CONTRACT DE-AC01-87EH79003
TECHNICAL PROGRESS REPORT

FOR

**Technical Support Services to Assist the
Office of Environmental Audit in Conducting
the DOE Environmental Survey and to Provide
Technical Assistance on Environmental
Compliance Issues**

Period: February 16, 1990 - August 13, 1990

Submitted to

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1.0 INTRODUCTION

NUS received authorization from DOE on August 14, 1987 to provide technical support services to assist the Office of Environmental Audit (OEV) in conducting the DOE Environmental Survey and to provide technical assistance on environmental compliance issues. NUS has completed the Preliminary Reports and continues to support DOE on the Prioritization and Tiger Team Assessment efforts.

1.1 Background

NUS is submitting this Technical Progress Report in compliance with the Reporting Requirements Checklist contained in Contract No. DE-AC01-87EH79003.

As of August 13, 1990, DOE issued eighteen task assignments and amendments under the previously mentioned contract, shown as follows:

<u>Task No.</u>	<u>Activity</u>
1/A/B/C/D/E	Project Management
2/A/B/C/D	New Surveys
3/A/B/C	DP Prioritization
4/A	HFBR Emergency Cooling Core
5/A/B/C/D	Continued Surveys
6/A/B	Environmental Compliance
7/A	Nuclear Reactor Review
8/A/B	Environmental Survey Manual
9/A/B	General Survey Support
10/A/B	Non-DP Prioritization
11/A/B	Sampling & Analysis
12/A/B	Tiger Teams (1st Round)
13/A	Tiger Teams (2nd Round)
14	Tiger Teams (3rd Round)
15	Hanford Tiger Team
16/A	Paducah Tiger Team
17	Administrative Assistance
19	Protocols for Preparation and Production of Tiger Team Assessment Reports

1.2 Overview of Technical Effort

The overall contract is to accomplish a one-time, no-fault baseline Survey of all DOE operating facilities, and to provide technical assistance and support for the resolution of environmental compliance issues. The following sections will provide an overview of individual tasks assigned by DOE under this contract.

This project requires a broad range of environmental protection expertise, necessitating senior-level personnel as the primary project staff. Many of the tasks assigned by DOE require quick startup and performance, and several tasks may be active at any one time.

1.2.1 Environmental Surveys

The objective of the DOE Environmental Survey Program is to identify and prioritize areas of existing environmental risk at 36 DOE facilities. NUS' role is to technically assist the Office of Environmental Audit in the implementation of the Surveys. Both Task Assignments 2/A/B/C and 5/A/B/C include a ten-point scope of work:

1. File Review
2. Site Information Request Letter
3. Pre-Survey Site Visit
4. Federal and State Environmental Coordination
5. Strategy Meeting/Site Plan
6. On-Site Survey
7. Sampling and Analysis Requests
8. Preliminary Report
9. Sampling and Analysis Interpretation
10. Interim Report - Identify Problems Requiring Immediate Action

Coordination of Sampling and Analysis work with the Survey reports was anticipated.

1.2.2 Prioritization

The Prioritization task was assigned to evaluate and rank problems and areas of risk found during the Environmental Surveys at DOE sites. The first phase of the effort was directed at prioritizing 16 Defense Program sites and one Non-Defense Program site. The second phase of the effort was directed at prioritizing 19 Non-Defense Program sites. The third phase of the effort is directed at refining the preliminary prioritization of all sites included in Phases I and II.

No activities were conducted during the report period for Phases I and II.

The following activities were conducted during the report period for Phase III:

- Modify ranking units based on Data Accuracy Review (DAR) meeting data.
- Extract and input appropriate DAR data into the MEPAS model.
- Attend staff meetings, as appropriate.
- Execute the MEPAS model to obtain Hazard Potential Index (HPI) rankings.
- Prepare Prioritization Draft Appendices.
- Develop additional elements of risk information systems components.

1.2.3 Environmental Compliance

DOE issued Task Assignment 6 to NUS to provide technical assistance to the Office of Environmental Guidance and Compliance. This task involves analyzing environmental compliance issues which had an effect or had the potential for affecting the Department's operations. Task Assignment 6/A was issued on July 15, 1988 to discontinue Task 6.

1.2.4 Reactor Safety Study

NUS' Task Assignment 7 from DOE was to provide general technical assistance and support relating to compliance requirements in the development and coordination of action plans required as a result of the study conducted by the National Academy of Science and Engineering (NAS) and which are contained in the report Safety Issues at the Defense Production Reactors.

