Department of Energy
Washington, DC 20585

FEB 13 1997

Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W.
Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

The January 1997 deliverables called for in the Department's Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 94-4 are enclosed. A list of the deliverables is provided as Enclosure 1 to this letter.

If you have any questions, please contact me or have your staff contact Phil Aiken of my staff at (301) 903-4513.

Sincerely,

Gene Ives
Deputy Assistant Secretary
for Military Application and
Stockpile Management
Defense Programs

4 Enclosures

cc w/enclosures:
M. Whitaker, S-3.1

Enclosure 1:
List of January 1997 Deliverables.

Enclosure 2:
Commitment 3.6, the Lockheed Martin Energy Services. Inc. (LMES) Corrective Action Plan for the Task 3 assessment of the criticality safety program at Y-12 (Commitment 3.5).

Enclosure 3:
Commitment 7.1, Quarterly Report 8, containing an update of activities occurring between October 1 and December 31, 1996.

Enclosure 4:
The completed items from Commitment N.4.2 associated with the Quality Evaluation (QE) mission area. The specific QE deliverables are: the LMES Readiness to Proceed Memorandum and the LMES Readiness Assessment report.

DOE F 1325.8
(4/93)

United States Government **Department of Energy**

Oak Ridge Operations Office

memorandum

DATE: January 29, 1997

REPLY TO ATTN OF: DP-81:Wall

SUBJECT: **DNFSB RECOMMENDATION 94-4, CORRECTIVE ACTION PLAN FOR THE TASK 3 ASSESSMENT OF THE CRITICALITY SAFETY PROGRAM AT THE Y-12 PLANT**

TO: Gene Ives, Deputy Assistant Secretary for Military Applications and Stockpile Management, DP-20, FORS

Attached is a letter from Lockheed Martin Energy Systems transmitting the Recommendation 94-4, Task 3 Corrective Action Plan. If you have any questions related to this matter, please contact David Wall of my staff at (423) 576-1989.

Robert J. Spence
Y-12 Site Manager

Attachment

cc w/attachment:

Robert McBroom, SE-332, ORO
Gypsy Tweed, DP-813, ORO

LOCKHEED MARTIN ENERGY SYSTEMS

POST OFFICE BOX 2009
OAK RIDGE, TENNESSEE 37831

January 23, 1997

Mr. R. J. Spence
Department of Energy, Oak Ridge Operations
Post Office Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Spence:

Contract DE-AC05-84OR21400, Corrective Action Plan (CAP) for Task 3 Assessment of the Nuclear Criticality Safety Program--Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 94-4

This letter delivers the Task 3 CAP as required by the Implementation Plan for DNFSB Recommendation 94-4. This CAP addresses the results of the "Task 3 Assessment Report for the Oak Ridge Y-12 Facility - DNFSB 94-4 (DOE-DP/EH-OR-02)" dated November 6, 1996. The Task 3 Assessment Report identified issues associated with the Plant's Nuclear Criticality Safety Program. The CAP addresses the ~~12~~ 12 findings and 7 concerns associated with the Task 3 Assessment Report.

The contents of this CAP have been reviewed with the appropriate members of your staff prior to formal issuance of the CAP. All corrective actions have been entered into the Energy Systems Action Management System for tracking and closure verification.

Should you need additional information or have questions, please contact Kevin Carroll at 576-2289 or Lee Bryson at 574-3853.

Sincerely,

F. P. Gustavson
Vice President
Defense and Manufacturing

FPG:jai

Enclosure: As Stated

c/enc: G. A. Atwood
J. D. Bolling
L. C. Bryson - RC
T. R. Butz
K. J. Carroll
J. P. Crociata
T. F. Gorman
R. M. Harding
D. K. Hoag, DOE-ORO
S. H. Howell
N. C. Jessen
T. D. McCarten, DOE-ORO
M. K. Morrow
R. K. Roosa
L. R. Ruth
G. L. Tweed, DOE-ORO
D. L. Wall, DOE-ORO
P. R. Wasilko
S. R. Wilson

c: F. P. Gustavson

ENCLOSURE TO LETTER,
GUSTAVSON TO SPENCE
Dated: January 23, 1997

CORRECTIVE ACTION PLAN
IN RESPONSE TO THE
DOE HEADQUARTERS TASK 3 ASSESSMENT
OF THE OAK RIDGE Y-12 PLANT
NUCLEAR CRITICALITY SAFETY PROGRAM

CORRECTIVE ACTION PLAN
IN RESPONSE TO THE
DOE HEADQUARTERS TASK 3 ASSESSMENT
OF THE OAK RIDGE Y-12 PLANT
NUCLEAR CRITICALITY SAFETY PROGRAM

Prepared by the
Oak Ridge Y-12 Plant
P.O. Box 2009, Oak Ridge, Tennessee 37831-8169
managed by
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
under Contract No. DE-ACO5-840R21400

TABLE OF CONTENTS

I. INTRODUCTION

Scope

This document responds to the *Task 3 Assessment Oak Ridge Y-12 Facility Defense Nuclear Facilities Safety Board (DNFSB) 94-4*, Report Number DOE-DP/EH-OR-02, dated November 7, 1996. Corrective action plans (CAPs) are provided for 19 issues (12 findings and 7 concerns) documented in the assessment report. According to Lockheed Martin Energy Systems procedure QA-312, "Issues Management Program," these findings and concerns were reviewed by the Issues Management Prioritization Board and a responsible manager and a risk score assigned to each. Only one of the issues (I32738, CS-2/9720-5 /001/001) received a risk ranking of "high," thus requiring a formal root cause analysis. Results of that analysis are included with the CAP for that issue.

Discussion

Since the September 1994 stand down of Y-12 Nuclear Operations, improvements in the nuclear criticality safety (NCS) program have been implemented. These improvements came as a result of internal self-assessments and external reviews that documented deficiencies in the program. In addition, the cultural change toward more disciplined, standards-based methods of conducting business highlighted the need for program improvements that would result in a user-friendly, streamlined approach to ensuring that NCS controls were implemented on the shop floor.

The process historically used by Y-12 for the identification of criticality safety limits and requirements of operation is the Criticality Safety Approval (CSA). The CSA documents the operations request for an analysis of a particular work scope, the results of the NCS analysis, and lists limits and requirements that must be met in order to perform the work safely. Before 1994 the typical CSA was many pages in length, contained overly prescriptive requirements (for example, "spacing shall be equal to 6 inches" rather than, "spacing shall be at least 6 inches"), and limits and requirements were spread throughout the CSA rather than summarized in a single, prominent place in the document. CSAs were implemented by requiring operations personnel to use the CSA in conjunction with a technical procedure (step-by-step work instructions) to perform work. This process was very cumbersome and confusing to the operator.

Near-term improvements have been implemented in the nuclear mission areas that were restarted using DOE Order 5480.31, "Startup and Restart of DOE Nuclear Facilities." (These areas include the Receipt, Shipment and Storage facilities for highly enriched uranium, the depleted uranium facilities, the weapon's disassembly and assembly facility, and the weapon's quality evaluation facility.) Y-12 CSAs have been upgraded to a more streamlined format. In addition, applicable limits and requirements were extracted from the CSA and incorporated into the appropriate steps of the technical procedure, eliminating the need for an operator to reference two

documents simultaneously while performing work. All personnel who perform work in the facility are trained on the facility's CSAs; and the specific CSAs and procedures are reviewed as part of the prejob brief for scheduled work activities. That the CSAs are still difficult for the operators to use directly is realized and a replacement process was designed.

As a means for continuous improvement of the NCS program, a team of NCS managers, operations managers, and their Department of Energy (DOE) Y-12 Site Office counterparts embarked on several benchmarking trips across the DOE weapons complex to study the NCS programs at other sites. Comparing the programs of other sites and taking the best practices from each, the team developed a long-term NCS Program Improvement and Implementation Plan (NCSIP).

The NCSIP describes a program that includes upgraded NCS evaluations, improvements in the infrastructure that supports the NCS program (such as configuration management) and the replacement of CSAs with process descriptions and Criticality Safety Requirements (CSR) documents. The CSR is a technical document that resides in the facility as a technical reference, but is implemented completely through engineered and administrative controls. The NCSIP is being implemented through the restart of the last nuclear mission area, Enriched Uranium Operations (EUO).

Much of the long-term improvements at Y-12 rest in the success of this CSR process. The CSR process not only includes the document called the CSR, but the entire process of how the CSR is requested throughout the implementation of requirements in procedures. This process was designed to replace the CSA, which has never met the expectations for a verbatim compliance approach. The CSR process will be evaluated as part of EUO resumption activities and, as appropriate, will be implemented in a tailored manner in the nuclear facilities.

From the Task 3 report, "The CSRs are expected to be a substantial improvement over the current practice of issuing of CSAs."(page 23) and "The draft products reviewed did, however, seem to indicate a step in the right direction." (page 18)

One of the areas in the process to generate CSRs that was graded in scope as part of the EUO Restart Graded Approach was the Criticality Safety Evaluation. "The use of CSEs as the technical supporting documents for CSRs has the potential to meet or exceed the expectations of DOE and ANSI/ANS standards ... " (page 23), however, "As an expedient measure to meet the EUO restart schedule, the NCSD has now devised an Interim Criticality Safety Evaluation process which, in the opinion of the assessment team, falls short of the original designed vision and fails to provide expected levels of defined safety assurance ... " (page iv.)

To assist Y-12 in evaluating this potential flaw (ICSEs) a white paper was provided in the Task 3 report. Although not a finding requiring a corresponding action plan, it is worthwhile to summarize actions taken based on the White Paper: (1) The process of creation of the ICSE has been reviewed and alternative approaches determined; (2) Several alternative approaches have

been tried and being reviewed with local DOE; (3) A member of the Task 3 team who helped draft the white paper will return for a one-week period in late January to see if the alternative selected meets the intent of the white paper; (4) EH-34 is providing assistance in developing a review guide to use against the CSE/ICSE; and (5) Five NCSD individuals will have gone through the Las Alamos Criticality Safety course by February 1997 to review basics and principles used in analysis work.

In addition, actions are being taken to strengthen the breadth of plant criticality safety assessments, efficiencies, and interfaces with EUO as part of the EUO restart. Included are: (1) Joint Operations/NCSD offsite meetings to review restart product logic and interfaces; (2) Joint NCSD/Operations and NCSD/Local DOE review of steps to ensure and improve product (CSE, CSR, Operating Procedures); and (3) A subcontractor member of both the Task 2 and Task 3 teams has been arranged to work full time for Y-12 NCSD. His experience, both in past assessments and at other sites, will be used to review criticality safety assessment scope adequacy, organizational efficiency within NCSD and with its interface with Operations. He reports in February 1997.

A Nuclear Criticality Safety Advisory Council (NCSAC) was established in 1996 to monitor the results of these improvements and to track, trend, and analyze deficiencies in the implementation of NCS requirements. The NCSAC meets monthly and is represented by all the Nuclear Operations organizations and is chaired by the NCS manager. The NCSAC performs root cause analysis on persistent deficiencies and develops and implements the appropriate corrective actions. These root cause analysis are being performed approximately once per quarter.

II. FINDINGS AND RESPONSES

Task 3 Identifier	ESAMS ID	Description of Issue
CS-3/Y-12/002/001	N/A	Because the proposed CSR system has been implemented but no approved CSRs exist, it is not possible to fully judge the utility of the system at this time.
Based on the following, a corrective action plan (CAP) is not required for this issue: This finding is a statement of fact. However, a Nuclear Criticality Safety Improvement Plan that tests the utility of the CSR process as part of the EUO restart has been developed and is being implemented. Conduct of the Enriched Uranium Operations process-based restart (PBR), including the use of ICSEs and CSRs, will be closely monitored by Lockheed Martin Energy Systems (LMES) and the DOE Y-12 Site Office on a process by process basis against approved EUO PBR plans and guidance. Given the nature of this finding, no further corrective action plan will be generated, however, the content of the wording will be used in the ongoing restart review. Additionally, EUO PBR will end with a 5480.31 Operational Readiness Review that will verify the effectiveness of the CSR process.		

Task 3 Identifier	ESAMS ID	Description of Issue
CS-6/Y-12/003	I32786	LMES is making slow progress in correcting the fundamental problems in the Criticality Safety Program.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72096	Develop a listing of assessment areas for the NCS Program.	K. J. Carroll	4/1/97	Open
A72015	Review and concur with the listing of assessment areas for the NCS Program. Comments from selected Task 3 assessors should be solicited and considered during the review.	S. G. Snow	5/1/97	Open
A72015	Review the scope of external assessments/audits performed since the issue of DNFSB Recommendation 94-4 and report assessment areas that have not been examined.	K. J. Carroll	7/1/97	Open

A72018	Perform or schedule assessment of areas identified as not previously addressed.	S. G. Snow	10/1/97	Open
A72111	Review open issues/actions directly related to the NCS Program as documented in ESAMS and report to the NCSAC any recommendations for: - additional root cause evaluations - additional short-term corrective actions	K. J. Carroll	5/1/97	Open
A72114	Perform root cause evaluations and/or modify action plans as directed by the NCSAC based on the issues/actions report.	K. J. Carroll	10/1/97	Open
A72117	Review plantwide criticality safety status, improvement efforts, and lessons learned to identify further plans for improvement for FY1998.	K. J. Carroll assisted by R. M. Harding	6/1/97	Open
A72120	Reassess and revise the NCS Long Term Improvement Plan and Implementation Plan based upon plantwide review.	K. J. Carroll	9/1/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-6/Y-12/002	I32785	LMES has not established corrective actions to fix either the specific problems or the root cause for many of the issues identified in their evaluations.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72096	Develop a listing of assessment areas for the NCS Program.	K. J. Carroll	4/1/97	Open

A72015	Review and concur with the listing of assessment areas for the NCS Program. Comments from selected Task 3 assessors should be solicited and considered during the review.	S. G. Snow	5/1/97	Open
A72015	Review the scope of external assessments/audits performed since the issue of DNFSB Recommendation 94-4 and report assessment areas that have not been examined.	K. J. Carroll	7/1/97	Open
A72018	Perform or schedule assessment of areas identified as not previously addressed.	S. G. Snow	10/1/97	Open
A72111	Review open issues/actions directly related to the NCS Program as documented in ESAMS and report to the NCSAC any recommendations for: - additional root cause evaluations - additional short-term corrective actions	K. J. Carroll	5/1/97	Open
A72114	Perform root cause evaluations and/or modify action plans as directed by the NCSAC based on the issues/actions report.	K. J. Carroll	10/1/97	Open
A72117	Review plantwide criticality safety status, improvement efforts, and lessons learned to identify further plans for improvement for FY1998.	K. J. Carroll assisted by R. M. Harding	6/1/97	Open
A72120	Reassess and revise the NCS Long Term Improvement Plan and Implementation Plan based upon plantwide review.	K. J. Carroll	9/1/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-6/Y-12/001	I32784	LMES has not completed evaluations of the effectiveness of all aspects of the Y-12 Criticality Safety Program

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72096	Develop a listing of assessment areas for the NCS Program, using the site S/RIDs.	K. J. Carroll	4/1/97	Open
A72015	Review and concur with the listing of assessment areas for the NCS Program. Comments from selected Task 3 assessors should be solicited and considered during the review.	S. G. Snow	5/1/97	Open
A72015	Review the scope of external assessments/audits performed since the issue of DNFSB Recommendation 94-4 and report assessment areas that are still applicable and which have not been examined.	K. J. Carroll	7/1/97	Open
A72018	Perform or schedule assessment of areas identified as not previously addressed.	S. G. Snow	10/1/97	Open
A72111	Review open issues/actions directly related to the NCS Program as documented in ESAMS and report to the NCSAC any recommendations for: - additional root cause evaluations - additional short-term corrective actions	K. J. Carroll	5/1/97	Open
A72114	Perform root cause evaluations and/or modify action plans as directed by the NCSAC based on the issues/actions report.	K. J. Carroll	10/1/97	Open

A72117	Review plantwide criticality safety status, improvement efforts, and lessons learned to identify further plans for improvement for FY1998.	K. J. Carroll assisted by R. M. Harding	6/1/97	Open
A72120	Reassess and revise, as necessary, the NCS Long-term Improvement Plan and Implementation Plan based upon plantwide review.	K. J. Carroll	9/1/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-5/Y-12/001/002	I32783	Current CSAs impede Operator/Supervisor training and are difficult to apply in normal, day-to-day operations.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72200	For each organization with fissile material processes, through the training working group perform analysis of NCS training needs, considering: 1) basic knowledge needs, 2) basic facility-specific knowledge needs, and 3) job-specific knowledge needs.	L. R. Ruth	3/1/97	Open
A72358	Based on the analysis above, through the Training Working Group revise and implement training programs as required.	L. R. Ruth	6/30/97	Open
A72359	Reassess the effectiveness of the NCS training program.	L. R. Ruth	2/1/98	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-5/Y-12/002/001	I32782	Some Operators, specifically in EUO, did not demonstrate adequate knowledge of the need to control mass and material types as handled and stored in Y-12 facilities as required by ANSI/ANS 8.20, Section 7.5.1.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A70002	Training programs will be revised as the Enriched Uranium Operations Organization completes its biennial review and revision of its training modules. Management self-assessments will document progress and completion.	H. E. Henderson	12/31/98	Open
A70150	Perform self-assessments of continuing training programs using the revised guidance and develop CAPs where necessary to ensure compliance.	H. E. Henderson	4/10/97	Open
A70204	Training programs will be revised as the Waste Management Organization completes its biennial review and revision of its training modules. Management self-assessments will document progress and completion.	W. D. Duncan	12/31/98	Open
A70276	Perform self-assessments of continuing training programs using the revised guidance and develop CAPs where necessary to ensure compliance.	W. D. Duncan	4/10/97	Open
A70012	Training programs will be revised as the Analytical Services Organization completes its biennial review and revision of its training modules. Management self-assessments will document progress and completion.	C. R. Horton	12/31/98	Open

A70027	Perform self-assessments of continuing training programs using the revised guidance and develop CAPs where necessary to ensure compliance.	C. R. Horton	4/10/97	Open
A70013	Training programs will be revised as the Protective Services Organization completes its biennial review and revision of its training modules. Management self-assessments will document progress and completion.	B. K. Tripp	12/31/98	Open
A70159	Perform self-assessments of continuing training programs using the revised guidance and develop CAPs where necessary to ensure compliance.	B. K. Tripp	4/10/97	Open
A70010	Training programs will be revised as the Site Shift Operations and Emergency Preparedness Organization completes its biennial review and revision of its training modules. Management self-assessments will document progress and completion.	T. D. Lawlor	12/31/98	Open
A70026	Perform self-assessments of continuing training programs using the revised guidance and develop CAPs where necessary to ensure compliance.	T. D. Lawlor	4/10/97	Open
A70018	Training programs will be revised as the Disassembly and Storage Organization completes its biennial review and revision of its training modules. Management self-assessments will document progress and completion.	R. J. Shelton	12/31/98	Open

A70004	Perform self-assessments of continuing training programs using the revised guidance and develop CAPs where necessary to ensure compliance.	R. J. Shelton	4/10/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-2/9720-5 /001/002	I32750	Plant personnel conduct criticality evacuation drills without procedures.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A70963	Issue an Energy Systems Immediate Action Directive (IAD) for the conduct of emergency drills, including criticality evacuation drills.	J. D. Bolling	4/7/97	Open
A70961	Develop and issue an Energy Systems Emergency Drill Plan for CY 1997.	J. D. Bolling	1/15/97	Open
A70967	Complete implementation of the CY 1997 Energy Systems Emergency Drill Plan for Criticality Evacuation Drills.	J. D. Bolling	1/15/98	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-2/9720-5 /001/001	I32738	Y-12 emergency procedures do not clearly designate evacuation routes; some facilities do not show the routes, and those that do, do not avoid areas of higher risk. NOTE: This issue was risk ranked "high" by the IMPRB. The Root Cause was found to be: Direct Cause: 2A - Procedure Problem - Defective or Inadequate Procedure Root Cause: 6A - Mgmt. Problem - Inadequate Administrative Control Root Cause Analysis Summary: The direct cause of this finding is 2A, Defective or Inadequate Procedure. There are existing procedures addressing hazards and consequence assessments, facility emergency planning, and self-assessments at the Y-12 Site, although, these procedures are not comprehensive or consistent. The root cause is 6A, Inadequate Administrative Control. Although, resources were expended on addressing the requirements associated with the assessments and planning listed above, the resources were not effectively deployed and an effective system put into place to control the desired product. A contributing cause could be related to 6D, Improper Resource Allocation.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A70962	Issue an Energy Systems IAD to implement a facility emergency program.	J. D. Bolling	3/3/97	Open
A70964	Develop a prioritized schedule for implementing the facility emergency program IAD.	J. D. Bolling	5/7/97	Open

A70964	Develop a prioritized schedule for implementing the facility emergency program IAD.	J. D. Bolling	5/7/97	Open
A70966	Develop an Energy Systems training module to ensure facility emergency wardens (FEW) are trained to implement the Facility Emergency Procedures (FEPs).	J. D. Bolling	12/15/97	Open
A70965	Complete the development and issuance of Facility-specific Emergency Procedures (FEPs), according to the schedule in A70964, that follow a standard procedure format/content, including the designation of facility evacuation routes.	J. D. Bolling	5/7/98	Open
A70968	Initiate the training program for facility emergency wardens by presenting the training module developed for A70966.	J. D. Bolling	1/26/98	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-4/9212/001	I32781	Mass limits are not posted in Building 9212 in areas of continuing operations.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72361	Review and assure that documents needed by operating personnel are accessible to the operators.	N. C. Jessen & P. R. Wasilko	3/1/97	Open
A72090	Perform an assessment of the effectiveness of Task 2 Finding #11 corrective actions and develop revised posting requirements to assure compliance with ANSI/ANS-8.1-1983, Section 4.1.4 as necessary.	K. J. Carroll	6/1/97	Open

A72093	Revise Y-12 Plant NCS procedures to incorporate revised posting requirements as needed from Action A72090.	K. J. Carroll	9/1/97	Open
A72094	Train NCSD personnel qualified to perform external monitoring on revised posting requirements.	K. J. Carroll	7/1/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-2/Y-12/004/004	I32752	**Fixed nuclear accident dosimetry is not provided in** locations with portable CAAS units.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72168	Walk down areas covered by CAAS units to ensure fixed nuclear accident dosimetry (FNADs) is in place as required by 10 CFR 835.1304. Place FNADs in appropriate locations.	L. J. Schwanke	12/1/96	Complete

Task 3 Identifier	ESAMS ID	Description of Issue
CS-2/Y-12/004/006	I32753	The Y-12 Plant CAAS drawing the CAAS analysis document (SAD-21) do not reflect the location of portable CAAS units.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72181	Portable CAAS which are deployed on a temporary basis will be managed under procedure Y10-153, "Temporary Modification," and/or the Nuclear Operations Conduct of Operations Manual, Chapter VIII.	R. T. Morris	7/1/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-2/9720-5 /002/003	I32751	The CAAS Surveillance Procedure was not followed as written on October 2, 1996.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72148	Review the CAAS Procedure for Building 9720-5 to allow making announcements on both the Emergency Notification System and the Public Address System.	R. T. Morris	11/15/96	Closed
A72149	Review training records for all Plant Shift Superintendent personnel associated with conduct of CAAS testing. Review to ensure all personnel have been trained in Chapter 16 of the Nuclear Conduct of Operations Manual, Module #14544.	R. T. Morris	1/3/97	Closed

III. CONCERNS AND RESPONSES

Task 3 Identifier	ESAMS ID	Description of Issue
CS-3/Y-12/002/003	I32756	The review of current CSAs, proposed ICSE/CSEs, and current authorization documents indicates the issue of double contingency relating to natural phenomena is not adequately addressed.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72363	Prepare and issue a position paper describing the status of analysis of seismic issues relating to nuclear criticality safety.	K. J. Carroll	3/1/97	Open

A72132	Perform an assessment of Y-12 Plant practices governing the relationships between the NCSD double contingency analysis and natural phenomena events related in authorization basis documents.	K. J. Carroll assisted by S. R. Wilson	10/1/97	Open
A72275	Develop methodologies to address weaknesses revealed by Action A72132.	K. J. Carroll assisted by S. R. Wilson	12/1/97	Open
A72133	Revise Y-12 Plant procedures as necessary to ensure natural phenomena related in Authorization Basis List documents are addressed in NCSD criticality safety evaluations based upon assessment recommendations.	K. J. Carroll assisted by S. R. Wilson	4/1/98	Open
A72273	Train NCS Engineers on the revised procedures and implementation methodology.	K. J. Carroll assisted by S. R. Wilson	5/1/98	Open
A72274	Implement the revised procedure.	K. J. Carroll assisted by S. R. Wilson	6/1/98	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-3/Y-12/002/002	I32755	The lack of a comprehensive authorization basis on which to perform Unreviewed Safety Question (USQ) screening and Unreviewed Safety Question Determinations (USQDs) brought into question the validity of the process.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72285	Verify and update the CAP for 94-4, Task 2, Assessment Finding #9. (This concern is addressed by that CAP.)	S. R. Wilson	6/1/97	Open

A72360	Reassess effectiveness following completion of the rescheduled actions of the CAP for 94-4 Task 2, Assessment Finding #9.	K. J. Carroll	12/1/98	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-3/Y-12/001/005	I32758	It is difficult to determine whether LMES has addressed neutronic interaction between various parts of the facility, since a facility is covered by many CSAs and their associated criticality safety analyses.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72088	Revise procedures governing the preparation of NCS evaluations to include a requirement that interaction SHALL be addressed in the NCS evaluation.	K. J. Carroll	3/1/97	Open
A72089	Train NCSD personnel qualified to perform NCS Evaluations on the methodology to address interaction in NCS Evaluations.	K. J. Carroll	4/1/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-3/Y-12/001/004	I32757	There is only one validated cross section set/computer code available to NCSD Engineers to perform calculations.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72073	Validate the Monte Carlo N-Particle Transport Code on the NCSD's HP9000 Workstation for use in NCS computations.	K. J. Carroll	12/30/96	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-1/Y-12/004	I32735	Little interaction exists between the criticality safety engineers and the safety analysts to ensure that CSEs and safety analysis documents address criticality accident scenarios consistently and comprehensively in CSEs and safety analysis documents. The NCSD does not document its review of safety documents, such as BIOs, or formally approve them.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72279	Perform an assessment of LMES and Y-12 Plant practices governing the relationships between the NCSD and Facility Safety Organization. Include need for NCSD concurrence of ABL documents involving fissile operations.	K. J. Carroll assisted by S. R. Wilson	4/1/97	Open
A72280	Revise Y-12 Plant procedures as necessary to strengthen the required interaction between NCSD and FSE based upon assessment recommendations of Action A72279.	K. J. Carroll assisted by S. R. Wilson	6/1/97	Open
A72134	Train Facility Safety, NCSD, and site safety engineers on the importance of interaction among disciplines.	K. J. Carroll assisted by S. R. Wilson	7/1/97	Open
A72135	Conduct a reassessment to evaluate effectiveness of program modifications.	K. J. Carroll assisted by S. R. Wilson	9/30/97	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-1/Y-12/005	I32736	NCSD staff time is devoted to many activities that do not make the most efficient use of staff expertise and that should be carried out by other organizations.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72356	During the EUO process-based restart, qualify Shift Technical Advisors (STAs) in NCS deficiency oversight in accordance with the EUO STA qualification standard.	N. C. Jessen	6/11/97	Open
A72057	Document differences between the NCS staff roles and responsibilities at the Y-12 Plant and those of other selected DOE facilities.	K. J. Carroll	6/1/97	Open
A72059	Revise Y-12 Plant NCS procedures as necessary to incorporate modified roles and responsibilities based on the needs of the Y-12 Plant and differences between the NCS staff roles and responsibilities at Y-12 when compared to other DOE facilities.	K. J. Carroll	9/1/97	Open
A72357	Assess the effectiveness of the revised responsibilities.	K. J. Carroll	3/1/98	Open

Task 3 Identifier	ESAMS ID	Description of Issue
CS-1/Y-12/006	I32737	NCSD staff have not regularly participated in tabletop and drill exercises to practice the skills necessary to perform their response team and Emergency Operations Center (EOC) responsibilities.

ACTION	DESCRIPTION	RESPONSIBLE	DUE	STATUS
A72296	Appoint an Energy Systems Emergency Drill and Exercise Planning Committee, including representation from the NCSD.	J. D. Bolling	3/15/97	Open
A72298	Demonstrate by attendance records that Emergency Response Organization cadre members participate annually in an emergency management drill and/or exercise.	J. D. Bolling	1/31/98	Open

QUARTERLY REPORT 8

DEPARTMENT OF ENERGY

IMPLEMENTATION PLAN

FOR

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

RECOMMENDATION 94-4

DEFICIENCIES IN CRITICALITY SAFETY AT THE OAK RIDGE Y-12 PLANT

REPORTING PERIOD
OCTOBER 1 THROUGH DECEMBER 31, 1996

TABLE of CONTENTS

EXECUTIVE SUMMARY

This Report for the Defense Nuclear Facilities Safety Board (Board) Recommendation 94-4 Implementation Plan (Plan) covers the period from October 1 through December 31, 1996.

Operations in the Receipt, Storage, and Shipping (RSS) and Depleted Uranium Operations (DUO) mission areas were resumed at Y-12 on September 21, 1995 and September 29, 1995 respectively. Disassembly and Assembly (D&A) operations were resumed on March 22, 1996. The Readiness Assessment (RA) of the Quality Evaluation (QE) mission area was completed on December 13, 1996 with nine pre-start findings identified. Unrestricted QE operations should resume early next quarter following closure of these pre-start findings.

All activities scheduled for completion during the reporting period were completed except the Corrective Action Plan (CAP) for the criticality safety program assessment (Task 3 commitment 3.5). That CAP is under development and will be completed in January 1997.

As discussed in the last Quarterly Report, tasking priority revisions and budget constraints have contributed to slow progress on completion of the corrective action plans (CAPs) associated with the previous Task 2, Task 3, and Task 4 assessments. As a result, the Department assisted Lockheed Martin Energy Systems (LMES) in developing a revised set of corrective action plans which were forwarded with the October 1996 deliverables. Additionally, the CAP for the Task 5 assessment of contractor training and qualification has also been revised to incorporate actions transferred from the Task 4 CAP. These revised plans have been incorporated into Appendix C, Corrective Action Tracking, in this report.

