/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP085</u>		<u>ETEC Maintenance Plan</u>		
	1 -	Prepare Maintenance Program Plan (MPP).	10/04/91	/ /
	2 -	Develop Maintenance Plan for Expanded Maintenance Management.	07/01/92	/ /
	3 -	Implement Expanded Maintenance Management Program.	10/01/92	/ /
<u>AP086</u>		<u>ETEC Shop Facilities</u>		
	1 -	Develop Maintenance Unit charter/organization.	10/04/91	/ /
	2 -	Develop and implement improved PM programs.	02/28/92	/ /
<u>AP088</u>		<u>ETEC Test Facility Maintenance</u>		
	1 -	Prepare Maintenance Program Plan (MPP).	10/04/91	/ /
	2 -	Develop Maintenance Plan for Expanded Maintenance Management.	07/01/92	/ /
	3 -	Implement Expanded Maintenance Management Program.	10/01/92	/ /
<u>AP089</u>		<u>ETEC Inactive Facilities</u>		
	1 -	Implement improved PM programs.	02/28/92	/ /
<u>AP090</u>		<u>Housekeeping</u>		
	1 -	Prepare Maintenance Program Plan (MPP).	10/04/91	/ /
	2 -	Develop Maintenance Unit charter/organization.	10/04/91	/ /
<u>AP091</u>		<u>Preventive Maintenance Implementation</u>		
	1 -	Develop and implement improved PM programs.	02/28/92	/ /
<u>AP092</u>		<u>Preventive Maintenance</u>		
	1 -	Prepare Maintenance Program Plan (MPP).	10/04/91	/ /
	2 -	Develop and implement improved PM programs.	02/28/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP093</u>		<u>Tagout Lockout Procedure</u>		
	1	Revisions to P0DD-5 and -6, as appropriate, completed.	08/30/91	08/30/91
	2	Develop Maintenance Unit character/organization.	10/04/91	/ /
<u>AP094</u>		<u>Predictive Maintenance</u>		
	1	Develop Predictive Maintenance Plan.	08/01/92	/ /
	2	Obtain pending commitment from DOE/SAN	10/01/93	/ /
	3	Recruit Qualified Personnel for predictive maintenance tasks	01/02/94	/ /
	4	Implement Predictive Maintenance Plan.	02/01/94	/ /
<u>AP106</u>		<u>Hazard Reduction, Control of Hazardous Materials</u>		
	1	Implement improved PM program per AP082.	02/28/92	/ /
<u>AP108</u>		<u>Vital Supply Systems</u>		
	1	Implement improved PM program per AP082.	02/28/92	/
<u>AP128</u>		<u>Contaminated Air Filtering</u>		
	1	Complete modification.	04/19/91	05/31/91
	2	Submit Action Plan.	05/31/91	05/31/91
<u>AP162</u>		<u>Means of Egress</u>		
	1	Submit Action Plan	05/31/91	06/28/91
	2	Identify all building floor plans.	11/15/91	/ /
	3	Determine adequacy of identification of egress.	11/15/91	/ /
	4	Order signs.	11/30/91	/ /
	5	Install signs.	03/01/92	/ /
	6	Install emergency lighting.	03/01/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP163</u>		<u>Use of Safety Equipment.</u>		
	1	Review ETEC Procedures 1-02 & 1-03.	07/01/91	07/11/91
	2	Safety Awareness Training.	06/30/92	/ /
	3	Incorporate regulatory requirements.	10/30/92	/ /
<u>AP166</u>		<u>Electrical Compliance/Achievement of OSHA Compliance Exc.</u>		
	2	Complete inspections.	04/05/91	04/05/91
	3	Develop composite corrections list.	04/08/91	04/08/91
	4	Perform repairs.	12/01/91	/ /
		ACTION TAKEN OR LATE EXPLANATION: 5/1/91 is start date. Estimated completion is 12-1-91.		
	5	Full-time safety engineer.	10/01/91	10/01/91
<u>AP130</u>		<u>Emergency Ingress/Egress</u>		
	1	Amend General Order Manual, Section 2, Order 2	04/15/92	/ /
<u>AP131</u>		<u>Firearm Safety Audit</u>		
	1	SAN issue direction to ETEC regarding DOE Order 5480.16.	12/15/91	/ /
<u>AP004</u>		<u>Inadequate Physical Control of the Former Sodium Disposal</u>		
	1	Complete perimeter fencing.	12/30/92	/ /
	2	First bi-annual inspection and maintenance.	06/15/92	/ /
	3	Complete facility closure.	09/30/93	/ /
<u>AP030</u>		<u>No Contingency Plan for Transuranic Waste</u>		
	1	Relocate TRU to T022	10/01/91	09/17/91
	2	Complete Transuranic Waste Contingency Plan	04/01/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP049</u>		<u>ETEC Controlled Document Control</u>		
	1 -	Procedural changes identified.	12/15/91	/ /
	2 -	Plan implemented.	01/01/92	/ /
<u>AP062</u>		<u>ETEC Document Management</u>		
	1 -	Submit Document Control Plan.	12/15/91	/ /
	2 -	Initiate ETEC Document Control System.	06/01/92	/ /
	3 -	ETEC Document Control System Operational.	06/01/93	/ /
<u>AP076</u>		<u>Safety Analysis Review and Update</u>		
	1 -	Implement revised SAR system per AP120.	03/31/93	/ /
<u>AP120</u>		<u>Safety Analysis Review and Update</u>		
	1 -	New ETEC OSR procedure released.	10/30/91	/ /
	2 -	ETEC Safety Analysis procedure released.	10/30/91	/ /
	3 -	Release revised Safety Analysis Document on SCTI.	12/15/91	/ /
	4 -	Review and document review on Safety Analyses on non-active ETEC facilities.	03/31/92	/ /
	5 -	Release revised Safety Analysis Documents on all active ETEC facilities.	09/30/92	/ /
	6 -	Release revised Safety Analysis Documents on non-active ETEC facilities.	03/31/92	/ /
<u>AP121</u>		<u>Safety Analysis Review and Update</u>		
	1 -	ETEC Safety Analysis procedure released.	09/30/91	/ /
	2 -	Release revised Safety Analysis Document on SCTI.	12/15/91	/ /
	3 -	Review and document review on Safety Analyses on non-active ETEC	03/31/92	/ /
	4 -	Release revised Safety Analysis Documents on all active ETEC facilities.	09/30/92	/ /
	5 -	Release revised Safety Analysis Documents on non-active ETEC facilities.	03/31/93	/ /



## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP122</u>		<u>Safety Analysis Review and Update</u>		
	1	EETC Safety Analysis procedure released.	09/30/91	/ /
	2	Release revised Safety Analysis Document on SCTI.	12/15/91	/ /
	3	Review and document review on Safety Analyses on non-active ETEC	03/31/92	/ /
	4	Release revised Safety Analysis Document on all active ETEC Facilities.	09/30/92	/ /
	5	Release revised Safety Analysis Documents on non-active ETEC facilities.	03/31/93	/ /
<u>AP123</u>		<u>Safety Analysis Review and Update</u>		
	1	New ETEC OSR procedure released.	09/30/91	/ /
	2	EETC Safety Analysis procedure released.	09/30/91	/ /
	3	Release revised Safety Analysis Documents on all active ETEC facilities.	09/30/92	/ /
<u>AP124</u>		<u>Validation of Safety Calculations</u>		
	1	Draft revision to EDD-10 "Checking of Engineering Documents" and associated procedures as applicable.	09/09/91	09/09/91
	2	Review and release EDD-10 and associated procedures.	10/01/91	09/27/91
<u>AP125</u>		<u>EETC Direction on Codes and Standards</u>		
	1	Draft revisions to EDD-12 and/or ETEC Procedure 3-11.	12/01/91	/ /
	2	Review and release of EDD-12 and/or ETEC Procedure 3-11.	01/30/92	/ /
<u>AP132</u>		<u>Safety Analysis Review and Update</u>		
	1	New ETEC OSR procedure released.	10/30/91	/ /
<u>AP167</u>		<u>Floor Load-Ratings Posting</u>		
	1	Complete analysis of each industrial floor.	09/30/92	/ /
	2	Procure and post load ratings.	04/30/93	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP105</u>		<u>Identification of Safety Requirements for Auxiliary Systems</u>		
	1 -	Identify primary/auxiliary systems.	06/01/92	/ /
	2 -	Update SADs and SARs utilizing DOE format guidance.	06/01/92	/ /
	3 -	Update selected SDDs.	10/01/92	/ /
<u>AP109</u>		<u>Reliability and Availability of Engineered Safety Systems</u>		
	1 -	Identify engineered safety systems.	06/01/92	/ /
	2 -	Review OSRs and revise maintenance and test requirements.	10/01/92	/ /
	3 -	Implement improved maintenance testing program.	01/01/92	/ /
<u>AP066</u>		<u>Calibration Verification</u>		
	1 -	Placement of stickers per Procedure 6-06.	11/30/91	05/30/91
	2 -	Train employees in procedures.	12/23/91	/ /
	3 -	Train RIS in alpha/beta and gamma systems.	02/29/92	/ /
<u>AP133</u>		<u>ES&amp;H Appraisal Committee</u>		
	1 -	Prepare ETEC Procedure (ES&H Internal Appraisal).	10/15/91	/ /
	2 -	Appoint ES&H appraisal committee.	11/20/91	/ /
	3 -	Initiate monthly committee actions.	12/01/91	/ /
<u>AP134</u>		<u>Periodic ES&amp;H Review of Operations</u>		
	1 -	Initiate monthly committee actions.	12/01/91	/ /
<u>AP070</u>		<u>Prevention of Degradation of Material</u>		
	1 -	Review ANSI/ASME NQA-1.	06/01/91	05/10/91
	2 -	Perform inventory of material to be covered by procedure.	12/15/91	/ /
	3 -	Issue procedure for prevention of degradation.	02/15/92	/ /
	4 -	Perform maintenance as required by procedure.	06/30/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP080</u>		<u>Operator Awareness of Operational Safety Requirements</u>		
	1	Add OSR training course to Training Matrices.	05/05/91	05/05/91
	2	Complete operator training on OSRs.	05/31/91	06/09/91
	3	Verify SL and OE knowledge of OSRs.	05/31/91	06/09/91
<u>AP069</u>		<u>Storage and Control of Material</u>		
	1	Review and revise ETEC Procedure 4-01.	06/26/91	06/28/91
	2	Prepare procedure for storage.	10/30/91	/ /
	3	Correct storage as required.	12/15/91	/ /
	4	Inventory, identify/status.	02/15/92	/ /
<u>AP119</u>		<u>Control of Technical Support Activities</u>		
	1	Issue general manager safety letter	06/03/91	06/15/91
	2	Issue general manager direction on performance appraisals	07/15/91	07/15/91
<u>AP192</u>		<u>Program for Effective ES&amp;H Monitoring</u>		
	1	Identify/implement new tracking procedures.	06/01/91	07/12/91
	2	Submit first quarterly PI report to DOE.	07/01/91	07/12/91
<u>AP006</u>		<u>ID and Implement Secondary Containment</u>		
	1	Complete management review.	12/15/92	/ /
	2	Complete schedule with recommendation.	02/15/92	/ /
	3	Complete resolution of need, oil filled transformers.	02/15/92	/ /
	4	Develop and release procedures.	06/15/92	/ /
	5	Complete containment corrections.	08/15/92	/ /
	6	Complete appraisal of secondary containment.	09/30/92	/ /
<u>AP127</u>		<u>Equipment Performance Data, Evaluation and Use</u>		
	1	Develop procedure.	04/01/92	/ /
	2	Complete training and indicate implementation.	09/30/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP165</u>		<u>Electrical Hazards</u>		
	2 - Complete inspections.		04/05/91	04/05/91
	3 - Develop composite corrections list.		04/08/91	04/08/91
	4 - Perform repairs.		12/01/91	/ /
	ACTION TAKEN OR LATE EXPLANATION: Start date was 5/1/91. Estimated completion date is 12/1/91			
<u>AP187</u>		<u>Strategic Planning</u>		
	1 - Complete & implement Strategic Plan.		06/01/92	/ /
<u>AP188</u>		<u>Organizational Roles</u>		
	1 - Part-time industrial hygienist.		10/01/91	/ /
	2 - Full-time safety engineer.		10/01/91	/ /
	3 - Revise Policy and Procedures Manual to define interface responsibilities.		11/22/91	/ /
	4 - Develop Maintenance Unit charter/organization.		10/04/91	/ /
	5 - Implementation of ES&H Reorganization Plan.		10/01/91	/ /
	6 - Prepare ETEC Training Plan.		12/01/91	/ /
<u>AP189</u>		<u>Individual Roles and Training</u>		
	1 - Revise Policy and Procedure Manual to define interface resp.		11/22/91	/ /
	2 - Establish goals.		09/13/91	/ /
	3 - Prepare ETEC Training Plan.		12/01/91	/ /
	4 - Implement revised performance evaluations.		04/01/92	/ /
<u>AP194</u>		<u>Work-For-Others</u>		
	1 - Revised ETEC Procedure 2-28 issued.		05/10/91	05/10/91
<u>AP001</u>		<u>Upgrade T059, T020, RMDF Stack Sampling System</u>		
	1 - Redesign T059 Stack Sampling System		07/01/91	07/02/91
	2 - Install T059 Stack Sampling System		10/01/91	08/01/91
	3 - Evaluate T059, RMDF and T020 Emission Sources		02/15/92	/ /
	4 - Redesign T020, RMDF Sampling Systems		03/01/92	/ /
	5 - DOE/SAN to approve new designs		04/01/92	/ /
	6 - Install T020, RMDF Sampline System		06/01/92	/ /
	7 - Revise and release sampling procedures		06/01/92	/ /
	8 - Complete training of personnel in revised procedures		07/15/92	/ /
	9 - Initiate new sampling approaches		08/01/92	/ /
	10- Conduct appraisal of stack sampling program		09/15/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP002</u>		<u>Meteorological Data for AIRDOS-PC Code</u>		
	1	Perform requirements review.	12/20/91	/ /
	2	Perform a sensitivity evaluation.	02/28/92	/ /
	3	Petition for onsite meteorology exemption.	03/31/92	/ /
	4	Prepare and submit ADS for meteorology tower.	05/31/92	/ /
	5	Prepare and release operating procedures.	01/20/93	/ /
	6	Complete training of personnel.	01/20/93	/ /
	7	Hire qualified specialist for meteorology tower.	01/20/93	/ /
	8	Complete procurement and installation.	02/15/93	/ /
	9	Start meteorology tower operations.	03/01/93	/ /
<u>AP003</u>		<u>Provide Compliant Ambient Air Sampling Program</u>		
	1	Develop procedure which requires periodic training on sampling equipment, maintenance and calibration.	04/30/92	/ /
	2	Develop procedures on specific siting requirements.	06/30/92	/ /
	3	DOE/SAN to approve siting locations.	08/01/92	/ /
	4	Implement training for RP&HPS staff.	08/01/93	/ /
	5	Procure new equipment; install at new locations.	12/15/93	/ /
	6	Initiate periodic sampling program.	12/15/93	/ /
	7	Conduct appraisal of Air Sampling Program.	03/15/94	/ /
<u>AP026</u>		<u>Development &amp; Implementation of Environmental Monit. Plan</u>		
	1	Prepare Environmental Monitoring Plan.	09/01/92	/ /
	2	DOE/SAN approval of plan.	10/01/92	/ /
	3	NEPA evaluation.	11/01/92	/ /
	4	Prepare sampling/analysis/QA procedures.	12/20/92	/ /
	5	Begin program implementation, including periodic formal training.	01/01/93	/ /
	6	QA audit.	06/01/93	/ /
<u>AP028</u>		<u>Evaluation of Source Terms and Met. Data</u>		
	1	All emission sources included in EPA AIRDOS-PC model.	01/01/92	/ /
<u>AP029</u>		<u>Environmental Surveillance Plan</u>		
	1	Funding request to DOE/SAN for resumption of soil sampling.	07/01/91	/ /
	2	Prepare Environmental Monitoring Plan.	09/01/92	/ /
	3	DOE/SAN Approval of plan.	10/01/92	/ /
	4	Begin program implementation.	01/01/93	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP031</u>		<u>Procedure For Surveys of Radioactive Material Shipments</u>		
	1 -	Review draft procedure RPHP-OI-0004.	07/01/91	07/01/91
	2 -	Issue and implement RPHP-OI-0004.	11/15/91	/ /
<u>AP098</u>		<u>Revise Radiation Orientation Training</u>		
	1 -	Perform training requirements review of DOE 5480.11 and 5480.20.	02/15/92	/ /
	2 -	Revise radiation protection orientation training.	05/31/92	/ /
	3 -	Finalize logistics and training materials.	09/01/92	/ /
	4 -	Implement training.	10/01/92	/ /
<u>AP103</u>		<u>Provide Radiation Protection Training</u>		
	2 -	Begin offsite training. ACTION TAKEN OR LATE EXPLANATION: On going activity	05/13/91	05/24/91
	3 -	Revise training plan per 5480.19 and 5489.20.	09/30/92	/ /
	4 -	Continue with structured training program.	09/30/93	/ /
<u>AP129</u>		<u>Upgrade Building T059 Effluent Sampling</u>		
	1 -	Implement effluent monitoring system per AP001.	06/01/93	/ /
<u>AP136</u>		<u>Management Oversight/Awareness</u>		
	1 -	Hold meetings with Operations on Radiation Safety Plans.	03/30/92	/ /
	2 -	Revise Radiation Safety Plans.	05/30/92	/ /
	3 -	Submit revised RP&HPS structure and staff needs.	06/30/92	/ /
	4 -	Restructure RP&HPS and write position descriptions.	01/31/93	/ /
	5 -	Complete recruitment and staff buildup.	09/30/93	/ /
<u>AP139</u>		<u>Procedures for Radiation Protection</u>		
	1 -	Complete high priority items previously identified.	03/30/92	/ /
	2 -	Complete lesser priority items previously identified.	09/30/92	/ /
	3 -	Perform second review of 5480.11 requirements for comparison	11/01/92	/ /
	4 -	Continue review and revision efforts.	11/01/93	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP140</u>		<u>External Exposure Procedure</u>		
	1 -	Complete program plan document for external exposures.	11/01/91	/ /
	2 -	Submit revisions for G-01.	01/30/92	/ /
<u>AP142</u>		<u>Dosimeter Procedures</u>		
	1 -	Complete program plan document.	11/01/91	/ /
	2 -	Hold meetings with operations.	03/30/92	/ /
<u>AP143</u>		<u>Internal Dosimetry Program</u>		
	1 -	Complete first draft of program document.	08/01/91	08/01/91
	2 -	Revise facility safety plans.	12/30/91	/ /
	3 -	Review data, make necessary procedure changes.	06/30/92	/ /
<u>AP144</u>		<u>Evaluation of Internal Dosimetry Program</u>		
	1 -	Perform protocol review, update procedures.	03/31/92	/ /
	2 -	Evaluate requirement & suitability for CO-60 bioassay	03/31/92	/ /
<u>AP145</u>		<u>Contamination Control</u>		
	1 -	Issue revised radiation & contamination survey procedures.	11/01/91	/ /
	2 -	Reorganize survey records.	03/31/92	/ /
<u>AP146</u>		<u>Study Approaches &amp; Establish Appropriate ALARA Program</u>		
	1 -	Designate ALARA Program Coordinator.	05/01/91	05/31/91
	2 -	Formulate and recommend a formal ALARA program.	01/01/92	/ /
	3 -	Obtain management approval, rewrite if necessary.	03/01/92	/ /
	4 -	Procure computer and software.	10/30/92	/ /
	5 -	Submit policy document revisions.	10/30/92	/ /
	6 -	Implement formal program.	01/01/93	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP141</u>		<u>External Exposure Dosimetry Procedures</u>		
	1 -	Inquire regarding DOELAP. ACTION TAKEN OR LATE EXPLANATION: Discussion on going with DOE. Does this apply to ETEC?	06/01/91	06/10/91
	2 -	Complete program plan document.	11/01/91	/ /
	3 -	Implement dosimetry program upgrades.	07/01/92	/ /
	4 -	Procure technician.	10/01/92	/ /
<u>AP100</u>		<u>Training and Control of Maintenance Personnel</u>		
	1 -	Prepare training implementation matrix.	11/01/91	/ /
	2 -	Revise ETEC Procedure 2-35.	12/01/91	/ /
<u>AP110</u>		<u>ETEC Documented Emergency Response Organization</u>		
	1 -	Rough draft completed for review by DOE/SAN.	09/06/91	/ /
	2 -	All issues will be completed.	09/06/91	/ /
<u>AP112</u>		<u>Emergency Plan Implementing Procedures</u>		
	1 -	Rough draft completed for review by DOE/SAN.	09/06/91	09/06/91
	2 -	All issues will be completed in four months.	09/06/91	09/06/91
<u>AP114</u>		<u>ETEC Emergency Training Program</u>		
	1 -	Develop emergency preparedness procedure to include training matrix and annual training schedule.	11/01/91	08/02/91
	2 -	Additional training of emergency management staff.	11/01/91	/ /
	3 -	All issues will be completed in six months.	11/06/91	/ /
	4 -	Issue detailed training schedule and commence training.	12/15/91	/ /
<u>AP115</u>		<u>Emergency Planning Exercise/Drill Program</u>		
	1 -	Create a procedure that documents activities.	08/06/91	08/02/91
	2 -	All issues will be completed in four months.	09/06/91	08/02/91



## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP116</u>		<u>Emergency Response Facility</u>		
	1	Provide additional documentation in satellite EOC.	11/01/91	/ /
	2	Provide procedure to obtain FAX machine for satellite EOC.	09/01/91	07/30/91
	3	Conduct training session with EOC support staff.	11/01/91	/ /
<u>AP117</u>		<u>Emergency Plan Implementing Procedures for Emergencies</u>		
	1	Issues will be completed in four months.	09/06/91	09/06/91
<u>AP118</u>		<u>Procedures for Personnel Protection Guidance</u>		
	1	All issues are expected to be closed within six months.	11/07/91	/ /
<u>AP175</u>		<u>Exit Signs and Emergency Lighting</u>		
	1	Complete Fire Protection Surveys	11/15/91	/ /
<u>AP178</u>		<u>Staffing Level of the Fire Department</u>		
	1	Assess Fire Department Staffing Level	05/31/91	05/31/91
<u>AP179</u>		<u>Advancement and Training Program for the Fire Department</u>		
	1	Assess Fire Department Training/Advancement Program	05/31/91	05/31/91
<u>AP180</u>		<u>Assigned Safety Officer for Fire Department</u>		
	1	Assign Safety Officer	09/06/91	06/06/91
		ACTION TAKEN OR LATE EXPLANATION: Captain John Lopez		

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
AP180	(continued)	<u>Assigned Safety Officer for Fire Department</u>		
	1	Assign Safety Officer ACTION TAKEN OR LATE EXPLANATION:	09/06/91	06/06/91
AP181		<u>Medical Director Involvement</u>		
	1	Issue organizational notices	06/15/91	06/15/91
	2	Begin upgrade of Medical Department computer capability.	06/15/91	06/15/91
	3	Establish system for medical policy/procedure upgrade.	12/19/91	/ /
AP182		<u>Medical Records</u>		
	1	Revise Medical Department policy.	05/31/92	/ /
AP183		<u>Medical Facilities Upgrade</u>		
	1	SSFL Medical facility redesign	02/01/92	/ /
	2	SSFL medical facility remodel	04/01/92	/ /
AP184		<u>Medical Department Staffing</u>		
	1	Implement Corrective Action	02/01/92	/ /
AP185		<u>Medical Examinations</u>		
	1	Setup reoutine, physical exam program.	03/01/92	/ /
	2	Revise medical surveillance program.	04/01/92	/ /
	3	Revise medical preplacement program	04/15/92	/ /
AP186		<u>Medical Audit Program</u>		
	1	Setup and implement audit program.	10/01/91	/ /
	2	Establish reference library	10/15/91	/ /
	3	Setup and implement policy/practice review program	11/01/91	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP176</u>		<u>Physical Fitness Program for Fire Fighters</u>		
	1 -	Initiate Physical Fitness Program	11/15/91	/ /
<u>AP043</u>		<u>Line Safety Vs Overview Not Defined Nor Staffed</u>		
	1 -	Completion of initial ES&H Reorganization Plan	10/30/91	/ /
	2 -	Implementation of ES&H Reorganization Plan	11/01/91	/ /
	3 -	Internal organizational changes in QA Department.	11/15/91	/ /
	4 -	Initiate ETEC communication program	12/01/91	/ /
<u>AP045</u>		<u>Interface of Responsibility</u>		
	1 -	Submit definitions of roles and interfaces to manual preparers.	05/01/92	/ /
	2 -	Revise Policy and Procedures Manuals to define interface responsibilities.	06/01/92	/ /
	3 -	Initiate maintenance matrix operations	07/10/92	/ /
	4 -	Initiate "Interface" presentations in training courses.	08/01/92	/ /
<u>AP048</u>		<u>Annual Performance Evaluation</u>		
	1 -	Emphasize annual reviews and awards in ES&H.	07/18/91	07/18/91
	2 -	Revise Policy and Procedures Manuals - define individual ES&H responsibility.	12/15/91	/ /
	3 -	Responsibilities: Revise position description and performance forms.	04/15/92	/ /
	4 -	Develop ES&H position descriptions and guides.	04/15/92	/ /
<u>AP022</u>		<u>Quality Assurance Surveys of Vendor Analytical Labs</u>		
	1 -	Prepare vendor survey procedure to ETEC 4-7.	11/15/91	/ /
	2 -	Complete training of PQA to survey requirements.	12/01/91	/ /
	3 -	Rocketdyne PQA quality vendors and publish list.	02/01/92	/ /
<u>AP023</u>		<u>ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.</u>		
	1 -	Release procedures to formalize ETEC oversight.	11/15/91	/ /
		ACTION TAKEN OR LATE EXPLANATION: Requires a letter to Rocketdyne QA		