1.2.5 Brookhaven Reactor Study

Task Assignment 4/A was issued for NUS to provide general technical support in the safety evaluation of the HFBR reactor at Brookhaven National Laboratory. The following areas were included in the scope of work:

1. Propagation of Core Meeting
2. Effect of Noncondensables on CHF
3. HFBR Leak-Before-Break-Assessment
4. Use of the Effective Break Area

1.2.6 Program Management

This task was assigned by DOE for NUS Project Management to ensure that all Environmental Survey teams operate in a consistent and uniform manner. Project Management also ensures that all reports and deliverables will be prepared under a high degree of quality assurance/quality control which is consistent with the requirements of the program.

1.2.7 Environmental Survey Manual

NUS was assigned Task 8 to provide technical support in reviewing and correcting the DOE Environmental Survey Manual, to ensure that it is up-to-date and consistent with changes made by the OEV in Survey policy.

1.2.8 General Survey Support Training

Task Assignment 9 was issued by DOE so NUS could technically assist the Office of Environmental Audit in training for: the use of MEPAS (Multimedia Environmental Pollutant Assessment System Shell); Sampling and Analysis Interpretation; and Technical Accuracy Review Comment Response.

1.2.9 Prioritization

Task Assignment 10/A was issued for NUS to provide technical assistance in implementing the prioritization system for those problems and areas of risk which have been identified in the Environmental Surveys by utilizing the MEPAS program for Non-DP sites and refining the preliminary prioritization of all sites included in Phases I and II.

The following tasks have been completed prior to this reporting period for Phase II:

1. Prepared worksheets for use in the MEPAS model.
2. Extracted and input appropriate data into the MEPAS model.
3. Attended meetings and training sessions, as appropriate.
4. Prepared Prioritization Letter Reports for each Non-Defense Production Site.
5. Executed the MEPAS model to obtain preliminary Hazard Potential Index (HPI) rankings.

The following activities were conducted during this reporting period for Phase III:

1. Prepared worksheets for use in the MEPAS model.
2. Extracted and input appropriate data into the MEPAS model.
3. Attended technical staff meetings, as appropriate.
4. Prepared Prioritization Letter Reports.
5. Executed the MEPAS model to obtain preliminary HPI rankings.

1.2.10 Tiger Team Environmental Assessments

In August 1989, DOE requested support from NUS for the Environmental portion of multiple Tiger Team assessments. Activities included:

- Compile and maintain a repository and assist in reviewing environmental reports, data bases and other pertinent information to develop an understanding of the conditions and operations of DOE facilities to be assessed and prepare a list of records and files that the assessment team should review while on-site.
- Prepare a detailed site-specific assessment plan and agenda.
- Provide technical assistance in conducting the on-site assessment.
- Provide technical assistance in the development of Sampling and Analysis plans.
- Provide written reports as required for use in developing the predecisional draft and final assessment reports.

2.0 TECHNICAL SUMMARY

This section of the report describes the technical progress of each of the task assignments, with particular focus on the specific sites visited on the Environmental Surveys.

2.1 Environmental Surveys

NUS assisted the Office of Environmental Audit by sharing their survey/audit experiences with other contractors as directed by DOE, and reviewing survey/audit protocols.

2.1.1 Feed Materials Production Center (FMPC) Survey

Work was completed on the Phase III Prioritization Modify Ranking Unit task for the FMPC Survey, and the Draft Appendix, including the Final Survey Findings and the results of the Sampling and Analysis effort, was delivered to DOE on February 27, 1990. In March, new data associated with the Risk Information System (RIS) evaluation and the qualitative uncertainty analysis were incorporated into the Draft Appendix and the document was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. There was no activity on the FMPC Survey during April and May. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. The environmental degradation information was received in July and added to the Draft Appendix.

2.1.2 Mound Plant Survey

The Mound Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 Prioritization Liaison (PL) and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Mound Draft Appendix in July.

2.1.3 Rocky Flats Plant (RFP) Survey

During this reporting period, work was completed on revisions to the findings and incorporation of Sampling and Analysis discussions into Section 8.0 of the Draft Appendix.

2.1.4 Portsmouth Gaseous Diffusion Plant Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.5 Hanford Survey

Work was completed on the Phase III Prioritization Modify Ranking Unit task for the Hanford Survey, and the Draft Appendix was delivered to DOE on February 27, 1990. In March, new data associated with the RIS evaluation and the qualitative uncertainty analysis were incorporated into the Draft Appendix and the document was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. During April and May, work involved finalizing the documentation requirements for the prioritization effort. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. The environmental degradation information was received in July and added to the Draft Appendix. In August, information from the site regarding both the regulatory and current status of the ranking units was received and incorporated into the Draft Appendix.