Activities completed during the fourth quarter calendar year (CY) 1996 are as follows:

Commitment	Description
3.5	A Department team conducted an assessment of the LMES criticality safety performance objectives per the program developed in Commitment 3.4 and evaluated the corrective action program.

Activities scheduled for the first quarter CY 1997 are as follows:

3.6 LMES will provide a CAP addressing the corrective actions for the deficiencies identified in the Department's assessment of the criticality safety program (Commitment 3.5).

TASK 1, ORGANIZATION

Task 1 established the leadership and management structure for the development and execution of the Plan.

Deliverable 1.1, which provided a strawman Plan , and Deliverable 1.2, which identified the Senior Steering Committee, the Senior Working Group, and Task Leaders, were forwarded to the Board on February 24, 1995.

The following change to the Department's management as depicted in Deliverable 1.2 occurred in December 1996.

Position	Outgoing	Oncoming
Secretariat to the Senior Steering Committee	Tom Seitz	Gene Ives

TASKS 2&3, CSA/OSR IMPLEMENTATION AND CRITICALITY SAFETY PROGRAM

During the quarter ending December 31, 1996, the following items were accomplished:

The Corrective Action Plans (CAPs) to correct deficiencies identified during the Task 2 Assessment (Commitment 2.2) and during the LMES self evaluation of the Criticality Safety Program (Commitment 3.2) have been rebaselined to provide new achievable dates of completion. A major component of the Task 2 corrective action plan, the development of the NCS Improvement Plan, was completed at the end of November 1996.

The Task 3 Assessment which began on 30 September, 1996, was competed on October 11, 1996. The results of the assessment were forwarded to the Board in November 1996.

Activities planned for the next quarter include:

LMES will continue with the actions called out in the respective CAPs and will provide a CAP for the Task 3 assessment.

A round table to discuss criticality safety issues will be conducted in March 1997. Members of the round table panel are expected to include Dr. Kouts and his staff from the Board, and personnel from Y-12 DOE, LMES, DP-24, EH-31, LANL, and members of the Task 2/3 assessment teams.

TASK 4, CONDUCT OF OPERATIONS

During the quarter ending December 31, 1996, the following items were accomplished:

The Y-12 COOP process improvement working group consisting of representatives from LMES, YSO, and DP-24 met on November 8, 1996.

The COOP CAP Revision 1 was promulgated in October. This revision moved the training related tasks to the Task 5 CAP. Some of the remaining Task 4 items were split to reflect partial completion and multiple LMES management responsibilities. Regrouping and sequencing of the tasks were done to make the CAP more useable. Additionally, Revision 1 incorporated revised tasking priorities and budget adjustments. This revised CAP should be achievable with appropriate management support.

Some of the significant CAP activities this quarter included the following:

- Support Organization COOP Applicability Matrices completed;
- Site COOP Manual issued;
- Operations Managers assigned to facilities; specific roles and responsibilities defined;
- Enriched Uranium Operations (EUO) line manager and operator COOP training completed;
- Issues Management effectiveness evaluation completed;
- Facility Management Office Maintenance Performance Indicators updated.

The next CAP status meeting is scheduled for February 6, 1997. The agenda will include CAP status and COOP performance indicators. On the same day, there will be a separate Executive Summary meeting for senior LMES and Department managers.

TASK 5, TECHNICAL COMPETENCE REVIEW

During the quarter ending December 31, 1996, the following items were accomplished:

None, Task 5 has been completed.

TASK 6, CORRECTIVE ACTIONS

Task 6 provides for the management and tracking of issues and corrective actions and periodic status reports to the Board.

In this task, the Senior Working Group integrates findings from previous task areas and oversees development of corrective action plans.

Attachment C provides corrective action status for all corrective action plans submitted to date, which include Commitments N.1.2, N.2.2, N.2.4, N.3.1, 2.3, 3.3, 4.3, 5.3, and 5.6. This status will be formally reported in each Quarterly Report. Also, working versions will be provided to the Board staff on a monthly basis. The tables for Commitments 2.3, 3.3, 4.3, and 5.6 have been updated to incorporate the revised corrective action plans submitted with the October 1996 deliverables.

ATTACHMENT A: COMMITMENT STATUS

COMMITMENT	DUE DATE	ACTUAL DATE	COMMENTS
N.1.1	APR 95	26 APR 95	
N.1.2	MAY 95	30 MAY 95	
N.1.3	1st START	25 AUG 95	Submit with LMES certification (Commitment N.1.5)
N.1.4	MAR 95	27 MAR 95	
N.1.5	1st START	30 AUG 95	Part of LMES Line Management Certification Letter
N.2.1	NOV 94	18 NOV 94	
N.2.2(a)	OCT 94	13 OCT 94	
N.2.2(b)	APR 95	28 APR 95	
N.2.3	1st START	18 SEP 95	
N.2.4(a)	APR 95	26 MAY 95	
N.2.4(b)	JUN 95	30 JUN 95	
N.2.5(a)	APR 95	12 JUL 95	
N.2.5(b)	MAY 95	12 JUL 95	Addendum addressing Board staff concerns submitted Jan.
N.3.1	MAY 95	30 MAY 95	
N.3.2	1st START	29 AUG 95	Submit with LMES Certification Letter.
N.4.1	MAR 95	27 MAR 95	

ATTACHMENT A: COMMITMENT STATUS

COMMITMENT	DUE DATE	ACTUAL DATE	COMMENTS
N.4.2(a)	1st START	6 DEC 95	RSS: All required deliverables have been submitted.
N.4.2(b)	2nd START	3 NOV 95	DUO: All required deliverables have been submitted.
N.4.2(c)	MAR 96	22 MAR 96	D&A: All required deliverables have been submitted.
N.4.2(d)	JAN 97*		Quality Evaluation (QE): All items for QE restart have been submitted except the DOE closure validation report.*
N.4.2(e)*	TBD*		Enriched Uranium Operations (EUO) mission area.*
1.1	DEC 94	2 DEC 94	
1.2	JAN 95	JAN 95	
2.1	JUL 95	28 JUL 95	
2.2	DEC 95	6 DEC 95	Or within 60 days of 2nd resumption; whichever is earlier.
2.3	FEB 96	9 FEB 96	
3.1	JUL 95	28 JUL 95	
3.2	DEC 95	6 DEC 95	Or within 60 days of 2nd resumption; whichever is earlier.
3.3	FEB 96	9 FEB 96	
3.4	JUL 95	28 JUL 95	
3.5	OCT 96	11 OCT 96*	Revised by 9 August 96 Seitz (DP-20) to Conway (DNFSB) ltr. forwarding July 96 deliverables.
3.6	JAN 97*		Within 60 days of report from Commitment 3.5.
4.1	NOV 95	3 NOV 95	30 days following 2nd resumption or Nov 95 whichever is earlier. Two separate program plans.

ATTACHMENT A: COMMITMENT STATUS

COMMITMENT	DUE DATE	ACTUAL DATE	COMMENTS
4.2	DEC 95	6 DEC 95	60 days following 2nd resumption or Dec 95 whichever is earlier. Teams evaluating DOE and LMES each report.
4.3	FEB 96	9 FEB 96	60 days following issuance of reports in 4.2. One combined CAP.
5.1	JUN 95	30 JUN 95	EH provided a separate evaluation plan.
5.2	OCT 95	10 OCT 95	EH conducted a separate evaluation of EH personnel which was submitted separately.
5.3	DEC 95	31 DEC 95	
5.4	SEP 95	28 SEP 95	
5.5	MAY 96	16 MAY 96	Revised by IP Change 4
5.6	JUL 96	19 JUL 96	Revised by IP Change 4
6.1	QTRLY		Submit with Quarterly Reports of Commitment 7.1.
7.1(a)	APR 95	28 APR 95	Interim report.
7.1(b)	QTRLY		Submit quarterly commencing in July 95.
8.1	AS REQ'D		

ATTACHMENT B: MONTHLY SCHEDULE OF DELIVERABLES

Schedule of Deliverables # = Target Date

Mo/Yr	Near Term Initiatives	Tasks
Mar 95	1.4#, 4.1#	
Apr	1.1#, 2.2, 2.4(a), 2.5(a)	7.1
May	1.2#, 2.5(b), 3.1#	
Jun	2.4(b)	5.1
Jul		2.1, 3.1, 3.4, 7.1
Aug	1.3#, 1.5, 2.3#, 3.2#, 4.2	
Sep		5.4
Oct		5.2, 7.1
Nov		4.1
Dec		2.2, 3.2, 4.2, 5.3
Jan 96		2.3, 3.3, 4.3, 7.1
Feb		
Mar		
Apr		7.1
May		5.5
Jun		
Jul		5.6, 7.1
Aug		
Sep		
Oct		3.5, 7.1
Nov		
Dec		
Jan 97		3.6,* 7.1

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE I

N.1.2: CORRECTIVE ACTION PLAN FOR LMES EVALUATION OF CRITICALITY SAFETY PROGRAM AND CSA/OSRs. (LMES Report Y/NO-00002)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
Y/NO-00002 SECTION 2	CORRECTIVE ACTIONS FOR FIRST MISSION AREA RESUMPTION		
LESSON LEARNED 1	CSA/OSR requirement statements must be clear and concise.		
ACTION LL 1-1	Revise Procedure Y70-160, *Criticality Safety Approval System*, Training Module 8836, *Nuclear Criticality Safety Training for Y-12 Supervisors*, and Procedure Y50-66-CS-325, *Nuclear Criticality Safety Analysis, Approval, and Control System.*		22 MAY 95
ACTION LL 1-2	Additional changes in the CSA process have been made to improve clarity and conciseness of CSA requirements. RSS related CSAs have been revised. Revise Procedure Y70-160.	RSS RESTART	28 AUG 95
ACTION LL 1-3	Develop new OSRs for RSS facilities and submit to DOE for approval.		8 MAY 95
LESSON LEARNED 2	The compliance methodology must be clearly articulated in CSAs/OSRs.		
ACTION LL 2-1	Develop and implement a CSA verification and validation process and a CSA implementation process to ensure compliance with the newly revised CSA administrative standards. These are procedurally controlled by Y70-01-150 (DSO) and Y70-37-19-071 (EUO).		22 MAY 95
LESSON LEARNED 3	Operating and technical support personnel must understand safety implications which require strict compliance with CSAs/OSRs.		
LESSON LEARNED 4	There must be an auditable path from CSA/OSR requirements to documentation which demonstrates compliance.		
ACTION LL 4-1	Issue a standing order by the DSO Manager identifying the required compensatory measures when using procedures that do not incorporate CSA requirements. (Action 3-4 addresses the long term corrective actions.)		22 MAY 95

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE I

N.1.2: CORRECTIVE ACTION PLAN FOR LMES EVALUATION OF CRITICALITY SAFETY PROGRAM AND CSA/OSRs. (LMES Report Y/NO-00002)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
LESSON LEARNED 5	An implementation plan which permits continuous compliance with effective CSAs/OSRs is required for new and revised CSAs/OSRs.		
ACTION LL 5-1	Revise Procedure Y70-160 to provide a period for implementation of new or revised CSAs.	RSS RESTART	28 AUG 95
ACTION LL 5-2	Develop and approve surveillance procedures for the five new RSS OSRs. Conduct training and perform these procedures. Ensure operability of all required OSR-related systems and components before the OSRs become effective.		23 MAY 95
LESSON LEARNED 6	CSA/OSR noncompliances must be reported immediately.		
ACTION LL 6-1	Conduct awareness and Lessons Learned training on importance of following procedures and management expectations for nuclear operations personnel.		22 MAY 95
ACTION LL 6-2	Organizations responsible for OSR compliance develop and approve specific procedures that provide guidance for completing LCO actions when equipment does not meet LCO requirements. (Required by RSS resumption POA)		JUN 95
LESSON LEARNED 7	Facilities and operations involving CSAs/OSRs must be controlled to meet the expectation that activities are performed within the approved safety basis.		
ACTION LL 7-1	Implement a rigorous conduct of operations program through the RSS resumption POA and the 94-4 Implementation Plan. A specific detailed schedule coordinating implementation and assessment is part of the RSS resumption.	RSS RESTART	19 SEP 95
Y/NO-00002 SECTION 3	CONTINUED IMPLEMENTATION OF THE UPGRADE PROGRAM (Note: Continued implementation of the upgrade programs will be influenced by the assessments and CAPs resulting from the execution of Tasks 2-5 of the 94-4 Implementation Plan.)		

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE I

N.1.2: CORRECTIVE ACTION PLAN FOR LMES EVALUATION OF CRITICALITY SAFETY PROGRAM AND CSA/OSRs. (LMES Report Y/NO-00002)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 3-1	LMES management apply the programmatic corrections described in Section 2 of Y/NO-00002 throughout the resumption process for Y-12 nuclear operations. (Based on restart of EUO)	SEP 98	
ACTION 3-2	Upgrade the OSRs and CSAs for continuing nuclear operations to the new standards.	TBD TASKS 2/3 CAPs	
ACTION 3-3	Upgrade the CSAs and OSRs for each subsequent mission area prior to resumption of normal operations. a - RSS, b - DUO, c - D&A	PRIOR TO EACH MISSION AREA RESTART	a - 21 SEP 95 b - N/A c - 22 MAR 96
ACTION 3-4	Complete new operating procedures incorporating revised CSA requirements	TBD TASK 4 CAP	JUN 96
ACTION 3-5	Develop a configuration management system to supplement or replace the change control and document control processes in place for resumption.	MAR 97	
ACTION 3-6	Develop a standard describing the process for writing OSRs at Y-12.	JUN 95	28 JUL 95
ACTION 3-7	Upgrade individual OSRs as required by Phase II of the Safety Analysis Report Update Program (SARUP) refinement of their technical basis.	PHASE II SARUP SCHEDULE	
ACTION 3-8	Develop and implement the Nuclear Criticality Safety Improvement Program (NCSIP) to support 94-4 Implementation Plan Tasks 2 and 3.	94-4 TASK 2 & 3 ASSESSMENT DATES	30 NOV 96*

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE II

N.2.2: CORRECTIVE ACTION PLAN FOR ORO ROLE IN Y-12 INCIDENT.
(ORO R.J. Spence Memorandum dated 28 April 95)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 1-1	Performance Indicators and Analyses: Review existing monthly data to determine if new performance indicators should be added or old ones deleted. Review completed and recommended changes forwarded for processing as outlined in attachment 1 to Spence memo.	VARIOUS THRU NOV 95	28 SEP 95
ACTION 1-2 / 1-3	Distribution of performance indicators is limited. Update and expand the distribution list. Distribute over LAN.		31 MAR 95
ACTION 2-1	ORO oversight not consistently challenging laxity: Develop a Conduct of Operations self-study course which would emphasize attention to detail and the standards based approach.	JUN 95	30 JUN 95
ACTION 2-2	Modify ORO appraisal training to include conduct of operations as the responsibility of everyone.	AUG 95	28 JUL 95
ACTION 3-1	Inadequate staffing of the Facility Representative (FR) Program at YSO. Hire six more FRs.		3 APR 95
ACTION 4-1	Facility Representatives were unsure as to their shutdown authority. Issue ORO wide policy on shutdown authority.		6 OCT 94
ACTION 4-2	Facility Representatives were unsure as to their shutdown authority. Revise YSO procedure 1.6		13 DEC 94
ACTION 5-1	Incorporating Conduct of Operations into ORO internal value system requires upper management support. Brief Senior Management Board on Conduct of Operations.	AUG 95	22 AUG 95
ACTION 6-1	ORO must improve its ability to anticipate problem areas and conduct subsequent mitigation planning. Develop issues management tracking system and program.	SEP 95	28 AUG 95
ACTION 7-1	HQ funding and support to implement conduct of operations must be adequate. This will be evaluated as part of Task 4 to the 94-4 Implementation Plan.	NOV 95	8 NOV 95

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE III

N.2.4 (b): CORRECTIVE ACTION PLAN FOR ADDRESSING DP-24 LINE MANAGEMENT ISSUES ASSOCIATED WITH ITS ROLE AT Y-12.
(D. Rhoades Memorandum dated 30 June 95)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
SECTION A	FUNCTIONS, ASSIGNMENTS, AND RESPONSIBILITIES		
ACTION A.1	FAR compliance. DP-24 continue to monitor progress in addressing noncompliances with the FAR Manual as identified by the ongoing DP-31 assessment.		ONGOING
ACTION A.2	Monitor revisions to the Defense Programs Operations Manual (DPOM) as promulgated by DP-40.		ONGOING
ACTION A.3	Carry out management and oversight activities specified in Chapter 7 of the DP-24 Process Manual.		30 JUN 95
SECTION B	NUCLEAR SAFETY ISSUES		
ACTION B.1	DP-24 establish a Site Assistance Team to conduct assistance visits to Defense Programs sites including Y-12.		30 JUN 95
ACTION B-2	Develop an issue database for the DP-24 Action Tracking System that includes issues from assist visits, audits and assessments performed at Y-12, SRS Tritium Facility, and Pantex.	OCT 95	31 OCT 95

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE III

N.2.4 (b): CORRECTIVE ACTION PLAN FOR ADDRESSING DP-24 LINE MANAGEMENT ISSUES ASSOCIATED WITH ITS ROLE AT Y-12.
(D. Rhoades Memorandum dated 30 June 95)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
SECTION C	BUDGET PROCESS		
ACTION C-1	Develop office procedures which assure that ES&H measures are incorporated during the planning for activities involving stockpile support facility operations. (DP-24 Process Manual, Section 5.1)		MAR 95
ACTION C-2	Establish an Integrated Multi-Year Program Plan to implement guidance and direction for programmatic execution of the National Security Strategic Plan (NSSP).		30 JUN 95
ACTION C-3	Conduct program reviews on selected issues at each nuclear weapons facility on a quarterly basis.		30 JUN 95
SECTION D	DP-24 PROCESS MANUAL		
ACTION D-1	Complete development of the Process Manual.	NOV 95	APR 96
ACTION D-2 (a)	Develop and implement a training program on the Process Manual for DP-24 management and staff.	NOV 95	APR 96
ACTION D-2 (b)	Complete training for all DP-24 personnel on the Process Manual.	JAN 96	SEP 96

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE IV

N.3.1: LMES ASSESSMENT OF THE CURRENT CONDUCT OF OPERATIONS POSTURE INCLUDING PROPOSED NEAR-TERM CORRECTIVE AND/OR COMPENSATORY ACTIONS. (LMES Report Y/NO-00003)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
Y/NO-00003 SECTION 3	NEAR TERM ACTIONS THAT ADDRESS THE ROOT CAUSE		
ACTION 3-1	All OSRs, CSAs, and implementing primary procedures supporting the RSS Mission Area are in the final phase of approval. Complete the approval process. (para. 3.2.2)	RSS RESTART	21 SEP 95
ACTION 3-2	Employee training on all revised procedures will be completed shortly after approval. Train employees. (para. 3.2.2)	RSS RESTART	21 SEP 95
ACTION 3-3	Issue revised OSRs, CSAs, and implementing primary procedures. (para. 3.2.2)	RSS RESTART	21 SEP 95
ACTION 3-4	Upgrade surveillance procedures supporting the initial resumption Mission Area. (para. 3.3.1)		25 MAY 95
ACTION 3-5	Revise the procedure use categorization process. (para. 3.4.1)		25 MAY 95
ACTION 3-6	Properly categorize existing operating and surveillance procedures in resumption mission area and train personnel to the new definitions-of-use. (para. 3.4.2) a - RSS, b - DUO, c - D&A	PRIOR TO EACH MISSION AREA RESTART	a - 21 SEP 95 b - 29 SEP 95 c - 22 MAR 96
ACTION 3-7	Upgrade the procedure verification and validation process. (para. 3.4.3)		25 MAY 95
ACTION 3-8	Develop a Conduct of Operations Manual with sections of the manual to be issued in accordance with an implementation plan schedule to support RSS. (para. 3.5)	RSS RESTART	21 SEP 95
ACTION 3-9	Operations Areas will be defined to manage operations and maintain safety envelope integrity. The Operations Area for Bldg 9212 has been established and described in Chapter 1 of the Conduct of Operations Manual. Identify remaining Operations Areas. (para. 3.6.1) a - RSS, b - DUO, c - D&A	PRIOR TO EACH MISSION AREA RESTART	a - 21 SEP 95 b - 29 SEP 95 c - 22 MAR 96

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE IV

N.3.1: LMES ASSESSMENT OF THE CURRENT CONDUCT OF OPERATIONS POSTURE INCLUDING PROPOSED NEAR-TERM CORRECTIVE AND/OR COMPENSATORY ACTIONS. (LMES Report Y/NO-00003)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 3-10	Four new positions are being established that will directly impact conduct of operations practices: Operations Manager, Shift Manager, Shift Administrative Assistant, and Shift Technical Advisor. Fill these positions. (para. 3.6.2) a - RSS, b - DUO, c - D&A	PRIOR TO EACH MISSION AREA RESTART	a - 21 SEP 95 b - 29 SEP 95 c - 22 MAR 96
ACTION 3-11	Develop and implement a training program for Shift Technical Advisors (STA). (para. 3.6.2)	SEP 96	31 DEC 96*
ACTION 3-12	Develop a detailed and formalized self-assessment program to promote management identification of weaknesses in conduct of operations performance. (para. 3.7.1)	JAN 96	EUO PILOT JAN 96
ACTION 3-13	Develop and implement conduct of operations performance measures which will provide management with clear trends and a basis for corrective actions. (para. 3.7.1) a - RSS, b - DUO, c - D&A	PRIOR TO EACH MISSION AREA RESTART	a - 21 SEP 95 b - 29 SEP 95 c - 22 MAR 96
ACTION 3-14	For the RSS Mission Area, resumption supporting activities have been incorporated into a detailed logic driven integrated schedule. Remaining Mission Area Managers develop their integrated schedules. (para. 3.7.4) a - RSS, b - DUO, c - D&A	PRIOR TO EACH MISSION AREA RESTART	a - 21 SEP 95 b - 29 SEP 95 c - 22 MAR 96
Y/NO-00003 SECTION 4	LONG TERM ACTIONS THAT ADDRESS THE ROOT CAUSE		
ACTION 4-1	Expand the staff to the Manager, Nuclear Operations to provide him direct staff support in matters impacting on conduct of operations practices. (para. 4.1)	DEC 95	1 OCT 95
ACTION 4-2	Assign an Assistant Manager to each Operations Manager (Depleted Uranium, Disassembly and Storage, and Enriched Uranium). (para. 4.1.1)	DEC 95	1 OCT 95

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE IV

N.3.1: LMES ASSESSMENT OF THE CURRENT CONDUCT OF OPERATIONS POSTURE INCLUDING PROPOSED NEAR-TERM CORRECTIVE AND/OR COMPENSATORY ACTIONS. (LMES Report Y/NO-00003)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 4-3	Hire for a newly approved position titled Qualification and Procedures Manager, who will ensure all department procedures are current and all affected employees are current in their respective qualification. (para. 4.1.2)		JUN 95
ACTION 4-4	Establish and fill a new position called Program Support Manager to coordinate key activities that influence implementation of a conduct of operations program. (para. 4.1.3)		25 MAY 95
ACTION 4-5	Establish a continuing training program that will ensure that proficiency and requalification are performed in accordance with DOE Order 5480.20A. (para. 4.2.2)	TBD 94-4 TASK 5 CAP & 5480.20 TIM	31 DEC 96*
ACTION 4-6	Implement and integrate administrative processes for configuration control, work control, document control, and other site-wide processes. (para. 4.3.3)	MAR 97	
ACTION 4-7	Train line managers to assess conduct of operations performance by observations/evaluations at the working level. (para. 4.4.1)	JAN 96	31 JAN 96

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE V

5.3: DOE 94-4 IMPLEMENTATION PLAN COMMITMENT 5.3 TRAINING PROGRAM ACTION PLAN.

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
SECTION II	HEADQUARTERS, DP-24, ACTION PLAN		
1. DP-24 line management ownership and commitment to training need to be strengthened.			
T5-HQ-1	Designate a DP-24 training driver to aggressively implement the Technical Qualification Program.	DEC 95	DEC 95
T5-HQ-2	Assign DP-24 Y-12 Team staff to a technical functional area (vs. technical manager) to provide a technically stronger team and simplify the overall process.	DEC 95	8 DEC 95
T5-HQ-3	Ensure managers include specific goals and training requirements of the staff in the employee's IDPs. a) identify needed competencies; b) evaluate existing equivalencies and completion of competencies; c) identify formal training to meet competencies; and d) identify professional goals.	 DEC 95 MAR 96 JUN 96 JUN 96	 8 DEC 95 APR 96 JUN 96
SECTION III	OAK RIDGE, Y-12 SITE, ACTION PLAN		
1. Line management ownership and commitment to training need to be strengthened.			
T5-ORO-1a	TDD should report directly to the ORO Manager/Deputy Manager.		No action proposed
T5-ORO-1b	A proactive TDD technical training specialist should be matrixed to YSO and should report directly to the YSO Manager.	OCT 95	31 OCT 95
T5-ORO-1c	ORO should designate a lead senior technical manager and technical representatives from all ORO line organizations to work together and be responsible for providing direction and guidance to TDD and line staff for effective and efficient implementation of 93-3.		No action proposed

ATTACHMENT C: CORRECTIVE ACTION TRACKING

TABLE V

5.3: DOE 94-4 IMPLEMENTATION PLAN COMMITMENT 5.3 TRAINING PROGRAM ACTION PLAN.

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
T5-ORO-1d	YSO line management should formally identify training needs and hold TDD accountable for specific deliverables. This is normally accomplished by a training plan developed by the technical line management with input from TDD.	ONGOING	ONGOING
2. TDD needs to be aggressive in identifying and supporting line management needs.			
T5-ORO-2a	Provide a matrixed technical training specialist to report full time to the YSO Manager.	OCT 95	31 OCT 95
T5-ORO-2b	Develop technical training materials in support of line management needs for self-study and on-the-job training.		ONGOING
T5-ORO-2c	Develop and present formal performance-based training.		ONGOING
T5-ORO-3	YSO, with support from TDD, needs to expedite development of site-specific training for Facility Representatives and technical support personnel. (While a more aggressive schedule is being pursued, this effort is heavily dependent on resource availability.)	MAY 98 (Based on 93-3 commitment)	
T5-ORO-4	YSO needs to provide timely follow-up and closure of deficiencies and commitments from the contractor to ensure improvement is continually achieved. (Develop and implement a deficiency tracking system.)	DEC 95	4 JAN 96
T5-ORO-5	YSO needs to define and implement Facility Representative roles and responsibilities during an emergency.	NOV 95	15 DEC 95
T5-ORO-6	The Restart Team including the Facility Representatives needs to be reconfigured into an Operations Branch reporting directly to the YSO Manager following resumption of operations.	LAST RESTART	

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2.3: CORRECTIVE ACTION PLAN FOR TASK 2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
	NUCLEAR CRITICALITY SAFETY		
F02	LMES is not performing a formalized root cause analysis for repetitive nuclear criticality safety (NCS) deficiencies. This finding is supported by discussion related to the following issues: Issue 1: A formal Root Cause Analysis is not always performed and/or documented for criticality safety deficiencies. This is particularly evident for repetitive or generic deficiencies. This may lead to the identification of incorrect corrective actions. Issue 2: The corrective action procedure utilizes predetermined root cause codes which inherently discourage the use of independent analysis. Issue 3: the principle probable cause identified in the Type-C investigation does not appear to have a corresponding corrective action.		
ACTION 1	Using a team of operations managers, NCS managers, procedure managers, and DOE Site Office personnel, benchmark other NCS programs in the DOE complex (minimum of 3).	FEB 96	8 MAR 96
ACTION 2	Prepare a trip report from benchmarking trips	FEB 96	8 MAR 96
ACTION 3*	From trip report, develop needed improvement areas and approach. This NCS Improvement Plan needs to consider at a minimum the following: (1) response to incidents and nonconformances, and the proper level of response invoked by procedures; (2) coordinate with Quality Organization to determine when to perform a root cause analysis for repetitive or generic trends related to NCS or CSA deficiencies; and (3) development of a proceduralized trending program. (Revision 1a) Develop an implementation plan to execute the NCS Improvement Plan specifics. Include any phasing of changes and any required retraining/requalification needed. (Note: Specific action assignments will involve tasking of facilities to execute requirements. This corrective action plan may require update after the completion of F02 Action 3.) (Original Action 5)*	APR 96 NOV 96*	JUN 96 30 NOV 96*
ACTION 4	Incorporate threshold criteria for performing root cause analysis in QA-16.1, Corrective Action Program.	APR 96	29 APR 96
ACTION 5*	Review and revise root cause procedure to include description of appropriate root cause methods, including TapRoot analysis.	JUN 96	28 JUN 96

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(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 6*	Conduct a TapRoot analysis of the September 22, 1994, event as noted in the Type-C investigation. Develop corrective action plan based on results of root cause analysis. Review the root cause identified in Y/DD-679.	**JUN 96**	**28 JUN 96**
ACTION 7*	Based on the NCS Improvement Plan and as scheduled in the implementation plan, draft needed changes to procedures/new procedures to improve the noted area.	FEB 97	
ACTION 8*	Forward copy of site manual/new procedures to DOE Site Office.	MAR 97	
ACTION 9*	Develop a plant group (similar in composition to benchmarking group) to assess effectiveness of implementation plan.	MAY 97*	
F11	Postings do not specify limits on control parameters or explicitly identify allowed material.		
ACTION 1	Using a team of operations managers, NCS managers, procedure managers, and DOE Site Office personnel, benchmark other NCS programs in the DOE complex (minimum of 3).	FEB 96	8 MAR 96
ACTION 2	Prepare trip report from benchmarking trips.	FEB 96	8 MAR 96
ACTION 3*	From trip report, develop needed improvement areas and approach. This NCS Improvement Plan needs to consider at a minimum the following: (1) review use of postings as operator aids and (2) requirements of American National Standards Institute (ANSI) 8.1, Section 4.1.4, that postings shall be maintained specifying material identification and all limits that are subjected to procedural control. (Revision 1a) Develop an implementation plan to execute the NCS Improvement Plan specifics. Include any phasing of changes and any required retraining/requalification needed. (Note: Specific action assignments will involve tasking of facilities to execute requirements. This corrective action plan may require update after the completion of Action 3.) (Original Action 4)*	NOV 96*	30 NOV 96*
ACTION 4*	Based on the NCS Improvement Plan and as scheduled in the implementaion plan, draft needed changes to procedures/new procedures to improve noted area.	FEB 97	