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP023</u>	(continued)	<u>ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.</u>		
	1 -	Release procedures to formalize ETEC oversight. ACTION TAKEN OR LATE EXPLANATION:	11/15/91	/ /
	2 -	ETEC start to perform routing QA surveillance.	12/15/91	/ /
	3 -	ETEC to perform annual quality audit.	02/15/92	/ /
<u>AP024</u>		<u>Environmental Records QA</u>		
	1 -	Update Program/Project Plans and Procedures.	10/30/91	/ /
	2 -	Complete training	11/30/91	/ /
	3 -	Institute QA audit and surveillance program	11/30/91	/ /
<u>AP034</u>		<u>Environmental Spill Reporting Procedure</u>		
	1 -	Review procedures for spill response.	08/01/91	08/09/91
	2 -	Modify procedures as required.	12/01/91	/ /
	3 -	Incorporate into training matrix.	12/01/91	/ /
	4 -	Initiate training.	12/01/91	/ /
	5 -	ETEC QA audit.	12/15/91	/ /
<u>AP050</u>		<u>Updating of ETEC Procedures</u>		
	1 -	Revise ETEC Procedure 1-01.	07/15/91	08/08/91
<u>AP051</u>		<u>Improvements to ETEC's Procedural Infrastructure</u>		
	1 -	Increase Q/A audits for procedure compliance.	10/30/91	/ /
<u>AP054</u>		<u>Prepare Quality Assurance Plan</u>		
	1 -	Prepare draft of QA Plan for review.	11/15/91	/ /
	2 -	Issue QA Plan.	01/15/92	/ /
	3 -	Revise ETEC Procedure 2-03.	01/15/92	/ /
<u>AP055</u>		<u>Stop Work Authority</u>		
	1 -	Release ETEC Procedure 2-18.	06/15/91	07/12/91

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP056</u>		<u>Trend Analysis</u>		
	1 -	Implement Trend Analysis system per AP127.	09/30/92	/ /
<u>AP058</u>		<u>QA Auditor Training and Audit Documentation</u>		
	1 -	Establish performance-based guidelines.	11/30/91	/ /
	2 -	Revise ETEC Procedure 1-15.	12/15/91	/ /
	3 -	Issue Auditor Training Plan; start training.	01/15/92	/ /
<u>AP059</u>		<u>Effective and Timely Corrective Action to Audit Findings</u>		
	1 -	Develop ETEC Procedure 2-43.	07/10/91	08/08/91
	2 -	Issue approved procedure.	12/01/91	/ /
	3 -	Implement database tracking system.	02/01/92	/ /
<u>AP063</u>		<u>Quality Verification of Kalina Facility Construction Act.</u>		
	1 -	Issue inspection plan.	05/15/91	05/24/91
	2 -	Obtain inspector from Rocketdyne.	05/20/91	04/24/91
<u>AP064</u>		<u>Unapproved Material Source</u>		
	1 -	Issue ETEC QA Plan.	10/15/91	/ /
	2 -	Revise ETEC Procedure 2-03 "Program/Project Control."	10/30/91	/ /
	3 -	Revise ETEC Procedure 4-07 "Evaluation and Approval of Procurement Sources."	11/15/91	/ /
	4 -	Revise ETEC Procedure 4-08 "Receiving, Inspections and Identification of Incoming New Material and Equipment."	11/30/91	/ /
<u>AP065</u>		<u>Receipt Inspections</u>		
	1 -	Prepare draft of QA Plan for review.	11/15/91	/ /
	2 -	Issue QA Plan.	11/30/91	/ /
	3 -	Revise ETEC Procedure 2-03.	12/15/91	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP067</u>		<u>Material Control</u>		
	1	Review ETEC Procedure 2-20.	06/01/91	06/01/91
	2	Revise ETEC Procedure 2-20.	12/15/91	/ /
	3	Inform/train users of system.	01/30/92	/ /
	4	Implement new procedure.	02/01/92	/ /
<u>AP068</u>		<u>ETEC Training on NCR and UOR</u>		
	1	Review procedures.	11/15/91	/ /
	2	Revise and release ETEC Procedure 2-20.	12/15/91	/ /
	3	Develop training plan.	12/01/91	/ /
	4	Initiate training.	01/01/92	/ /
<u>AP071</u>		<u>Quality Verification Inspection Staffing</u>		
	1	Hire additional inspector.	02/05/92	/ /
<u>AP072</u>		<u>Quality Verification Inspection Training</u>		
	1	Issue training plan.	01/15/92	/ /
	2	Initiate training.	02/17/92	/ /
<u>AP074</u>		<u>ETEC Control of Special Process Material</u>		
	1	Revise QADD No. 18.	02/07/92	/ /
	2	Conduct QA Audit of Plant Services.	03/18/92	/ /
<u>AP096</u>		<u>No Training and Qualification Program</u>		
	1	Prepare training implementation matrix	11/01/91	/ /
	2	Revised ETEC Training Plan	01/15/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP101</u>		<u>No Training Support Facility</u>		
	1	Designate training facility.	06/01/92	/ /
	2	Complete facility modifications.	09/01/92	/ /
	3	Establish training function.	10/01/92	/ /
<u>AP102</u>		<u>Training of Inspectors</u>		
	1	Issue training plan.	01/15/92	/ /
<u>AP104</u>		<u>Management Training on Safety</u>		
	1	Prepare training implementation matrix.	11/01/91	/ /
	2	Schedule radiation safety class.	06/01/92	/ /
	3	Prepare NCR/OR training class.	06/01/92	/ /
	4	Start NCR/OR training.	07/01/92	/ /
<u>AP135</u>		<u>Triennial Review of ES&amp;H Program</u>		
	1	Write and release ETEC procedure.	10/15/91	/ /
	2	Begin Self-Assessment process.	11/15/91	/ /
<u>AP137</u>		<u>Level of Independent Oversight at Radiation Protection Prog.</u>		
	1	Establish position of independent oversight.	10/15/91	/ /
	2	Develop Auditor Training Plan; start training.	10/15/91	/ /
	3	Revise ETEC Procedure 1-15.	12/15/91	/ /
<u>AP191</u>		<u>Independent Oversight Program</u>		
	1	Identify/implement new tracking procedures.	06/01/91	07/12/91
	2	Part-time industrial hygienist.	06/03/91	06/03/91
	3	Full-time safety engineer.	09/30/91	04/15/91
	4	Implement HS&E Manual changes.	12/30/92	/ /
	5	Implement EC Manual changes.	12/30/92	/ /
	6	Appoint ES&H appraisal committee.	05/30/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP200</u>		<u>ETEC Self-Assessment Program</u>		
	1	Write and release ETEC procedure.	10/15/91	/ /
	2	Begin Self-Assessment process.	11/15/91	/ /
<u>AP201</u>		<u>ETEC Self-Assessment Appraisal and Report</u>		
	1	Write and release ETEC procedure.	10/15/91	/ /
	2	Begin Self-Assessment process.	11/15/91	/ /
<u>AP019</u>		<u>Sewage Sludge Monitoring Plan</u>		
	1	Draft Sewage Sludge Monitoring Program completed.	06/01/93	/ /
	2	Sewage Sludge Monitoring Program finalized.	07/15/93	/ /
	3	Procedures released.	08/01/93	/ /
	4	Training completed.	09/01/93	/ /
	5	First sampling completed.	11/01/93	/ /
	6	Complete QA audit.	11/15/93	/ /
<u>AP005</u>		<u>Stormwater and Sediment Characterization - Northwest Area</u>		
	1	Workplan preparation started.	11/01/91	/ /
	2	Workplan finalized.	01/15/92	/ /
	3	Work plan approved by DHS and RWQCB.	02/15/92	/ /
	4	Develop and release procedures.	03/15/92	/ /
	5	Complete training.	04/01/92	/ /
	6	Soil sampling and laboratory analysis complete.	05/01/92	/ /
	7	Final report completed.	06/15/92	/ /
<u>AP009</u>		<u>Sewage Collection System Investigation and Repair</u>		
	1	Initiate investigation.	11/15/93	/ /
	2	Complete investigation.	01/15/94	/ /
	3	Develop and release procedures.	04/15/94	/ /
	4	Initiate repair.	06/15/94	/ /
	5	Develop Preventive Maintenance Plan.	07/01/94	/ /



## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP010</u>		<u>Groundwater Protection Management Plan</u>		
	1	Start development of draft comprehensive Groundwater Protection.	11/15/91	/ /
	2	Survey and identification of contaminated areas completed.	01/15/92	/ /
	3	Groundwater Monitoring Plan completed with state approval.	03/15/92	/ /
	4	Draft comprehensive Groundwater Protection Management Plan Comp.	04/15/92	/ /
	5	Comprehensive Groundwater Protection Management Plan completed.	05/15/92	/ /
	6	DOE approval.	07/15/92	/ /
<u>AP011</u>		<u>Character. and Monitoring of Vadose Zone Underlying B/886.</u>		
	1	Geologic mapping completed.	03/01/92	/ /
	2	Work Plan completed.	04/01/92	/ /
	3	Installation of additional monitor wells constructed.	07/01/92	/ /
	4	Specified well sampling and analysis per findings objectives completed.	07/01/92	/ /
	5	Geologic coring performed.	09/15/92	/ /
	6	Closure plan report completed.	01/01/93	/ /
<u>AP012</u>		<u>Hydrogeologic Regime Characterization</u>		
	1	Construction and development of Phase IV wells.	12/15/91	/ /
	2	Geophysical logging completed.	12/15/91	/ /
	3	SSFL Area IV portion of the Site Characterization Plan completed.	02/01/92	/ /
	4	Area IV Groundwater Quality Assessment Plan completed.	03/01/92	/ /
	5	Depth discrete (vertical) sampling at six (two clusters of three) wells and two rounds of regular sampling at seven wells	03/01/92	/ /
	6	Hydrogeologic Regime Characterization Regime report completed.	06/01/92	/ /
	7	Revise characterization plan if required.	07/01/92	/ /
	8	Complete Phase V wells.	12/15/92	/ /
	9	Geophysical logging completed.	12/15/92	/ /
	10	Well sampling completed.	03/01/93	/ /
	11	Update Hydrogeological Regime Characterization report completed.	06/01/93	/ /
<u>AP013</u>		<u>Well Monitoring/Maint/Abandonment/Closure/Decommissioning</u>		
	1	Formalize a written monitoring well maintenance program. ACTION TAKEN OR LATE EXPLANATION: Original document was not accepted. ECD revised from	11/30/91	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP013</u>	(continued)	<u>Well Monitoring/Maint/Abandonment/Closure/Decommissioning</u>		
	1	Formalize a written monitoring well maintenance program. ACTION TAKEN OR LATE EXPLANATION: 07/30/91	11/30/91	/ /
	2	Abandonment/closure/decommissioning document submitted to CA.	12/30/91	/ /
	3	Initiate investigation & determination as to whether or not it is a well.	04/01/92	/ /
	4	Well abandonment/closure/decommissioning document finalized.	05/15/92	/ /
	5	Acceptance by CA DHS of open borehole construction.	09/15/92	/ /
	6	Release procedures.	10/01/92	/ /
	7	Complete personnel training.	10/30/92	/ /
	8	Initiate proper closure of well(s).	11/01/92	/ /
	9	Verify completion in accordance with plan.	04/01/93	/ /
<u>AP014</u>		<u>Decontamination of Sampling Equipment Document</u>		
	1	Formalization of Decontamination of Sampling Equipment document.	12/15/91	/ /
	2	DOE approval of decontamination document.	02/01/92	/ /
	3	Develop and release procedures.	12/15/92	/ /
	4	Complete training.	02/15/93	/ /
	5	QA audit to procedures.	05/15/93	/ /
<u>AP015</u>		<u>Organic Vapor Monitoring Program</u>		
	1	HNV PID procured and ready for use.	06/15/91	05/01/91
	2	Organic Vapor Monitoring program including instructions finalized.	07/01/91	06/01/91
<u>AP016</u>		<u>Waste Minimization Plan</u>		
	1	Waste Reduction Coordinator appointed.	06/12/91	06/12/91
	2	Evaluation of major hazardous waste streams.	08/15/91	08/07/91
	3	Hazardous Waste Source Reduction Report (SB 14) Completed.	08/22/91	08/23/91
	4	Hazardous Waste Source Report (SB 14) made available.	09/01/91	08/30/91
	5	Hazardous Waste Source Reduction Plan completed.	11/30/91	/ /
	6	Complete draft WM Plan for hazardous and non-hazardous waste.	01/01/92	/ /
	7	WM Plan for non-hazardous and hazardous waste finalized.	02/01/92	/ /
	8	ETEC procedures released.	04/01/92	/ /
	9	Training completed.	06/01/92	/ /