2.1.6 Pantex Plant Survey

The Pantex Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 PL and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May and June the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Draft Appendix in July.

2.1.7 Oak Ridge Y-12 Plant Survey

During this reporting period, work was completed on revisions to the findings and incorporation of Sampling and Analysis discussions into Section 8.0 of the Draft Appendix.

2.1.8 Sandia National Laboratories (SNL), Livermore Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.9 Lawrence Livermore National Laboratory (LLNL) Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.10 Savannah River Site (SRS) Survey

In February, the Technical Lead and PL reviews of the ranking units and Hazard Potential Index (HPI) scores for the SRS were completed. The Draft Appendix,

including the Final Survey Findings and the results of the Sampling and Analysis, was submitted to DOE on February 26, 1990. On March 14, 1990, the SRS Draft Appendix was resubmitted to DOE and included the new RIS evaluation and the updated uncertainty analysis. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. There was no activity on the SRS Survey during April and May. In June, the presentation of the RIS evaluation was restructured and required modifying the Draft Appendix. The environmental degradation information was received in July and added to the Draft Appendix. On August 7, a meeting was held at the SRS to gather new information on the direction of groundwater flow in the A and M Areas. This information was used to modify the potential receptors for two ranking units, and the Draft Appendix was revised accordingly. In addition, information from the site regarding both the regulatory and current status of the ranking units was received and incorporated into the Draft Appendix.

2.1.11 Kansas City Plant (KCP) Survey

During this reporting period, work was completed on revisions to the findings and incorporation of Sampling and Analysis discussions into Section 8.0 of the Draft Appendix.

2.1.12 Los Alamos National Laboratory (LANL) Survey

The LANL Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 PL and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May and June the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Draft Appendix in July.

2.1.13 Pinellas Plant Survey

The Pinellas Plant Draft Appendix was revised to include the Final Survey Findings and the results of the Sampling and Analysis effort, and was submitted to DOE on

February 26, 1990. New input for the RIS evaluation was prepared by the Prioritization Liaison, and the revised Draft Appendix was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. In April and May, there was no activity on the Pinellas Plant Survey. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. In July and August, work involved the incorporation of the environmental degradation input and the site's information on the regulatory and current status of each ranking unit.

2.1.14 Brookhaven National Laboratory (BNL) Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.15 Nevada Test Site (NTS) Survey

During this reporting period, work was completed on revisions to the findings and incorporation of Sampling and Analysis discussions into Section 8.0 of the Draft Appendix.

2.1.16 Fermilab Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.17 Argonne National Laboratory (ANL) Survey

The major effort during this period involved the development of the Draft Appendix. This included providing inputs to the RIS; analyzing the outputs; and reviewing, providing inputs to, and preparing the Draft Appendix for the Integration Panel. The ANL Draft Appendix was delivered to DOE on March 19, 1990 and then again on March 28, 1990. The Integration Panel Meeting took place on March 19 and 20, 1990. In June 1990, the Draft Appendix was revised to incorporate the newly formatted RIS tables.

2.1.18 Sandia National Laboratories - Albuquerque (SNLA) Survey

Work was completed on the Phase III Prioritization Modify Ranking Unit task for the SNLA, and the Draft Appendix was delivered to DOE on February 27, 1990. In March, new data associated with the RIS evaluation and the updated qualitative uncertainty analysis were incorporated into the Draft Appendix and the document was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. During April and May, work involved finalizing the documentation requirements for the prioritization effort. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. The environmental degradation information was received in July and added to the Draft Appendix. In August, information from the site regarding both the regulatory and current status of the ranking units was received and incorporated into the Draft Appendix.

2.1.19 Oak Ridge National Laboratory (X-10) Survey

The Oak Ridge National Laboratory (ORNL) Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 PL and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May and June the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Draft Appendix in July.

2.1.20 Paducah Gaseous Diffusion Plant Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.21 Morgantown Energy Technology Center (METC) Survey

The METC Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 PL and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May and June the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Draft Appendix in July.

2.1.22 Pittsburgh Energy Technology Center (PETC) Survey

The PETC Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 PL and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May and June the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Draft Appendix in July.