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(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 5*	Provide training to NCSD personnel on revised requirements for NCS postings.	MAR 97	
ACTION 6*	Forward copy of site manual/new procedures to DOE Site Office.	MAR 97	
ACTION 7*	Develop a plant group (similar in composition to benchmarking group) to assess effectiveness of implementation plan.	MAY 97	
F14	LMES has not explicitly identified associated limits for controlled parameters in criticality safety analyses.		
ACTION 1	Using a team of operations managers, NCS managers, procedure managers, and DOE Site Office personnel, benchmark other NCS programs in the DOE complex (minimum of 3).	FEB 96	8 MAR 96
ACTION 2	Prepare trip report from benchmarking trips.	FEB 96	8 MAR 96
ACTION 3*	From trip report, develop needed improvement areas and approach. This NCS Improvement Plan needs to consider at a minimum the following: Determine the interpretation of ANSI/ANS-8.19-1984, Section 8.3, concerning the "explicit" identification of associated limits for controlled parameters in criticality safety analysis. Ensure requirements are clearly identified from controlled parameters in the analyses. Ensure that these requirements are included in the CSAs to support the controls identified in the analysis. Identify the explicit controls and requirements relied upon for double contingency in criticality safety analyses. Process to quickly revise current CSAs, including a method to document the incorporated revisions. Operations validation and verification of CSA requirements. (Revision 1a) Develop an implementation plan to execute the NCS Improvement Plan specifics. Include any phasing of changes and any required retraining/requalification needed. (Note: Specific action assignments will involve tasking of facilities to execute requirements. This corrective action plan may require update after the completion of Action 3.) (Original Action 4)*	NOV 96*	30 NOV 96*

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(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 4*	Based on the NCS Improvement Plan and as scheduled in the implementaion plan, draft needed changes to procedures/new procedures to improve noted area.	FEB 97	
ACTION 5*	Forward copy of site manual/new procedures to DOE Site Office.	MAR 97	
ACTION 6*	Develop a plant group (similar in composition to benchmarking group) to assess effectiveness of implementation plan.	MAY 97	
	OPERATIONS/NUCLEAR CRITICALITY SAFETY		
F13	Thirty-two identified areas requiring CSAs in Enriched Uranium Operations do not have CSAs in place.		
ACTION 1	Review enriched uranium operations to identify areas requiring CSAs that are missing CSAs per Y70-150.	MAY 96	AUG 96
ACTION 2	Issue CSAs for those dynamic continuing operation areas that are missing CSAs. [Note: Dynamic fissile material activities are defined as those which (1) require operator movement of fissile materials when actions are taken according to the CSA and/or the existing operating procedure; or (2) the processes/systems induce the movement of fissile material without operator intervention; or (3) surveillances and/or inspections are required by the CSA. Dynamic activities may be categorized as dynamic-deferred activities upon evaluation of risk. Static activities are ongoing but the systems/processes are not changing (e.g. fissile material storage arrays).]	AUG 96	24 OCT 96*
ACTION 3	For static continuing operation areas, dynamic-deferred continuing operation areas, and noncontinuing operation areas, formally document the safety basis with peer review (via a "white paper").	DEC 96*	2 DEC 96*

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 4	Complete development of the NCS Improvement Plan that is to include the following: (1) Define the standard for when a criticality safety analysis is needed and how it is obtained. This standard must comply with ANSI 8.1. (2) Define who is responsible for implementation of the nuclear criticality safety standards, how they are held accountable, and acceptable compensatory actions if compliance with the standards cannot be maintained (e.g. mechanism for deviation without necessarily revising the CSA). (3) Define how to make modifications to procedures and policies if standard changes are required.	NOV 96*	30 NOV 96*
F16	Operations for Special Nuclear Material (SNM) Vehicle Transport requiring CSAs are not covered by Class 1 or Class 2 procedures.		
ACTION 1	Replace procedure Y20-NM-01-09-002 with a Y50-series technical procedure which will fully comply with the current revision of Y10-102. (Note: All fissile material movements are now required to be covered by Class 1 or Class 2 technical procedures per Y10-102.)	FEB 96	19 FEB 96
ACTION 2	Complete a critique of the incident(s) which lead to F16 and the initial response to the finding. Develop additional corrective actions as required.	MAR 96	29 MAR 96
F20	LMES has not performed a CSA requirement for the Building 9215 machine shop coolant system nor has LMES properly authorized the deviation.		
ACTION 1	Walkdown Enriched Uranium Operations (EUO) continuing operations CSAs to identify deficiencies.	JAN 96	31 JAN 96
ACTION 2	Correct the deficiencies using approved methods.	OCT 96	2 OCT 96*
ACTION 3	Coordinate with NCSD to perform redline change to CSA 15104.	AUG 96	1 AUG 96*
ACTION 4	Complete development of the NCS Improvement Plan that is to include the awareness of the NCS Department personnel regarding evaluation and documentation of the NCS issues.	NOV 96*	30 NOV 96*

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 5	Perform a review of EUO equipment prior to restart for holdup. (Revision 1a) (Note: This action is intended to be performed just prior to resumption to ensure start-up with clean equipment. Adjustment of this date may be required to support resumption schedule based on the pilot projects that are currently ongoing. Currently required hold-up monitoring is being performed.)*	JAN 98	
	FIRE PROTECTION		
F07	Nuclear Criticality Safety Guidelines for Fire Fighting in MAAs provides only general guidance and appears as a boiler-plate common attachment (or appendix) to all prefire plans.		
ACTION 1	Issue a Special Instruction for firefighting in moderation control areas; obtain NCSD technical review and written analysis/approval of the Special Instruction.	FEB 96	22 FEB 96
ACTION 2	Submit request for additional resources for the review and update of prefire plans. (Note: When resources are allocated, develop a prioritized schedule to update prefire plans and communicate results to the DOE Site Office.)	FEB 96	22 FEB 96
ACTION 3	Develop a lesson plan from the Special Instruction; obtain NCSD review/approval of the lesson plan; complete training.	MAR 96	16 APR 96
ACTION 4	Review Y50-50-409 and either revise or issue new command media in coordination with the NCSD to match how prefire plans are prepared. Ensure command media has clear and concise steps and includes firefighting requirements for exhaust systems.	JUN 96	14 AUG 96*
ACTION 5	Assist the NCSD as subject-matter experts (SMEs) in firefighting with developing a section to the sitewide NCS Manual/Procedure that provides guidance to implement/comply with DOE 5480.24, Section 7.f requirements. This action supports NCSD's corrective actions for F02.	JUN 97	
ACTION 6	Update existing prefire plans and train to updated plans in accordance with the sitewide NCS procedural requirements.	SEP 97	

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
	LESSONS LEARNED		
F08	LMES' lessons learned program is deficient in measuring operational improvement and program effectiveness and in integrating the program throughout the management chain and across functional areas for nuclear criticality safety.		
ACTION 1	Define line and staff organizations management responsibilities for identifying, evaluating, and sharing lessons learned.	APR 96	15 APR 96
ACTION 2	Identify lessons learned dissemination approaches.	APR 96	15 APR 96
ACTION 3	Reevaluate and reidentify realistic, internal clearinghouse activities to identify lessons learned.	APR 96	15 APR 96
ACTION 4*	(Revision 1a) Identify feedback mechanisms for utilization and application of Lessons Learned information, e.g., procedural changes based on lessons, required reading status, and incorporation of lesson information in training programs. (Note: This action should have been included as part of the original CAP, but was inadvertently left out. It was, however, entered in ESAMS with original CAP actions and has been tracked with original actions.)*	APR 96*	15 APR 96*
ACTION 5*	Revise Lessons Learned Procedure, QA-16.3, to incorporate management, line, and staff responsibilities and dissemination approaches identified in associated action plan actions. (Note: QA-16.3 is being replaced with QA-331, *Lessons Learned Program.*)*	AUG 96	30 SEP 96*
ACTION 6*	Communicate responsibilities as defined in procedure revision.	NOV 96*	
ACTION 7*	Review implementation of QA-331, *Lessons Learned Program.**	MAR 97	
F15	LMES has not fully addressed examples of Lessons Learned from other sites (Rocky Flats B-771, Sequoyah Fuels Corp., Pantex facility, and Los Alamos National Laboratory TA-55 facility). See Appendix F of Task 2 Assessment Plan, Rev 1, October 1995.		
ACTION 1	Review events cited in finding for potential lessons learned and issue lessons learned as applicable.	APR 96	20 JUN 96

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 2	Define line and staff organizations management responsibilities for identifying, evaluating, and sharing lessons learned.	APR 96	15 APR 96
ACTION 3	Identify lessons learned dissemination approaches.	APR 96	15 APR 96
ACTION 4	Reevaluate and reidentify realistic, internal clearinghouse activities to identify lessons learned.	APR 96	15 APR 96
ACTION 5*	(Revision 1a) Identify feedback mechanisms for utilization and application of Lessons Learned information, e.g., procedural changes based on lessons, required reading status, and incorporation of lesson information in training programs. (Note: This action should have been included as part of the original CAP, but was inadvertently left out. It was, however, entered in ESAMS with original CAP actions and has been tracked with original actions.)*	APR 96*	15 APR 96*
ACTION 6*	Revise Lessons Learned Procedure, QA-16.3, to incorporate management, line, and staff responsibilities and dissemination approaches identified in associated action plan actions. (Note: QA-16.3 is being replaced with QA-331, *Lessons Learned Program.*)*	AUG 96	30 SEP 96*
ACTION 7*	Communicate responsibilities as defined in procedure revision.	NOV 96*	
ACTION 8*	Review implementation of QA-331, *Lessons Learned Program.**	MAR 97	
	TRAINING		
F17*	Maintenance, radiation control, technical support, and others who may direct or instruct operators do not receive sufficient training on the new and revised criticality safety approvals for unattended work in key areas. This finding is now addressed by the 94-4 Task 5 Corrective Action Plan Section 4.3. Facility specific training will be included in the qualification programs for support personnel.*		
C18	Current training has not yet produced a safety culture among workers that prevents criticality safety deficiencies and ensures proper response if deficiencies occur.		

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 1*	(Revision 1a) Necessary elements for establishing the required safety culture are embodied in the 94-4 Task 4 and Task 5 CAPs. Establishment of ConOps program standards, ConOps training, and implementation are all addressed in the Task 4 CAP. Training and Qualifications are addressed in the Task 5 CAP. Activities related to resumption of nuclear operations are also under way that enhance the development of the required safety culture. Y-12 procedures Y70-150, Y70-160, and Y70-66-CS-327 are being revised to provide strategic direction on criticality safety requirements which will enhance the safety culture in this area. Assess the effectiveness of these actions under the Self Assessment Program per section I.D of the 94-4 Task 4 CAP, Rev 1.*	Task 4 CAP* (Pages 5-7) Task 5 CAP*	N/A*
	OPERATIONAL SAFETY REQUIREMENTS (OSRs)		
F06	OSRs or Technical Safety Requirements (TSRs) have not been approved (or developed) for Buildings 9720-33 and 9995. None of these buildings have DOE approved Safety Analysis Reports (SARs).		
ACTION 1	Review the 1027-92 hazard category for Building 9720-33 and confirm the facility is not a nuclear facility.	FEB 96	9 FEB 96
ACTION 2	Per the current implementation plan schedule for DOE Orders 5480.22 and 5480.23, submit the Building 9995 SAR.	NOV 96*	18 NOV 96*
ACTION 3	(Revision 1a) Submit a revision to the Y-12 input for the Implementation Plan for DOE Orders 5480.22 and 5480.23. (Note: This plan will indicate task durations and cost estimates, but will not include specific start and completion dates. Also, the 9212 portion of this action will not be delivered at this date, due to the expanded development of the 9212 BIO/OSR for restart.) [Action 4 addresses supplemental documentation concerning schedule dates.]* Bldg. 9212 portion of this action.*	SEP 96* (Partial) DEC 96*	1 OCT 96* 31 DEC 96*

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2.3: CORRECTIVE ACTION PLAN FOR TASK 2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 4	(Revision 1a) Provide a supplement to the Y-12 input for the Implementation Plan for DOE Orders 5480.22 and 5480.23. This supplement will identify projected start and completion dates associated with upgrade of the Y-12 Summary of Safety Bases to be compliant with 5480.23/22. The costs associated with the schedules provided in this supplement will be submitted via funding requests in the Y-12 budget process.	MAR 97*	
ACTION 5*	Prepare SAR for Building 9720-5*	SEP 97*	
F09	Problems exist with (1) safety analyses and authorization bases to support safety and other important programs throughout Y-12, (2) clarity of safety bases for newly approved OSRs, (3) quality of OSRs for Enriched Uranium Operations, and (4) implementation of OSRs with respect to criticality safety. The absence of a systematic analysis and hazards review results in a poorly defined safety envelope. The current system may lead to violations of OSRs and DOE requirements, even if facility safety is not significantly threatened.		
ACTION 1	(Revision 1a) Submit a revision to the Y-12 input for the Implementation Plan for DOE Orders 5480.22 and 5480.23. (Note: This plan will indicate task durations and cost estimates, but will not include specific start and completion dates. Also, the 9212 portion of this action will not be delivered at this date, due to the expanded development of the 9212 BIO/OSR for restart.) [Action 4 addresses supplemental documentation concerning schedule dates.]*	SEP 96* (Partial)	1 OCT 96*
	Bldg. 9212 portion of this action.*	DEC 96*	31 DEC 96*

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2.3: CORRECTIVE ACTION PLAN FOR TASK 2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 2	(Revision 1a) Issue to Y-12 Site Office for review the Y-12 Summary of Safety Bases. (Note: This will not be fully compliant with DOE Orders 5480.23/22 when issued [i.e. it will be a compilation of existing safety documentation with no new analysis performed], but will serve as a framework for future improvements. Also, the 9212 portion of this action will not be delivered at this date, due to the expanded development of the 9212 BIO/OSR for restart.)* Bldg. 9212 portion of this action.*	SEP 96 (Partial)* DEC 96*	1 OCT 96* 31 DEC 96*
ACTION 3	(Revision 1a) Submit Basis for Interim Operations (BIOs) for nuclear facilities for review and approval to DOE. BIOs submitted to DOE on schedule, but were rejected. Resubmission schedule:* a. Bldg. 9204-4 b. Bldgs. 9201-5; 9201-5N/W; 9204-2E; and 9720-5 c. Bldgs. 9212 and 9215 d. Bldgs. 9206 and 9720-12 e. Bldg. 9720-18	a. - AUG 96* b. - SEP 96* c. - OCT 96* d. - NOV 96* e. - JAN 97*	a. - 31 AUG 96* b. - 30 SEP 96* c. - 31 OCT 96 (9212)* d. - e. -
ACTION 4	(Revision 1a) Provide a supplement to the Y-12 input for the Implementation Plan for DOE Orders 5480.22 and 5480.23. This supplement will identify projected start and completion dates associated with upgrade of the Y-12 Summary of Safety Bases to be compliant with 5480.23/22. The costs associated with the schedules provided in this supplement will be submitted via funding requests in the Y-12 budget process.*	MAR 97*	
ACTION 5*	Prepare SAR for Building 9720-5.*	SEP 97*	
C04	OSRs for Buildings 9212 and 9206 should be updated to current DOE requirements prior to resumption of operations in those nuclear facilities.		
ACTION 1	Verify that an RFA exists that requires Category II facilities having new OSRs prior to resumption of operations.	JAN 96	31 JAN 96

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2.3: CORRECTIVE ACTION PLAN FOR TASK 2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1a, YSO letter to D. Rhoades dated October 28. 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
C05	LMES has nuclear facilities (e.g., Buildings 9995, 9202/9203, and 9805) which do not have an approved authorization basis (e.g., no SARs, OSRs, or BIOs).		
ACTION 1	(Revision 1a) Submit a revision to the Y-12 input for the Implementation Plan for DOE Orders 5480.22 and 5480.23. (Note: This plan will indicate task durations and cost estimates, but will not include specific start and completion dates. Also, the 9212 portion of this action will not be delivered at this date, due to the expanded development of the 9212 BIO/OSR for restart.) [Action 2 addresses supplemental documentation concerning schedule dates.]* Bldg. 9212 portion of this action.*	SEP 96* (Partial) DEC 96*	1 OCT 96* 31 DEC 96*
ACTION 2	(Revision 1a) Provide a supplement to the Y-12 input for the Implementation Plan for DOE Orders 5480.22 and 5480.23. This supplement will identify projected start and completion dates associated with upgrade of the Y-12 Summary of Safety Bases to be compliant with 5480.23/22. The costs associated with the schedules provided in this supplement will be submitted via funding requests in the Y-12 budget process.*	MAR 97*	
ACTION 3*	Prepare SAR for Building 9720-5.*	SEP 97*	

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Table VII

3.3: CORRECTIVE ACTION PLAN FOR TASK 3.2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
NCS 2-16	Procedure Y70-01-150 Sect. VI.A.4.d states "actual fissile storage array dimensions shall not exceed CSA dimensions by more than six inches."		
ACTION 1	Using a team of operations managers, NCS managers, procedure managers, and DOE Site Office personnel, benchmark other NCS programs in the DOE complex (minimum of 3).	FEB 96	8 MAR 96
ACTION 2	Prepare trip report from benchmarking trips.	FEB 96	8 MAR 96
ACTION 3	From trip report, develop needed improvement areas and approach. This improvement plan needs to consider at a minimum the incorporation of divisional-level general criticality safety procedures, such as Y70-01-150, into a site-level document controlled by Nuclear Criticality Safety Department (NCSD). (Revision 1) Develop an implementation plan to execute the improvement plan specifics. Include any phasing of changes and any required retraining/requalification needed. (Note: Specific action assignments will involve tasking of facilities to execute requirements. This Corrective Action Plan may require update after the completion of Action 3.)*	NOV 96*	30 NOV 96*
ACTION 4*	Based on review in Action 3 and implementation plan, draft needed changes to procedures/new procedures to improve the noted area.	FEB 97	
ACTION 5*	Forward copy of site manual/new procedures to DOE Site Office.	MAR 97	
ACTION 6*	Develop a plant group (similar in composition to benchmarking group) to assess effectiveness of implementation plan.	MAY 97	
NCS 3-8	Y-12 has not formally identified this noncompliance [criticality controls and limits are included in NCSAs but they have not been included in operating procedures (Y/NO-00009 App. A pg 12)] nor adequately documented corrective actions to meet this requirement for all applicable Y-12 operations/facilities.		
ACTION 1	Issue joint Y-12 Plant/Nuclear Operations letter invoking the compensatory measure required plant wide for criticality related procedures which do not have CSA limits and conditions included.	MAY 96	CANCELED*

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Table VII

3.3: CORRECTIVE ACTION PLAN FOR TASK 3.2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 2	Develop implementation plans for upgrading technical procedures per the new Technical Procedures Writer's Guide, Y10-103, including the addition of applicable safety controls for all organizations that have CSAs (DSO).	MAY 96	#
ACTION 3	Develop implementation plans for upgrading technical procedures..... (Quality Organization).	MAY 96	#
ACTION 4	Develop implementation plans for upgrading technical procedures.....(Analytical Services Organization (ASO)).	MAY 96	#
ACTION 5	Develop implementation plans for upgrading technical procedures.....(Waste management Organization).	MAY 96	#
# Technical procedures for these areas were upgraded as part of restart and/or continued operation activites therefore no separate implementation plans were developed. These items will be closed in ESAMS January 97.*			
ACTION 6	Develop implementation plans for upgrading technical procedures.....(Enriched Uranium Operations Organization).	MAY 96	18 SEP 96*
NCS 3-9B & 3-10	The 9720-5 Warehouse postings for array storage areas do not post the Nuclear Criticality Safety Approval (NCSA) limits. The postings list the applicable NCSA number for that array storage area.		
ACTION 1	Using a team of operations managers, NCS managers, procedure managers, and invited DOE Site Office personnel, benchmark other NCS programs in the DOE complex (minimum of 3).	FEB 96	8 MAR 96
ACTION 2	Prepare trip report from benchmarking trips.	FEB 96	8 MAR 96

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Table VII

3.3: CORRECTIVE ACTION PLAN FOR TASK 3.2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 3	From trip report, develop needed improvement areas and approach. This improvement plan needs to consider at a minimum the following: (1) Review use of postings as operator aids. (2) Requirements of ANSI 8.1, section 4.1.4, that postings shall be maintained specifying material identification and all limits that are subjected to procedural control. (Revision 1) Develop an implementation plan to execute the improvement plan specifics. Include any phasing of changes and any required retraining/requalification needed. (Note: Specific action assignments will involve tasking of facilities to execute requirements. This Corrective Action Plan may be updated after the completion of Action 3.)*	NOV 96*	30 NOV 96*
ACTION 4*	Based on review in Action 3 and implementation plan, draft needed changes to procedures/new procedures to improve the noted area.	FEB 97	
ACTION 5*	Forward copy of site manual/new procedures to DOE Site Office.	MAR 97	
ACTION 6*	Develop a plant group (similar in composition to benchmarking group) to assess effectiveness of implementation plan.	MAY 97	
NCS 3-10	Procedure Y70-01-150, VI.A.4.g , states "Fissile storage arrays shall be conspicuously posted (if required by CSA)".		
ACTION 1	The NCSD conduct a review of Procedure Y70-01-150 for additional cases where exemptions from regulations are annotated.	MAR 96	21 MAR 96
ACTION 2	Revise Procedure Y70-01-150, Section VI.A.4.g, to remove the text "(if required by CSA)" and any additional areas determined by NCSD review as possible exemptions from regulations.	MAY 96	12 JUL 96
NCS 3-15	Supervisor training has not been provided in a programmatic fashion.		
ACTION 1	Using a team of operations managers, NCS managers, procedure managers, and invited DOE Site Office personnel, benchmark other NCS programs in the DOE complex (minimum of 3).	FEB 96	8 MAR 96
ACTION 2	Prepare trip report from benchmarking trips.	FEB 96	8 MAR 96

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Table VII

3.3: CORRECTIVE ACTION PLAN FOR TASK 3.2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 3	From trip report, develop needed improvement areas and approach. This improvement plan needs to consider at a minimum the following: (1) Review of criticality safety training practices to "provide" training for improvement areas, NCSD, operations managers, operations supervisors, support personnel, front line supervisors, and operators. (2) Ensure DOE requirements for training are included in the program. (Revision 1) Develop an implementation plan to execute the improvement plan specifics. Include any phasing of changes and any required retraining/requalification needed. (Note: Specific action assignments will involve tasking of facilities to execute requirements. This Corrective Action Plan will be updated after the completion of Action 3.)*	NOV 96*	30 NOV 96*
ACTION 4*	Based on review in Action 3 and implementation plan, draft needed changes to procedures/new procedures to improve the noted area.	FEB 97	
ACTION 5*	Forward copy of site manual/new procedures to DOE Site Office.	MAR 97	
ACTION 6*	Develop a plant group (similar in composition to benchmarking group) to assess effectiveness of implementation plan.	MAY 97	
NCS 6-34	Instructions are not posted as required by ANS 8.3 and ESS-CS-101 for response to the signals.		
ACTION 1	The NCSD shall verify the requirements of ANSI/ANS 8.3 are properly reflected in the central procedure ESS-CS-101 as invoked by Y70-150.	MAR 96	22 MAR 96*
ACTION 2	Emergency Management shall ensure adequate instructions exist on the physical requirements for evacuation signs. For example, maximum spacing.	MAR 96	10 APR 96

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Table VII

3.3: CORRECTIVE ACTION PLAN FOR TASK 3.2 ASSESSMENT
(LMES letter to R.J. Spence dated January 30, 1996.)
(Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 3	Nuclear Operations shall: (a) Ensure facility compliance with posting requirements stated in paragraphs 1 and 2. (b) Ensure postings are controlled in a program such as operator aids. (c) Ensure evaluation of posting control is incorporated into internal self assessment program for the facilities. (# Per procedure Y70-159, Operations are allowed a maximum of six months from the date of issue (Sep 96) to comply with posting requirements.)	MAR 97#*	
ACTION 4	Waste Management shall: (a) Ensure facility compliance with posting requirements stated in paragraphs 1 and 2. (b) Ensure postings are controlled in a program such as operator aids. (c) Ensure evaluation of posting control is incorporated into internal self assessment program for the facilities.	AUG 96	19 AUG 96*
ACTION 5	The ASO shall: (a) Ensure facility compliance with posting requirements stated in paragraphs 1 and 2. (b) Ensure postings are controlled in a program such as operator aids. (c) Ensure evaluation of posting control is incorporated into internal self assessment program for the facilities.	AUG 96	19 SEP 96*
ACTION 6	Periodically during evacuation drills evaluate effectiveness of evacuation postings.	MAY 96	30 APR 96

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TABLE VIII

4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
I	LMES CONDUCT OF OPERATIONS PROGRAM		
I.A*	CONOPS PROGRAM DOCUMENTATION (This is a "new" section that combines "Standards" and "Tools" into one section. (Revision 1))		
	SUBMIT REQUIRED APPLICABILITY MATRICES		
I.A.1 A66998 A67000 A66999 A67001 A67002 A67003	Submit CONOPS Applicability Matrix to DOE. a. Site b. DSO/DUO (resumed) c. EUO (non-resumed) d. Support e. Balance of Plant	 a - FEB 96 b - MAR 96 c - MAR 96 d - MAR 96 e - JAN 97*	 a - 11 JUL 96 b - 8 MAR 96 c - 19 APR 96 d - SEP 96* e -
I.A.2 A67004	YSO approve Applicability Matrices.	Receipt + 30 days	a - AUG 96 b - 19 JUL 96 c - 8 MAY 96 d - NOV 96* e -
	ISSUE CONOPS MANUAL AND SUPPORTING GUIDANCE		
I.A.3 A67005	Issue draft generic roles and responsibilities of operations (facility) managers, specifically safety and emergency systems, in Conduct of Operations Manual , Chapter 1.	FEB 96	5 JUN 96
I.A.4.a A67006	Issue a Draft Site CONOPS Manual for review and comment. The manual defines the site organization and establishes conduct of operations standards. The manual will be supported by new or revised LMES procedures for those chapters requiring procedural discipline in the execution of the standards.	MAR 96	10 APR 96
I.A.4.b A67007	Approve and issue Site CONOPS Manual.	MAY 96	OCT 96*
I.A.5 A67022	Define fire suppression system and Criticality Accident Alarm System ownership for operations managers.	MAR 96	5 JUN 96

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TABLE VIII

4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
I.B.1 A67023 A67024	Define the specific roles and responsibilities of the Operations Managers in Nuclear Facilities and in Balance of Plant Facilities.*	APR 96	OCT 96*
I.B.2 A67025	Identify the specific zones and facilities at the site to which Operations Managers will be assigned.*	JUN 96	OCT 96*
I.B.3 A67026 A67027	Assign Operations Managers for each Zone/Facility.*	AUG 96	OCT 96*
I.D.1 A67053	Cancel obsolete site-level CONOPS procedures that are superseded by the Site CONOPS Manual. These old procedures are standards whose contents will be "rolled in" as requirements to the manual.	OCT 96*	OCT 96*
I.D.2 A67055	Review any existing site-level CONOPS procedures that will be retained for achieve consistency with the CONOPS Manual; coordinate revision as necessary.*	MAR 97*	
	DEVELOP CONOPS PERFORMANCE INDICATORS		
I.B.4 A67028	Obtain and review examples of CONOPS performance indicators (PIs) used at other sites such as Rocky Flats, SRS, Pantex.	FEB 96	19 MAR 96
I.B.5 A67029	Define PIs for the Site. Establish PIs reported to YSO.	JAN 97*	
I.B.6 A67030	YSO approve proposed PIs to be reported.	FEB 97*	
	DEVELOP REQUIRED REQUESTS FOR APPROVAL		
I.D.3.4.a A67061	Approve RFA # 162 (EUO).	FEB 96	9 MAY 96
I.D.3.5.a A67063	Prepare/submit RFA for QE (supersede COO implementation as defined by the current Standards & Controls Management Plan).	JUL 96	9 JUL 96

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TABLE VIII

4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
I.D.3.5.b A67064	Approve RFA # 165 for QE.	AUG 96	6 AUG 96
I.D.3.6.a A67066	Revise RFA # 161 (Support Organizations).	DEC 96*	
I.D.3.6.b A67069	Approve RFA # 161 (Support Organizations).	JAN 97*	
I.D.3.7.a A67073	Revise RFA # 163 (Balance of Plant).	FEB 97*	
I.D.3.7.b A67076	Approve RFA # 163 (Balance of Plant).	MAR 97*	
I.D.3.8.a A67078	Revise RFA # 164 (Sitewide).	MAR 96	SEP 96*
I.D.3.8.b A67079	Approve RFA # 164 (Sitewide).	NOV 96*	OCT 96*
I.D.3.9 A67081	Cancel RFA # 85 (superseded by RFA 164).	MAR 96	SEP 96*
I.B	TRAINING PROGRAM FOR CONDUCT OF OPERATIONS		
	INITIAL CONOPS TRAINING - Nuclear and Nuclear Support Organizations		
I.C.1 A67031	Prepare line manager CONOPS implementation training for each chapter of the Conduct of Operations Manual.	JUL 96	completed as part of each RESTART*
I.C.2 A67032 A67033 A67034 A67035	Conduct line manager CONOPS implementation training for: a. Resumed Nuclear Operations b. Non-resumed Nuclear Operations c. Support organizations - Canceled see Task 5, TAT 4-1 action 4* d. Balance of Plant organizations - Canceled see Task 5, TAT 4-1 action 4*	a - AUG 96 b - SEP 96 c - Canceled* d -Canceled*	a - MAR 96* b - SEP 96*

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
	ONGOING CONOPS TRAINING - Site-level training for all Organizations This training is based on a program that "flows down" from regularly scheduled awareness sessions conducted by the Vice President through the organization managers, and line managers to all employees on site. These awareness sessions will be structured around the site-level conduct of operations manual.		
I.C.3 A67036	Prepare operator CONOPS implementation training	SEP 96	SEP 96*
I.C.4 A67037 A67039 A67038 A67040	Conduct operator CONOPS implementation training for: a. Resumed Nuclear Operations b. Non-resumed Nuclear Operations c. Support organizations - Canceled see Task 5, TAT 4-1 action 5* d. Balance of Plant organizations - Canceled see Task 5, TAT 4-1 action 5*	a - OCT 96 b - OCT 96 c - Canceled* d - Canceled*	a - MAR 96* b - SEP 96*
I.C.5	Ongoing Floor Training - (Revision 1) - This section has been deleted from the Task 4 CAP. Ongoing training must be integrated with the site-level implementation of 5480.20A. Requirements for on the job training are implemented through the site training and qualification program and will be tracked via the 94-4 Task 5 (Training and Qualification) CAP.		
I.C	CONOPS IMPLEMENTATION		
	IMPLEMENT CONDUCT OF OPERATIONS in the organizations in accordance with the approved Requests for Approval (RFAs). (Note: "Implemented" is defined as having established programs and implementing procedures, personnel have been trained to the procedures, and the procedures are in use in the facility. "Fully implemented" is defined as having a mature CONOPS program and having completed two full cycles of conops assessments in the facility and having corrected deficiencies from the assessments.)*		