## Completed and Incomplete Milestones Due Between 04/01/91 AND 12/31/98

Plan ID	Milestone Number	Plan Title	Scheduled Milestone Completion Date	Completed
<u>AP017</u>		<u>Storage of Land Disposal Restricted Waste (LDR) Mixed Waste</u>		
	1	Complete case-by-case data submittals to SAN	09/06/91	08/19/91
	2	Start Waste Treatment program.	11/15/91	/ /
	3	Complete draft procedures and submit for approval.	12/01/91	/ /
	4	Receive NEPA approval.	01/15/92	/ /
	5	Receive treatment permit from state.	03/15/92	/ /
	6	Complete waste treatment.	07/15/92	/ /
<u>AP018</u>		<u>Waste Verification Plan - RMDF and HWSA</u>		
	1	First meeting between Nuclear Operations and Environmental.	06/01/92	/ /
	2	Draft Waste Verification Plan completed.	07/01/92	/ /
	3	Final Waste Verification Plan for RMDF completed.	08/01/92	/ /
	4	Waste Verification Plans for RMDF and HWSA merged.	09/01/92	/ /
	5	Release waste verification procedures.	09/01/92	/ /
	6	Appropriate personnel trained, as necessary.	10/15/92	/ /
	7	Audit compliance to Verification Plan.	11/30/92	/ /
<u>AP025</u>		<u>Pollution Prevention Awareness Program Plan</u>		
	1	Pollution Prevention Coordinator appointed.	11/01/91	/ /
	2	Pollution Prevention Awareness Plan completed.	06/01/92	/ /
	3	Award program finalized.	09/15/92	/ /
	4	Initial training on pollution prevention completed.	11/01/92	/ /
	5	Conduct first annual survey of program results.	09/30/93	/ /
<u>AP032</u>		<u>Site Investigations/Remedial Activities Plan</u>		
	1	Begin negotiations with DOE, EPA, DHS, and RWQCB.	11/01/91	/ /
	2	Outline for Site Management Strategy Addressing all SSFL Area IV.	03/01/92	/ /
	3	Draft Site Management Strategy addressing all DOE facilities.	07/01/92	/ /
	4	Site Management Strategy finalized.	10/01/92	/ /
	5	Revise operating procedures.	11/20/92	/ /
	6	Complete training.	12/15/92	/ /
	7	Agreement completed and signed by all involved parties.	02/01/93	/ /

## 5.0 MANAGEMENT SYSTEM FOR IMPLEMENTATION

### 5.1 INTRODUCTION

Implementation of the Action Plan will be accomplished by ETEC program and line management. Oversight will be provided by Rocketdyne's Environmental, Health & Safety departments. Industrial Security will provide oversight in the area of emergency preparedness and fire protection. ETEC Quality Assurance, DOE Site Office at ETEC, DOE/SAN and DOE/HQ/NE will validate that corrective actions have been satisfactorily completed. A weekly meeting of ETEC management will be used to review milestones, monitor progress and discuss issues relative to completion of the corrective action plan. The overall strategy is to develop an integrated management approach that will take into consideration the priority of the individual action plans balanced against funding and availability of resources.

### 5.2 MANAGEMENT SYSTEM

The Tiger Action Plan Tracking System developed at Argonne National Lab will be used as a tool to manage and audit the activities necessary to complete the action plan. The data base that was created as part of the preparation of this action plan has provisions to track funding, milestones and verification of completion. In the event that funding is not available, new milestone dates will be established.

A quarterly report, commencing October 1, 1991 will present a summary status of actions taken. This quarterly report will be used to close out the Tiger Team Assessment findings and Corrective Action Plan completion activities.

## APPENDIX A

### NEPA DETERMINATION

The DOE has determined that the activities described in this Tiger Team ES&H Corrective Action Plan are the types of actions described as Categorical Exclusions in the DOE NEPA guidelines, Section D, 55FR47662, December 15, 1987, and 55FR37174, September 7, 1990.

Table 1 of this Appendix lists the classes of actions which fall under the Categorical Exclusion category of the guidelines. A letter code has been assigned to each category for use with Table 2. Table 2 of this Appendix lists the Action Plans by number and title and the category codes which apply to the actions prescribed by the Action Plans.

Table A-1. Class of Actions Listed in Section D of the DOE/NEPA Guidelines

<u>Category Code</u>	<u>Action</u>
A	Site characterization and environmental monitoring
B	Information gathering, analysis and dissemination
C	Compliance actions, including investigations, conferences, hearings, notices of probable violations and remedial orders
D	Removal action (e.g. of asbestos containing materials, PCB's, CERCLA/RCRA removal actions, underground storage tanks, etc.)
E	General plant projects (e.g. road building, repairs, etc.)
F	Improvements to environmental control systems
G	Actions involving routine maintenance of DOE-owned or operated facilities
H	Actions in the nature of conceptual design or feasibility studies
I	Interpretations and rulings or modifications or rescissions thereof
J	Personnel actions

Table A-2  
NEPA CATEGORICAL EXCLUSIONS FOR ACTION PLANS

Page No. 1

08/25/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	NEPA CATEGORICAL EXCLUSION CODE
AP001	Upgrade T059, T020, RMDF Stack Sampling System	2F	EM	A, F
AP002	Meteorological Data for AIRDOS-PC Code	2F	EM	A, B
AP003	Provide Compliant Ambient Air Sampling Program	3F	EM	A, C
AP004	Inadequate Physical Control of the Former Sodium Disposal	3F	EM	D, E
AP005	Stormwater and Sediment Characterization - Northwest Area	3E	NE	A
AP006	ID and Implement Secondary Containment	3E	NE	E
AP007	Revisions to the SPCC and the FSCP	3E	EM	C, F
AP008	Drinking Water Monitoring	4G	EM	A, C
AP009	Sewage Collection System Investigation and Repair	3E	NE	B, E, G
AP010	Groundwater Protection Management Plan	2E	NE	A, H
AP011	Character. and Monitoring of Vadose Zone Underlying B/886.	2E	EM	A, D
AP012	Hydrogeologic Regime Characterization	3E	EM	A, D
AP013	Well Monitoring/Maint/Abandonment/Closure/Decommissioning	3E	EM	A, C, D, F, G
AP014	Decontamination of Sampling Equipment Document	4E	NE	F
AP015	Organic Vapor Monitoring Program	3E	NE	F
AP016	Waste Minimization Plan	2E	NE	C, F
AP017	Storage of Land Disposal Restricted Waste (LDR) Mixed Waste	2F	EM	C, D
AP018	Waste Verification Plan - RMDF and HWSA	3F	EM	C, D
AP019	Sewage Sludge Monitoring Plan	3E	EM	A, D, F
AP020	Incomplete Hazard Identification	2E	EM	A, B, C
AP021	Storage of Incompatible Chemicals	3E	NE	C, G, I
AP022	Quality Assurance Surveys of Vendor Analytical Labs	2B	NE	B
AP023	ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.	2B	NE	B
AP024	Environmental Records QA	2G	NE	B, C
AP025	Pollution Prevention Awareness Program Plan	3D	NE	B, C, J
AP026	Development & Implementation of Environmental Monit. Plan	2F	EM	B, C, F
AP027	Environmental Protection Implementation Plan Evaluation	3D	EM	B, C
AP028	Evaluation of Source Terms and Met. Data	2F	EM	A, B, F
AP029	Environmental Surveillance Plan	2D	EM	A, B
AP030	No Contingency Plan for Transuranic Waste	2D	EM	B, C, I
AP031	Procedure for Surveys of Radioactive Material Shipments	3D	EM	B, I
AP032	Site Investigations/Remedial Activities Plan	2D	EM	A, B, H
AP033	Business Plan Amendment Doc. & Acutely HAZMAT Registration	3D	EM	B, C, I
AP034	Environmental Spill Reporting Procedure	2D	NE	B, I
AP035	NEPA Compliance	2D	NE	B, C, I
AP036	NEPA Organization	2D	NE	B, C, I
AP037	NEPA Determinations	2D	NE	B, C, I
AP038	NEPA Recordkeeping and Tracking	2D	NE	B, C, I
AP039	NEPA Documentation	2D	NE	B, C, I
AP040	Safety Responsibility and Authority	3D	NE	B, J
AP041	Scheduled Safety Meetings	2D	NE	B
AP042	Proactive Compliance with DOE Safety & Health Requirements	2D	NE	B, C, I
AP043	Line Safety Vs Overview Not Defined Nor Staffed	2B	NE	J
AP044	Safety Goals	3D	NE	B, I

Table A-2  
NEPA CATEGORICAL EXCLUSIONS FOR ACTION PLANS

Page No. 2

08/25/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	NEPA CATEGORICAL EXCLUSION CODE
AP045	Interface of Responsibility	3D	NE	B, J
AP046	Performance Indicators	2G	NE	B, C
AP047	Lack of SAN Oversight	3B	NE	B, C
AP048	Annual Performance Evaluation	3B	NE	J
AP049	ETEC Controlled Document Control	3G	NE	B
AP050	Updating of ETEC Procedures	3D	NE	B, C, I
AP051	Improvements to ETEC's Procedural Infrastructure	3D	NE	B, C, I
AP052	Training on Substance Abuse	3C	NE	B, C, I
AP053	Drug Screening is Inconsistent	3D	NE	B, I
AP054	Prepare Quality Assurance Plan	2D	NE	B, C
AP055	Stop Work Authority	2B	NE	B, C, I, J
AP056	Trend Analysis	3G	NE	B, I
AP057	Improved Formality of Operations	3D	NE	B, I, J
AP058	QA Auditor Training and Audit Documentation	2C	NE	B, J
AP059	Effective and Timely Corrective Action to Audit Findings	2D	NE	C, I, J
AP060	Preparation and Use of Detailed Procedures	3D	NE	B, J
AP061	Conformance with Procedures and Directives	2D	NE	B, C, I
AP062	ETEC Document Management	2G	NE	B
AP063	Quality Verification of Kalina Facility Construction Act.	3B	NE	B, C
AP064	Unapproved Material Source	2B	NE	B, C
AP065	Receipt Inspections	2B	NE	B, C
AP066	Calibration Verification	2D	NE	B, C
AP067	Material Control	2D	NE	B, C
AP068	ETEC Training on NCR and UOR	2C	NE	B, C
AP069	Storage and Control of Material	2D	NE	B, C
AP070	editention of Degradation of Material	2D	NE	B, C
AP071	Quality Verification Inspection Staffing	3B	NE	J
AP072	Quality Verification Inspection Training	2B	NE	J
AP073	ETEC Control of Special Process Personnel	2D	NE	J
AP074	ETEC Control of Special Process Material	2D	NE	B, C
AP075	Formally Articulated Safety Awareness Programs	3D	NE	B, J
AP076	Safety Analysis Review and Update	3D	NE	B, C
AP077	Review of Procedure Change Practices During Operation	3D	NE	B, C, I
AP078	POOD-5 (ECRO) and POOD-6 (Caution Tag) Compliance	2D	NE	B, C
AP079	Coordination of Maintenance Performed by Plant Services	3A	NE	B, J
AP080	Operator Awareness of Operational Safety Requirements	3C	NE	B, J
AP081	Maintenance Planning	2A	NE	B
AP082	ETEC Maintenance Program and Organizational Structure	3A	NE	B, J
AP083	Maintenance Program Improvement	3A	NE	B, C
AP084	Maintenance Program Priority	3A	NE	B
AP085	ETEC Maintenance Plan	3A	NE	B, C, G
AP086	ETEC Shop Facilities	3A	NE	B, C, I
AP087	Provide Guidance for ETEC Maintenance Plan	3A	NE	B, C, G
AP088	ETEC Test Facility Maintenance	3A	NE	B, G