2.1.23 Idaho National Engineering Laboratory/Component Development and Integration Facility (INEL/CDIF) Survey

The major effort during this period involved the development of the Draft Appendices. This included providing inputs to the RIS; analyzing the outputs; and reviewing, providing inputs to, and preparing the Draft Appendices for the Integration Panel. The INEL Draft Appendix was delivered to DOE on March 15, 1990 and then again on March 28, 1990, while the CDIF Draft Appendix was delivered on March 19 and 28, 1990. The Integration Panel Meeting for both sites took place on March 19 and 20, 1990. In June 1990, the Draft Appendices were revised to incorporate the newly formatted RIS tables.

2.1.24 Lawrence Berkeley Laboratory (LBL) Survey

In February, the new RIS evaluation and qualitative uncertainty analysis for the LBL Survey were incorporated into the Draft Appendix, which was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. No activity was conducted on the LBL Survey during April and May. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. The environmental degradation information was received in July and added to the Draft Appendix. In August, information from the site regarding both the regulatory and current status of the ranking units was received and incorporated into the Draft Appendix.

2.1.25 Stanford Linear Accelerator Center (SLAC) Survey

The Draft Appendix for SLAC was revised by the Team Leader and the PL to include the Final Survey Findings and the results of the Sampling and Analysis effort, and was submitted to DOE on February 26, 1990. In March, new data associated with the RIS evaluation and the updated qualitative uncertainty analysis were incorporated into the Draft Appendix and the document was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. In April and May, there was no activity on the SLAC Survey. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. In July and August, work involved the incorporation of the environmental degradation input.

2.1.26 Solar Energy Research Institute (SERI) Survey

The Draft Appendix was prepared and delivered to DOE on March 15, 1990 and then again on March 28, 1990.

2.1.27 Strategic Petroleum Reserves (SPR) Survey

During this reporting period, work was completed on revisions to the findings and incorporation of Sampling and Analysis discussions into Section 8.0 of the Draft Appendix.

2.1.28 Oak Ridge Gaseous Diffusion Plant (ORGDP) Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.29 Laboratory for Energy-Related Health Research (LEHR) Survey

The Phase III Prioritization Modify Ranking Unit task was completed in February and the Draft Appendix for LEHR was submitted to DOE on February 28, 1990. In March, new data associated with the RIS evaluation and the updated qualitative uncertainty analysis were incorporated into the Draft Appendix, and the document was submitted to DOE on March 19, 1990. Meetings with the Integration Contractor were held on March 20 and 21, and the team developed a ranking of the eight sites surveyed by Team 5. At the request of DOE, minor revisions were made to the Draft Appendix and the document was delivered to DOE on March 28, 1990, together with all the other Environmental Survey sites' Draft Appendices. No activity was conducted on the LEHR Survey during April and May. In June, the presentation of the RIS evaluation was restructured and the Draft Appendix was modified accordingly. The environmental degradation information was received in July and added to the Draft Appendix.

2.1.30 Bonneville Power Administration/Western Area Power Administration (BPA/WAPA) Survey

DOE decided to delete these sites from the Environmental Survey after reviewing further information.

2.1.31 National Institute for Petroleum and Energy Research (Bartlesville) Survey

The major effort during this period involved the development of the Draft Appendix. This included providing inputs to the RIS; analyzing the outputs; and reviewing, providing inputs to, and preparing the Draft Appendix for the Integration Panel. The Draft Appendix was delivered to DOE on March 19, 1990 and then again on March 28, 1990. The Integration Panel Meeting took place on March 19 and 20, 1990. In June 1990, the Draft Appendix was revised to incorporate the newly formatted RIS tables.

2.1.32 Santa Susana Field Laboratories (SSFL) Survey

During this reporting period, inputs were developed for the RIS and outputs were analyzed for incorporation into the Draft Appendix. Integration Panel Meetings were held March 14 and 15, 1990, where environmental degradation issues were incorporated into overall rankings. The Draft Appendix was delivered in March and revised in June to incorporate modified RIS data, and additional minor changes were incorporated during July and August.

2.1.33 Waste Isolation Pilot Plant (WIPP) Survey

DOE decided to delete this site from the Environmental Survey after reviewing further information.

2.1.34 Ames Laboratory Survey

The major effort during this period involved the development of the Draft Appendix. This included providing inputs to the RIS; analyzing the outputs; and reviewing, providing inputs to, and preparing the Draft Appendix for the

Integration Panel. The Ames Draft Appendix was delivered to DOE on March 15, 1990 and then again on March 28, 1990. The Integration Panel Meeting took place on March 19 and 20, 1990. In June 1990, the Draft Appendix was revised to incorporate the newly formatted RIS tables.