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
I.D.3.1 A67058	Implement RFA # 137C* (RSS).	APR 96	15 MAY 96
I.D.3.2 A67059	Implement RFA # 147C* (DUO).	MAR 96	26 APR 96
I.D.3.3 A67060	Implement RFA # 160B* (D&A).	DEC 96	MAY 96*
I.D.3.4.b A67062	Implement RFA # 162 B* (EUO).	NOV 96	6 DEC 96*
I.D.3.5.c A67065	Implement RFA #165 (QE).*	JAN 97	
I.D.3.6.c A67071	Implement RFA # 161A* (Support Organizations).	OCT 97	
I.D.3.7.c A67077	Implement RFA # 163A* (Balance of Plant).	DEC 97	
I.D.3.8.c A67080	Implement RFA # 164A* (Sitewide).	DEC 97	
I.D	CONOPS ASSESSMENT PROGRAM		
	IMPLEMENT A MANAGEMENT SELF-ASSESSMENT PROGRAM FOR CONOPS		
I.E.1.a A67082	Develop standards for a site-wide CONOPS assessment program (based on SRS Management Self-Assessment Program, including lessons learned from the DSO and EUO assessment programs).	NOV 96*	NOV 96*
I.E.2.b A67090	Develop generic cards or checklists for use during management assessments in Nuclear Operations. Assessment cards should include the Elements of 5480.19.*	NOV 96*	NOV 96*
NEW*	Develop generic cards or checklists for use during management assessments in Balance of Plant Facilities. Assessment cards should include the Elements of 5480.19.*	JAN 97*	

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
I.E.3.c A67093	Develop training for line management on performance based assessment techniques.	AUG 96	AUG 96*
I.E.3.d A67094	Train nuclear operations and support line management on performance based assessment techniques.	Cancel - See Task 5, TAT 4.6 action 3*	
I.E.4.b A67097	Nuclear organizations complete initial conduct of operations assessments. (Complete a full cycle of the assessments, e.g. all applicable chapters):* a. Receipt Shipment and Storage b. Disasembly and Assembly c. Depleted Uranium d. Quality Evaluation e. Enriched Uranium	 a - DEC 96* b - DEC 96* c - DEC 96* d - DEC 96* e - DEC 96*	 a - DEC 96* b - DEC 96* c - DEC 96* d - DEC 96* e - DEC 96*
NEW A67097	Nuclear Support organizations complete initial conduct of operations assessments. (Complete a full cycle of the assessments, e.g. all applicable chapters):* a. Plant Shift Superintendent b. FMO - Power Operations c. FMO - Defense Programs d. FMO - Utilities e. Radiological Control Dept. f. Fire Department g. Nuclear Criticality Safety Dept.	 a - AUG 97* b - AUG 97* c - AUG 97* d - AUG 97* e - AUG 97* f - AUG 97* g - AUG 97*	
	IMPLEMENT A SITE-LEVEL ASSESSMENT PROGRAM		
I.E.2.a A67089	Revise Y60-028 to incorporate assessment requirements for 5480.19 and to reference the new Standard on the performance of management assessments of conops implementations.*	SEP 96	SEP 96*
I.E.3.b A67092	Identify who needs to be trained and conduct initial round of training for revised Y60-028.*	MAR 97	

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
I.E.4.a A67095 A67096	Submit assessment plans and schedules for CONOPS assessments in Nuclear Operations and Support organizations per revised Y60-028.*	MAY 97	
I.E.4.f A67101	Complete an independent assessment of compliance with Y60-028.	DEC 97	
I.E.4.g A67102	Revise Y60-028 and guidance if needed based on independent assessment results.*	MAR 98*	
	PERFORM INDEPENDENT ASSESSMENTS OF THE CONOPS PROGRAM		
I.E.1.c A67084	Conduct independent assessment to evaluate the level of COO implementation in NucOps including support organizations.	APR 97*	
I.E.1.e A67086	Revise COO CAP as needed based upon the results of the independent assessments.*	JUL 97*	
I.E.1.f A67087	Conduct site-wide independent assessment to evaluate the level of COO implementation. (Note: The scope of this assessment will be limited to the organizations where CONOPS has been implemented per this CAP.)*	NOV 97*	
I.E.1.g A67088	Revise COO CAP based upon the results of the independent assessments.	MAR 98	
II	ADDITIONAL IMPROVEMENT AREAS		
II.A	TRAINING - The entire section on training and qualification has been moved from the 94-4 Task 4 CAP to the 94-4 Task 5 CAP.		
II.B	DRILL PROGRAM		
II.B.1.a A67169	Hire an experienced Drill Program Manager.	NOV 95	28 NOV 95
II.B.1.b A67172	Develop a Drill Program Plan for DSO facilities for CY 1996.	MAR 96	24 MAY 96

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
II.B.1.c A67171	Develop a Drill Program Procedure for Nuclear Operations per 5480.20A. (Note: Balance of Plant is covered by Site Emergency Preparedness Procedures.)	APR 96	17 JUN 96
II.B.2.a A67198	Develop an initial set of Drill Guides for DSO facilities. (Note: Complete for 3 DSO facilities. This is an ongoing process; guides are developed as necessary to support facility activities.	ONGOING	31 MAY 96
NEW* A67199	Commence development of Drill Program Tools in EUO. Tools may include: guides, a list of the types/categories of drills, drill scenarios, and simulation devices.*	JAN 98*	
II.B.3.a A67201	Train DSO personnel and drill coordinators on conduct of drills.	JAN 96	24 MAY 96
II.B.3.b A67204	Train EUO organization and Facility Drill Coordinators on conduct of drills.*	JAN 98*	
II.B.3.c esams??	Train EUO and Support personnel on conduct of drills.*	JAN 98*	
II.B.4.a A67210	Commence drills in DSO based on the schedule of 2 per month.*	JAN 96	24 MAY 96
II.B.4.b A67211	Commence drills in EUO facilities per schedules defined in facility drill programs.*	APR 98*	
II.B.5.a A67214	Drill Program Assessment: Commence observation of the execution of drills in DSO and provide feedback to facility and line managers. (This is a continuous process that is built into the Drill Program.)	JAN 96	24 MAY 96
II.C	ISSUES MANAGEMENT		
II.C.1.a A67175	Establish an Issues Manager for the Y-12 LMES Organization.	DEC 95	29 MAR 96
II.C.1.b A67174	Establish process to assign responsibility for distribution and follow-up of DOE Monthly Assessment Report with the YSO.	DEC 95	14 JUN 96
II.C.2.a A67176	Revise LMES Corrective Action Planning procedures to prohibit the development of an action plan as the only action of a CAP task.	MAR 96	29 APR 96

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TABLE VIII

4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
II.C.2.b A67177	Revise the CAP for the DOE RA finding in RSS MG3-2 to comply with the revised LMES Corrective Action Planning procedures.	JAN 96	3 JUN 96
II.C.2.c A67178	Review/Approve the CAP for the DOE RA finding in RSS MG3-2.	MAR 96	31 MAY 96
II.C.3.a/b A67179 A67180	Provide a briefing to Y-12 managers that outlines the process for responding to the DOE Monthly Assessment Report and emphasizes the importance of understanding the programmatic issues and addressing the issues with follow-up: a. organization managers b. line and facility managers	a - APR 96 b - JUN 96	26 APR 96 17 JUN 96
II.C.5.a A67183	Evaluate the effectiveness of the corrective action process at Y-12, including the issues prioritization process.	AUG 96	3 SEP 96
NEW* A66737	Schedule and perform assessments of corrective action implementation.*	DEC 96*	
II.D	RADIOLOGICAL CONTROL		
II.D.1	Root Cause: Management System; Standards, Policies, or Administrative Controls (SPAC) not used.		
II.D.1.a A67217	Establish and implement general requirements for the use of anti-contamination clothing.	DEC 95	7 DEC 95*
II.D.1.b A67218	Develop a Required Reading for the Y-12 Plant that consists of recent plant wide RadCon deficiencies.	FEB 96	29 APR 96
II.D.1.c A67219	Incorporate RadCon deficiencies of II.D.1.b into Radiological Worker II training.	JUN 96	16 MAY 96
II.D.1.d A67220	Develop Required Reading for RadCon Department personnel that consists of recent deficiencies in radiological control practices.	FEB 96	29 APR 96
II.D.1.e A67221	Incorporate RadCon deficiencies contained in II.D.1.b and d into the Radiological Control Technician Continuing Training Program.	MAR 96	29 APR 96
II.D.1.f A67222	Conduct refresher Radiological Worker II training for all radiological workers.	DEC 97	

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
II.D.2	Root Cause: Management System; SPAC less than adequate; No SPAC.		
II.D.2.a A67225	Obtain representative samples of vegetation from outdoor contamination areas and analyze for contamination.	APR 96	9 MAY 96
II.D.2.b A67226	Issue appropriate recommendation to line organizations after obtaining sample results.	MAY 96	30 MAY 96
II.D.2.c A67227	RadCon Manager make formal presentation to senior management concerning status of uncontained outdoor radioactive storage area. Based on their direction, risks, and available funds, a remediation/mitigation plan will be developed.	JUL 96	19 AUG 96
II.D.2.d A67228	Revise and implement procedure Y60-66-RC-600, "Radiological Control Surveillance Program".	DEC 95	1 DEC 95*
II.D.3	Root Cause: Management System; Corrective Action not yet implemented.		
II.D.3.a A67230	Hire additional Radiological Control Techs to meet requirements.	SEP 96	19 AUG 96
II.D.3.b A67231	Relocate key managers responsible for oversight of RadCon program implementation to the protected area to improve RadCon/Line Organization interaction.	JUN 96	25 JUN 96
II.E	MAINTENANCE		
II.E.2.a A67232	Publish "Guideline to Good Practices for Y-12 Maintenance" for maintenance groups, implementing DOE 4330.4B ch-2, and applicable chapters of DOE 5480.19.	MAR 96	10 APR 96
II.E.2.b A67260	Review FMO data to identify additional PIs needed for implementation of CONOPS.	JUL 96	16 JUL 96
II.E.2.c A67261	Update Maintenance PIs to include COO elements.	AUG 96	7 AUG 96
II.E.2.d A67262	Revise work control procedures as needed to fully implement "Guidelines to Good Practices for Y-12 Maintenance".	DEC 96	18 DEC 96*

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
II.E.3.a A67263	Develop lesson plan for each element of "Guidelines to Good Practices for Y-12 Maintenance".	JUN 96	13 JUN 96
II.E.3.b A67264	Conduct training on the elements of "Guidelines to Good Practices for Y-12 Maintenance".	DEC 96	
II.E.4.a A67265	Complete the Preventive Maintenance Program improvement project. The project validates PM requirements, eliminating low value maintenance and reducing overdue backlog.	JUN 96	13 JUN 96
II.E.5.a A67266	Assess the implementation of "Guidelines to Good Practices for Y-12 Maintenance" to identify areas of noncompliance.	SEP 97*	
II.E.5.b A67267	Resolve resulting issues (II.E.5.a).	ASMNT RPT +1 MON	
II.F	OCCURRENCE REPORTING PROGRAM		
II.F.1.a A67269	Revise Procedure Y60-161 (subsequently replaced by procedure Y10-192) to include all of the categorization criteria listed in DOE 232.1.*	JAN 96	30 APR 96
II.F.1.b A67270	Disseminate to the Facility Managers/Designees a memorandum which discusses the importance of reporting through the DOE 232.1 system items which are collectively significant.	FEB 96	30 APR 96
II.F.1.c A67271	DOE (YSO) approve revised procedure Y10-192 and forward to DOE-HQ for approval.*	MAR 96	JUL 96*
II.F.3.a A67272	Conduct an awareness session for facility managers or their designees to the DOE 232.1 categorization criteria.	FEB 96	2 MAY 96
II.F.5.a A67268	Conduct a surveillance to assess compliance with procedural categorization requirements of Y60-192.*	JUL 96	12 AUG 96
II.G	FIRE PROTECTION		
II.G.1.a A67273	Revise procedure Y50-50-313 or develop other command media for annual maintenance of fire extinguishers.*	OCT 96*	OCT 96*

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4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
II.G.1.b A67274	Develop and issue command media or required reading to document that fire extinguishers will be controlled at Y-12 through the Fire Protection Program.*	OCT 96*	OCT 96*
II.G.2.a A67275	Develop a bar code system into a new fire inspection and maintenance information system for identifying and locating fire extinguishers.	MAR 97	
II.G.2.b A67276	Develop and issue command media or required reading (to include a records checklist) for monthly visual inspection of fire extinguishers for Building Managers.*	NOV 96*	
II.G.2.c A67277	Procure necessary equipment (bar code readers, etc.) to support program improvements.	FEB 97	
II.G.2.d A67278	Develop required reading for fire extinguishers education at Y-12.	MAR 97	OCT 96*
II.G.3.a	Train Fire personnel to revised procedure for annual maintenance of fire extinguishers.	MAY 97	
II.G.4.a A67283	Implement bar code ID system.	SEP 97	
II.G.4.b A67284	Perform surveillances of implementation of monthly inspections of fire extinguishers.*	MAR 97*	
II.H	CONFIGURATION MANAGEMENT (CM)		
II.H.1 A67286	Establish a Configuration Management Program Team (CMPT) to oversee and direct installation of configuration management for the Y-12 Plant.	MAR 96	26 APR 96
II.H.2 A67287	Develop a general schedule for the activities contained within the CM program Plan, Y/ES-110.	APR 96	24 APR 96
II.H.3 A67288	Develop guidance for performing ongoing assessments of CM processes.	JUL 96	16 JUL 96
II.I	DOCUMENT CONTROL		

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TABLE VIII

4.3: CORRECTIVE ACTION PLAN FOR TASK 4 ASSESSMENTS OF CONDUCT OF OPERATIONS AT Y-12 (Revision 1, YSO letter to D. Rhoades dated October 28, 1996)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
II.I.2.a A67289 II.I.3.b ???	Revise procedure Y10-102 to incorporate Lessons Learned from experience during resumption of Nuclear Operations, including concerns identified during the 94-4 Task 4 Assessment. (# Complete Jul 96. Y10-102 was revised in early CY 1996, however additional needed revisions were identified and completed in July.*	MAY 96*	JUL 96*
II.I.3.a A67290	Identify appropriate personnel to receive training on revised procedures Y10-102 and Y10-103.	MAR 96	9 JUL 96
II.I.3.b A67291	Implement training on revised procedures Y10-102 and Y10-103.	DEC 96*	
NEW* A66708	Establish document control in support of restart requirements in DSO facilities.*	JUN 96*	APR 96*
II.I.4.a A66708	Implement a Document Control process in EUO based on lessons learned from DSO implementation and the requirements of Y10-189.*	APR 96*	APR 96*
II.I.4.c A67294	Implement Y10-189 in :* a. remaining Nuclear Operations and EUO support areas b. Balance of Plant areas	a - DEC 96* b - MAR 98*	a- DEC 96* b -
III	DEPARTMENT OF ENERGY IMPROVEMENT AREAS		
III.A	DOE OVERSIGHT PROGRAM		
III.A.1	Program Development		
III.A.1.a.1	Develop a Management Walk-Through Process and formalize as part of a Y-12 Site Office (YSO) procedure. (See III.A.2.c).	MAR 96	12 FEB 96
III.A.1.a.2	Develop a program for periodic ORO Assist Visit Process on Conduct of Operations at Y-12.	MAY 96	27 MAY 96*
III.A.1.a.3	Develop an ORO Management Walk-Through Process for Y-12.	MAY 96	26 JUL 96
III.A.1.b.1	Develop a list of previously used and projected resource needs that ORO or DP-HQ could provide support in obtaining.	FEB 96	17 SEP 96
III.A.1.b.2	Develop a program to provide ongoing support to ORO/YSO.	MAR 96	15 APR 96*

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
III.A.1.c	Develop long-term staffing plan after Y-12 long-term missions are better defined in light of ongoing resumption planning and Defense Programs budgets.	AUG 96	29 AUG 96
III.A.1.d	Evaluate Facility Representative (FR) responsibilities as they relate to oversight of the Quality Evaluation Special Operation and performance of principal and collateral duties.		18 JAN 96
III.A.1.e	Revise YSO procedures to utilize high level PIs for Conduct of Operations provided by LMES to be forwarded to YSO and ORO AMDP management for review.*	NOV 96*	
III.A.1.f	Evaluate the sufficiency of the award fee percentage weight assigned to Conduct of Operations.	JUN 96	8 JUL 96
III.A.2	Program Execution and Implementation		
III.A.2.a.1	Implement revised agenda for weekly Facility Representative meeting and document changes to file.		18 JAN 96
III.A.2.a.2	Perform and document training and awareness sessions on the need for involving YSO staff on issues identified by the FR and encourage open communications with YSO personnel.		18 JAN 96
III.A.2.b	Conduct training on the revised procedure for reviewing Conduct of Operations Performance Indicators.*	NOV 96*	
III.A.2.c	Implement a Management Walk-through Process as part of a YSO procedure. (See III.A.1.a.1)	MAR 96	16 APR 96
III.A.2.d.1	Implement a periodic ORO Assist Visit Process on Conduct of Operations at Y-12. (See III.A.1.a.2)	MAY 96	26 JUN 96
III.A.2.d.2	Implement an ORO Management Walk-Through Process for Y-12.	MAY 96	13 SEP 96*
III.A.2.e	Initiate actions to improve FR coverage of principle and collateral duties based on results of evaluation per item III.A.1.d.		18 JAN 96
III.A.2.f	Issue a recommendation in writing to the YSO Manager with the results of the evaluation of the sufficiency of award fee percentage weight assigned to Conduct of Operations. (See III.A.1.f)	JUN 96	8 JUL 96

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
III.A.3	Program Assessment		
III.A.3.a	Conduct a YSO self-assessment on the effectiveness of YSO oversight of conduct of operations.	AUG 96	17 OCT 96*
III.A.3.b	Conduct follow-up assessment on the effectiveness of corrective actions for findings and concerns identified by the Task 4 review.	APR 97*	
III.B	DOE CORRECTIVE ACTION PROGRAM		
III.B.1	Program Development		
III.B.1.a	Revise Monthly Report process to include: 1) Provide LMES an advance draft copy of the Monthly Assessment Report prior to the monthly meeting. 2) Clarify YSO guidance to LMES on transmitting corrective action plans to the YSO.		22 JAN 96
III.B.1.b	Revise YSO procedures to enhance the Deficiency Tracking System used within the YSO.	SEP 96	24 JUN 96
III.B.1.c	Revise the YSO issues management methods; revise procedures where needed to enhance the Issues Management System.	NOV 96*	
III.B.1.d	Revise YSO procedures to provide guidance on the requirements for evaluating for lessons learned and generic implications for findings against the YSO.	MAR 96	25 APR 96
III.B.1.e	Develop and promulgate guidance for the approval of LMES corrective action plans to preclude future CAP approvals which contain the development of an action plan as the only action.	MAR 96	25 APR 96
III.B.1.f	Review previously closed DOE findings from RSS resumption oversight activities in accordance with revised YSO procedure guidance to ensure that generic implications, lessons learned, etc. were properly addressed.	MAY 96	12 JUL 96*
III.B.2	Program Execution and Implementation		
III.B.2.a	Initiate additional corrective actions as determined necessary from the review of previously closed DOE findings from RSS resumption oversight activities. (See III.B.1.f)	MAY 96	23 SEP 96*

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
III.B.2.b	Perform CAP development and Verification/Validation on DOE RSS RA findings against ORO in accordance with YSO procedures.	MAR 96	28 MAR 96
III.B.2.c	Implement actions of Item 14.1.1 to provide LMES an advance draft copy of the Monthly Assessment Report prior to the monthly meeting and to clarity YSO guidance to LMES on transmitting CAPs to the YSO. (See III.B.1.a)		22 JAN 96
III.B.2.d	Implement revisions to YSO procedures which enhance the Deficiency Tracking System used within the YSO. (See III.B.1.b)	NOV 96*	
III.B.2.e	Implement the changes to existing YSO issues management methods and procedures for the Issues Management System.	NOV 96*	
III.B.2.f	Implement revised YSO procedures for evaluating lessons learned and generic implications for findings against the YSO. (III.B.1.d)	MAR 96	22 JUL 96
III.B.2.g	Implement guidance for the approval of LMES CAPs to preclude future CAP approvals which contain the development of an action plan as the only action. (See III.B.1.e)	MAR.96	22 JUL 96
III.C	OCCURRENCE NOTIFICATION / REPORTING		
III.C.1	Program Development		
III.C.1.a.1	Develop LMES procedure for compliance to DOE Order 232.1.	JAN 96	4 MAR 96
III.C.1.a.2	Approve the new LMES procedure for compliance to DOE Order 232.1. (# reviewing the latest revision which addresses DOE-HQ DP-24 comments)*	OCT 96#*	25 OCT 96*
III.C.1.a.3	Provide DP and EH a courtesy copy of the LMES procedure for compliance to DOE Order 232.1	MAR 96	16 APR 96
III.C.1.a.4	Provide overview to FR and YSO personnel on DOE Order 232.1.	FEB 96	20 MAR 96
III.C.2	Program Execution and Implementation		
III.C.2.a.1	Install ORPS work stations for all YSO FRs.		20 DEC 95
III.C.2.a.2	Train FRs on ORPS usage.	JAN 96	9 FEB 96

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
III.C.2.a.3	Provide ORPS passwords to FRs from Operational Event Information Systems (OEIS).		7 NOV 95

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TABLE IX

5.6: CORRECTIVE ACTION PLAN FOR TECHNICAL COMPETENCE REVIEW. (LMES letter to R.J. Spence dated July 19, 1996.)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
TAT 1 (Para 4.1)*	Training programs should be revised from a procedure based system to a system which emphasizes system knowledge, interactions, and relationship to safety related process. (General)		
ACTION 1-1	The requirement to incorporate and emphasize system interactions and relationships to safety-related processes will be included in the revised Y-12 training directives. (A70015)*	DEC 96*	31 DEC 96*
ACTION 1-2*	Training programs will then be revised, as required, as each Y-12 organization completes its biennial review and revision of their training modules. (A70002, A70010, A70012, A70013, A70204)*	DEC 98*	
ACTION 1-3*	The evaluation of Y-12 organizations implementation of this requirement, as stated in the revised Y-12 training directive, willbe emphasized in the ongoing Y-12 Management Self-Assessment (MSA) program. MSA reports will document progress on emphasizing knowledge, interactions, and relationships to safety related processes in required training documents. (A70016, A70018, A70021, A70024, A70026, A70028, A70248)*	JUN 97* (Starting 10 APR 97)	
ACTION 1-4*	Commence ongoing training for Nuclear Ops, Support and BOP Line Managers on principles of Conduct of Operations and implementation in their facilities. (A67034[I.C.2.c], A67044[I.C.5.a.4], A67035[I.C.2.d])*	JUN 97* (Starting APR 97)	
ACTION 1-5*	Conduct operator CONOPS implementation training for support organizations and Balance of Plant (BOP). (A67038[I.C.4.c], A67040[I.C.4.d])*	JUN 97* (Starting MAY 97)	
TAT 2 (Para 4.2)*	Management should quickly revise the training directives to more effectively provide sufficient guidance to implement the training programs at Y-12. This will allow standardization of the training programs at the Y-12 Plant. The development of the training directives should have line management involvement and be approved by Senior Line Management. (General)		

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 2-1	Revise Y-12 training directives to include clear and concise guidance to implement a standard and fully mature T&Q program which incorporates lessons learned from more successful/creditable programs. (A70029)*	DEC 96	31 DEC 96*
ACTION 2-2*	Assess organization T&Q programs against revised training directive standards. (A70050)*	JUN 97* (Starting 10 APR 97)	
ACTION 2-3*	Keep line management, senior management informed on the status of organizations' compliance with training and qualification status reports. (A70051)*	AUG 96*	31 AUG 96*
ACTION 2-4*	Develop a matrix t show how the revised training directive complies with the 5480.20A Standards/Requirements Identification Document (S/RIDS). (A70103)*	DEC 96*	31 DEC 96*
ACTION 2-5*	The revised Y-12 training directives will receive line management concurrence and Senior Management approval. (A70108)*	DEC 96*	31 DEC 96*
TAT 3 (Para 4.3)*	Include facility and process specific training at the appropriate level for those personnel who work in Y-12 nuclear facilities. (General)		
ACTION 3-1	Y-12 Plant training management complete benchmarking of resumed Y-12 and other DOE facilities for effective facility and process specific training approaches. Report will document benchmarking completion. (A70109)* # Schedule slipped when SRS requested delay in benchmarking trip.	FEB 97#*	
ACTION 3-2	Incorporate lessons learned from both the EUO approach and benchmarking other resumed facilities into the revised Y-12 training directives. (A70110)*	DEC 96	31 DEC 96*
ACTION 3-3*	Revise training programs, as required, as each Y-12 organization completes its biennial review and revision of its training modules to include facility and process specific training, at the appropriate level, for those personnel who work in nuclear facilities. Training MSAs will document progress and closure. (A70002, A70004, A70005, A70007, A70008, A70009, A70010, A70012, A70013, A70204, A70504)*	DEC 98*	

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
TAT 4 (Para 4.4)*	Review the process to establish qualified and certified positions listed in the TIM. Ensure that the decision process includes a critical review of the job and task analysis associated with the position so that and accurate determination of qualified/certified positions results. (General)		
ACTION 4-1	Establish a special working group under the Y-12 Training Working Group to review and revise the current Classification Job Position Checklist and associated guidance.	JUL 96	19 JUL 96
ACTION 4-2	Organizational managers review their TIM positions against the revised guidance, recommend any necessary revisions to their positions currently in the Y-12 TIM. (A70118, A70119, A70125, A70126, A70127, A70128, A70129, A70130, A70131, A70132, A70206)*	AUG 96*	31 AUG 96*
ACTION 4-3*	Complete actions 4-1 and 4-2 prior to submission Revision 6 to the Y-12 TIM to DOE for approval. (A70270)*	FEB 97*	20 DEC 96*
TAT 5 (Para 4.5)*	Establish a system to ensure senior managers are informed and line managers are held accountable for achieving TIM IPP milestones. (General)		
ACTION 5-1	Y-12 Plant Training Manager will provide a monthly status report/brief of missed/overdue TIM commitments for each organization to organizational managers and Senior Management.	AUG 96	AUG 96
ACTION 5-2	Provide this status data to YSO quarterly.	AUG 96	AUG 96
ACTION 5-3	Organizational managers with missed/overdue TIM commitments must present recovery plans to Senior Management within 10 working days.	SEP 96	SEP 96
TAT 6 (Para 4.6)*	Training self-assessments should include more performance based evaluations and focus on level of knowledge. (General)		
ACTION 6-1	Include the requirement to incorporate and emphasize performance based assessments in the revised Y-12 training directives. (A70137)*	DEC 96	31 DEC 96*

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 6-2*	Protective Services Organization will provide training to Y-12 organizations to assist in implementing more performance based assessments of the training and qualification programs. (A70138)*	JAN 97*	15 NOV 96*
ACTION 6-2	Include more performance based evaluations in training self-assessments beginning in the second quarter of 1997. (A70139, A70148, A70275)*	APR 97	
ACTION 6-3*	Train nuclear operations and support line management on performance based assessment techniques. (A67094[I.E.3.d])*	JUN 97* (Starting APR 97)	
TAT 7 (Para 4.7)*	Establish effective continuing training and proficiency programs. (General)		
ACTION 7-1	Benchmark those Y-12 continuing training and proficiency programs which are recognized as the best as part of the process to revise the Y-12 training directives. (A70149)*	DEC 96	31 DEC 96*
ACTION 7-2	Organizations with training and qualification program requirements will initiate the self-assessment of continuing training programs using revised guidance. (A70150, A70159, A70276)*	APR 97*	
TAT 8 (Para 4.8)*	Develop a comprehensive training and qualification plan for including: defining the level of knowledge and skill requirements for operating personnel; defining a certification process IAW DOE O 5480.20A; assembling technical documents to support development of training materials; defining instructional staff qualification requirements. (EUO)		
ACTION 8-1	Complete the EUO Training and Qualification Program Descriptions that include knowledge and skill requirements for operators and define the qualification/certification process for each position.	AUG 96	AUG 96
ACTION 8-2	Submit the EUO Training and Qualification Program Plan for Restart to YSO for approval.	AUG 96	AUG 96

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(LMES letter to R.J. Spence dated July 19, 1996.)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 8-3	Instructional staff qualification requirements will be established on a case-by-case basis by the EUO training organization and specific requirements will be established as required by the Conduct of Training Manual. (A70180)*	NOV 96	15 NOV 96*
TAT 9 (Para 4.9)	Evaluate the current number of operator positions to determine which operators handle fissionable materials in significant quantities to require certification. (EUO)		
ACTION 9-1	Complete the EUO Training and Qualification Program Descriptions that include knowledge and skill requirements for operators and define the qualification/certification process for each position.	AUG 96	AUG 96
ACTION 9-2*	EUO establish a "Position Certification Review Panel" by October 1, 1996 to make a determination as to whether or not a position requires certification. (A70163)*	OCT 96*	1 OCT 96*
TAT 10 (Para 4.10)*	Develop a method to improve retention of radiological controls knowledge. (EUO)		
ACTION 10-1	Review, to include benchmarking, other DOE facilities, radiological worker core training and testing. (A70164)*	JUN 97*	
ACTION 10-2*	Review current radiological controls training and testing methods/approach for adequacy in promoting trainee retention of fundamental knowledge requirements. (A70165)*	JUN 97*	
ACTION 10-3*	Make recommendation to DOE on necessary revisions to initial RADCON training courses and continuing RADCON training program. (A70166)*	MAR 97	
ACTION 10-4*	Request resources to implement the revised radiological controls training, if revisions to the DOE course are approved; and include assessment of retention in Management Self Assessments. (TBD)*	JUN 97*	
TAT 11 (Para 4.11)*	Evaluate staffing levels against requirements to determine is sufficient competent resources are currently available. In addition, sufficient time must be made available for operators to participate in required training. (EUO)		

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 11-1	Establish minimum staffing requirements to support various phases of the EUO Process Based Restart	AUG 96	AUG 96
ACTION 11-2	Designate individuals/staff positions for each qualification area in the EUO Training and Qualification Project Schedule which reflects when training and examinations will be conducted, thereby ensuring sufficient time for training is made available.	AUG 96	AUG 96
TAT 12 (Para 4.12)*	Training requirements for supervisory positions should be established and the TIM should be revised accordingly. (FMO)		
ACTION 12-1	FMO establish supervisory position training requirements and submit a TIM change request.	JUL 96	JUL 96
TAT 13 (Para 4.13)*	Complete the development of training materials and implement training to meet the requirements of maintenance organization positions. (FMO)		
ACTION 13-1	FMO complete task analysis for Train, Overtrain, or Pre-Train tasks and will use a graded approach with EUO supporting positions/tasks being completed first. (A70175)*	NOV 96*	30 NOV 96*
ACTION 13-2*	FMO develop Performance Documentation Checklists (PDC) for each task. (A70176)*	FEB 97*	
ACTION 13-3*	Training and qualification will be implemented through utilization of formal On-Job-Training (OJT) with EUO maintenance related activities being the first to train and qualify. (A70179)*	DEC 98*	
TAT 14 (Para 4.14)*	Include basic Industrial Hygiene and Industrial Safety training in the qualification programs for IH and IS personnel, especially at the technician level. (HSEA)		
ACTION 14-1	HSEA assess IH and IS training and qualification programs to determine the level of knowledge and/or deficiencies in selected fundamentals training. (A70196)*	MAR 97*	
ACTION 14-2*	HSEA incorporate selected fundamentals training into the initial and continuing training programs for IH and IS personnel. (A70197)*	FEB 97*	

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REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
TAT 15 (Para 4.15)*	Provide the capability for training managers to access and sort the ESAMS data base to facilitate the management of training issues which have been entered into ESAMS. (EUO)		
ACTION 15-1	Provide training for managers on the existing capability to sort ESAMS data base.	SEP 96	SEP 96
TAT 16 (Para 4.16)*	The Y-12 Plant Training Manager should regularly provide training requirements and issues to CCE Senior Management. CCE Senior Management must be proactive in meeting the needs of the Y-12 Plant. (CCE)		
ACTION 16-1	Y-12 Plant Training Manager provide CCE a detailed overview of the major Y-12 training issues, requirements, etc. on a monthly basis.	JUL 96	JUL 96
ACTION 16-2	Revise the Y-12 Training Working Group Charter to include CCE membership and to have the group function as a training issues management forum.	SEP 96	SEP 96
ACTION 16-3	CCE Senior Management initiate processes and systems to improve service to the Y-12 customer including: track to resolution customer requests; regularly review ESAMS database for training issues; CCE Director meet with Y-12 VP every six weeks to review customer satisfaction levels, CCE performance and discuss issues pertinent to service. (A70209, A70210, A70211)*	SEP 96	
ACTION 16-4*	CCE Director meet with Y-12 managers every quarter to discuss customer satisfaction issues. (A70277)*	DEC 96*	
ACTION 16-5*	Conduct a customer satisfaction survey with a random sample of directors and Y-12 division training officers at the beginning of every calendar year. (A70213)*	MAR 97*	
TAT 17 (Para 4.17)*	Develop and conduct training for Plant Shift Superintendents (PSS) and Fire Department personnel on the attributes necessary to safely operate OSR related systems. (SSO/EM/ESPS)		

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(LMES letter to R.J. Spence dated July 19, 1996.)