Table A-2  
NEPA CATEGORICAL EXCLUSIONS FOR ACTION PLANS

Page No. 3

08/25/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	NEPA CATEGORICAL EXCLUSION CODE
AP089	ETEC Inactive Facilities	2A	NE	B,G
AP090	Housekeeping	3D	NE	G
AP091	Preventive Maintenance Implementation	3A	NE	G
AP092	Preventive Maintenance	4A	NE	G
AP093	Tagout Lockout Procedure	2D	NE	B,G
AP094	Predictive Maintenance	3A	NE	G
AP095	Preparation and Control of Maintenance Procedures	3A	NE	B,G
AP096	No Training and Qualification Program	2C	NE	C,J
AP097	Improved Effectiveness of Operator Training	2C	NE	B,J
AP098	Revise Radiation Orientation Training	3C	NE	B,J
AP099	Safety Awareness Training	2C	NE	B,J
AP100	Training and Control of Maintenance Personnel	3C	NE	B,J
AP101	No Training Support Facility	3C	NE	E
AP102	Training of Inspectors	3C	NE	B,J
AP103	Provide Radiation Protection Training	2C	EM	B,J
AP104	Management Training on Safety	3C	NE	B,J
AP105	Identification of Safety Requirements for Auxiliary Systems	3G	NE	B
AP106	Hazard Reduction	2D	NE	B,C,F,J
AP107	Control of Hazardous Effluence to Air	2E	EM	C,F
AP108	See MA.6-2	4G	NE	G
AP109	Reliability and Availability of Engineered Safety Systems	3G	NE	B,C
AP110	ETEC Documented Emergency Response Organization	2H	NE	C,J
AP111	Emergency Preparedness	2H	NE	B,C
AP112	Emergency Plan Implementing Procedures	3H	NE	B,C
AP113	Document EP Training Program	2H	NE	B,J
AP114	ETEC Emergency Training Program	2H	NE	B,C,J
AP115	Emergency Planning Exercise/Drill Program	2H	NE	B,J
AP116	Emergency Response Facility	2H	NE	E
AP117	Emergency Plan Implementing Procedures for Emergencies	2H	NE	B,J
AP118	Procedures for Personnel Protection Guidance	2H	NE	B,J
AP119	Control of Technical Support Activities	3G	NE	B,G
AP120	Safety Analysis Review and Update	3G	NE	C,H
AP121	Safety Analysis Review and Update	3G	NE	C,H
AP122	Safety Analysis Review and Update	3G	NE	C,H
AP123	Safety Analysis Review and Update	3G	NE	C,H
AP124	Validation of Safety Calculations	3G	NE	C,H
AP125	ETEC Direction on Codes and Standards	3G	NE	B,C,I
AP126	Application of Codes and Standards	2G	NE	B,C,I
AP127	Equipment Performance Data, Evaluation and Use	3G	NE	B,C
AP128	Contaminated Air Filtering	2F	EM	B,C
AP129	Upgrade Building T059 Effluent Sampling	2F	EM	F
AP130	Emergency Ingress/Egress	3G	NE	C
AP131	Firearm Safety Audit	3G	NE	B,C
AP132	Safety Analysis Review and Update	3G	NE	B,C

Table A-2  
NEPA CATEGORICAL EXCLUSIONS FOR ACTION PLANS

Page No. 4

08/25/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	NEPA CATEGORICAL EXCLUSION CODE
AP133	ES&H Appraisal Committee	2B	NE	B, J
AP134	Periodic ES&H Review of Operations	2B	NE	B, C, I
AP135	Triennial Review of ES&H Program	3D	NE	B, C, I
AP136	Management Oversight/Awareness	2F	EM	B, C
AP137	Level of Independent Oversight at Radiation Protection Prog.	3F	EM	B, C
AP138	No SAN Audit	2B	NE	B, C
AP139	Procedures for Radiation Protection	2F	EM	B, C, I
AP140	External Exposure Procedure	2F	EM	B, C, I
AP141	External Exposure Dosimetry Procedures	2F	EM	B, C, I
AP142	Dosimeter Procedures	2F	EM	B, C, I
AP143	Internal Dosimetry Program	2F	EM	B, C, I
AP144	Evaluation of Internal Dosimetry Program	2F	EM	B, C
AP145	Contamination Control	2F	EM	B, C
AP146	Study Approaches & Establish Appropriate ALARA Program	2F	EM	B, C
AP147	ETEC Line Management Safety Program	2B	NE	C, J
AP148	Industrial Hygiene and Safety Engineer Oversight	2B	NE	J
AP149	Industrial Hygiene-Related Procedure Modifications	1B	NE	B, C
AP150	Compliance-Related Changes to HS&E Manual	1B	NE	B, C
AP151	See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2	2F	NE	B, C, H, I, J
AP152	Coordinated HS&E Hazard Management	2F	NE	B, C
AP153	Asbestos Management	2E	NE	B, C
AP154	Design and Management of Regulated Areas	2G	NE	B, H, I
AP155	Construction Safety	3G	NE	B, J
AP156	Identification, Monitoring, Control of Hazards	2G	EM	B, C
AP157	Hazard Communications	2G	EM	B, C
AP158	Mechanisms for Hazard Recognition and Control	2G	EM	B, C
AP159	Training Plan and Specific Hazard Training	2C	EM	B, J
AP160	Compliance with DOE Prescribed Standards	2G	NE	B, C
AP161	Industrial Hygiene Monitoring Program	1B	NE	B, C, F
AP162	Means of Egress	2G	NE	B, C
AP163	Use of Safety Equipment.	2A	NE	B, C, I
AP164	Machinery and Machine Guarding	2A	NE	B, C, G, I
AP165	Electrical Hazards	1A	NE	B, C, G
AP166	Electrical Compliance/Achievement of OSHA Compliance Exc.	2A	NE	C
AP167	Floor Load-Ratings Posting	3A	NE	B, C
AP168	Safety Practices and Compliance with Regulatory Requirements	2G	NE	C, G
AP169	Safety Practices and Compliance with Regulatory Requirements	2G	NE	C, G
AP170	Safety Practices and Compliance with Regulatory Requirements	2G	NE	C, G
AP171	Safety Practices and Compliance with Regulatory Requirements	2G	NE	C, G
AP172	Contractor Surveillance	2B	NE	B, C
AP173	Contractor Surveillance	2B	NE	B, C
AP174	Contractor Surveillance	2B	NE	B, C
AP175	Exit Signs and Emergency Lighting	1G	NE	B, C
AP176	Physical Fitness Program for Fire Fighters	2H	NE	J

Table A-2  
NEPA CATEGORICAL EXCLUSIONS FOR ACTION PLANS

Page No. 5

08/25/91 PLAN ID	PLAN TITLE	PRIORITY	LEAD OFFICE	NEPA CATEGORICAL EXCLUSION CODE
AP177	SAN Distr. DOE Order	2H	NE	B
AP178	Staffing Level of the Fire Department	2H	NE	J
AP179	Advancement and Training Program for the Fire Department	4H	NE	B,J
AP180	Assigned Safety Officer for Fire Department	2H	NE	I
AP181	Medical Director Involvement	3J	NE	J
AP182	Medical Records	3J	NE	B
AP183	Medical Facilities Upgrade	3J	NE	E
AP184	Medical Department Staffing	3J	NE	J
AP185	Medical Examinations	3J	NE	J
AP186	Medical Audit Program	3J	NE	B
AP187	Strategic Planning	3D	NE	B,C,I
AP188	Organizational Roles	3G	NE	J
AP189	Individual Roles and Training	3C	NE	B,J
AP191	Independent Oversight Program	2B	NE	C,J
AP192	Program for Effective ES&H Monitoring	3B	NE	B,J
AP193	Conduct of Operations Improvements	2D	NE	B,C,J
AP194	Work-For-Others	3G	NE	B,C
AP195	ES&H Appraisal Plan	2D	NE	B,C
AP196	Cost Plus Award Fee Process	2D	NE	B,C
AP197	NEPA Oversight	2D	NE	B,C,I
AP198	Distribution of Directives to ETEC	2D	NE	B
AP199	Responsibility for DOE Buildings at SSFL	2G	NE	B
AP200	ETEC Self-Assessment Program	2G	NE	B,C,I
AP201	ETEC Self-Assessment Appraisal and Report	2G	NE	B,C,I
AP202	SAN Self-Assessment Program	3G	NE	B,C,I
AP203	SAN Self-Assessment Appraisal and Report	2G	NE	B,C,I

<u>Finding ID</u>	<u>Page</u>	<u>Finding Title</u>
A/BMPF-1	3.1-11	Inadequate Characterization of Radioactive Particulates
A/CF-1	3.1-5	Inadequate Stack Emissions Monitoring Methods
A/CF-2	3.1-8	Inadequate Meteorological Data
AX	3.2-164	See MA 6-2 and TS 2-1
AX.1-1	3.2-156	No ID for SCTI AX
AX.3	3.2-158	See Concern MA.5-1
AX.5-1	3.2-160	Control of Hazardous Air Effluents
AX.6	3.2-162	See Concern MA.6-2
EA 2	3.2-211	See TS.2-1 No OSRs
EP.1-1	3.2-167	No Formal EP Organization
EP.1-2	3.2-169	No SAN Oversight EP1-1
EP.2-1	3.2-171	Emergency Plan Procedure
EP.2-2	3.2-173	No Guidance from SAN
EP.3-1	3.2-175	No Documented Emergency Planning Training Program
EP.4-1	3.2-177	No Emergency Planning Drill Program
EP.5-1	3.2-179	Resources for Emergency Response
EP.6-1	3.2-181	No Emergency Plan for Notification
EP.7-1	3.2-183	Personnel Protection On/Off Site
FP.2-1	3.2-313	NFPA 101 Compliance
FP.6-1	3.2-315	Physical Fitness/Fire Fighters
FP.6-2	3.2-317	San Distribution DOE Order
FP.6-3	3.2-319	Staffing Level Does Not Comply with NFPA 1500
FP.6-4	3.2-322	Training Program
FP.6-5	3.2-324	Fire Department No Safety Officer
FR.1-1	3.2-213	ES&H Appraisal Committee
FR.4-1	3.2-216	No Periodic ES&H Review
FR.5-1	3.2-219	Triennial Management appraisal
GW/BMPF-1	3.1-32	Inadequate Characterization of Hydrogeologic Regime
GW/BMPF-2	3.1-34	Inadequate Well Maintenance and Abandonment
GW/BMPF-3	3.1-37	Incomplete Decontamination of Groundwater Sampling Eqpt.
GW/BMPF-4	3.1-39	No Organic Vapor Monitoring during Groundwater Sampling
GW/CF-1	3.1-26	Lack of a Groundwater Protection Management Plan
GW/CF-2	3.1-29	Inadequate Characterization of Hydrogeologic Regime
IWS/CF-1	3.1-74	Inadequate Inactive Waste Site Corrective Action
IWS/CF-2	3.1-76	Hazardous Materials Business Plan Reporting Inadequacies
IWS/CF-3	3.1-78	Inadequate Waste Site Program
MA.1-1	3.2-98	Document Maintenance Plan
MA.1-2	3.2-101	Maintenance Organizational Structure
MA.1-3	3.2-105	Preventative Maintenance Effective
MA.1-4	3.2-107	Deferred Maint/OPNS
MA.2-1	3.2-110	Maintenance Deficiencies
MA.3-1	3.2-113	Maintenance Sub-Standard, SCTI & Other Facilities
MA.4-1	3.2-116	No Guidance/Input from DOE
MA.4-2	3.2-119	Planning and Scheduling
MA.5-1	3.2-121	Not Successful in Reducing Deterioration of Facilities
MA.5-2	3.2-123	Ineffective Upkeep and Housekeeping
MA.6-1	3.2-125	Improper Preventive Maintenance Procedures
MA.6-2	3.2-127	Preventive Maintenance Procedures