2.1.35 Naval Petroleum and Oil Shale Reserves (NPOS) Survey

During this reporting period, work was completed on revisions to the findings and incorporation of Sampling and Analysis discussions into Section 8.0 of the Draft Appendix.

2.1.36 Princeton Plasma Physics Laboratory (PPPL) Survey

The major effort during this period involved the development of the Draft Appendix. This included providing inputs to the RIS; analyzing the outputs; and reviewing, providing inputs to, and preparing the Draft Appendix for the Integration Panel. The PPPL Draft Appendix was delivered to DOE on March 19, 1990 and then again on March 28, 1990. The Integration Panel Meeting took place on March 19 and 20, 1990. In June 1990, the Draft Appendix was revised to incorporate the newly formatted RIS tables.

2.1.37 Naval Petroleum Reserves - California (NPRC) Survey

The NPRC Draft Appendix was submitted to DOE on March 16, 1990. The Team 3 PL and appropriate site coordinator participated in a meeting with the Integration Contractor on March 27 and 28. In May and June the Draft Appendix was revised, incorporating new information received for the RIS. Minor modifications were made to the Draft Appendix in July.

2.2 Prioritization

Under Phases I and II, no activities were conducted during this reporting period.

Draft Appendices for the 36 sites were prepared, including incorporation of revisions to ranking units and comments from the site coordinators, prioritization liaisons, and DOE Team Leaders. The Draft Appendices were delivered to DOE in mid-March

and again on March 28, 1990. Subsequent to those deliverables, the Final Survey Findings sections were finalized, OEV comments on certain ranking units were addressed, Integration Contractor and BNL data bases were checked for accuracy, corrective actions on the DOE prioritization audit were undertaken, and Section 5 of the Draft Summary Report was written. Technical assistance to the DOE Program Manager was provided in supporting presentations in Albuquerque and Denver and in developing and maintaining the RIS. Support also included meetings at ORNL, Pantex, and SRS, and redevelopment and rerunning of ranking units for those sites as well as for Rocky Flats.

2.3 Environmental Compliance

This task was closed on July 15, 1989.

2.4 Reactor Safety Study

There was no technical activity for this task during this reporting period.

2.5 Brookhaven Reactor Study

There was no technical activity for this task during this reporting period.

2.6 Sampling and Analysis

There was no technical activity for this task during this reporting period.

2.7 Survey Follow-Up

NUS personnel reviewed and evaluated functional responsibilities designated under DOE Environmental Orders and developed corresponding matrices. These matrices were delivered to DOE on September 8, 1989.

2.8 Trend Analysis

During this reporting period, the second trend analysis report was assigned on April 24, 1990, and the Draft Report was submitted to DOE on May 21, 1990. This trend analysis incorporated findings information from the KCP, PORTS, NTS, SRS, LLNL, BNL, and Pinellas Tiger Team Assessments. Revisions were requested on May 24, 1990, with the revised Draft Report delivered to DOE on May 29, 1990. There has been no additional trend analysis activity during this period.

2.9 Protocols for Preparation and Production of Tiger Team Assessment Reports

Work began on this task in July. On August 8, 1990, the draft "Protocols for Preparation and Production of Tiger Team Assessment Reports" was submitted to DOE for review.

2.10 Tiger Team Assessments

2.10.1 Y-12 Tiger Team Environmental Assessment

The Environment Subteam of the Y-12 Tiger Team reviewed the Draft Action Plan developed by the site during June and provided comments to the DOE Subteam Leader.

2.10.2 Pinellas Tiger Team Environmental Assessment

The Pinellas Tiger Team Assessment closeout was held February 2, 1990. Horizontal and vertical reviews were performed in February, and revisions to the Draft Report based on the review comments were incorporated in March. The Draft Report was reviewed by the technical specialists on the Environment Subteam for lessons learned.

2.10.3 Mound Tiger Team Environmental Assessment

In February, the team provided DOE with additional comments on the Draft Action Plan for Mound Plant that the site had prepared in response to the Tiger Team

Assessment. There was no activity on the Mound Tiger Team from March through May. In June, the Preliminary Action Plan was received and the team provided comments to DOE. No additional work was performed during July and August.

2.10.4 Pantex Tiger Team Environmental Assessment

This reporting period encompassed most of the follow-on activities of the Pantex Tiger Team effort, including file closeout and review and comment on the Preliminary Final Action Plan and a subsequent revision.