REFERENCE NUMBER	CORRECTIVE ACTION PLAN (CAP) ITEM	PLANNED CLOSURE	ACTUAL DATE
ACTION 17-1	Complete development and conduct training on the attributes necessary to operate OSR related systems for: a. PSS personnel b. Fire Department personnel (A70218)	a - AUG 96 b - DEC 96	a - AUG 96
TAT 18 (Para 4.18)*	Complete the provisional qualification process for DUO personnel by obtaining the Qualification Verification Official signature in the qualification records. (DUO)		
ACTION 18-1	DUO obtain the Qualification Verification Official signature in the qualification records.	JUL 96	19 JUL 96

FILE

LOCKHEED MARTIN

Memorandum

Date: December 2, 1996

To: J. P. Flynn, Jr.

cc: R. B. Bonner, J. P. Crociata, G. L. Lovelace, M. K. Morrow, P. R. Wasilko (RC)

From: for E. P. Gustavson, 9704-2, MS-8010 (4-2527)

Subject: **Readiness to Proceed - Lockheed Martin Energy Systems, Inc., Readiness Assessment**

The Quality Evaluation Management Self-Assessment (MSA) was completed on November 15, 1996. The results are documented in *Management Self-Assessment Report for the Resumption of Quality Evaluation Activities and Quality Support Functions*, Document Y/OA-6284. In summary, a total of 35 findings were received (16 were screened as prestart and 19 were screened as poststart). All of the 16 prestart findings are closed.

Based on the closure status of the MSA finding, I feel that we are ready to proceed with the Lockheed Martin Energy Systems, Inc., readiness assessment on December 4, 1996. If you have further question, please contact P. R. Wasilko at 4-0499.

FPG:smc

Y/OA-6282

Lockheed Martin Energy Systems, Inc. Readiness Assessment Report for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant

December 1996

REVIEWING OFFICIAL R. F. Grigal Y12GOY

DATE 17 Dec 1996

UNCLASSIFIED

I, by signature here, acknowledge that I concur with the findings and conclusions of this report.

W. E. Hill
Operations

H. A. Oliver III
Procedures

R. D. Shaffer
Drill Program, Deficiency Resolution, Safety Documentation

J. R. Sprenkle
Operations

C. K. Stalnaker
Training and Qualification

APPROVED: _____ DATE: 12/1/96
J. P. Flynn, Team Manager

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EXECUTIVE SUMMARY

The Lockheed Martin Energy Systems, Inc. (LMES), independent readiness assessment (RA) is one of the activities to be completed prior to resuming Quality Evaluation (QE) activities at the Department of Energy (DOE) Y-12 Site. The results of the RA will be used to determine whether the core objectives as described in Y/OA-6257, "Readiness Assessment Plan of Action (POA) for Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant," have been adequately met.

Operations at the Y-12 Plant were shut down in September 1994 as a result of operational deficiencies noted by the Defense Nuclear Facilities Safety Board (DNFSB) staff during routine activities. LMES initiated a Type "C" Investigation to determine the full significance of the deficiencies observed. The investigation revealed that several improvements were necessary to resume operations in a disciplined manner. The resulting extended shutdown led to the completion of this RA in accordance with DOE Order O 425.1, "Startup and Restart of Nuclear Facilities," and DOE Standard 3006-95, "Planning and Conduct of Operational Readiness Reviews (ORR)."

The RA was conducted December 4 through December 12, 1996. The RA was a systematic inquiry into the ability of the Y-12 Plant staff to conduct QE activities in a safe and disciplined manner. The scope of the RA was determined by the core objectives identified and approved in the POA. Although many core objectives were assessed, the focus of this RA was on personnel qualification, training, procedures, safety culture, and management.

The RA team determined that adequate management systems are in place to ensure safe operations, significant improvements have been made in Conduct of Operations, personnel exhibit an awareness of health and safety requirements, and personnel support the new rigor and discipline being required. The RA team also determined that resumption of QE activities described in Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2(U)," should continue.

However, the RA team documented 12 findings and three observations. The following nine findings need to be resolved prior to actual resumption:

OP-01	Quality evaluation engineers directed activities of the assemblypersons.
OP-04	Messages transmitted over the emergency notification system could not be understood.
OP-06	Compensatory measures required by the Request for Approval for Conduct of Operations were not always implemented or addressed in timely orders or on the facility status board.
SD-01	There was no approved implementation plan that addressed the justification for continued operations in Building 9204-4.
SD-02	Corrective actions did not always correct the problems that they were intended to correct. The actions sometimes focused only on the symptoms, and not on the actual problem.

SD-03	Measures identified in the Basis for Interim Operations to minimize the probability of a fire were not incorporated into implementing documents and procedures.
PR-01	Several procedures within the scope of the RA require revision prior to use.
PR-02	Some procedures did not contain all applicable requirements of criticality safety approval source documents.
TQ-02	QE personnel were not always trained on revised procedures.

I. INTRODUCTION

A. General

During a review of Building 9204-2E containerized storage operations and applicable Criticality Safety Approvals (CSA) on September 22, 1994, violations of administrative safety controls associated with material storage arrays were observed. Operations personnel, upon discovery of the criticality safety violation, did not immediately administratively control the area (i.e., ensuring that personnel were kept at a safe distance away from the array). They also did not immediately notify Nuclear Criticality Safety Department (NCSD) personnel or the plant shift superintendent. This was a violation of LMES and Y-12 Plant training and procedures. Following the event, all CSAs were walked down and seven categories of criticality safety nonconformances were identified with a total of 1,344 individual observations.

Examination of the data from the evaluation of the CSA walkdowns, the occurrence report covering the initial infraction, the Type "C" Investigation, and DNFSB Recommendation 94-4 indicated the basic cause was a lack of rigor in conduct of operations that permitted less than strict compliance with procedures. Within the umbrella of conduct of operations, the principal failure was personnel not following procedures with the rigor required. A contributing factor was the lack of training on CSAs in particular. CSAs were not always clearly written, and their limitations were not well understood by some personnel.

DOE Assistance Secretary for Defense Programs memorandum of November 8, 1994, *Resumption of Y-12 Operations*, to the Oak Ridge Operations Office has stipulated that the RA is the appropriate format to ascertain readiness for restart. In the same memorandum, the Assistant Secretary for Defense Programs stated that the manager, Oak Ridge operations office (ORO), will be the restart authority.

B. Y-12 Plant

The Y-12 Plant is one of two installations in Oak Ridge, Tennessee, managed by LMES for DOE. LMES also manages the Oak Ridge K-25 Site. For four decades the Oak Ridge Y-12 Plant has been the national center for the handling, processing, storage, and disassembly of all DOE-controlled enriched uranium (EU) materials and components, as well as depleted uranium (DU) and other special materials components.

The DOE Defense Programs at the Y-12 Plant include the dismantling of nuclear weapons components returned from the national arsenal, serving as the nation's storehouse for special nuclear materials, maintaining nuclear weapons components production capability and stockpile support, and providing special production support for other DOE programs and customers. In addition, as the primary EU repository for the United States, the Y-12 Plant has the facilities and security systems for EU storage, chemical recovery, and material purification and fabrication.

Resumption activities for the Y-12 Plant are divided into mission areas that are defined by programmatic mission descriptions and needs. The RA implementation plan (Appendix A)

addresses the scope of the resumption of Quality Evaluation (QE) activities, which is one of the mission areas for the Y-12 Plant.

C. **Quality Evaluation Activities**

The QE operations subject to resumption are performed in Building 9204-4, which is identified as a hazard Category 2 facility as defined in DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Criticality Safety.* Activities in support of the QE mission are performed in other Y-12 Plant facilities. These facilities have previously been approved for unrestricted operations through continuing operations resumption or specific RAs. As such, they are not included within the scope of this RA.

The QE activities in Building 9204-4 were in progress and fully functional before the September 22, 1994, standdown. The purpose of the Stockpile QE and Surveillance Program is to assess the integrity of the stockpile, design compatibility, safety, reliability, and functionality of components over the weapons' stockpile life. Confidence in the safety and reliability of the nation's nuclear weapons stockpile is acquired and sustained through a QE program beginning in early production and continuing throughout each weapon's stockpile life to retirement. The condition of the stockpile is determined through a number of unique tests. Stockpile QE is supplemented by a surveillance program that includes testing and evaluating accelerated aging units, production core samples, and shelf-life units. These units and/or components never enter the stockpile but provide additional baseline data that is used to judge the condition of a warhead type throughout its stockpile life.

Evaluation of weapons piece parts and/or assemblies in the QE laboratory is a scientific investigation. Even though the total effort cannot be predicted, the evaluation is completely planned in advance. The process must be designed with sufficient flexibility to permit full characterization of any unusual findings. For this reason, sufficient options are built into the QE procedures to allow the QE engineer (QEE) to select proper tests and evaluations to fully characterize observations and findings identified during the QE investigation of weapons piece parts and/or assemblies.

Evaluation begins with receipt of the unit from the storage area (storage activities have recently been assessed for readiness as part of the Receipt, Storage, and Shipment Readiness Assessment). Upon receipt of the units on the second floor of Building 9204-4, they are transferred to the QE laboratory. The QE laboratory area is a portion of the Material Access Area (MAA) on the second floor, which encloses approximately 39,000 square feet of floor space. The unit is then removed from its container and placed on an appropriate fixture by using an overhead crane and program-specific lifting device. Disassembly and evaluation activities using specialized equipment may take place in several different areas of the QE laboratory to obtain the information required by design agency specifications. Examples of the processes required for evaluation of units are inert atmosphere manual disassembly, inert atmosphere machining, ventilated hood operations, moisture outgassing monitoring, accelerated aging testing, long-term thermal decomposition testing, and standard machining operations. As parts are removed from the unit, they are weighed and segregated for further disassembly and evaluation operations or packaged for transfer to other DOE sites. Upon completion of evaluation activities, unit parts are further segregated by material type and then

transferred to the Materials Management Area for final disposition. Disposition of materials from QE units (recovery processing and burial activities) are not included within the scope of this RA.

Employees performing the evaluation activities wear personal protective equipment in the form of anti-contamination clothing, safety shoes, safety glasses, and respirators as required by the specific operation. The QE process is performed in accordance with detailed operating procedures and is documented on activity-specific data sheets or records of disassembly.

D. Readiness Assessment Process

The RA was conducted to determine whether QE activities were ready to resume the activities that were shut down as a result of events on September 22, 1994.

An implementation plan (Appendix A) was prepared to comply with the requirements of DOE Order O 425.1 and DOE-STD-3006-95. The scope of the RA is described in the POA, Y/OA-6257, which was prepared by Y-12 Plant line management and approved by the manager, DOE Y-12 Site Office.

The implementation plan contains the overall assessment procedure, including the Criteria and Review Approach Documents (CRAD) that define the review objectives and criteria, as well as the approach for assessing each objective.

Results of the assessment are provided in this report. Deficiencies are classified as prestart findings, which must be closed prior to resumption of operations; poststart findings, which should have approved corrective action plans and milestones in place prior to resumption; or observations, which may be used by management to support continuous performance improvement.

The RA team consisted of four LMES employees, one Lockheed Martin Energy Research Corporation employee, and one technical consultant.

II. READINESS ASSESSMENT EVALUATION RESULTS

A. OPERATIONS (OP)

The assessment in the operations area was performed against requirements established in Y/OA-6257, Rev. 2, "Readiness Assessment Plan of Action for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant," and described in Y/OA-6281, "Implementation Plan for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant." QE activities were assessed to determine whether:

1. The implementation status of DOE Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," was adequate for resumption of QE activities. The scope of the assessment was limited to the following chapters of DOE Order 5480.19:

Chapter I	Operations Organization and Administration
Chapter II	Shift Routine and Operating Practices
Chapter IV	Communications
Chapter V	Control of On-Shift Training
Chapter VI	Investigations of Abnormal Events
Chapter VII	Notifications
Chapter VIII	Control of Equipment and System Status
Chapter IX	Lockouts and Tagouts
Chapter X	Independent Verification
Chapter XI	Logkeeping
Chapter XII	Operations Turnover
Chapter XIV	Required Reading
Chapter XV	Timely Orders to Operators
Chapter XVI	Operations Procedures
Chapter XVII	Operator Aid Postings
Chapter XVIII	Equipment and Piping Labeling

2. Operations personnel possessed the facility-specific knowledge required.

3. The numbers and qualifications of operating personnel were adequate to perform required tasks during both normal operations and postulated emergency conditions.

The review approach included document reviews, interviews, observation of facility work activities, and observation of a drill. The results of the assessment were documented daily on the Assessment Forms (Form 1) included in Appendix B. Specific deficiencies were documented on the Deficiency Forms (Form 2) contained in Appendix C.

One assemblyperson certification exam, one supervisor certification exam, and the operations manager qualification records (including supporting exams) were reviewed and found to be complete. Although minor problems were noted, the overall program was adequate.

Three operators, two supervisors, and a manager were interviewed to determine understanding of procedures, Operational Safety Requirements (OSR), and Criticality Safety

Approvals (CSA). Assemblypersons were very knowledgeable of actions that were required in the event of a criticality safety violation, actions to be taken if a procedure was found to be inadequate, operations requiring mentors, and of the requirements associated with independent verification. However, some gaps in knowledge were noted in procedural use, information contained in required reading, and use of standing orders. One supervisor was extremely proficient in all areas examined, which mirrored his performance in the field. Although some gaps in knowledge were observed in assemblypersons, a supervisor, and one manager, overall compliance with and understanding of procedures, OSRs, CSAs, and conduct of operations guidelines were adequate.

Personnel were observed performing procedures covering disassembly, checkweighing of scales, glovebox entrance for part insertion and removal, dye penetrant tests, glovebox gas sample, criticality accident alarm system (CAAS) daily surveillances, and vertical lathe checks. The procedures allowed performance of steps in the sequence necessary to accomplish the disassembly or as dictated by the disassembly evolution. This was required due to the unpredictability of some disassembly operations. Minor problems were observed during performance of the checkweighing procedure. However, all other procedures observed were performed correctly. All personnel were very professional in their conduct, and with the exception of one scale checkweighing procedure, demonstrated excellent levels of skill and knowledge. However, on several occasions, QEEs directed the activities of the assemblypersons, and QEEs were not certified as supervisors for fissile activities (Finding OP-01).

The number of qualified/certified QE personnel, Quality Organization (QO) personnel, and Facilities Management Organization (FMO) personnel was compared to those needed to perform five different weapon disassemblies. One weapon disassembly procedure was observed, which included five other evolutions. Based on the records reviewed, interviews, and evolutions observed, the numbers and qualifications of operations personnel were adequate for normal operation. None of the five procedures reviewed addressed postulated abnormal or emergency conditions. However, the shift manager said that if she had enough people to perform the disassembly procedure, she would have enough people to handle any emergency or abnormal condition.

The disassembly demonstrated that sufficient operating personnel were qualified on the various tasks and sub-tasks required for procedural completion. Observations confirmed the process utilized to prepare the observed procedures was adequate. However, procedures directing disassembly of weapons other than the type observed during this RA had not been updated to the required format (Finding PR-01). Using the required procedure upgrade and implementation process will ensure adequate operational performance in the other QE activities.

Minor problems were noted with implementation of the Conduct of Operations Request for Approval (RFA). Compensatory measures were reviewed during observation of several evolutions and a drill. The usage of mentors in support of QE activities was highly effective. However, the compensatory measure applicable to shift turnover was not well defined. None of the compensatory measures required for Conduct of Operations Chapters VIII, X, XII, or XVI were listed in the timely orders as required. The facility's status board did not reflect

the installation or removal of compensatory measures pertaining to the equipment/systems listed on the status board (Finding OP-06).

Four active lockout/tagout permits were walked down to verify that all locks and tags were installed per the authorization documentation. Some administrative deficiencies, such as missing badge numbers or initials, existed for three of the four permits (Observation OP-03). During a walk down of the MAA, administrative control tags (ACT) and deficient material condition (DMC) tags were noted. The ACT Notebook and Equipment Deficiency Identification Notebook were reviewed. Five DMC tags were noted in the MAA. Three of the five were not listed in their associated notebook (Finding OP-05). Status sheets in the Limiting Conditions of Operation Status Book were reviewed. One signature and date were missing on the index, and one signature and date were missing on one status sheet. The Temporary Modification (TM) Log was reviewed, including walking down the TMs. Minor deficiencies were noted concerning dates on the temporary modification tags and the documentation of a monthly TM log review.

During the review period, a test of the emergency notification system (ENS) was conducted, and the message was not understandable by QE operations personnel in the MAA (Finding OP-04).

With the exception of those issues on which findings were written, the actions described in the RFA were adequately addressed. The use of mentors was effective. Although there was a lack of specific guidance regarding shift turnover, the effect was minimal since QE operations were limited to one shift per day and turnover consisted of sending a form to the plant shift superintendent (PSS) at the end of each day. With the completion of prestart findings and the use of mentors as compensatory measures during most activities associated with fissile material, adequate rigor and controls will be in place to resume operations associated with QE activities as described in Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2(U)."

The deficiencies identified in the operations area are as follows:

OP-01	Finding	Quality evaluation engineers directed activities of the assemblypersons (Prestart).
OP-02	Finding	A temporary modification to a fire cycle panel did not address surveillance requirements.
OP-03	Observation	Administrative requirements associated with lockout/tagout were not always met.
OP-04	Finding	Messages transmitted over the emergency notification system could not be understood (Prestart).
OP-05	Finding	Deficient Material Condition tags were not always recorded in the Equipment Deficiency Identification Log.

OP-06 Finding — Compensatory measures required by the Request for Approval for Conduct of Operations were not always implemented or addressed in timely orders or on the facility status board (Prestart).

B. SAFETY DOCUMENTATION

The safety documentation functional area was evaluated against requirements established in Y/OA-6257, Rev. 2, "Readiness Assessment Plan of Action for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant," and described in Y/OA-6281, "Implementation Plan for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant." The assessment was conducted to validate that safety documentation was current and described the safety envelope; safety systems were defined in the facility safety documentation and correct safety limits were adequately established and adhered to; the facility drill program was established and was predicated on facility hazards based activities; and the corrective action program adequately tracked established corrective actions to prevent recurrence and verified and validated closure of facility identified deficiencies from both internal and external sources. The review process was also designed to include verification of any compensatory measures established to address safety documentation or hardware deficiencies and the methodologies established to support continued operations while implementing updated safety basis documentation or correcting known deficiencies.

The review approach included document reviews, interviews, observation of specific facility work activities, and facility walkdowns. The assessment took into account the results of the LMES MSA, the DOE Safety Evaluation Report of the Building 9204-4 Basis for Interim Operation (BIO), and the Y-12 Site Office Restart Team (YSORT) MSA oversight review report. The POA was used to identify the specific organizational levels applicable to this assessment, which included floor level technicians and supervisors up to and including the DSO manager. The results of the safety documentation functional area assessment were documented daily on the Assessment Forms (Form 1) included in Appendix B. Specific deficiencies were documented on the Deficiency Forms (Form 2) contained in Appendix C.

The assessment evaluated the Final Safety Analysis Report, the newly approved BIO, and revision 1 (current) and revision 2 (effective date December 12, 1996) of the Building 9204-4 OSR. These documents established the safety envelope for the facility. The status of the safety-significant systems in Building 9204-4 was current with the surveillance requirements, or the correct compensatory measures were in place in accordance with the OSR. However, the area of hazard classification and categorization contained within established safety documentation was identified as being deficient. There was no approved implementation plan that supported continued operations of the facility in light of the current assumptions in the analysis sections of the BIO (Finding SD-01). Further, a temporary modification was made to the back up power supply for the zone 8E fire cycle panel. The modification included installing lead acid storage batteries to replace the original nickel cadmium batteries. No surveillance requirements were put in place to ensure these batteries could continue to perform their intended function (Finding OP-02).

A review of the draft implementation plan for the Building 9204-4 BIO and the current and to be implemented OSRs indicated that significant deficiencies existed in the implementation

of the assumptions used in the Building 9204-4 accident analysis for a fire. The mitigative measures that were credited for maintaining the assigned probability of a fire as "extremely low" in the BIO were not incorporated into the OSRs or the draft BIO implementation plan (Finding SD-03).

An assessment was conducted of the systems in place to identify, evaluate, and correct deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and internal LMES organizations. The evaluation centered on the LMES Energy Systems Action Management System (ESAMS) and the Building 9204-4 internal corrective action tracking system. Deficiencies were identified associated with the corrective actions established to prevent recurrence, in that these action sometimes focused only on symptoms and not the actual problems. The RA found MSA pre-start deficiencies that had been closed, but were still occurring in the facility (Finding SD-02).

The drill program for QE operations in Building 9204-4 was evaluated in the areas of drill guide development, program implementation, and record keeping. Program related documents and records of drill implementation were reviewed, and the drill program manager and monitors were interviewed. A drill involving high oxygen in the glovebox was observed. The pre-drill briefing, conduct of the drill, and the post-drill critique were performed in accordance with procedural requirements and corrective actions were appropriate. Deficiencies identified by the RA team observers were noted by the operations personnel during the critique and corrected in the drill guide. The RA team did, however, identify an area where management attention could be focused to implement alarm response procedures to address alarmed process variables within the facility such as glovebox atmosphere or pressure anomalies.

The overall conclusion in the safety documentation functional area is that, after resolution of the pre-start findings, adequate rigor and programmatic controls will be in place to resume operations associated with QE activities described in Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2(U)."

The deficiencies identified in the safety documentation area are as follows:

SD-01 Finding	There was no approved implementation plan in place that addressed the justification for continued operations in the Building 9204-4 (Prestart).
SD-02 Finding	Corrective actions did not always correct the problems that they were intended to correct. The actions sometimes focused only on the symptoms, and not on the actual problem (Prestart).
SD-03 Finding	Measures identified in the BIO to minimize the probability of a fire were not incorporated into implementing documents and procedures (Prestart).

C. PROCEDURES

The procedures area was evaluated against requirements established in Y/OA-6257, Rev. 2, "Readiness Assessment Plan of Action for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant," and described in Y/OA-6281, "Implementation Plan for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant." The assessment was conducted to ensure there were adequate and correct operating procedures associated with QE resumption activities. This assessment included determining whether CSAs and operating procedures applicable to QE activities were technically accurate, consistent with each other, and incorporated appropriate safety limits. The QE document control program was also reviewed.

The review approach included document reviews, interviews, facility walkdowns, and observation of evolutions and drills. The results of the procedure review were documented daily on the Assessment Form (Form 1) included in Appendix B. Specific deficiencies were documented on the Deficiency Forms (Form 2) contained in Appendix C.

The procedure utilized during the weapon disassembly and observed during the RA was adequate and correct. However, similar procedures for the other four weapon types within the scope of the RA require revision prior to use to bring them up to the same standards (Finding PR-01).

The requirements of Y/TS-1317, Revision 1, "Operational Safety Requirements for the Building 9204-4 Special Nuclear Material Operating and Storage Area," were contained in procedure Y50-01-QE-009, "Fire System Inoperability 9204-4 Fire Patrols." This was the only operating procedure in the QE area that required incorporation of OSR requirements.

A viable system existed for the control and distribution of procedures and CSAs. Document control center (DCC) personnel were knowledgeable and conscientious. No problems were observed in the issue and control of procedure working and information copies, either in the DCC or in the field. Procedures and CSAs observed in use were the latest revisions. Procedures used were adequate and correct. No deficiencies were noted during the walkdown of five CSAs.

In general, interviews revealed that operations and operations support personnel involved in QE activities understood the CSA and procedure revision and control processes. However, some problems existed in incorporating applicable CSA requirements into all required operating procedures. Although all ten procedures reviewed had undergone screening to ensure they included applicable CSA requirements, three of the ten were missing a requirement from a CSA source document (Finding PR-02).

The overall conclusion in the procedures functional area is that, after the resolution of prestart findings, procedures will be in place to resume operations associated with the QE activities described in Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2(U)."

The deficiencies identified in the procedures area are as follows:

PR-01	Finding	Several procedures within the scope of the RA require revision prior to use (Prestart).
PR-02	Finding	Some procedures did not contain all applicable requirements of CSA source documents (Prestart).

D. TRAINING AND QUALIFICATION

The assessment in the area of training and qualification was performed against requirements established in Y/OA-6257, Revision 2, "Readiness Assessment Plan of Action for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant," and described in Y/OA-6281, "Implementation Plan for the Resumption of Quality Evaluation Activities at the Oak Ridge Y-12 Plant." The assessment was conducted to verify that training and qualification programs had been established, documented, and implemented, and there were adequate numbers of qualified/certified personnel to resume operations.

The review approach included document reviews, interviews, and observation of evolutions and drills, including classroom instruction. The results of the training assessment were documented daily on the Assessment Forms (Form 1) included in Appendix B. Specific deficiencies were documented on the Deficiency Forms (Form 2) contained in Appendix C.

This assessment determined that QE operations and support personnel were trained and qualified in accordance with the Training Implementation Matrix (TIM) for certified and qualified positions. For each position, qualified personnel were available to meet the minimum staffing level established. Revision 5 of the TIM, and the associated addendum, had been approved by LMES and DOE, and TIM requirements for positions in Building 9204-4 had been met. A pending revision to the TIM will affect requirements for certain positions in Building 9204-4, but was not in the scope of this readiness assessment.

Training of Building 9204-4 QE personnel was supported by the Disassembly and Storage Operations (DSO) training organization. Training included a combination of classroom, on-the-job, and related methods that were consistent with the requirements of the Y-12 Plant training procedures. Results of training and periodic retraining were recorded in the training management system (TMS) as modules. The minimum modules had been identified for each certified and qualified position in Building 9204-4, consistent with the TIM. For all persons authorized in each position, minimum training requirements had been met and recorded in the TMS.

During work activities, pre-job briefings, post-job briefings, and interviews, personnel demonstrated clear understanding of the need for step-by-step compliance with procedures. Both supervisors and workers indicated and demonstrated that they would stop and contact appropriate supervision if a procedure could not be performed as written. Examples of compliance with the procedure policy were demonstrated during glovebox work when a worn wire rope was encountered and during dye penetrant testing when a part was held until it could be marked.

Although personnel were current with all task-based training required for certified and qualified positions, some QE personnel had not reviewed and been trained to the latest revision of certain operating procedures (Finding TQ-02).

For revised QE procedures, there was a disparity between the conclusions of training assessments performed by the QE operations manager and the DSO training manager, and separate assessments performed by building supervision (Observation TQ-03). Based on discussion with the DSO training manager, planned actions to integrate these assessments will resolve the concern.

One assemblyperson and two managers did not meet minimum entry-level educational requirements for their positions. Forms filed in training records were completed to justify use of alternatives to these requirements. However, the level of detail was minimal and did not provide adequate rationale (Observation TQ-04).