Finding ID	Page	Finding Title
MA.6-3	3.2-129	Tagout Lockout Procedure
MA.7-1	3.2-131	Predictive Maintenance
MA.8-1	3.2-133	Maintenance Procedure/Control
MF.-1	3.3-3	Strategic Planning
MF.-10	3.3-30	NEPA Oversight
MF.-11	3.3-32	Directive System
MF.-12	3.3-34	SSFL Building and Facilities
MF.-2	3.3-6	Organizational Roles
MF.-3	3.3-10	Individual Roles and Training
MF.-4	3.3-13	Contractor Independent Oversight
MF.-5	3.3-16	Performance Monitoring and Assistance
MF.-6	3.3-19	Conduct of Operation
MF.-7	3.3-24	Work-For-Others
MF.-8	3.3-26	DOE Oversight
MF.-9	3.3-28	CPAF Process
MS.1-1	3.2-326	Medical Director Involvement
MS.2-1	3.2-328	Documentation Incomplete
MS.3-1	3.2-330	Medical Facility Inappropriate
MS.3-2	3.2-332	Medical Staff Insufficient
MS.3-3	3.2-334	No Physical Examination
MS.4-1	3.2-336	No Audit Program
NEPA/CF-1	3.1-80	Lack of Adequate and Integrated NEPA Procedures
NEPA/CF-2	3.1-82	Inadequate NEPA Review & Milestones for Budget Rev. Process
NEPA/CF-3	3.1-84	Lacking and Inappropriate NEPA Determinations
NEPA/CF-4	3.1-86	Incomplete NEPA Recordkeeping and Tracking
NEPA/CF-5	3.1-88	Inadequate NEPA Review of Proposed Actions
OA.1-1	3.2-3	Job Description/Safety Responsibilities
OA.1-2	3.2-5	Safety Meetings
OA.1-3	3.2-7	ETEC Not Proactive
OA.2-1	3.2-10	Line Safety vs Overview not defined nor staffed.
OA.3-1	3.2-13	Written Safety Goals not Established
OA.4-1	3.2-15	Interface of Responsibility not well defined.
OA.5-1	3.2-18	Performance Indicators
OA.5-2	3.2-21	Lack of SAN Oversight
OA.6-1	3.2-23	Annual Performance Evaluation not Regularly Performed.
OA.7-1	3.2-25	"Controlled Documents" are not consistently controlled
OA.7-2	3.2-27	Updating of ETEC Procedures
OA.7-3	3.2-29	Management not Enforcing Procedures
OA.8-1	3.2-31	Training on Substance Abuse
OA.8-2	3.2-33	Drug Screening is Inconsistent
OP.1-1	3.2-83	Safety Awareness Program
OP.2	3.2-86	See IS.2-1
OP.3-1	3.2-88	Review of Operating Procedures
OP.4-1	3.2-91	Implement Lock & Tag Program
OP.5-1	3.2-93	Coordination of ETEC and Rocketdyne
OP.6-1	3.2-96	Shift Leader/Operator Training
PP.1-1	3.2-244	O&A/Line Management Control
PP.1-2	3.2-249	No Oversight by HS&E

Finding ID	Page	Finding Title
PP.2	3.2-261	PP.3-3, PP.4-2 & PP.5-2
PP.2-1	3.2-251	QC of ES&H Monitoring
PP.2-2	3.2-254	S&H Procedures are not Applied
PP.3-1	3.2-263	Coordinated Management and S&H
PP.3-2	3.2-265	Management of Asbestos Control
PP.3-3	3.2-267	Design/Hazard Areas/No Control
PP.4-1	3.2-269	QV2-1 Implement/Enforce Safety Requirements
PP.4-2	3.2-272	No Identification of Hazards
PP.5-1	3.2-275	Hazard Communication
PP.5-2	3.2-277	Hazard Information System
PP/TC	3.2-279	Training for PP TC1-1/4-2
QA/BMPF-1	3.1-62	Inadequate Environmental Monitoring Program
QA/BMPF-2	3.1-64	Lack of an Approved Environmental Protection Implementation
QA/CF-1	3.1-54	Deficient Quality Control of Vendor Analytical Labs.
QA/CF-2	3.1-56	Conflict of Interest Between Site and Analytical Lab Mgr.
QA/CF-3	3.1-58	Handling of Corrections to Data and Records Archiving
QA/CF-4	3.1-60	Lack of a Formal Pollution Prevention Awareness Program
QV.1-1	3.2-35	Needs QA Plan
QV.1-10	3.2-57	Insufficient QV Program
QV.1-2	3.2-37	Stop Work Authority
QV.1-3	3.2-39	ID Long/Short Term Trends
QV.1-4	3.2-41	Need Specific Procedures
QV.1-5	3.2-44	Quality Audits do not Evaluate Program Implementation
QV.1-6	3.2-47	Corrective Action to Identify and Correct Causes
QV.1-7	3.2-49	Procedure Detail
QV.1-8	3.2-52	Management to Req Conform
QV.1-9	3.2-55	Maintenance of Record Storage
QV.2-1	3.2-59	Unapproved Material Source
QV.3-1	3.2-61	Receipt Inspections
QV.4-1	3.2-63	Calibration Verification Contrary to ANSI/ASME NQA.1.
QV.5-1	3.2-66	Material Control
QV.5-2	3.2-68	Knowledge of Report Deficiencies
QV.5-3	3.2-71	Storage and Control of Material
QV.5-4	3.2-73	Prevention of Degradation
QV.6-1	3.2-75	Limited Inspection Program
QV.6-2	3.2-77	Untrained Inspection Personnel
QV.7-1	3.2-79	Personnel Certification
QV.7-2	3.2-81	Process Material Not Controlled
RAD/BMPF-1	3.1-72	No Consistent Contamination Survey on Packages
RAD/CF-1	3.1-66	AIRDOS-PC Modeling Deficiencies
RAD/CF-2	3.1-68	No Supporting Data to Eliminate Routine Environmental Surv.
RAD/CF-3	3.1-70	No Contingency Plan for Transuranic Waste
RP.1-1	3.2-221	Management Oversight/Awareness
RP.10-1	3.2-240	Contamination Control
RP.11-1	3.2-242	ALARA Management Support
RP.2-1	3.2-223	Internal Audit and Independent Overview
RP.2-2	3.2-225	No SAN Audit
RP.3-1	3.2-227	No Procedure for Radiation Protection

Finding ID	Page	Finding Title
RP.4-1	3.2-229	External Exposure Protection
RP.5-1	3.2-231	Conduct and Operation of External Radiation Dosimetry
RP.5-2	3.2-233	Dosimeter Procedure
RP.6-1	3.2-235	Air Sampling Performance
RP.7-1	3.2-237	Internal Exposure Documents
SA-1	3.4-3	EETC Self-Assessment Program
SA-2	3.4-5	EETC Self-Assessment Appraisal and Report
SA-3	3.4-7	SAN Self-Assessment Program
SA-4	3.4-9	SAN Self-Assessment Appraisal and Report
SS.2-1	3.2-207	Emergency Ingress/Egress
SS.4-1	3.2-209	Firearm Safety Control
SSB/BMPF-1	3.1-14	Inadequate Physical Control of the Former Sodium Disposal
SSB/BMPF-2	3.1-16	Inadequate Stormwater and Sediment Characterization
SW/BMPF-1	3.1-18	Inadequate Secondary Containment Practices and Procedures
SW/BMPF-2	3.1-20	Inadequacies in the Rockwell SPCC Plan and FSCP
SW/BMPF-3	3.1-22	Program for Monitoring Drinking Water
SW/BMPF-4	3.1-24	Maintenance of Sanitary Sewers
TC.1-1	3.2-136	No Training and Qualification Program
TC.10-1	3.2-154	Management Training on Safety
TC.3-1	3.2-139	Effective Training
TC.4-1	3.2-142	Training Certified/No Examinations
TC.4-2	3.2-144	Training to Recognize Hazards
TC.5-1	3.2-146	No Maintenance Training and Qualification Program
TC.7-1	3.2-148	No Training Support Facility
TC.8-1	3.2-150	No Training for Inspectors
TC.9-1	3.2-152	No Radiological Protection Training
TCM/BMPF-1	3.1-52	Storage of Incompatible Chemicals
TCM/CF-1	3.1-50	Incomplete Hazard Identification
TS.1	3.2-185	See Concern OA.1-1
TS.2-1	3.2-187	OSR's Not in Place
TS.2-2	3.2-189	Determine Safety Documents
TS.2-3	3.2-191	SARs and SADs not Complete
TS.2-4	3.2-193	Address Significant Safety Issues
TS.3-1	3.2-195	Validation of Safety Calculations
TS.3-2	3.2-197	EETC Direction on Codes and Standards
TS.3-3	3.2-199	EETC Using Unapproved Deviation
TS.4-1	3.2-201	No Trend of Performance Data
TS.5-1	3.2-203	Contaminated Air Filtering
TS.5-2	3.2-205	Air Sampling Practices
WM/BMPF-1	3.1-46	Inadequate Hazardous Waste Verification
WM/BMPF-2	3.1-48	Lack of Characterization of Sanitary Wastewater Sludge
WM/CF-1	3.1-41	Inadequate Waste Minimization Program
WM/CF-2	3.1-44	Storage of Land Disposal Restricted (LDR) Mixed Waste
WS.3	3.2-282	See PP 5-1
WS.3-1	3.2-284	Warning of Hazard, PP.4-2
WS.4-1	3.2-286	Means of Egress
WS.4-10	3.2-305	OSHA Violations App F.
WS.4-2	3.2-288	Safety Equipment Inoperative

<u>Finding ID</u>	<u>Page</u>	<u>Finding Title</u>
WS.4-3	3.2-290	Machine Guards
WS.4-4*	3.2-292	Electrical Hazards
WS.4-5*	3.2-294	Electrical Compliance (See WS.4-4)
WS.4-6	3.2-297	Load Ratings Not Posted
WS.4-7	3.2-299	Slings (PP.4-2)
WS.4-8	3.2-301	Compressed Gas Use
WS.4-9	3.2-303	Hand Tool Use/Repair
WS.5-1	3.2-307	Control of Subcontractor Safety
WS.5-2	3.2-309	Subcontractor Elec Comp
WS.5-3	3.2-311	Welding & Cutting



Plan ID	Page	Plan Title
AP001	3.1-6	Upgrade T059, T020, RMDf Stack Sampling System
AP002	3.1-9	Meteorological Data for AIRDOS-PC Code
AP003	3.1-12	Provide Compliant Ambient Air Sampling Program
AP004	3.1-15	Inadequate Physical Control of the Former Sodium Disposal
AP005	3.1-17	Stormwater and Sediment Characterization - Northwest Area
AP006	3.1-19	ID and Implement Secondary Containment
AP007	3.1-21	Revisions to the SPCC and the FSCP
AP008	3.1-23	Drinking Water Monitoring
AP009	3.1-26	Sewage Collection System Investigation and Repair
AP010	3.1-27	Groundwater Protection Management Plan
AP011	3.1-30	Character. and Monitoring of Vadose Zone Underlying B/886.
AP012	3.1-33	Hydrogeologic Regime Characterization
AP013	3.1-35	Well Monitoring/Maint/Abandonment/Closure/Decommissioning
AP014	3.1-38	Decontamination of Sampling Equipment Document
AP015	3.1-40	Organic Vapor Monitoring Program
AP016	3.1-42	Waste Minimization Plan
AP017	3.1-45	Storage of Land Disposal Restricted Waste (LDR) Mixed Waste
AP018	3.1-47	Waste Verification Plan - RMDf and HWSA
AP019	3.1-49	Sewage Sludge Monitoring Plan
AP020	3.1-52	Incomplete Hazard Identification
AP021	3.1-53	Storage of Incompatible Chemicals
AP022	3.1-55	Quality Assurance Surveys of Vendor Analytical Labs
AP023	3.1-57	ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.
AP024	3.1-59	Environmental Records QA
AP025	3.1-61	Pollution Prevention Awareness Program Plan
AP026	3.1-63	Development & Implementation of Environmental Monit. Plan
AP027	3.1-65	Environmental Protection Implementation Plan Evaluation
AP028	3.1-67	Evaluation of Source Terms and Met. Data
AP029	3.1-69	Environmental Surveillance Plan
AP030	3.1-71	No Contingency Plan for Transuranic Waste
AP031	3.1-73	Procedure For Surveys of Radioactive Material Shipments
AP032	3.1-75	Site Investigations/Remedial Activities Plan
AP033	3.1-77	Business Plan Amendment Doc. & Acutely HAZMAT Registration
AP034	3.1-79	Environmental Spill Reporting Procedure
AP035	3.1-81	NEPA Compliance
AP036	3.1-83	NEPA Organization
AP037	3.1-85	NEPA Determinations
AP038	3.1-87	NEPA Recordkeeping and Tracking
AP039	3.1-89	NEPA Documentation
AP040	3.2-4	Safety Responsibility and Authority
AP041	3.2-6	Scheduled Safety Meetings
AP042	3.2-9	Proactive Compliance with DOE Safety & Health Requirements
AP043	3.2-12	Line Safety Vs Overview Not Defined Nor Staffed
AP044	3.2-14	Safety Goals
AP045	3.2-17	Interface of Responsibility
AP046	3.2-19	Performance Indicators
AP047	3.2-22	Lack of SAN Oversight
AP048	3.2-24	Annual Performance Evaluation