2.10.5 Nevada Test Site Tiger Team Environmental Assessment

The NTS Final Action Plan was reviewed by the technical specialists, and comments were submitted to DOE on May 29, 1990.

2.10.6 Kansas City Plant Tiger Team Environmental Assessment

Environmental Subteam member responses to comments were drafted, reviewed by the Subteam Leader, and incorporated into the text of the final report. Responses to review comments were received from the Safety and Management teams and incorporated into the text. An editorial review was performed on the final draft to ensure consistency of acronyms, figures, and tables. The Executive Summary was revised to reflect comments from DOE Headquarters. The camera-ready copy of the Assessment Report was sent to DOE on May 1, 1990.

2.10.7 Portsmouth Tiger Team Environmental Assessment

During this reporting period, activities performed were limited to team member responses to questions from DOE regarding the Action Plan for this site.

2.10.8 Lawrence Livermore National Laboratory (LLNL) Tiger Team Environmental Assessment

The LLNL Tiger Team Assessment was conducted during the period from February 26 through April 6, 1990. The final report was issued by DOE in June 1990. The Draft

Action Plan was reviewed by the technical specialists, and comments were submitted to DOE on June 8, 1990.

2.10.9 Brookhaven Tiger Team Environmental Assessment

Most of the BNL Tiger Team effort took place during this reporting period. Pre-Assessment preparation took place in March, and on-site activities, including interviews, document review, and report preparation, occurred from March 26 to April 27, 1990. Subsequent to that, follow-up NUS and site reviews of the draft Tiger Team report were conducted and resulting comments were incorporated into the final report. The Draft Action Plan was reviewed by team members and comments were provided to DOE. At the end of the period, team member files were closed out.

2.10.10 Sandia National Laboratories (SNL), Livermore Tiger Team Environmental Assessment

The Team Leader and NUS Coordinator participated in the pre-Assessment site visit at Sandia National Laboratories (SNL) in Livermore, California on March 27 and 28, 1990. A telephone conference call was held with all team members on April 6 to kick off the Tiger Team Assessment. Site documents received in response to the Information Request were distributed to team members and reviewed. During the week of April 16, SNL, Livermore team members participated in the Tiger Team Update Training Sessions. On April 19, an organizational and planning team meeting was held. The Assessment Plan was prepared and sent to DOE and the site on April 23, 1990. The on-site portion of the Assessment began on April 30, and team members conducted interviews, reviewed site documents, toured on-site facilities, and prepared the Draft Report within three weeks. The closeout meeting was held on May 18, 1990. During the latter part of May, the NUS-required horizontal and vertical quality assurance reviews were initiated. In June, these reviews were completed and team members addressed these comments, along with comments received from the site and Operations office. The final report production process continued in July, with NUS assigned the responsibility of revising all sections except the Safety and Health and the OSHA subsections. The OSHA subsection was delivered at the first of August, and NUS submitted the camera-ready version of the Tiger Team Assessment report to DOE on August 21, 1990.

2.10.11 Paducah Gaseous Diffusion Plant Tiger Team Assessment

The on-site portion of the Assessment was conducted during the period June 18 through July 20, 1990.

2.10.12 Hanford Tiger Team Environmental Assessment

Preparations for the Hanford Tiger Team Assessment began in April with technical specialists reviewing information obtained during the pre-Assessment site visit, which was held April 23-26. The on-site portion of the Assessment began May 21, 1990. Interviews and site visits concluded on June 28, with a rough draft of the Environment Subteam's report provided to the site on July 3. The technical accuracy review was held July 9 and the Draft Report was completed on July 17. Formal closeout of the Hanford Tiger Team Assessment was July 18, 1990. Horizontal and vertical reviews of the Draft Report were completed and comments incorporated into the report in August.

2.11 Program Management

- NUS Project Management continued to monitor and review on-going Survey, Prioritization and Tiger Team activities.
- NUS continued to prepare and review overall budgets and expenditures for the entire contract to ensure project completion within budget.
- On several occasions, NUS met with DOE to discuss the budget and anticipated expenditures to complete tasks for this contract.
- NUS Project Management prepared and submitted Task Plans for each of the Task Assignments issued by DOE during this reporting period. Project Work Plans were prepared or revised when necessary and distributed internally to all Survey, Prioritization and Tiger Team participants.
- Monthly progress reports have been submitted to DOE to track technical accomplishments and budget expenditures, in accordance with the contract requirements.