The Quality Organization (QO) conducted dye penetrant activities in Building 9204-4 that were affected by one QE CSA. However, QO personnel did not receive a controlled copy of the CSA. QO personnel learned of needed training resulting from changes in the CSA when notified of the CSA revision by operations personnel in Building 9204-4. Training was not conducted until QO personnel arrived at Building 9204-4 to perform a job, only to learn the CSA had been revised and reissued (Finding TQ-01).

The overall conclusion in the training and qualification area is that, after the resolution of the prestart finding, the training and qualification programs will be adequate to resume operations associated with the quality evaluation activities described in Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2(U)."

The deficiencies identified in the training and qualification area are as follows:

TQ-01 Finding	There was no formal system that notified QO management of revisions to QE Criticality Safety Approvals that affected QO activities.
TQ-02 Finding	QE personnel were not always trained on revised procedures (Prestart).
TQ-03 Observation	The reviews conducted to determine the need for training on revised procedures, CSAs, and other documents were not well coordinated and controlled.
TQ-04 Observation	Forms used to provide alternatives to meeting job entry level educational requirements did not provide the rationale for approving the exception.

III. LESSONS LEARNED

The RA team conducted a lessons learned session at the conclusion of the field portion of the readiness assessment. The purpose of this was to identify areas that could be strengthened or aspects that could be enhanced for future RAs. The following items were a result of that process:

- The RA team training process should include basic report writing and format criteria to help reduce the number of non-content report revisions. Some examples of problems team members experienced are as follows:
  - Writing conventions (e.g., use only past tense verbs, do not itemize conclusions) were not clear.
  - The required formats for some forms/sections (such as Form 1s) were not always clear.
- Daily updates on completion status of CRAD requirements needs to be accomplished through discussions between the team manager and the area leads to maintain a status log (CRAD TRACKER) up to date. The daily update of Form 1s and the CRAD TRACKER is useful to keep track of progress and refocus on the specific requirements of the CRADS.
- Pre-RA training should include a briefing by an authorized derivative classifier to help the team members avoid inadvertently writing classified information in their notebooks, on Form 1s and Form 2s, etc.
- The team manager should ensure facilities for the RA team are adequate and ready at the beginning of the RA. Some examples of problems encountered are as follows:
  - Workspace, e.g. tables, desks, was marginally acceptable.
  - Computers were unclassified, while much of the work dealt with classified material.
  - Computers did not have access to the LMES internal web server, the source of many LMES and Y-12 Plant procedures.
- "Level of knowledge" interviews should be conducted during observations of actual work, rather than as "oral examinations" with multiple team members and observers present.
- The team manager should review, and address with team members, lessons learned from previous RAs before beginning the next RA. Several of these lessons learned were noted previously, yet recurred during this RA.

IV. ACRONYMS

ACT	Administrative Control Tags
BIO	Basis for Interim Operation
CAAS	Criticality Accident Alarm System
CRAD	Criteria and Review Approach Document
CSA	Criticality Safety Approvals
DCC	Document Control Center
DMC	Deficient Material Condition
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
DSO	Disassembly and Storage Operations
DU	Depleted Uranium
ENS	Emergency Notification System
ESAMS	Energy Systems Action Management System
EU	Enriched Uranium
FMO	Facilities Management Organization
IP	Implementation Plan
LMES	Lockheed Martin Energy Systems, Inc.
MAA	Material Access Area
MSA	Management Self Assessment
NCSD	Nuclear Criticality Safety Department
ORO	Oak Ridge Operations
ORR	Operational Readiness Review
OSR	Operational Safety Requirement
POA	Plan of Action
PSS	Plant Shift Superintendent
QE	Quality Evaluation
QEE	Quality Evaluation Engineer
QO	Quality Organization
RA	Readiness Assessment
RFA	Request for Approval
TIM	Training Implementation Matrix
TM	Temporary Modification
TMS	Training Management System
YSORT	Y-12 Site Office Restart Team

Appendix A

IMPLEMENTATION PLAN

Y/OA-6281

Lockheed Martin Energy Systems, Inc.
Readiness Assessment
Implementation Plan
for the
Resumption of
Quality Evaluation Activities
at the
Oak Ridge Y-12 Plant

APPROVED: _____
J. P. Flynn, RA Team Manager

November 14, 1996

TABLE OF CONTENTS

I. INTRODUCTION

A. General

This implementation plan has been prepared to comply with the requirements of U.S. Department of Energy (DOE) Order 5480.31, "Startup and Restart of Nuclear Facilities," and DOE-STD-3006-95, "Planning and Conduct of Operational Readiness Reviews (ORR)." The scope of the Readiness Assessment (RA) is described in the Plan of Action (POA), Y/OA-6257, which was prepared by the Oak Ridge Y-12 Plant line management and approved by the DOE, Oak Ridge Operations Office, on August 1, 1996.

The manager, DOE Y-12 site office, is the designated restart authority.

This implementation plan contains the overall assessment procedure, and its appendices include the Criteria and Review Approach Documents (CRAD), which define the review objectives and criteria as well as the approach for assessing each objective. Results will be provided in a report that is discussed in Section IX of this implementation plan.

Operations at the Y-12 Plant were suspended as a result of a review of Building 9204-2E containerized storage operations and applicable Criticality Safety Approvals (CSA) on September 22, 1994. The review found violations of administrative safety controls associated with material storage arrays. Operations personnel, upon discovery of the criticality safety violation, did not immediately administratively control the area; i.e., ensure that personnel were kept at a safe distance from the array. They also did not immediately notify Nuclear Criticality Safety Department (NCSD) personnel or the plant shift superintendent. This was a violation of Y-12 Plant training and procedures. Following the event, all CSAs were walked down, seven categories of criticality safety nonconformances were identified, and a total of 1,344 individual deficiencies were noted.

The data from the evaluation of the CSA walkdowns, the occurrence report covering the initial infraction, the Type "C" Investigation, and Defense Nuclear Facility Safety Board (DNFSB) Recommendation 94-04 indicate the basic cause to be a lack of rigor in Conduct of Operations that permitted less than strict compliance with procedures. The issue was not one of operations being outside the safety envelope--the primary safety controls remained intact. Rather, the issue was the need to improve organizational performance and greater assurance in the safety management process of daily operations. Within the umbrella of conduct of operations, the principal failure was the result of personnel not following procedures with the rigor required. The lack of training on CSAs was also a contributing factor.

B. Y-12 Plant

The Y-12 Plant is one of two installations in Oak Ridge, Tennessee, managed by Lockheed Martin Energy Systems, Inc. (LMES) for DOE. LMES also manages the Oak Ridge K-25 Site. For four decades the Oak Ridge Y-12 Plant has been and remains the national center for the handling, processing, storage, and disassembly of DOE-controlled enriched uranium (EU) materials and components as well as depleted uranium and other special materials components.

The DOE Defense Programs at the Y-12 Plant include the dismantling of nuclear weapons components returned from the national arsenal, serving as the nation's storehouse for special nuclear materials, maintaining nuclear weapons components production and stockpile support capability, and providing special production support for other DOE programs and customers. In addition, as the primary EU repository for the United States, the Y-12 Plant has the facilities and security systems for EU storage, chemical recovery and material purification, and fabrication.

Resumption activities for the Y-12 Plant are divided into mission areas that are defined by programmatic mission descriptions and needs. This implementation plan (IP) addresses the scope of the resumption of Quality Evaluation (QE) activities, which is one of the mission areas for the Y-12 Plant.

C. Quality Evaluation Activities

The QE operations subject to resumption are performed in Building 9204-4, which is identified as a hazard Category 2 facility as defined in DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Criticality Safety.* Activities in support of the QE mission are performed in other Y-12 Plant facilities. These facilities have previously been approved for unrestricted operations through continuing operations resumption or specific RAs. As such, they will not be included within the scope of this RA.

The QE activities in Building 9204-4 were in progress and fully functional before the September 22, 1994, standdown. The purpose of the Stockpile QE and Surveillance Program is to assess the integrity of the stockpile, design compatibility, safety, reliability, and functionality of components over the weapons' stockpile life. Confidence in the safety and reliability of the nation's nuclear weapons stockpile is acquired and sustained through a QE program beginning in early production and continuing throughout each weapon's stockpile life to retirement. The condition of the stockpile is determined through a number of unique tests. Stockpile QE is supplemented by a surveillance program that includes testing and evaluating accelerated aging units, production core samples, and shelf-life units. These units and/or components never enter the stockpile but provide additional baseline data that is used to judge the condition of a warhead type throughout its stockpile life.

Evaluation of weapons piece parts and/or assemblies in the QE laboratory is a scientific investigation. Even though the total effort cannot be predicted, the evaluation is completely planned in advance. The process must be designed with sufficient flexibility to permit full characterization of any unusual findings. For this reason, sufficient options are built into the QE procedures to allow the QE engineer to select proper tests and evaluations to fully characterize observations and findings identified during the QE investigation of weapons piece parts and/or assemblies.

Evaluation begins with receipt of the unit from the storage area (storage activities have recently been assessed for readiness as part of the Receipt, Storage, and Shipment Readiness Assessment). Upon receipt of the units on the second floor of Building 9204-4, they are transferred to the QE laboratory. The QE laboratory area is a portion of the Material Access Area on the second floor, which encloses approximately 39,000 square feet of floor space. The unit is then removed from its container and placed on an appropriate fixture by using an overhead crane and program-specific lifting device. Disassembly and evaluation activities using specialized equipment may take place

in several different areas of the QE laboratory to obtain the information required by design agency specifications. Examples of the processes required for evaluation of units are inert atmosphere manual disassembly, inert atmosphere machining, ventilated hood operations, moisture outgassing monitoring, accelerated aging testing, long-term thermal decomposition testing, and standard machining operations. As parts are removed from the unit, they are weighed and segregated for further disassembly and evaluation operations or packaged for transfer to other DOE sites. Upon completion of evaluation activities, unit parts are further segregated by material type and then transferred to the Materials Management Area for final disposition. Disposition of materials from QE units (recovery processing and burial activities) will not be included within the scope of this Readiness Assessment (RA).

Employees performing the evaluation activities wear personal protective equipment in the form of anti-contamination clothing, safety shoes, safety glasses, and respirators as required by the specific operation. The QE process is performed in accordance with detailed operating procedures and is documented on activity-specific data sheets or records of disassembly.

II. PURPOSE

This RA will determine if Y-12 is ready to resume the QE activities associated with the five weapons types identified in Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2," that were shut down as a result of events on September 22, 1994. The RA will be conducted in accordance with this implementation plan.

III. SCOPE

A. Breadth of the Readiness Assessment

1. Basis for RA Breadth

The POA addresses each of the 20 core requirements (CR) of DOE Order 5480.31. The 20 CRs have been further subdivided into 36 core objectives (CO) to aid applicability determination as described in DOE-STD-3006-95, *Planning and Conduct of Operational Readiness Reviews (ORR)*.

a. Evaluation of COs

The breadth of the RA was defined using the guidance provided in Y-12 Procedure Y60-024, *Y-12 Operations Readiness Process*. Evaluation of the COs for inclusion and exclusion in the RA considered the actions that have been taken during the Receipt, Storage, and Shipment (RSS) and Disassembly and Assembly (D&A) RAs and the actions that have been taken as a part of the QE Special Operations Packages (SOP) performed in accordance with Document Y/OA-6243, *Standards and Controls Management Plan for Quality Evaluation*.

b. Focus of Restart Preparations and RA

The focus of the restart preparations is on completion of actions that satisfy the applicable COs and the prerequisites. The COs and prerequisites are centered largely on the rigor and formality of the operations performed.

2. List of Core Objectives

The scope of the RA as defined in the approved POA includes the following core objectives. The POA includes additional discussion concerning the scope or focus intended for each CO. The individual CRADs have incorporated this additional specificity. Some core objectives of DOE Order 5480.31 are excluded from the RA scope. The discussion and justification for the exclusion decisions is in the DOE-approved POA.

CO-1. Facility safety documentation is in place that describes the safety envelope of the facility. (CR-4)

CO-2. The safety documentation characterizes hazards and risks and identifies mitigating measures to protect worker and public safety from the characterized hazards. (CR-4)

CO-3. Safety systems are defined in the facility safety documentation. (CR-4)

CO-4. There are adequate and correct safety limits for operating systems. (CR-1)

CO-7. There are adequate and correct procedures for operating systems and utility systems. (CR-1)

CO-13. Training and Qualification programs for operations personnel have been established, documented, and implemented that cover the range of duties required to be performed. (CR-2)

CO-16. Training has been performed to the latest revision of procedures. (CR-18)

CO-17. Level of knowledge of operations personnel is adequate based on reviews of examinations, exam results, selected interviews, and observation of work performance. (CR-3)

CO-18. There are sufficient numbers of qualified personnel to support safe operations. (CR-13)

CO-19. The implementation status for DOE 5480.19, "Conduct of Operations -- Requirements for DOE Facilities," is adequate for operations. (CR-12)

CO-22. A routine operations drill program, including program records, has been established and implemented. (CR-9)

CO-25. A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor. (CR-6)

B. Basis for Readiness Assessment Depth

Depth refers to the level of analysis, documentation, or action by which a particular CO is assessed. Variations in the depth are obtained by the number of criteria that are used to assess a given CO or by the intensity of the review approaches. The review approaches include documentation checks, interviews, and walkdowns. Increased depth is attained by applying more of the review approaches for a given criterion or objective. The depth to which the different COs are assessed varies, depending on the particular facility characteristics (e.g., category 2 versus category 3 facilities) and according to the degree to which the requirement contributed to the incident on September 22, 1994. The graded approach, as described in Appendix 1 of DOE-STD-3006-95, is used to assist the team members in determining the appropriate assessment depth.

IV. READINESS ASSESSMENT PREREQUISITES (PR)

Several prerequisites have been identified that must be complete before the LMES RA begins. These prerequisites consist of management plans and reviews necessary to ensure line management readiness to proceed. Specifically, the prerequisites are as follows:

PR-1. Procedures and CSAs identified as required for operation have been reviewed, revised as necessary, verified, and validated. Issuance of revised procedures, Criticality Safety Approvals (CSA), and Operational Safety Requirements (OSR) has been controlled to ensure that the most recent revisions are present in the workplace, as required. All identified procedures have been categorized. A list of applicable procedures, CSAs, and OSRs has been compiled and placed in the readiness evidence files. (CO-7)

PR-2. Operators, supervisors, and operational support personnel are identified, trained, and qualified in accordance with the Y-12 Plant Training Implementation Matrix (TIM) requirements. Training and qualification records reflect satisfactory completion of the requirements by a sufficient number of personnel to resume safe operations. (CO-13 and CO-18)

PR-3. Identified operations and operational support personnel have completed required training on the latest version of procedures identified as required for operations. Personnel understand the procedure compliance policy and their responsibilities. (CO-16)

PR-4. Operations and operational support personnel levels of knowledge are validated and documented as satisfactory. The level of knowledge is validated through the following techniques: examinations, observation of procedure walkthroughs, and/or performance of operational drills or interviews, as appropriate. (CO-17 and CO-22)

PR-5. The status of the Conduct of Operations implementation program is in accordance with the Requests for Approval submitted to Y-12 Plant management.

PR-6. A routine operations drill program is documented in guides developed for the program. The specified number of operating and support personnel required for the scenario must be present, trained, and qualified during drills and simulations. Operations and operational support personnel demonstrate a satisfactory level of proficiency in response to routine operations drill scenarios. The routine operations drill program records are current and reflect an adequate and continuing program. (CO-22)

PR-7. Operations management has evaluated the open findings from the RSS and D&A RAs to determine applicability to the QE mission. Those determined to apply have been corrected and closed in Energy Systems Action Management System (ESAMS). Findings from the QE SOPs have been closed in ESAMS. (CO-25)

PR-8. A management self-assessment (MSA) is complete and verifies readiness to resume operations. The MSA verified the satisfactory status of the above prerequisite conditions. The MSA verified the completion of the resumption project plan. The MSA verified the satisfactory condition of the facility and support organizations against the RA Criteria and Review Approach Documents (CRAD) or the RA COs. (All COs and DOE concerns)

PR-9. Line management for the facility and processes within the scope of this RA certifies in writing that readiness to resume operations has been achieved. [DOE Order 5480.31, section 9.b.(2)]

PR-10. The Building 9204-4 BIO has been reviewed, revised as necessary, approved by Y-12 management, and submitted to DOE for approval. The Basis for Interim Operations (BIO) implementation plan has been developed based on the submitted BIO and is executed and on schedule upon approval of the BIO. (CO-1 through CO-4)

V. OVERALL APPROACH

The RA will provide LMES senior management with independent, objective measurement of the readiness to resume QE activities at Y-12. The RA will also be an indicator that Y-12 has a management team with a satisfactory level of proficiency to resume these activities. The following paragraphs outline the sequence of the RA.

A. Y-12 Line Management Readiness-to-Proceed Certification

Upon completion of the Y-12 management self assessment (MSA), including resolution of all prestart findings (with the exception of a manageable list of open prestart findings that have a well defined schedule for closure) the vice president, defense and manufacturing, will issue a readiness to resume operations certification discussed in prerequisite PR-9. The LMES RA will not begin until the vice president, defense and manufacturing, has provided this certification of readiness.

B. Readiness Assessment

The RA team members will review documentation and procedures; inspect equipment, systems and buildings; interview personnel; and observe simulated or actual operations as they are performed. The reviews conducted by each RA team member will be guided by a set of CRADs

included as Appendix 1. The level-of-knowledge interviews will determine the awareness of fundamentals and the retention of material included in the training program. For a specific operation, the team members will review the records and procedures, observe the operation, witness the execution of the procedure and the generation of the records, and then follow up on pertinent issues with interviews. For example, if a mistake is noted during an evolution, operators with similar qualifications may be questioned concerning their response to a similar situation.

The RA will place emphasis on reviewing samples of results or observing performance for adequacy. It will place less emphasis on systematic review of program structure and organization. However, if any portion of the review indicates a weak program, then further analysis of that program may be required.

The RA is conducted in two phases, the first being a review of documents associated with the implementation of prescribed programs, for example, corrective actions following the September 22 event, revised procedures, radiological controls procedures implementation, and completed surveillances. These reviews will be evaluated against DOE and facility requirements. The second phase stresses preparation for operations to permit evaluation of the operational proficiency developed in preparation for resumption of QE activities. This phase evaluates the level of knowledge of operators and selected support personnel. Emphasis is placed on any areas of concern identified during operations to determine if problems noted are of a general nature or are unique to an individual. This manner of review provides the RA team with a focused picture of the readiness to resume QE activities.

At the completion of the RA, a report will be prepared summarizing the review and commenting upon the readiness of Y-12 QE to restart.

LMES and Y-12 management make corrective action plans in accordance with the requirements of LMES Procedure QA-16.1, *Corrective Action Program*, and for closing all findings in accordance with QA-16.1. The responsible manager as defined in QA-16.1 will prepare evidence files for each finding submitted for closure. Assistance in the development of corrective action plans or interpretation of individual findings may be requested from the team manager or applicable team members.

The RA team manager must concur with the closure criteria for all prestart findings.

C. Assessment Results Briefings

The team will give briefings on the conduct and results of the RA to Y-12 management and, upon request, to senior LMES or DOE management for their information and to help them form their decision regarding startup.

VI. RA TEAM PREPARATIONS

Prior to commencement of on-site RA activities, training and familiarization for RA team members will be conducted. It will consist of site and facility familiarization, necessary radiological and safety training for facility access, facility program status, and development of the RA implementation plan and associated CRADs. Each team member has assessment experience

or appropriate training. No team member has any connection with QE activities that impact his independence to review assigned functional areas. By their selection, the team manager certifies that team members are technically competent, have appropriate assessment experience, are independent, and will become familiar with the facility through the familiarization process described above. Summaries of experience are contained in Appendix 2.

VII. LMES RA PROCESS

The team manager, assisted by team members, has developed the CRADs for this review. These CRADs provide defined bases for conducting the RA within the scope set forth by the core requirements and derived core objectives of DOE Order 5480.31. The team manager will review the efforts of the team members to ensure that all objectives are thoroughly assessed. The CRADs are based on the combined expertise of the team members, DOE Orders, and other requirements, the potential hazards of operations, and the findings of internal and external review groups.

VIII. ADMINISTRATION

The team will meet daily during the on-site review. These meetings will permit the team members to discuss significant observations or problems identified during the day and will permit the team manager to identify any trends or areas in which more detailed information may be required. It will also allow potential schedule difficulties or possible information gaps to be identified in time to take corrective action.

Responsibility for the quality of the review process rests with the team manager and includes selection of all LMES RA team members and daily on-site review of the findings of the team members.

IX. REPORTING AND RESOLUTIONS

A. Forms

During the conduct of the RA, documentation of findings and observations and the assembly of objective evidence of operational readiness will be the responsibility of the individual team members in accordance with specific directions given below. Two types of administrative forms will be used to accurately document on-site inspection activities, findings, and observations.

The Assessment Form (Form 1) is used to document the methods and actions by a team member taken in his criteria evaluation process. Each Form 1 lists the means the team member has used to measure the site's performance relative to the objective provided in the CRADs. The form will be complete enough to allow an outside agency reviewing the form to follow the assessment logic and means used to verify the site's performance with respect to the objective and to thereby validate the RA's completeness and adequacy. The write-up will clearly describe the approach taken to review the criterion. If for some reason the approach used does not exactly match the approach described in the CRAD, the reason will be documented. The conclusion will specify if the criteria for the particular objective have been met.

The Deficiency Form (Form 2) is used to document the issues revealed during the criteria evaluation process. A separate Form 2 should be generated for each issue related to a particular objective. For instance, in reviewing a CRAD or portion of a CRAD, a team member will generate a single Form 1 that describes the methods used in the investigation. If one distinct issue is discovered, the team member would then generate one Deficiency Form to detail the deficiency. A single Deficiency Form may be used to identify a generic problem for which a number of individual examples are listed. Clear communication is the objective, and the specific number of Deficiency Forms used to detail issues will necessarily be up to the discretion of the team member and team manager. Sample Forms 1 and 2 are located in Appendix 4.

B. Finding Classification

A single issue or a group of related issues that have been documented on Deficiency Forms may constitute a finding. The team manager, in consultation with the team member(s), determines whether a finding is prestart or poststart. Appendix 3 provides the criteria to be used to aid in this determination. The results of this determination are documented on the Deficiency Form.

C. Lessons Learned

The team manager will report any problems or successes specific to the conduct of this RA as Lessons Learned to aid future RAs and will incorporate them into the final report. These will include lessons learned with respect to the RA process itself, technical issues relating to the safe operation of DOE facilities, and interfaces with DOE in the RA process.

D. Final Report

The team manager will develop a report to document the results of the RA. The report will identify findings and observations found in the review and will identify findings as prestart or poststart.

Team members will be asked to sign the report, showing they concur with the report in the areas of their expertise. Dissenting opinions that have not been resolved will be appropriately addressed in the report. The team manager will transmit the RA report to the vice president, defense and manufacturing.

The RA report will be written with this format as a guide:

TITLE PAGE - The title page is the report cover and will state the subject and dates of the RA.

SIGNATURE PAGE - This page will be for the signature of all RA team members and will be used by the team manager in the final version of the report.

TABLE OF CONTENTS - The table of contents will identify all sections and subsections of the report, illustrations, tables, charts, figures, and appendices.

EXECUTIVE SUMMARY - This is a brief summary of the review process, the major or pre-start findings, and the readiness determination with appropriate recommendation.

INTRODUCTION - The introduction will provide information regarding the facility reviewed, the reason for the shutdown, and the purpose and the scope of the RA. It will also contain a brief discussion of the overall objectives of the RA, the review process, and team composition.

RA EVALUATION - For each functional area, the report will discuss the objectives, the pre-start and post-start findings of that area, and provide conclusions as to readiness to commence operations.

LESSONS LEARNED - Problems or successes encountered during the review that could be applied to future RAs, or to the construction, design or decommissioning of DOE facilities will be identified and documented in the report.

APPENDICES - Appropriate data will be provided as appendices to support the conclusions drawn in the report. These will include the following:

a. **Implementation Plan**
b. Criteria and Review Approach Documents (CRAD)
c. Team List and Qualification Summaries
d. Assessment Forms (Form 1)
e. Deficiency Forms (Form 2)
f. Dissenting Opinions (if applicable)

X. SCHEDULE

The LMES RA of QE activities is expected to begin approximately one week after line management certification of readiness and endorsement by the vice president, defense and manufacturing. The LMES RA will require about two weeks to complete. The LMES RA team training and familiarization may occur prior to LMES issuance of the line management certification of readiness.

APPENDICES

Appendix 1: Criteria and Review Approach Documents
Appendix 2: Team Member Summaries of Qualification
Appendix 3: Finding Classification Criteria
Appendix 4: RA Assessment and Deficiency Forms

APPENDIX 1

CRITERIA AND REVIEW APPROACH DOCUMENTS (CRAD)

CRITERIA AND REVIEW APPROACH DOCUMENTS

Contents

SAFETY DOCUMENTATION (SD)

Objectives

CO-1 Facility Safety documentation is in place that describes the safety envelope of the facility. (CR-4)

CO-2 The safety documentation characterizes hazards and risks and identifies mitigating measures to protect worker and public safety from the characterized hazards. (CR-4)

CO-3 Safety systems are defined in the facility safety documentation. (CR-4)

CO-4 There are adequate and correct safety limits for operating systems. (CR-1)

Criteria

1. The Building 9204-4 Basis for Interim Operations (BIO) has been submitted to DOE for approval.

2. An implementation plan has been developed based on the Building 9204-4 BIO.

3. The implementation plan includes justifications for continued operations during the implementation period, is being executed, and is on schedule.

Approach

Record Review:

1. Review the Building 9204-4 BIO for appropriate signature approvals.

2. Review submitted BIO to ensure appropriate safety systems are identified to protect the worker and public.

3. Compare the implementation plan to the Building 9204-4 BIO to ensure it is based on the Building 9204-4 BIO.

4. Review the implementation plan for justifications for continued operations during the implementation phase.

5. Verify the implementation plan is being executed and is on schedule.

6. Ensure OSR LCO action and surveillance requirements are current and consistent with the BIO and implementation plan.

Interviews:

Interviews will be scheduled as necessary after record reviews are completed.

Shift Performance:

1. Ensure compensatory measures identified in the implementation plan are in place and understood by facility personnel responsible for implementation.

2. Walk down Building 9204-4 and verify safety systems and equipment are present as identified in the operations safety requirements.

Objective

CO-22 A routine operations drill program, including program records, has been established and implemented. (CR-9)

Criteria

1. A drill program for routine operations has been established and implemented to ensure operator readiness and knowledge of appropriate response to indications.

2. The routine drill program is based on a graded approach driven by the specific facility hazard categorization analysis.

3. Typical drills will have equipment failure, miscalibration, process upset, or unexpected conditions scenarios.

Approach

Record Review:

1. Review and assess the adequacy of drill procedures and drill guides for operations activities in QE.

2. Review and assess the adequacy of program records in relation to a continuing program with routine drills being performed on an established schedule.

3. Review facility drill program to verify they are based on a graded approach driven by the specific facility hazard categorization analysis.

4. Review drill scenarios to verify they contain equipment failure, miscalibration, process upset, or unexpected condition scenarios.

5. Review drill program records to verify that all QE personnel have participated in at least one drill in the last quarter.

Interviews:

1. Interview the manager of the drill program for operations to assess the adequacy of methods used to select drill scenarios, drill participants, and to determine the status of the program.

2. Interview the QE senior drill monitor to assess knowledge of the drill program.

3. Interview shift operations personnel to discuss the drill program implementation.

Shift Performance:

Observe and evaluate at least one operation drill, including pre-drill and post-drill activities, applicable to QE operations.

Objective

CO-25 A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor. (CR-6)

Criteria

1. Findings from the QE SOP reviews performed by DOE are completed on schedule in the Energy Systems Action Management Systems (ESAMS).

2. Open post-start findings from the receipt, storage, and shipment (RSS) and Disassembly and Assembly (D&A) Readiness Assessments and findings generated against DSO since the resumption of D&A have been reviewed for applicability to the QE mission. Those findings determined to be applicable have been verified to have approved corrective action plans and are on schedule in ESAMS.

Approach

Record Review:

1. Verify that the findings from QE SOP reviews performed by DOE have been completed on schedule in ESAMS.

2. Verify that the open post-start findings from RSS and D&A and findings generated against DSO since D&A resumption have been reviewed for applicability to the QE mission.

3. Verify that applicable findings from Item 2 have approved corrective action plans and are on schedule in ESAMS.

4. Verify that QE operations and quality support know what open findings and corrective actions from oversight groups, audits, self-assessments, etc., are assigned to them.

5. Select five findings or corrective actions closed since April 1996 and review the associated files for adequacy of evidence of closure.

6. Review the status of the self-assessment program to determine adequacy for supporting line management needs.

7. Select at least five deficiency reports made by oversight groups, official review teams, or audit organizations and verify they have been entered into ESAMS.

Interviews:

1. Interview the QE operations manager and corrective action coordinator to assess their understanding of how issues are managed and status of open items assigned to their organizations.

2. Interview two or more QE personnel assigned corrective action and discuss status of implementation and expected completion dates.

Shift Performance:

For the five findings or corrective actions closed (see Record Review Item No. 4), walk down the specified actions to determine they remain in place and resolved the original deficiency.

PROCEDURES (PR)

Objective

CO-7 There are adequate and correct procedures for operating systems and utility systems. (CR-1)

Criteria

1. Criticality Safety Approvals (CSA) and operating procedures applicable to QE activities are technically accurate, consistent with each other, and incorporate the appropriate safety limits.

2. A viable system exists for the control and issuance of procedures and CSAs.

Approach

Record Review:

1. Compare at least five operating procedures with their associated CSAs to verify they are consistent with each other.

2. Verify that operational safety requirements are contained in applicable operating procedures.

3. Review site and/or divisional procedure(s) to verify a viable system exists for the control and issuance of procedures and CSAs.

4. Verify the existence of a document control center that contains the latest revision of procedures, CSAs, and OSRs.

Interviews:

1. Interview operations personnel and supervisors to assess their understanding of the CSA and procedure revision process and how they verify the latest approved revision of a CSA or a procedures.

2. Interview operations support personnel for understanding of the procedure and CSA control processes.

Shift Performance:

1. Walk down at least five CSAs to verify the conditions in the field match the conditions required in the CSAs.

2. Verify that procedures and CSAs in use are the latest revisions.

3. Observe at least three simulations/evolutions to verify personnel are using the latest procedures, and the procedures are adequate and correct.