Plan ID	Page	Plan Title
AP049	3.2-26	ETEC Controlled Document Control
AP050	3.2-28	Updating of ETEC Procedures
AP051	3.2-30	Improvements to ETEC's Procedural Infrastructure
AP052	3.2-32	Training on Substance Abuse
AP053	3.2-34	Drug Screening Criteria
AP054	3.2-36	Prepare Quality Assurance Plan
AP055	3.2-38	Stop Work Authority
AP056	3.2-40	Trend Analysis
AP057	3.2-42	Improved Formality of Operations
AP058	3.2-46	QA Auditor Training and Audit Documentation
AP059	3.2-48	Effective and Timely Corrective Action to Audit Findings
AP060	3.2-50	Preparation and Use of Detailed Procedures
AP061	3.2-53	Conformance with Procedures and Directives
AP062	3.2-56	ETEC Document Management
AP063	3.2-58	Quality Verification of Kalina Facility Construction Act.
AP064	3.2-60	Unapproved Material Source
AP065	3.2-62	Receipt Inspections
AP066	3.2-64	Calibration Verification
AP067	3.2-67	Material Control
AP068	3.2-70	ETEC Training on NCR and UOR
AP069	3.2-72	Storage and Control of Material
AP070	3.2-74	Prevention of Degradation of Material
AP071	3.2-76	Quality Verification Inspection Staffing
AP072	3.2-78	Quality Verification Inspection Training
AP073	3.2-80	ETEC Control of Special Process Personnel
AP074	3.2-82	ETEC Control of Special Process Material
AP075	3.2-84	Formally Articulated Safety Awareness Programs
AP076	3.2-87	Safety Analysis Review and Update
AP077	3.2-89	Review of Procedure Change Practices During Operation
AP078	3.2-92	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance
AP079	3.2-94	Coordination of Maintenance Performed by Plant Services
AP080	3.2-97	Operator Awareness of Operational Safety Requirements
AP081	3.2-99	Maintenance Planning
AP082	3.2-103	ETEC Maintenance Program and Organizational Structure
AP083	3.2-106	Maintenance Program Improvement
AP084	3.2-108	Maintenance Program Priority
AP085	3.2-111	ETEC Maintenance Plan
AP086	3.2-114	ETEC Shop Facilities
AP087	3.2-118	Provide Guidance for ETEC Maintenance Plan
AP088	3.2-120	ETEC Test Facility Maintenance
AP089	3.2-122	ETEC Inactive Facilities
AP090	3.2-124	Housekeeping
AP091	3.2-126	Preventive Maintenance Implementation
AP092	3.2-128	Preventive Maintenance
AP093	3.2-130	Tagout Lockout Procedure
AP094	3.2-132	Predictive Maintenance
AP095	3.2-134	Preparation and Control of Maintenance Procedures
AP096	3.2-138	No Training and Qualification Program

Plan ID	Page	Plan Title
AP097	3.2-141	Improved Effectiveness of Operator Training
AP098	3.2-143	Revise Radiation Orientation Training
AP099	3.2-145	Safety Awareness Training
AP100	3.2-147	Training and Control of Maintenance Personnel
AP101	3.2-149	No Training Support Facility
AP102	3.2-151	Training of Inspectors
AP103	3.2-153	Provide Radiation Protection Training
AP104	3.2-155	Management Training on Safety
AP105	3.2-157	Identification of Safety Requirements for Auxiliary Systems
AP106	3.2-159	Hazard Reduction, Control of Hazardous Materials
AP107	3.2-161	Control of Hazardous Effluence to Air
AP108	3.2-163	Vital Supply Systems
AP109	3.2-165	Reliability and Availability of Engineered Safety Systems
AP110	3.2-168	ETEC Documented Emergency Response Organization
AP111	3.2-170	Emergency Preparedness
AP112	3.2-173	Emergency Plan Implementing Procedures
AP113	3.2-175	SAN Guidance on Emergency Preparedness
AP114	3.2-176	ETEC Emergency Training Program
AP115	3.2-178	Emergency Planning Exercise/Drill Program
AP116	3.2-180	Emergency Response Facility
AP117	3.2-183	Emergency Plan Implementing Procedures for Emergencies
AP118	3.2-184	Procedures for Personnel Protection Guidance
AP119	3.2-186	Control of Technical Support Activities
AP120	3.2-188	Safety Analysis Review and Update
AP121	3.2-190	Safety Analysis Review and Update
AP122	3.2-192	Safety Analysis Review and Update
AP123	3.2-194	Safety Analysis Review and Update
AP124	3.2-196	Validation of Safety Calculations
AP125	3.2-198	ETEC Direction on Codes and Standards
AP126	3.2-200	Application of Codes and Standards
AP127	3.2-202	Equipment Performance Data, Evaluation and Use
AP128	3.2-204	Contaminated Air Filtering
AP129	3.2-206	Upgrade Building T059 Effluent Sampling
AP130	3.2-208	Emergency Ingress/Egress
AP131	3.2-210	Firearm Safety Audit
AP132	3.2-212	Safety Analysis Review and Update
AP133	3.2-214	ES&H Appraisal Committee
AP134	3.2-217	Periodic ES&H Review of Operations
AP135	3.2-220	Triennial Review of ES&H Program
AP136	3.2-222	Management Oversight/Awareness
AP137	3.2-224	Level of Independent Oversight at Radiation Protection Prog.
AP138	3.2-226	SAN Audit of ES&H Programs
AP139	3.2-228	Procedures for Radiation Protection
AP140	3.2-230	External Exposure Procedure
AP141	3.2-232	External Exposure Dosimetry Procedures
AP142	3.2-234	Dosimeter Procedures
AP143	3.2-236	Internal Dosimetry Program
AP144	3.2-238	Evaluation of Internal Dosimetry Program

Plan ID	Page	Plan Title
AP145	3.2-242	Contamination Control
AP146	3.2-243	Study Approaches & Establish Appropriate ALARA Program
AP147	3.2-246	EETEC Line Management Safety Program
AP148	3.2-250	Industrial Hygiene and Safety Engineer Oversight
AP149	3.2-253	Industrial Hygiene-Related Procedure Modifications
AP150	3.2-256	Compliance-Related Changes to HS&E Manual
AP151	3.2-262	See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2
AP152	3.2-265	Coordinated HS&E Hazard Management
AP153	3.2-266	Asbestos Management
AP154	3.2-269	Design and Management of Regulated Areas
AP155	3.2-270	Construction Safety
AP156	3.2-274	Identification, Monitoring, Control of Hazards
AP157	3.2-276	Hazard Communications
AP158	3.2-278	Mechanisms for Hazard Recognition and Control
AP159	3.2-280	Training Plan and Specific Hazard Training
AP160	3.2-283	Compliance with DOE Prescribed Standards
AP161	3.2-285	Industrial Hygiene Monitoring Program
AP162	3.2-287	Means of Egress
AP163	3.2-289	Use of Safety Equipment.
AP164	3.2-291	Machinery and Machine Guarding
AP165	3.2-293	Electrical Hazards
AP166	3.2-295	Electrical Compliance/Achievement of OSHA Compliance Exc.
AP167	3.2-298	Floor Load-Ratings Posting
AP168	3.2-300	Safety Practices and Compliance with Regulatory Requirements
AP169	3.2-302	Health and Safety Practices and Compliance with Regulatory R
AP170	3.2-304	Health and Safety Practices and Compliance with Regulatory R
AP171	3.2-306	Health & Safety Practices & Compliance with Reg. Requirement
AP172	3.2-308	Contractor Surveillance
AP173	3.2-310	Contractor Surveillance
AP174	3.2-312	Contractor Surveillance
AP175	3.2-314	Exit Signs and Emergency Lighting
AP176	3.2-317	Physical Fitness Program for Fire Fighters
AP177	3.2-318	SAN Distr. DOE Order
AP178	3.2-321	Staffing Level of the Fire Department
AP179	3.2-323	Advancement and Training Program for the Fire Department
AP180	3.2-325	Assigned Safety Officer for Fire Department
AP181	3.2-327	Medical Director Involvement
AP182	3.2-329	Medical Records
AP183	3.2-331	Medical Facilities Upgrade
AP184	3.2-333	Medical Department Staffing
AP185	3.2-335	Medical Examinations
AP186	3.2-337	Medical Audit Program
AP187	3.3-4	Strategic Planning
AP188	3.3-8	Organizational Roles
AP189	3.3-12	Individual Roles and Training
AP191	3.3-15	Independent Oversight Program
AP192	3.3-17	Program for Effective ES&H Monitoring
AP193	3.3-21	Conduct of Operations Improvements

<u>Plan ID</u>	<u>Page</u>	<u>Plan Title</u>
AP194	3.3-25	Work-For-Others
AP195	3.3-27	ES&H Appraisal Plan
AP196	3.3-29	Cost Plus Award Fee Process
AP197	3.3-31	NEPA Oversight
AP198	3.3-33	Distribution of Directives to ETEC
AP199	3.3-35	Responsibility for DOE Buildings at SSFL
AP200	3.4-4	ETEC Self-Assessment Program
AP201	3.4-6	ETEC Self-Assessment Appraisal and Report
AP202	3.4-8	SAN Self-Assessment Program
AP203	3.4-10	SAN Self-Assessment Appraisal and Report

Table C-1  
ADS NUMBERS FOR ACTION PLANS

Appendix C(1)-1

10/09/91

PLAN ID	PLAN TITLE	APPLICABLE ADS NUMBERS
AP001	Upgrade T059, T020, RMDF Stack Sampling System	4003AA, 5003AA, 4005AA
AP002	Meteorological Data for AIRDOS-PC Code	4013AA
AP003	Provide Compliant Ambient Air Sampling Program	4013AA
AP004	Inadequate Physical Control of the Former Sodium Disposal	5000AB
AP005	Stormwater and Sediment Characterization - Northwest Area	4013AA
AP006	ID and Implement Secondary Containment	NO EM FUNDS REQUIRED
AP007	Revisions to the SPCC and the FSCP	4014AA
AP008	Drinking Water Monitoring	4013AA
AP009	Sewage Collection System Investigation and Repair	NO EM FUNDS REQUIRED
AP010	Groundwater Protection Management Plan	4013AA
AP011	Character. and Monitoring of Vadose Zone Underlying B/886.	4013AA
AP012	Hydrogeologic Regime Characterization	4013AA
AP013	Well Monitoring/Maint/Abandonment/Closure/Decommissioning	4013AA
AP014	Decontamination of Sampling Equipment Document	4013AA
AP015	Organic Vapor Monitoring Program	4013AA
AP016	Waste Minimization Plan	4016AA
AP017	Storage of Land Disposal Restricted Waste (LDR) Mixed Waste	4016AA
AP018	Waste Verification Plan - RMDF and HWSA	4016AA
AP019	Sewage Sludge Monitoring Plan	4013AA
AP020	Incomplete Hazard Identification	4017AA
AP021	Storage of Incompatible Chemicals	4017AA
AP022	Quality Assurance Surveys of Vendor Analytical Labs	NO EM FUNDS REQUIRED
AP023	ETEC QA Surveillance and Audit of Rocketdyne Analytical Lab.	4013AA
AP024	Environmental Records QA	4013AA
AP025	Pollution Prevention Awareness Program Plan	4016AA
AP026	Development & Implementation of Environmental Monit. Plan	4013AA
AP027	Environmental Protection Implementation Plan Evaluation	4013AA
AP028	Evaluation of Source Terms and Met. Data	4013AA
AP029	Environmental Surveillance Plan	4013AA
AP030	No Contingency Plan for Transuranic Waste	4005AA
AP031	Procedure For Surveys of Radioactive Material Shipments	4005AA
AP032	Site Investigations/Remedial Activities Plan	4014AA
AP033	Business Plan Amendment Doc. & Acutely HAZMAT Registration	4014AA, 4016AA
AP034	Environmental Spill Reporting Procedure	4014AA
AP035	NEPA Compliance	4014AA
AP036	NEPA Organization	4014AA
AP037	NEPA Determinations	4014AA
AP038	NEPA Recordkeeping and Tracking	4014AA
AP039	NEPA Documentation	4014AA

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Table C-1  
ADS NUMBERS FOR ACTION PLANS

Appendix C(1)-2

10/09/91

PLAN ID	PLAN TITLE	APPLICABLE ADS NUMBERS
AP040	Safety Responsibility and Authority	4017AA
AP041	Scheduled Safety Meetings	4017AA
AP042	Proactive Compliance with DOE Safety & Health Requirements	4017AA
AP043	Line Safety Vs Overview Not Defined Nor Staffed	4014AA
AP044	Safety Goals	4017AA
AP045	Interface of Responsibility	4014AA
AP046	Performance Indicators	4014AA
AP047	Lack of SAN Oversight	4014AA
AP048	Annual Performance Evaluation	4014AA
AP049	ETEC Controlled Document Control	4019AA
AP050	Updating of ETEC Procedures	4019AA
AP051	Improvements to ETEC's Procedural Infrastructure	4019AA
AP052	Training on Substance Abuse	4017AA
AP053	Drug Screening Criteria	4017AA
AP054	Prepare Quality Assurance Plan	4019AA
AP055	Stop Work Authority	4020AA
AP056	Trend Analysis	4020AA
AP057	Improved Formality of Operations	4019AA
AP058	QA Auditor Training and Audit Documentation	4020AA
AP059	Effective and Timely Corrective Action to Audit Findings	4019AA
AP060	Preparation and Use of Detailed Procedures	4019AA, 4020AA
AP061	Conformance with Procedures and Directives	4019AA, 4020AA
AP062	ETEC Document Management	4019AA
AP063	Quality Verification of Kalina Facility Construction Act.	NO EM FUNDS REQUIRED
AP064	Unapproved Material Source	NO EM FUNDS REQUIRED
AP065	Receipt Inspections	NO EM FUNDS REQUIRED
AP066	Calibration Verification	4019AA
AP067	Material Control	NO EM FUNDS REQUIRED
AP068	ETEC Training on NCR and UOR	4019AA
AP069	Storage and Control of Material	4019AA
AP070	Prevention of Degradation of Material	NO EM FUNDS REQUIRED
AP071	Quality Verification Inspection Staffing	4020AA
AP072	Quality Verification Inspection Training	4020AA
AP073	ETEC Control of Special Process Personnel	4019AA, 4020AA
AP074	ETEC Control of Special Process Material	4019AA, 4020AA
AP075	Formally Articulated Safety Awareness Programs	4017AA
AP076	Safety Analysis Review and Update	4017AA, 4019AA
AP077	Review of Procedure Change Practices During Operation	4019AA, 4020AA
AP078	PODD-5 (ECRO) and PODD-6 (Caution Tag) Compliance	4019AA

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Table C-1  
ADS NUMBERS FOR ACTION PLANS

10/09/91

PLAN ID	PLAN TITLE	APPLICABLE ADS NUMBERS
AP079	Coordination of Maintenance Performed by Plant Services	4021AA
AP080	Operator Awareness of Operational Safety Requirements	4017AA, 4019AA
AP081	Maintenance Planning	NO EM FUNDS REQUIRED
AP082	ETEC Maintenance Program and Organizational Structure	4021AA
AP083	Maintenance Program Improvement	NO EM FUNDS REQUIRED
AP084	Maintenance Program Priority	NO EM FUNDS REQUIRED
AP085	ETEC Maintenance Plan	4021AA
AP086	ETEC Shop Facilities	NO EM FUNDS REQUIRED
AP087	Provide Guidance for ETEC Maintenance Plan	NO EM FUNDS REQUIRED
AP088	ETEC Test Facility Maintenance	NO EM FUNDS REQUIRED
AP089	ETEC Inactive Facilities	NO EM FUNDS REQUIRED
AP090	Housekeeping	4021AA
AP091	Preventive Maintenance Implementation	NO EM FUNDS REQUIRED
AP092	Preventive Maintenance	4021AA
AP093	Tagout Lockout Procedure	4021AA
AP094	Predictive Maintenance	4021AA
AP095	Preparation and Control of Maintenance Procedures	NO EM FUNDS REQUIRED
AP096	No Training and Qualification Program	4020AA
AP097	Improved Effectiveness of Operator Training	4019AA
AP098	Revise Radiation Orientation Training	4018AA
AP099	Safety Awareness Training	4017AA
AP100	Training and Control of Maintenance Personnel	4019AA, 4020AA, 4021AA
AP101	No Training Support Facility	4020AA
AP102	Training of Inspectors	4020AA
AP103	Provide Radiation Protection Training	4018AA
AP104	Management Training on Safety	4017AA, 4019AA
AP105	Identification of Safety Requirements for Auxiliary Systems	4017AA, 4021AA
AP106	Hazard Reduction, Control of Hazardous Materials	4017AA, 4021AA
AP107	Control of Hazardous Effluence to Air	4017AA, 4021AA
AP108	Vital Supply Systems	4021AA
AP109	Reliability and Availability of Engineered Safety Systems	NO EM FUNDS REQUIRED
AP110	ETEC Documented Emergency Response Organization	4022AA
AP111	Emergency Preparedness	4022AA
AP112	Emergency Plan Implementing Procedures	4022AA
AP113	SAN Guidance on Emergency Preparedness	4022AA
AP114	ETEC Emergency Training Program	4022AA
AP115	Emergency Planning Exercise/Drill Program	4022AA
AP116	Emergency Response Facility	4022AA
AP117	Emergency Plan Implementing Procedures for Emergencies	4022AA

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Table C-1  
ADS NUMBERS FOR ACTION PLANS

Appendix C(1)-4

10/09/91

PLAN ID	PLAN TITLE	APPLICABLE ADS NUMBERS
AP118	Procedures for Personnel Protection Guidance	4022AA
AP119	Control of Technical Support Activities	4017AA, 4019AA
AP120	Safety Analysis Review and Update	4017AA, 4019AA
AP121	Safety Analysis Review and Update	4017AA, 4019AA
AP122	Safety Analysis Review and Update	4017AA, 4019AA
AP123	Safety Analysis Review and Update	4017AA, 4019AA
AP124	Validation of Safety Calculations	4019AA
AP125	ETEC Direction on Codes and Standards	4019AA
AP126	Application of Codes and Standards	4019AA
AP127	Equipment Performance Data, Evaluation and Use	NO EM FUNDS REQUIRED
AP128	Contaminated Air Filtering	4003AA
AP129	Upgrade Building T059 Effluent Sampling	4003AA
AP130	Emergency Ingress/Egress	4022AA
AP131	Firearm Safety Audit	4022AA
AP132	Safety Analysis Review and Update	4017AA, 4019AA
AP133	ES&H Appraisal Committee	4014AA, 4017AA, 4020AA
AP134	Periodic ES&H Review of Operations	4014AA, 4017AA, 4020AA
AP135	Triennial Review of ES&H Program	4019AA
AP136	Management Oversight/Awareness	4018AA
AP137	Level of Independent Oversight at Radiation Protection Prog.	4018AA
AP138	SAN Audit of ES&H Programs	4018AA
AP139	Procedures for Radiation Protection	4018AA
AP140	External Exposure Procedure	4018AA
AP141	External Exposure Dosimetry Procedures	4018AA
AP142	Dosimeter Procedures	4018AA
AP143	Internal Dosimetry Program	4018AA
AP144	Evaluation of Internal Dosimetry Program	4018AA
AP145	Contamination Control	4018AA
AP146	Study Approaches & Establish Appropriate ALARA Program	4018AA
AP147	ETEC Line Management Safety Program	4017AA
AP148	Industrial Hygiene and Safety Engineer Oversight	4017AA
AP149	Industrial Hygiene-Related Procedure Modifications	4017AA
AP150	Compliance-Related Changes to HS&E Manual	4017AA
AP151	See Concerns PP.1-2, PP.3-3, PP.4-2 and PP.5-2	4017AA
AP152	Coordinated HS&E Hazard Management	4017AA
AP153	Asbestos Management	4017AA
AP154	Design and Management of Regulated Areas	4017AA
AP155	Construction Safety	4017AA
AP156	Identification, Monitoring, Control of Hazards	4017AA

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Table C-1  
ADS NUMBERS FOR ACTION PLANS

10/09/91

PLAN ID	PLAN TITLE	APPLICABLE ADS NUMBERS
AP157	Hazard Communications	4017AA
AP158	Mechanisms for Hazard Recognition and Control	4017AA
AP159	Training Plan and Specific Hazard Training	4017AA
AP160	Compliance with DOE Prescribed Standards	4017AA
AP161	Industrial Hygiene Monitoring Program	4017AA
AP162	Means of Egress	4017AA, 4021AA
AP163	Use of Safety Equipment.	4017AA, 4021AA
AP164	Machinery and Machine Guarding	4017AA, 4021AA
AP165	Electrical Hazards	4017AA, 4021AA
AP166	Electrical Compliance/Achievement of OSHA Compliance Exc.	4017AA, 4021AA
AP167	Floor Load-Ratings Posting	NO EM FUNDS REQUIRED
AP168	Safety Practices and Compliance with Regulatory Requirements	4017AA
AP169	Health and Safety Practices and Compliance with Regulatory R	4017AA
AP170	Health and Safety Practices and Compliance with Regulatory R	4017AA
AP171	Health & Safety Practices & Compliance with Reg. Requirement	4017AA
AP172	Contractor Surveillance	4017AA
AP173	Contractor Surveillance	4017AA
AP174	Contractor Surveillance	4017AA
AP175	Exit Signs and Emergency Lighting	4021AA, 4022AA
AP176	Physical Fitness Program for Fire Fighters	4022AA
AP177	SAN Distr. DOE Order	4022AA
AP178	Staffing Level of the Fire Department	4022AA
AP179	Advancement and Training Program for the Fire Department	4022AA
AP180	Assigned Safety Officer for Fire Department	4022AA
AP181	Medical Director Involvement	4017AA
AP182	Medical Records	4017AA
AP183	Medical Facilities Upgrade	4021AA, 4017AA
AP184	Medical Department Staffing	4017AA
AP185	Medical Examinations	4017AA
AP186	Medical Audit Program	4017AA
AP187	Strategic Planning	4014AA, 4020AA, 4017AA
AP188	Organizational Roles	4014AA, 4020AA, 4017AA
AP189	Individual Roles and Training	4014AA, 4020AA, 4017AA
AP191	Independent Oversight Program	4014AA, 4020AA, 4017AA
AP192	Program for Effective ES&H Monitoring	4014AA, 4020AA, 4017AA
AP193	Conduct of Operations Improvements	NO EM FUNDS REQUIRED
AP194	Work-For-Others	NO EM FUNDS REQUIRED
AP195	ES&H Appraisal Plan	4014AA, 4020AA, 4017AA
AP196	Cost Plus Award Fee Process	4014AA, 4020AA, 4017AA

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Table C-1  
ADS NUMBERS FOR ACTION PLANS

Appendix C(1)-6

10/09/91

PLAN ID	PLAN TITLE	APPLICABLE ADS NUMBERS
AP197	NEPA Oversight	4020AA, 4017AA
AP198	Distribution of Directives to ETEC	4014AA, 4020AA, 4017AA
AP199	Responsibility for DOE Buildings at SSFL	4014AA
AP200	ETEC Self-Assessment Program	4014AA, 4020AA
AP201	ETEC Self-Assessment Appraisal and Report	4014AA, 4020AA
AP202	SAN Self-Assessment Program	4014AA, 4020AA
AP203	SAN Self-Assessment Appraisal and Report	NO EM FUNDS REQUIRED

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