TRAINING & QUALIFICATION (TQ)

Objective

CO-13 Training and qualification programs for operations personnel have been established, documented, and implemented that cover the range of duties required to be performed. (CR-2)

Criteria

1. Training and qualification requirements for operations personnel have been implemented using the Y-12 Plan 90-series training procedures (Y90-010 through Y90-120).

2. Compliance with the TIM corrective action dates is current for operations and support personnel.

3. Training and qualification of personnel is at a level sufficient to support resumption, or appropriate compensatory measures are in place.

Approach

Record Review:

1. Review the training and qualification program for operations personnel to verify requirements. (conduct of training including procedure use exercises and job performance measures, records, updating).

2. Review list of persons assigned to fill the positions listed in Appendix II of the Plan of Action to verify it is current, accurate, and controlled.

3. Review the TIM and verify it is approved by LMES and DOE, as applicable.

4. Review training and qualification records of operations personnel and operations support personnel (for work in 9204-4) to verify they have received the training required by the TIM.

5. If training deficiencies exist, review records that show line managers have approved and put in place appropriate compensatory measures for operations.

6. Where personnel do not meet training and qualification requirements of the TIM, verify compliance with approved schedules for corrective action.

Interviews:

1. Interview at least two operators and two line managers, including front-line supervisors, to verify their training and qualification are sufficient to support resumption and they understand any compensatory measures in place.

2. Interview at least two front-line supervisors to determine that they know the training status of their subordinates.

Shift Performance:

1. Observe at least two training exercises (tests, PUE, JPMs, orals, etc.) to verify conduct of training is in accordance with 90-series training procedures.

2. Observe operators, support personnel, and line managers performing/simulating at least three operations to verify their level of training and qualification is sufficient to support resumption and they understand any compensatory measures in place.

3. Observe at least one simulation/evolution to verify that operations management demonstrates the ability to take appropriate actions to qualify a transferee to a QE job.

Objective

CO-16 Training has been performed to the latest revision of procedures. (CR-18)

Criteria

1. Applicable personnel have been trained to the latest revision of the procedure.

2. Personnel understand the procedure compliance policy.

Approach

Record Review:

1. Verify line management has designated, in writing, the operations personnel who are necessary to perform specified tasks.

2. Review operations personnel training and qualification records to verify the personnel who are designated to perform specific tasks have been trained to the latest revision of the procedures applicable to each task.

Interviews:

Interview at least two operators and two supervisors to determine the understanding of the procedure compliance policy in QE.

Shift Performance:

Observe at least three simulations/evolutions to verify that operations personnel conducting the simulations/evolutions are designated, in writing, to perform them, have been trained to the latest revision of the applicable procedure, and demonstrate understanding of the procedure compliance policy.

OPERATIONS (OP)

Objective

CO-17 Level of knowledge of operations personnel is adequate based on reviews of examinations, exam results, selected interviews, and observation of work performance. (CR-3)

Criteria

1. Operations personnel understand their procedures, OSRs, and CSAs.

2. Operations personnel use and follow their procedures.

Approach

Records Review:

1. Review at least three completed qualification or certification examinations to determine if examinations adequately verify facility-specific level of knowledge.

2. Review the results of the examination administered during the MSA.

Interviews:

Interview at least two operators and two line managers, including front-line supervisors, to determine if they understand procedures, OSRs, and CSAs.

Shift Performance:

Observe at least three simulations/evolutions performed by operating personnel to verify facility-specific level of knowledge is adequate.

Objective

CO-18 There are sufficient numbers of qualified personnel to support safe operations. (CR-13)

Criteria

The numbers and qualifications of operating personnel necessary to perform the specified tasks defined in the operating procedures are adequate for normal and postulated emergency conditions.

Approach

Record Review:

1. Review the documents that define the numbers and qualifications of operating personnel necessary to perform the tasks specified in the operating procedures are adequate for normal and postulated emergency conditions.

2. Review the tasks listed in the procedure for each weapon type and determine if sufficient operating personnel are qualified on each task.

Interviews:

None

Shift Performance:

Observe at least three simulations/evolutions to determine if the numbers and qualifications of operating personnel are adequate.

Objective

CO-19 The implementation status of DOE Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," is adequate for operations. (CR-12)

Criteria

1. Actions described in the Request for Approval (RFA) Compliance Schedule Approval-165 are on schedule and have been adequately addressed for the facility/activity. The scope will be limited to the assessment of the following chapters of DOE Order 5480.19:

Chapter II	Shift Routine and Operating Practices
Chapter IV	Communications
Chapter V	Control of On-Shift Training
Chapter VI	Investigations of Abnormal Events
Chapter VII	Notifications
Chapter VIII	Control of Equipment and System Status
Chapter IX	Lockouts and Tagouts
Chapter X	Independent Verification
Chapter XI	Logkeeping
Chapter XII	Operations Turnover
Chapter XIV	Required Reading
Chapter XV	Timely Orders to Operators
Chapter XVI	Operations Procedures
Chapter XVII	Operator Aid Postings

2. Compensatory measures identified in the RFA, such as the placement of mentors in the operating areas, are employed where full compliance with the Conduct of Operations requirements cannot be met prior to resumption.

Approach

Record Review:

1. Review the Conduct of Operations portions of the RFAs and any RFA status update information to verify that implementation status is in accordance with the RFAs.

2. Review the records and paperwork associated with each DOE Order 5480.19 chapter within the scope of the CO to verify effective Conduct of Operations implementation.

Interviews:

Interview at least two operators and at least two line/shift managers, including front-line supervisors, to assess their understanding of the Conduct of Operations principles, including any compensatory measures, in the performance of their duties.

Shift Performance:

1. Observe at least three simulations/evolutions and one drill to determine if the facility has effectively implemented Conduct of Operations requirements.

2. Observe at least two operators conducting their normal daily routines, to verify they adequately demonstrate Conduct of Operations principles.

3. While observing simulations/evolutions, drills, and daily routines, verify the compensatory measures identified in the RFAs are in place and effective.

4. Walk down and verify three current lockout/tagouts to ensure they are correctly applied.

APPENDIX 2

TEAM MEMBER SUMMARIES OF QUALIFICATION

TEAM LIST

NAME	AREA(s)
Joe Flynn	Team Manager
Ollie Oliver	Procedures (CO-7)
Keith Stalnaker	Training & Qualification (CO-13 and CO-16)
Jim Sprenkle*	Operations (CO-17, CO-18, and CO-19)
Bill Hill	Operations (CO-17, CO-18, and CO-19)
Ron Shaffer	Drill Program (CO-22), Deficiency Resolution (CO-25), and Safety Documentation (CO-1, CO-2, CO-3, and CO-4)

*Lead evaluator for assigned area

TEAM MEMBER QUALIFICATION SUMMARY

TEAM MEMBER NAME: Joseph P. Flynn

TECHNICAL AREA(S)/CORE REQUIREMENTS ASSIGNED:

READINESS ASSESSMENT TEAM MANAGER

SUMMARY OF TECHNICAL QUALIFICATIONS:

- B.S. Electrical Engineering, Purdue University Honors Program
- U.S. Navy Nuclear Power Program - six years
- Commercial Nuclear Plant Experience
  - Engineer
  - Maintenance Manager
  - Senior Reactor Operator
  - Operations Manager
  - Technical Manager
  - Assistant Plant Manager
- Institute of Nuclear Power Operations (INPO)
  - Maintenance Department Assistant Manager
  - Operations Department Manager
    - Developed "Guidelines for the Conduct of Operations at Nuclear Power Stations"
  - Events Analysis Department Manager
  - Technical Development Department Manager
  - Plant and Corporate Evaluation Team Manager - more than 20 evaluations
- Consultant in areas of Operations and Maintenance
- Manager of LMES Evaluations Program

SUMMARY OF ASSESSMENT/ORR/INSPECTION QUALIFICATIONS:

- See INPO experience.
- Participated in 13 LMES Evaluations Group evaluations as a consultant to the team manager.
- Led LMES RA for Depleted Uranium Operations
- Led LMES RA for Disassembly and Assembly

SUMMARY OF FACILITY FAMILIARIZATION:

Participated in one LMES Evaluations Group evaluation of Y-12.
Overview training by Y-12 management

BASIS FOR ACCEPTABLE INDEPENDENCE:

The Manager, Evaluations Program, reports to the vice president, Defense & Manufacturing.

TEAM MEMBER QUALIFICATION SUMMARY

TEAM MEMBER NAME: H. A. Oliver III

TECHNICAL AREA(S)/CORE REQUIREMENTS ASSIGNED:

PROCEDURES (PR): Core Objective 7

SUMMARY OF TECHNICAL QUALIFICATIONS:

- B.S., U.S. Naval Academy
- U.S. Navy Nuclear Power Program - 18 years including command of nuclear powered submarine and nuclear capable submarine tender
- Lockheed Martin Energy Systems (LMES) Evaluations Group - five years

SUMMARY OF ASSESSMENT/ORR/INSPECTION QUALIFICATIONS:

- Certified as LMES Evaluations Program team manager and lead evaluator
- Served as team manager and as lead evaluator for operations and environment, safety, and health during evaluations of LMES facilities
- Served as team leader for management self-assessment of Y-12 Receipt, Shipment, and Storage
- Participated in management self-assessment of Y-12 Depleted Uranium Operations
- Served as operations/procedures and safety envelope lead evaluator during Y-12 Disassembly/Assembly readiness assessment
- Operational Readiness Review training, November 1994

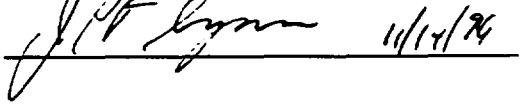
SUMMARY OF FACILITY FAMILIARIZATION:

Overview training by Y-12 management

BASIS FOR ACCEPTABLE INDEPENDENCE:

Normally assigned to LMES Evaluations Group reporting to the Manager, Evaluations Program. No direct responsibility for Y-12 Quality Evaluation activities.

ACCEPTABLE TO TEAM MANAGER



TEAM MEMBER QUALIFICATION SUMMARY

TEAM MEMBER NAME: C. Keith Stalnaker

TECHNICAL AREA(S)/CORE REQUIREMENTS ASSIGNED:

TRAINING AND QUALIFICATION (TQ): Core Objectives 13 and 16

SUMMARY OF TECHNICAL QUALIFICATIONS:

- B.S., Engineering, The Ohio State University
- M.B.A., Ohio University
- Lockheed Martin Energy Systems (LMES) Evaluations Group - four years
- Professional engineer registration
- Certified safety professional

SUMMARY OF ASSESSMENT/ORR/INSPECTION QUALIFICATIONS:

- Certified as LMES Evaluations Program team manager and lead evaluator
- Served as team manager and as lead evaluator for health and safety in operations evaluations of LMES facilities
- Participated in management self-assessment of Y-12 Receipt, Shipment, and Storage
- Served as team leader for management self-assessment of Y-12 Depleted Uranium Operations
- Participated in management self-assessment of Y-12 Disassembly and Assembly
- Operational Readiness Review training, November 1994

SUMMARY OF FACILITY FAMILIARIZATION:

- Overview training by Y-12 management
- Participated in one LMES Evaluations Group evaluation of Y-12

BASIS FOR ACCEPTABLE INDEPENDENCE:

Normally assigned to LMES Evaluations Group reporting to the Manager, Evaluations Program. No direct responsibility for Y-12 Quality Evaluation activities.

ACCEPTABLE TO TEAM MANAGER

J C F Lyon 11/1/96

TEAM MEMBER QUALIFICATION SUMMARY

TEAM MEMBER NAME: James R. Sprenkle

TECHNICAL AREA(S)/CORE REQUIREMENTS ASSIGNED:

OPERATIONS (OP): Core Objectives 17, 18, and 19

SUMMARY OF TECHNICAL QUALIFICATIONS:

- B.S., Nuclear Engineering, The Pennsylvania State University
- M.A., Business, Webster University
- U.S. Navy Nuclear Power Program - 20 years
- Lockheed Martin Energy Systems (LMES) Evaluations Group - six years

SUMMARY OF ASSESSMENT/ORR/INSPECTION QUALIFICATIONS:

- Certified as LMES Evaluations Program team manager and lead evaluator
- Served as team manager and as lead evaluator for operations in environmental, safety, and health evaluations of LMES facilities
- Participated in management self-assessment of Y-12 Receipt, Shipment, and Storage
- Participated in management self-assessment of Y-12 Depleted Uranium Operations
- Participated in management self-assessment of Y-12 Disassembly and Assembly
- Operational Readiness Review training, November 1994

SUMMARY OF FACILITY FAMILIARIZATION:

Overview training by Y-12 management
Served as team manager for one LMES Evaluations Group evaluation of Y-12

BASIS FOR ACCEPTABLE INDEPENDENCE:

Normally assigned to LMES Evaluations Group reporting to the Manager, Evaluations Program. No direct responsibility for Y-12 Quality Evaluation activities.

ACCEPTABLE TO TEAM MANAGER

J P Flynn 6/14/95

TEAM MEMBER QUALIFICATION SUMMARY

TEAM MEMBER NAME: William E. Hill

TECHNICAL AREA(S)/CORE REQUIREMENTS ASSIGNED:

OPERATIONS (OP): Core Objectives 17, 18, and 19

SUMMARY OF TECHNICAL QUALIFICATIONS:

- B.S., Nuclear Engineering, University of Tennessee
- U.S. Navy Nuclear Power Program - six years
- Participant in LMES evaluations in operations arena since 1991
- Experience
  - Engineer
  - Facility Manager at four ORNL facilities
  - Senior Reactor Operator; 800+ startups; 15,000+ control room hours
  - Writer
    Wrote HFIR Surveillance Test Procedures
    Rewrote TSR-II Technical Specifications
  - MBA alternate for two MBAs

SUMMARY OF ASSESSMENT/ORR/INSPECTION QUALIFICATIONS:

- Qualified as LMES Evaluations Program evaluator; participated in three evaluations
- ORR Team Member for shipment of HFIR fuel utilizing GE-2000 Fuel Cask
- Managed removal of leaking spent fuel from TSF, managed removal of activated beryllium reflector from HFIR pool - both projects underwent successful ORRs and were accomplished without incident

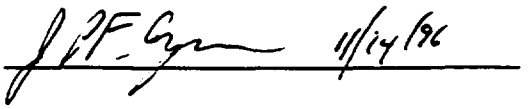
SUMMARY OF FACILITY FAMILIARIZATION:

Participated in two Y-12 evaluations, one was a training assessment.

BASIS FOR ACCEPTABLE INDEPENDENCE:

Normally assigned to Research Reactors Division, ORNL. No direct responsibility for Y-12 Quality Evaluation activities.

ACCEPTABLE TO TEAM MANAGER



TEAM MEMBER QUALIFICATION SUMMARY

TEAM MEMBER NAME: Ronald D. Shaffer

TECHNICAL AREA(S)/CORE REQUIREMENTS ASSIGNED:

SAFETY DOCUMENTATION, DRILL PROGRAM, AND DEFICIENCY RESOLUTION: Core Objectives 1, 2, 3, 4, 22, 25

SUMMARY OF TECHNICAL QUALIFICATIONS:

- B.S., Mechanical Engineering, Ohio State University
- U.S. Navy Nuclear Power Program - eight years
- Commercial Nuclear Plant Experience
  - Engineering
  - Licensing
  - Senior Reactor Operator
  - Operations Advisor
  - Maintenance Manager
  - Startup Engineer
  - Training Manager
  - Consultant to the NRC
- Consultant in the areas of Engineering, Operations, and Maintenance
- Lead Consultant for DOE Headquarters Offices of Nuclear Safety and Environment, Safety, and Health

SUMMARY OF ASSESSMENT/ORR/INSPECTION QUALIFICATIONS:

- Participated in over 40 SSFIs and EDSFIs in commercial nuclear facilities
- Led over 100 integrated assessments at DOE and commercial nuclear facilities
- Member of the Management Subteam on two Tiger Teams
- Subteam leader for DOE HEU Vulnerability Assessment team
- Participated in 10 DOE Headquarters ORR for initial startup and restart of facilities
- Subteam Lead for Martin Marietta Corporate assessments in the areas of operations, engineering, and maintenance

SUMMARY OF FACILITY FAMILIARIZATION:

Participated in two Martin Marietta Corporate assessments of Y-12.
Lead evaluator for management subteam of the Disassembly and Assembly Readiness Assessment
Overview training by Y-12 management

BASIS FOR ACCEPTABLE INDEPENDENCE:

Has not personally performed any work for the Y-12 facility management responsible for Quality Evaluation activities.

ACCEPTABLE TO TEAM MANAGER

J P Lyon 11/14/96

APPENDIX 3

FINDING CLASSIFICATION CRITERIA

Appendix 3: Finding Classification Criteria

This checklist will be used by the RA team to determine whether a deficiency must be corrected prior to startup.

A. Initial Screening

1. Does this issue involve a safety system?

2. Does this issue involve processes, functions or components identified in the Technical Safety Requirements/Operational Safety Requirements or nuclear safety control procedures?

3. Does this issue involve potential adverse environmental impact exceeding regulatory or site specific release limits?

4. Does this issue impact non-safety processes, functions or components which could adversely impact safety related processes, functions or components?

5. Is this issue non-compliant with a Energy Systems approved startup document?

6. Does this issue indicate a lack of adequate procedures or administrative systems?

7. Does this issue indicate operational or administrative non-compliance with procedures or policy?

8. Has this issue occurred with a frequency that indicates past corrective actions have been lacking or ineffective?

9. Does this issue require operator training not specified in existing facility training requirements?

10. Does the issue involve a previously unknown risk to worker or public safety and health or a previously unknown threat of environmental insult or release.

If the response to any of the above is yes, further evaluation, in accordance with the issue impact criteria below is required. If the response to all of the above is no, the issue may be resolved after restart.

B. Issue Impact

1. Does the loss of operability of the item prevent safe shutdown, or cause the loss of essential monitoring?

2. Does the loss of operability of the item require operator action in less than ten (10) minutes to prevent or mitigate the consequences of events described in the Safety Analysis?

3. Does the loss of operability of the item cause operation outside the TSR/OSRs or Safety Analysis?

4. Does the loss of operability of the item result in a reduction of the margin of safety as described in the Safety Analysis?

5. Does the issue indicate a lack of control which can have a near term impact on the operability or functionality of safety related systems?

6. Does the issue involve a violation or potential violation of worker safety or environmental protection regulatory requirements which poses a significant danger to workers, the public, or of environmental insult or release?

If the response to any of the above questions is yes, the item should be considered a startup item.

APPENDIX 4

RA ASSESSMENT AND DEFICIENCY FORMS

RA ASSESSMENT FORM

Functional Area:	CRA Number/Title:	Date:

Method of Appraisal (short narrative description):

Personnel contacted/position:

Records & other documents reviewed:

Evolutions/operations witnessed:

Discussion:

Conclusion:

Inspected by:	Approved by:_____ RA Team Manager Date:

Form 1

RA DEFICIENCY FORM

Functional Area:	CRA Number/Title:	Date: ID #:

Requirement:

Reference(s) (specific as to section):

Finding_____ Observation: _____

Discussion:

Finding Designation: Prestart_____ Poststart_____	Inspector:_____
Group Leader:_____ Date:	Approved by:_____ RA Team Manager Date:

Form 2

Appendix B

ASSESSMENT FORMS (FORM 1)

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-1 (CO-17)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. Operations personnel understand their procedures, OSRs, and CSAs.

2. Operations personnel use and follow their procedures.

Personnel contacted/position:

J. Doyle, assemblyperson
H. Pesterfield, assemblyperson
G. Bridges, supervisor
R. Hester, QO supervisor
P. Davis, QO dye penetrant inspector
G. Shelton, DSO training manager
C. Lane, DSO trainer
P. Fortune, shift manager
D. Hunnicutt, supervisor
T. Arwood, assemblyperson
G. Diggs, assemblyperson
M. Rolen, assemblyperson
R. Smith, assemblyperson
J. Hanna, material control and accountability measurements coordinator
K. Reynolds, nuclear criticality safety engineer
J. Hackworth, shift technical advisor
S. McGhee, QEE engineer
J. Vermillion, QEE engineer
K. Beatty, document control center assemblyperson
A. Bryan, administrative assistant

Records & other documents reviewed:

1. Procedure Y50-01-QE-028, "Checkweighing of Scales"

2. Procedure Y50-01-QE-013, "General Operation of Glove Boxes DB401 & DB402"

3. Procedure Y50-01-QE-031, "Vertical and Horizontal Lathe Procedure"

4. Procedure Y50-55-PT-435, "Performing Manual Fluorescent Dye Penetrant Testing in a MAA"

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-1 (CO-17)	Date: December 12, 1996

5. Y-12 Material Control and Accountability (MC&A) Plan

Evolutions/operations witnessed:

1. Checkweighing of scales
2. Pre-job brief for weapon disassembly
3. Weapon disassembly standards
4. Post-job brief for weapon disassembly
5. Dye penetrant inspection
6. Glove box gas sample
7. Vertical turret lathe checks
8. Valved unit gas sampling
9. Glovebox hoist checks
10. CSA incident
11. CSA incident investigation

Discussion:

1. Two assemblypersons were observed checkweighing scales inside a glovebox on three occasions. A mentor was present during the evolutions. The following were noted during the first evolution:

   a. A prerequisite step (VII.A.3) required initialling and recording the current date on form UCN-16460, "Accountability Scales Checkweighing." This step was performed at the end of the procedure.

   b. Step VII.B.2 required ensuring that the "STD.WT." blocks on the form had entries. Since they were blank, the assemblyperson recorded "5,000" in each of three STD.WT. blocks on the form. Later, however, when attempting to perform steps VII.B.10 and VII.B.11, the mentor intervened to have the assemblyperson change these values to 5,000, 10,000, and 15,000 respectively, so the assemblyperson could proceed with the procedure.

   c. After the 5,000 gram reading stabilized, step VII.B.6 required recording the reading in the corresponding "Measured Weight" column on the form. Then, step VII.B.8 required plotting the difference between the STD.WT. and the measured weight on the form. However, the assemblyperson plotted the weight difference and then recorded the measured weight.

   d. Step VII.B.10 required removing or adding checkweights to achieve the next checkweight mass indicated on the form. Step VII.B.11 required repeating steps VII.B.5 through VII.B.10 until all STD.WT. values had been checkweighed. Since 5,000 was initially entered in each of the STD.WT. blocks, the assemblyperson was

going to start the procedure over at step VII.B.3, so the mentor initially stepped in to have the assemblyperson change the STD.WT. block entries. However, after changing the entries, the assemblyperson was going to start with step VII.B.11 and told the mentor she thought there was a problem with the procedure, because it could not be followed. The mentor correctly told the assemblyperson to perform step VII.B.10 first and then step VII.B.11.

e. After adding 10,000 grams to the scale, the assemblyperson plotted the weight difference before recording the measured weight, contrary to the procedure.

f. After adding 15,000 grams to the scale, the reading on the scale exceeded the three gram differential control limit for the scale. Instead of performing steps VII.B.6, VII.B.7, VII.B.8, and VII.B.9.a, the assemblyperson notified the supervisor as required by step VII.B.9.b. Then, the mentor told the assemblyperson to record the measured weight and plot the difference as required by steps VII.B.6 and VII.B.8.

g. The supervisor correctly followed the corrective actions specified in the procedure and contacted the Facilities Management Organization (FMO) to get the scale repaired/recalibrated. The corrective actions consisted of rechecking the scale, which the supervisor directed in accordance with the procedure. The procedure was followed step by step and again, the scale reading exceeded its three gram differential control limit.

h. After reviewing the completed form, the DOE facility representative told one of the assemblypersons to write "grams" after the numbers in the STD.WT. blocks on the form so the units of measurement would be identified. The scale was capable of listing the results in "pounds" or "grams".

i. After the scale was recalibrated by FMO, the checkweighing procedure was repeated. Prerequisite step VII.A.3 was not performed until completion of step VII.B.8. In addition, the mentor told the assemblyperson to note the corrective action taken (recalibration on 12/4/96) in the comments section of the form.

2. The same two assemblypersons were observed checkweighing the scales on day 2. The procedure was followed step by step, and no deficiencies were noted.

3. On the third checkweigh observation, the scales were being rechecked due to having external pressure placed on them during troubleshooting of a problem with a wire rope. The scales were checked at 5, 10, 15, and 20 kg. Two assemblypersons and a supervisor performed the procedure. During the 20 kg measurement, the scales read 19,996, which was outside the control limit by the procedure. The supervisor directed that the weights be centered, and the measurement was repeated. It was within the control limit this time. The procedure directed

that steps VII.B.1 through VII.B.8 be repeated if any measurement was outside the control limit.

4. During checks of the cranes on day 3, the assemblyperson noted a slight splotch of red on the wire rope. He stopped the check on the hoist and informed his supervisor. The supervisor checked a hoisting and rigging training handout and told the assemblyperson to not use the crane and to call QE&I. A QE&I inspector checked the wire rope from the outside of the glovebox. He ultimately rejected the hoist, and the supervisor requested industrial safety to evaluate it, because he indicated it might be required to complete the day's activities. Later that day, the supervisor said the hoist had been approved for use to 100 pounds, and the heaviest item in the glovebox weighed 72 pounds. A proof load was conducted by picking up a canned piece part and having two assemblypersons press down on it. The hoist was approved for use up to 200 pounds.

5. During the check of the vertical lathe, the assemblypersons followed the procedure rigorously, utilizing the reader/worker method and repeat backs.

6. Disassembly operations of a subassembly were observed for three work days. Day 1 activities were delayed due to a problem with the scales. Day 2 activities were delayed due to a criticality safety incident. Day 3 activities were complicated due to a problem with the turret crane. Pre-job briefs, QE briefs, and post-job briefs were observed for all three days' activities. Attendance sheets were utilized on day 1 pre-job brief, but not days 2 and 3. The supervisor said that everyone at the day 1 pre-job brief was at the day 2 and 3 briefings. One supervisor was not at the day 3 pre-job briefing.

   a. During performance of the procedure for disassembly activities, the QEE directed activities of the assemblypersons on several occasions without the supervisor being present. One of the activities he directed involved passing two pieces of fissile material past one another. (Finding OP-1) On two occasions, a designer gave hand signal directions to an assemblyperson that were followed. On one occasion, a chain fall was hooked around a vacuum lifting fixture. The situation was discovered and corrected. During discussions afterward, the supervisor and several assemblypersons said a chain basket was needed for that hoist. On one occasion, an assemblyperson stopped the reader from proceeding because the supervisor was not physically present. During separation of the forward section from the aft section, the mentor directed an assemblyperson to keep the unit "straight up and down." The supervisor was within hearing distance and repeated the instruction to the same assemblyperson. On one occasion, a mentor advised the supervisor of an accumulation of oil in a drip pan. The supervisor stopped the procedure until the oil was cleaned up.

      In two instances, precise machining cuts were required on the assembly. The assemblypersons used a standard for leveling of 0.016 inches. This value was not specified in the procedure.

b. One piece weighed high by three grams. The piece was not centered on the scale. The supervisor directed the assemblyperson to center the piece, and it weighed high by one gram. However, the following problems were not noted by the assemblypersons or supervisors:

(1) During two steps, pieces were weighed and checkweighed without being centered. In one step, the piece was hanging off the edge of the scale for both measurements.

(2) During another step, the piece was weighed with approximately two inches hanging off the scale for two measurements. A manager was asked afterwards if the pieces needed to be centered. He said that failure to do so could cause the measurement to be in error.

An operator was asked about the weighing procedure. He said several of the pieces were so heavy that, if placed in the center of the scales, they could not be retrieved. He said he left the edge hanging off the scales to have something to remove the piece from the scale after the measurement.

c. Another step of the procedure required a metal tag to be applied. A plastic tag was applied instead. This was noticed by the shift technical advisor (STA), and the procedure was stopped. The situation was resolved by application of a metal tag, and procedure performance resumed.

d. An assemblyperson removed his hands from a glove box and moved around the area for about five minutes without frisking.

e. The post-job briefs were conducted professionally. All problems the crew were aware of were discussed. The following were discussed:

Day 1

- The supervisor said a procedure change was needed to get piece parts out of the way.
- The supervisor expressed a desire to use a turntable to improve operations.
- As assemblyperson requested stools to sit on during disassembly.
- The camera operator said more headsets were needed.

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-1 (CO-17)	Date: December 12, 1996

- The welder noted tungsten levels were higher than normal during his welding process. The QEE said helium was high that day, which would result in abnormal tungsten levels.

- A manager suggested improving wording in the procedure for storing parts, and suggested the scales be checked earlier to allow time to resolve problems. He also discussed a need for more metal tags on day 2.

Day 2

- The supervisor discussed the lift of a can of salt over a can containing fissile material. This lift prevented five other lifts and was done as a safety measure. It was an allowed lift, but the assemblypersons were instructed to stop and ask prior to lifting any can over another can.

- A mentor said the procedure for processing a part needed improvement. He also discussed a situation in which the parts came apart in a manner different from the procedure. A standing order allowed recovery, but he said the lathe operator needed more latitude. He also said the scales vary by seven grams if not centered. The supervisor replied that the scales had been repaired, and parts could be weighed anywhere on the scale and track within one gram.

- The supervisor discussed a problem with the scales. On day 2, the four weights were stacked vertically, which was seen as a safety problem for the assemblyperson who could get their hand injured if the stacked weights fell on them. The supervisor directed that the weights be left in triangles and squares at the center of the scale to prevent stacking.

- An assemblyperson said he had to leave parts hanging off the edge of the scale or they could not be retrieved. He also said the headsets hurt his head, and they needed better units.

- The supervisor said the checkweigh procedure was difficult to perform and was different from Beta 2E and the warehouse. He said the two gram deviation meant to check the readings for the last three days to determine if any one measurement had drifted by two grams. The assemblyperson who performed the checkweigh procedure that morning said he had not interpreted the procedure in that manner.

- The HP directed the glovebox operators not to pat people on the back until after frisking.

- An assemblyperson said there were too many people around the glovebox. The supervisor told him to stop at any time.

End of Job

- The supervisor reiterated his desire to use a turntable to assist with leveling parts and noted problems with the headset hurting people's ears.

- An assemblyperson said the gloves got sticky toward the end, and he could not get his hands in them. The supervisor said talcum powder was allowed to be used for glovebox operators. It was not allowed in boundary control stations.

- An assemblyperson said that housekeeping inside the glovebox could be improved. The QEE reinforced the need to clean up the glovebox. An assemblyperson also said they need more gypsum salt to aid in opening and closing zipper bags.

- An assemblyperson said one of the steps in the procedure had been read to the wrong person. This step dealt with the cuts to the subassembly and should have been read to the lathe operator and not the setup person.

- The HP and several assemblypersons discussed when it was necessary to frisk. The HP suggested painting a line on the floor to keep unnecessary people out. The QEE said a line would be too inconvenient as it would be crossed too many times. An assemblyperson asked that, since the frisker was alarmed, did they need to watch the meter continually while frisking? The HP said to watch the meter intermittently.

- A mentor said some cushions were late and suggested using the tool port to expedite their removal. The QEE had reservations about moving cushions out through the airlocks. The supervisor said they were getting an arbor press that would improve cushion processing times. The QEE said the procedure was being revised as it had too much detail now. He also said the delay in processing the cushions was a conscious effort made to follow the procedure exactly, even if it cost them time on cushion processing.

f. On the second day of disassembly operations, work was suspended due to a CSA incident while trying to load a set of weights in the glove box. An assemblyperson picked up the weights and placed them on a cart with fissile material signage on two sides. The assemblyperson rolled the cart next to the glove box airlock and left it. Another person noted the cart a couple of minutes later and immediately shouted "CSA violation, back up 15 feet." He contacted his supervisor and then assisted with

securing the area. The incident stopped work for 65 minutes until NCSD faxed directions to resolve the incident. Use of the cart was not an NCS violation, but was called a poor work practice. The response to the suspected CSA violation was per procedure.

g. A management review of the NCS incident was held immediately after the area was released. All principals were present. The assemblyperson said he was not aware any carts had fissile signage on them. The supervisor told him the signs were installed in early November, and training on them and revised CSAs was conducted while the assemblyperson was on vacation. The assemblyperson said he did not remember being trained on this change, but said he signed a lot of papers when he got back from vacation. He also stated he had not seen the signs until the other person started shouting NCS violation. The other person said he treated the moveable work table the same as the granite work tables. They have had two incidents recently involving non-fissile material being on the granite work tables. The CSA for the moveable work station allowed non-fissile materials to be on it. The CSA for the granite work tables did not allow non-fissile materials to be on them. The supervisor said the portable workstations had been used twice since being posted, but the assemblyperson had not been there either time. The shift manager said the design of the tables prohibited signs being placed on all four sides. The STA said he had received feedback previously that the moveable work station was not marked very well. The cause of the incident was determined to be the cart not posted conspicuously, confusion over prior use, and training. The solution was to change the wording in the CSA to allow removable posting, and to post the moveable work station as required. Input was requested from the assemblypersons repeatedly.

h. A high oxygen alarm was received during movement of the weights into the glove box. The alarm was acknowledged, and the supervisor informed. QEE personnel discussed the alarm with the supervisor and the shift manager. The supervisor felt the alarm was caused by the glove box door cycling. Oxygen was high for approximately 30 seconds. The QEE decided to continue with the procedure. All EU parts were sealed during the entire length of the alarm.

i. An NCS incident occurred due to lack of a label on a 55-gallon drum. The area around the drum was isolated, the situation was announced, and NCSD was called. The drum was not marked correctly, which was a procedural non-compliance. Three additional labels were applied to the drum to rectify the situation.

j. Over the three days, disassembly of the weapon was conducted very professionally. All personnel were proficient in their jobs, functioned very effectively as a team, showed good initiative, and were proactive in resolving potential problems. Overall, their performance was highly commendable.

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-1 (CO-17)	Date: December 12, 1996

7. Dye penetrant inspection of a non-fissile piece part was performed using procedure Y50-55-PT-435, "Performing Manual Fluorescent Dye Penetrant Testing in a MAA." The QO supervisor conducted a pre-job briefing. The procedure was written for use in fissile and non-fissile work. Some sections of the procedure had the reference to a CSA in brackets at the end of each action step. Other CSA-related statements were in asterisk boxes. The requirements of the asterisk boxes were designated in the procedure as non-applicable. The bracketed references to CSAs at the end of action steps were not exempted, although they did not apply.

   The QO supervisor insisted on following the procedure requirement for the identification number to be on the item to be tested. He held up work until QE operations marked the part with tape. Equipment calibration dates were verified prior to use.

8. Examination and examination results were reviewed for an assemblyperson, a supervisor, and the operations manager. Records were complete and auditable. Assemblypersons took a 60-question written exam and a 56-question oral exam. Supervisors took an 80-question written exam and a 63-question oral exam. Major sections of the written exams dealt with safety/radiation control, nuclear criticality safety, and conduct of operations. Both written tests were due to be reviewed in 1997. Both oral exams had key item boxes that were designed to be checked to assist the examiner with questions. These boxes were not utilized. A trainer said they should have been used. Further, none of the questions on any of the examinations dealt with procedure use. The training records for the operations manager were satisfactory, as were the graded certification exams.

9. The shift manager, two front-line supervisors, and three assemblypersons were interviewed to determine their understanding of conduct of operations guidelines, compensatory measures, procedures, OSRs, and CSAs. The questions and results are attached. During the MSA, the operators exhibited excellent knowledge of basic tasks and job skills. Therefore, these interviewers asked more difficult questions aimed at a higher threshold of learning. Gaps in knowledge were apparent in procedural usage guidelines, compensatory measures in place, and CSAs. Performance observed in the field did not mirror these results. Procedural compliance was good, and usage of procedures was excellent. Knowledge of CSAs at pre-job briefings and the use of mentors as compensatory measures were excellent.

   One supervisor was noticeably weaker than the other supervisor and manager. This was not raised as an issue due to the presence of mentors, observation of the supervisor's positive performance in the field, and the fact that, when he was uncertain of an answer, he chose the conservative path. Facility management has been made aware of this issue. Additionally, the strength of the overall team will also lend support to the less experienced members.

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-1 (CO-17)	Date: December 12, 1996

Conclusion:

Personnel in the field understand procedures, OSRs, and CSAs. In the majority of observations, operations personnel used and followed their procedures. Procedural compliance problems were noted when checkweighing the scale. With the compensatory measures in place, i.e., mentors present during most fissile activities, the level of knowledge of operations personnel is adequate. When the prestart finding in this area (Finding OP-01) is resolved, the criteria will be met.

Inspected by: W. E. Hill/J. R. Sprenkle	Approved by: J P Flynn RA Team Manager Date: 12/19/96

Form 1

1. How do you obtain a working copy of a procedure? How long is it valid? How do you extend its validity?

2. How do you determine whether a procedure must be used in-hand? Reader-worker?

3. How do you determine whether a CSA must be available at the work site? (Supervision only)

4. A procedure lists two CSAs as source references and three CSAs as secondary references. What does this mean? What do you do?

5. Several procedures call out a CSA or other document in the "Primary Reference" section or "Performance Document" section of a procedure. What does this mean? (Supervision only)

6. An operator performing glove box operations notifies you that he had a high oxygen content alarm. What do you do? What procedure describes the required actions?

7. How close may (weapon) parts be moved to each other in the glovebox?

8. In the context of the CSAs, define enriched uranium.

9. In the context of the CSAs, define depleted uranium.

10. What are the mass and piece part limits for vacuum cans?

11. Can you put non-fissile material on a moveable work table that has a sign attached stating fissile limits?

12. What systems associated with QE operations are OSRs?

13. What temporary modifications are currently in place on OSR-related systems, and are any compensatory measures required in support of the modification? (Supervision only)

14. What is the purpose of the new BIO? (Supervision only)

15. Interpret the note pertaining to the scales being out of tolerance in the "Checkweighing the Scales" procedure.

16. According to the OSRs for Building 9204-4, how do you know if a radiation detection and alarm device is operable?

17. You are performing a step in a procedure that has a bold CSA number in brackets following the step. Point out the CSA requirements that apply to the step. (Assemblypersons only) --

18. While performing an assigned job, you observe an oxyacetylene torch lying in a posted fissile storage array. (You do not know if the torch is authorized to be in the array.) What should you do? (Assemblypersons only)

19. You are disassembling a component with a co-worker. You come to a step in the procedure that is out of order. Your co-worker says the supervisor was aware of the reversed steps in the procedure and had okayed going ahead the last time the procedure was used. What should you do? (Assemblypersons only)

20. What requires mentors to be present currently?

21. What compensatory measures are in place that affect the QE operations organization? (Supervision only)

22. You have a crew in on Saturday to get a job done that was given Top Priority by the operations manager. He wants the job done before you leave today., One of your assemblypersons comes to you and reports the procedure he is using has a step missing. You cannot contact the person who wrote the procedure. What do you do? (Supervision only)

23. Which systems/equipment require independent verification? (Supervision only)

24. How do you perform independent verification?

25. How do you perform independent verification on a throttle valve?

26. Interpret the note pertaining to the scales being out of tolerance in the "Checkweighing the Scales" procedure.

27. You are frisking yourself after leaving the glovebox area. How do you know if you are contaminated? At what level must corrective actions be taken?

28. Is there any restriction on the use of talcum powder on site based on required reading?

Question	Applicability	Number Missed Supervision	Number Missed Assemblyperson
1	All	0	0
2	All	2	3
3	All	1	N/A
4	All	3	3
5	Supervision	2	N/A
6	All	1	0
7	All	0	0
8	All	2	3
9	All	2	3
10	All	2*	3*
11	All	1	2
12	All	0	0
13	Supervision	1	N/A
14	Supervision	0	N/A
15	All	2	0
16	All	0	3
17	Assemblyperson	N/A	1
18	Assemblyperson	N/A	0
19	Assemblyperson	N/A	0
20	All	3	0
21	Supervision	3*	N/A
22	Supervision	0	N/A
23	Supervision	1	N/A
24	All	1	0
25	All	2	0
26	All	2	0
27	All	2	2
28	All	2	3

partial answer given

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-2 (CO-18)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

The numbers and qualifications of operating personnel necessary to perform the specified tasks defined in the operating procedures are adequate for normal and postulated emergency conditions.

Personnel contacted/position:

D. Hunnicutt, supervisor
P. Fortune, shift manager

Records & other documents reviewed:

1. List of QE personnel who are qualified/certified
2. List of tasks as defined in the QE procedures
3. List of maintenance personnel supporting QE operations who are qualified
4. List of tasks as defined in the maintenance procedures
5. List of QO personnel supporting QE operations who are qualified
6. List of tasks as defined in the QO procedures
7. Building 9204-4 Qualified Personnel List notebook
8. Five procedures (one for each weapon type)

Evolutions/operations witnessed:

1. Weapon disassembly
2. Dye penetrant inspection
3. Glove box gas sample
4. Checkweighing scales
5. Valved unit gas sampling
6. Vertical turret lathe checks

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-2 (CO-18)	Date: December 12, 1996

Discussion:

1. The disassembly procedure for each weapon type was reviewed. Each procedure contained a list of the personnel required to perform the tasks in the procedure. A QE supervisor was then interviewed to determine the number of personnel needed to perform the job, based on his experience. Based upon the personnel listed in the procedures and the number of personnel identified by the supervisor, the lists of qualified/certified QE personnel, qualified FMO personnel, and qualified QO personnel were reviewed. There were adequate numbers of qualified and certified personnel to perform the tasks specified in the operating procedures.

2. Since the procedures did not address postulated emergency conditions, the shift manager was interviewed to discuss this issue. The shift manager mentioned fire patrols, response to a CSA violation, and response to a contamination incident as possible emergency conditions. The shift manager said that any situation she could think of could be handled, if the number of personnel required to perform the normal tasks were present.

3. A weapon disassembly, dye penetrant inspection, glove box gas sample, checkweighing of scales, valved unit gas sampling, and vertical turret lathe checks were observed. The numbers and qualifications of personnel to perform those tasks were adequate.

Conclusion:

Based on the records reviewed, personnel interviewed, and evolutions witnessed, the numbers and qualifications of operating personnel necessary to perform the specified tasks defined in the operating procedures are adequate for normal and postulated emergency conditions with the compensatory measures in place, i.e., mentors present during most fissile activities. The criteria for this core objective have been met.

Inspected by: W. E. Hill/J. R. Sprenkle	Approved by: _____ RA Team Manager Date: 12/16/96

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-3 (CO-19)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. Actions described in the Request for Approval (RFA) Compliance Schedule Approval-165 are on schedule and have been adequately addressed for the facility/activity. The scope will be limited to the assessment of the following chapters of DOE Order 5480.19:

Chapter I	Operations Organization and Administration
Chapter II	Shift Routine and Operating Practices
Chapter IV	Communications
Chapter V	Control of On-Shift Training
Chapter VI	Investigations of Abnormal Events
Chapter VII	Notifications
Chapter VIII	Control of Equipment and System Status
Chapter IX	Lockouts and Tagouts
Chapter X	Independent Verification
Chapter XI	Logkeeping
Chapter XII	Operations Turnover
Chapter XIV	Required Reading
Chapter XV	Timely Orders to Operators
Chapter XVI	Operations Procedures
Chapter XVII	Operator Aid Postings
Chapter XVIII	Equipment Piping and Labeling

2. Compensatory measures identified in the RFA, such as the placement of mentors in the operating areas, are employed where full compliance with the Conduct of Operations requirements cannot be met prior to resumption.

Personnel contacted/position:

G. Bridges, supervisor
G. Lovelace, operations manager
M. Rolen, assemblyperson
P. Gheen, material controller
P. Fortune, shift manager
G. Diggs, assemblyperson
R. Burress, facility support
D. Hunnicutt, supervisor

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-3 (CO-19)	Date: December 12, 1996

Records & other documents reviewed:

1. Procedure Y50-01-QE-030, "Daily Administrative Checks in 9204-4 Quality Evaluation"
2. Procedure Y70-122, "Radiological Work Permit"
3. Procedure Y50-01-QE-013, "General Operation of Gloveboxes DB-401 and DB-402"
4. Nuclear Operations Conduct of Operations Manual
5. ESP-OP-151, "Equipment Tagging for Administrative Control"
6. Procedure IS-107, "Lockout/Tagout"
7. 9204-4 Quality Evaluation Timely Order
8. 9204-4 Limiting Conditions of Operations Status Book
9. Equipment Deficiency Identification Log
10. Temporary Modification Log
11. Building 9204-4 Critique & Management Review Book
12. Building 9204-4 Required Reading
13. Building 9204-4 Operator Aids

Evolutions/operations witnessed:

1. Daily administrative checks in the material access area (MAA)
2. Daily glovebox gas sample
3. Weapon disassembly
4. Checkweighing scales
5. Vertical turret lathe checks
6. Dye penetrant inspection
7. Valved unit gas sampling
8. Glovebox leak drill
9. Daily CAAS radiation detection check

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-3 (CO-19)	Date: December 12, 1996

Discussion:

1. One assemblyperson and one material controller were observed performing the daily administrative checks inside the MAA. The checklist was completed properly. However, the following were noted:

   a. One of the checks listed on the checklist required the tunnel perimeter walls and ceilings to be checked for penetrations. An elevator was used to access the tunnel, which the shift manager said was the only means of access from inside the building. A sign was posted on the elevator door that required notifying the shift manager upon entering and after leaving the tunnel. The shift manager was not notified on either occasion. The shift manager said the requirement was established for safety reasons, since there was no public address system in the tunnel.

   b. Step G.1 of procedure Y70-122, "Radiological Work Permit," required all individuals to sign in under the applicable radiological work permit (RWP) before each entry to the work area to indicate the RWP had been read, understood, and would be complied with. After stepping across the boundary into a high contamination area, the assemblyperson realized he had not signed the RWP. He asked the material controller to complete the RWP sign-in sheet for him. The assemblyperson signed the sheet after he left the high contamination area.

   c. Step VII.5 of the procedure required the shift manager to retain the completed checklists (DAC and CAAS daily visual inspection checklist) for one year. However, document control center personnel said they only had copies of the DAC for the last six months and copies of the CAAS checklists for the last three months.

2. The shift manager was observed completing one of the radiation detector station checklists for the criticality accident alarm system (CAAS) in Building 9204-4. No deficiencies were noted.

3. Two assemblypersons were observed obtaining a glovebox gas sample. The procedure was followed step by step and no deficiencies were noted.

4. The lockout/tagout permit notebook was reviewed. It contained four active permits. The lockout/tagouts were walked down, and all locks/tags were properly installed. The four permits were reviewed, and the following were noted (Observation OP-03):

   a. On permit #114312, the location listed in block 1 was written over instead of being crossed out, initialed, dated, and then correctly entered.

   b. On permit #114312, the location of the breaker (tag 01) listed in block 2 was Building 9204-16, instead of its actual location in Building 9204-4.

c. On permit #114316, the "Independent Verification Required" box in block 1 was not checked "yes" or "no", and the original lock/tag placement (block 3) was not initialed as being independently verified. However, the original tag was temporarily suspended and removed. Block 5 on the attached temporary suspension form was checked "yes", indicating independent verification was required. In addition, the independent verification box in block 8 (Lock/Tag Placement) contained the independent verifier's signature.

d. The temporary suspension form attached to permit #114316 required the initials and badge number of the person hanging the lock/tag and the person performing independent verification. However, the "Lock/Tag Placed" box and "Ind. Ver." box contained signatures and no badge numbers.

e. Procedure IS-107 required initials and badge numbers to be entered in block 3 (Lock/Tag Placement) on the permit. However, on permits #114319 and #114327, there were no badge numbers in block 3.

5. Training records were checked to ensure all personnel who signed the active permits as issuing authority or person hanging/removing tags were qualified to do so. No deficiencies were noted.

6. A memo, dated December 3, 1996, in the front of the lockout/tagout permit notebook listed five people who were approved to perform the duties of the Issuing Authority (IA) and sign the permit. The index was reviewed. Three permits had been closed and initialed on December 5, 1996, by someone other than one of the five people listed on the approved list of IAs. When asked, this person said he removed the associated tags, signed off/completed the permits, and then destroyed the tags and permits, since they were not required to be kept. This person also said he was approved to sign the permits as an IA. Later, the shift manager said this person was listed on the previous list of IAs, but was not on the current list.

   Chapter 9.0, "Lockouts/Tagouts," of the Nuclear Operations Conduct of Operations Manual stated that the current revision of procedure Y70-527, "Energy Isolation and Control," must be complied with in performing lockout/tagouts. However, the correct reference was procedure IS-107, "Lockout/Tagout," which superseded procedure Y70-527 over six months ago.

7. Administrative control tag (ACT) numbers were noted while walking down the material access area (MAA). These numbers were then compared to those listed on the ACT request forms in the ACT notebook. One of approximately 50 tags was not listed on the ACT request form (Tag #14, dated 11/23/92, and attached to jib crane in reclamation area). One of the tags (tag 02) on ACT request 96-B4-001-151 did not list the complete tag number.

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-3 (CO-19)	Date: December 12, 1996

The index in the ACT notebook listed 25 active ACT request forms. The forms were reviewed, and the only problems noted were as follows:

a. Step VII.G. of the procedure required the person who installed the tag to record the date installed and his/her name in section 8 (Installed) of the ACT request form. ACT request 96-B4-001-131 listed 55 tags. Arrows were drawn down the page in block 8, instead of signing and dating each entry in block 8.

b. Section 10 on tag #2 on ACT request 96-B4-001-130 has been signed by an IA authorizing removal of the tag. The date of removal was entered in Section 11. However, the name of the person who removed the tag was not entered as required.

8. The operator aids, required reading, and timely orders (daily orders and standing orders) were reviewed on December 9, 1996. No problems were noted with the operator aids. The standing orders were required to be read at the start of the shift by the Nuclear Operations Conduct of Operations Manual. Standing Order 96-048, concerning IMOM oven stations, was issued on December 3, 1996. One manager and one supervisor, who were present for work, had still not initialed it. Standing Order 96-003 was issued in January 1996 and required the STA to review all work on OSR systems prior to any hands-on activity. The current STA was not listed on the sign-off sheet. Several of the required reading files were missing sign-off initials, but in the majority of the cases, the personnel had been away from work for an extended period of time.

9. The Building 9204-4 Limiting Conditions of Operations Status Book was reviewed, and the following were noted:

a. Status sheet #96-LCO-150 was signed off on the index as being completed. However, the status sheet had not been signed off as completed. When asked, the shift manager said all actions were completed, and she completed the status sheet.

b. Status sheet #96-LCO-134 was signed off on the index as being completed. However, the status sheet had not been signed off as completed. The shift manager said the issue was still open and corrected the index sheet.

10. The Equipment Deficiency Identification Log was reviewed. The MAA was walked down and deficient material condition (DMC) tags found were reviewed. The tags were then compared to those listed in the log. The following were noted (Finding OP-05):

a. Two of three tags noted in the reclamation area were not listed in the log.

b. One of two tags noted in the QE laboratory area were not listed in the log.

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-3 (CO-19)	Date: December 12, 1996

11. The Temporary Modification Log was reviewed, and the locations of the modifications were walked down. The monthly physical check required by step N.15 of Chapter 8.0 of the Nuclear Operations Conduct of Operations Manual was not noted monthly in the comments section of the temporary modification (TM) sheet for TM-96-001. It had been noted monthly on the other three active TMs.

12. The operations manager said all chapters specified in the RFA had been fully implemented. However, this fact had not been transmitted to DOE for their concurrence. He also said the compensatory measures listed in the RFA were still applicable until DOE concurred that they were no longer needed.

    When asked what compensatory measures were in effect for Chapter VIII and Chapter X, the operations manager said a mentor was required to be present during the alignment portion of the fire system and CAAS surveillances to provide independent verification.

    When asked what compensatory measures were in effect for Chapter XVI, the operations manager said a mentor was required to be present whenever a procedure on "the list" was performed. An approved list, dated March 8, 1996, was provided and reviewed. It listed 22 procedures. The operations manager also provided a draft list that listed 26 procedures. He said it was going to be the "official" list after resumption activities had been completed.

    When asked what compensatory measure was in effect for Chapter XII, "Shift Turnover," the operations manager was not able to provide a definitive answer. He said they really did not do shift turnover because activities in 9204-4 were single shift operations. However, the RFA listed Chapter XII as applicable.

    Step M.3 of Chapter 8.0 of the Nuclear Operations Conduct of Operations Manual required compensatory measures to be included in timely orders to ensure affected personnel were aware of the measures. None of the compensatory measures required for Chapters VIII, X, XII, or XVI were listed in the timely orders. The facility's status board was reviewed. Step M.4 of Chapter 8.0 required equipment status boards to reflect the installation and removal of compensatory measures. The status board did not reflect any compensatory measures associated with Chapters VIII, X, XII, or XVI. The only compensatory measure alluded to on the status board was that supplemental CAAS coverage was required for the Kathebar fan housing, thorium room, and Alpha 5 West. (Finding OP-06)

13. During observation of disassembly operations, a test of the ENS system was conducted. The message was not understandable to the observer. An assemblyperson was asked if he understood the message, and he said he did not understand it either but knew what the message was from memory. He also said the volume of the ENS system was turned up too much. (Finding OP-04)

RA ASSESSMENT FORM

Functional Area: OPERATIONS (OP)	CRA Number/Title: OP-3 (CO-19)	Date: December 12, 1996

14. The facility's Critique and Management Review Book was reviewed. The book contained seven open management review reports. The reports listed a total of 31 action items. Six action items were past their due date but not signed off. The shift manager said four of those six action items had been completed, and the book needed updating. The shift manager said the other two action items were still open.

15. Logkeeping and operations turnover were reviewed. Operations turnover consisted of a written interchange between the shift manager and the PSS at the end of shift and the beginning of shift. The intent was to apprise both persons of the status of the facility at the end of the day and the beginning of the day. The 11/23/96:11/25/96 form returned by the PSS was the 11/22/96:11/23/96 form written over, instead of the 11/23:11/25 form. The 11/14/96:11/15/96 form was the 11/13/96:11/14/96 form crossed out. The form itself had one error on it. According to the RFA, mentors were required to implement operations turnover. However, there was no standing order stating what the mentors did. When asked, a mentor said he periodically reviewed the PSS/shift manager form.

16. Building 9204-4 procedures required key logbooks to conform with conduct of operations guidelines. There was only one key logbook, which was kept by the shift manager. No problems were noted in a review of this logbook.

Conclusion:

The actions described in the RFA have been adequately addressed for the facility with the exception of those issues on which findings were written. Mentors have been effectively used overall. Although there was a lack of specific guidance regarding shift turnover, the effect is minimal, since turnover only consists of sending a form to the PSS at the end of each day. With compensatory measures in place, i.e., mentors present during most fissile activities, all criteria will be met when the prestart findings in this area (Findings OP-4 and OP-6) are resolved.

Inspected by: W. E. Hill/J. R. Sprenkle	Approved by: J P Flynn RA Team Manager Date: 12/13/96

RA ASSESSMENT FORM

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-1 (CO-1, 2, 3, and 4)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. The Building 9204-4 Basis for Interim Operations (BIO) has been submitted to DOE for approval.

2. An implementation plan has been developed based on the Building 9204-4 BIO.

3. The implementation plan includes justifications for continued operations during the implementation period, is being executed, and is on schedule.

Personnel contacted/position:

J. Fisher, engineering manager, 9204-4 operations
W. North, DSO engineering group leader
B. Williams, safety evaluation engineer
P. Fortune, shift manager
G. Lovelace, operations manager
F. Kassebaum, mentor

Records & other documents reviewed:

1. Y/ENG/BIO-004, "Basis for Interim Operations Disassembly & Storage Organization 9204-4 Facility," dated 9/26/96

2. Standing Order SO-9204-4-96-046, "Building 9204-4 Inventory Control," dated 11/26/96

3. CDY70-151-3, Appendix B, CAAS Daily Surveillance Log, dated 10/10/95

4. Implementation Plan for Building 9204-4 Basis for Interim Operations, Draft

5. Y/TS-816, "Final Safety Analysis Report for the Assembly, Disassembly, and Warehouse Project," dated September 1986

6. YSO-SER-007, Rev. 0, "Safety Evaluation Report for Revision 0 of the Basis for Interim Operations (BIO) for Building 9204-4, Y/ENG/BIO-004," dated 11/26/96

7. Y/TS-1317, Rev. 1, "Operational Safety Requirement for the Building 9204-4 Special Nuclear Material Operating and Storage Area," dated 9/18/95

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-1 (CO-1, 2, 3, and 4)	Date: December 12, 1996

8. Y/TS-1317, Rev. 2, "Operational Safety Requirement for the Building 9204-4 Special Nuclear Material Operating and Storage Area," dated 10/1/96

9. Procedure Y52-01-001, "Annual Surveillance of Fissile Material Activities"

Evolutions/operations witnessed:

Walked down Building 9204-4

Discussion:

1. The approved Building 9202-4 Basis for Interim Operations (BIO) and the draft implementation plan for the BIO were reviewed. The BIO identified the safety-significant systems as the fire protection and criticality accident alarm systems (CAAS). Building 9204-4 was split into Category II and Category III sections, with the ventilation system and building walls being the boundary. The bounding accident for the facility was a fire that led to entire facility destruction. This basis led to inventory controls and, therefore, the Category II and III boundaries were not a control for mitigation.

2. The draft implementation plan for the BIO did not address the actions or compensatory measures required to justify continued operations until the BIO was fully implemented. (Finding SD-01) The plan did not require full implementation for approximately six months. The approved BIO had new safety requirements in the area of inventory control and required other mitigative actions, such as removal of wooden pallets and thorium parts. These items were not specifically called out in the implementation plan, and the justification for continued operations was not in place to support QE activities during the BIO implementation phase.

3. A standing order, which had been issued to address the inventory concerns in the BIO, was reviewed. The order was located in the correct notebook in the shift manager's office with only six of 50 required personnel reviews not completed. Of the six, three were off for various reasons, and the others were not directly involved with operations or inventories in Building 9204-4. The Required Initial Inventory Limiting Condition for Operation (LCO) Data Sheet was also reviewed, and no deficiencies were noted in implementation of the standing order. However, the standing order for inventory control stated that "Violation of this order or limit will not constitute a reportable occurrence until the BIO is fully implemented." This was not conservative, because the BIO safety analysis identified the need to control uranium inventory "to ensure off-site consequences of an unmitigated fire are maintained below required level." Subsequently, facility operations management modified this statement to include what aspects of the inventory requirements would be reportable.

4. The second floor CAAS alarm station 9204-4B was walked down, and the daily surveillance log for detectors A and B was reviewed. No surveillance discrepancies were noted for the six-day period reviewed. Surveillance records for the CAAS system were reviewed back to

March 1996 to verify required surveillance intervals were not exceeded. All surveillances were performed within the required intervals. CAAS alarm station 9204-4A was also walked down and found to be operating as required, and surveillances were completed as required. The CAAS met the LCO and surveillances required by the current approved OSRs.

5. A review was conducted of the accident scenarios that supported the QE and co-located activities in the MAA of Building 9204-4 in the Final Safety Analysis Report, dated September 1986. The overall process for establishing probability of occurrence was based on judgement and not classical fault-tree analyses methodologies. These established frequencies were not reviewed further, as it was not within the scope of the RA. However, these judgements were carried over in the hazard and risk determinations contained in the BIO.

6. A temporary modification had been made to a fire cycle panel. The temporary modification did not address periodic surveillance of the lead acid batteries that had been added. (Finding OP-02)

   Temporary modification TM-96-003 replaced an old nickel cadmium battery bank used to supply back-up power to fire cycle panel 9204004FCS08E with lead acid batteries. The replacement batteries were rated at approximately 200 percent of the old nickel cadmium bank. The replacement was to have been for about one month and was completed on March 30, 1996. These batteries were connected via alligator clips to terminals inside the fire cycle panel and were supposed to be on continuous float charge of approximately 0.1 amps. The two batteries were typical heavy-duty lead acid truck batteries connected in series, with a 200 amp-hour capacity.

   The temporary modification had undergone six extensions since it was implemented, with a current expiration date of March 30, 1997. Although there was no negative impact on the system based on the choice of the replacement battery capacity and rating, lead acid batteries in this type of service should be surveilled periodically. Because the initial intent was to only install these replacement batteries for one month, the surveillance aspects were not addressed. However, the temporary modification had been in place for over eight months, and lead acid batteries have maintenance necessities, particularly those that are maintained on a positive float for long periods. The configuration did not lend itself to easy monitoring, because no level could be seen in the battery case without removing caps (and gassing could be expected) and the battery charger was in a locked cabinet with no external indication of correct operation. Monitoring was especially warranted due to the temporary method of connection (alligator clips) not being as reliable as threaded fastener connections.

7. Building 9204-4 personnel determined that entrance into LCO 3.1.2 ACTION step C was required on December 6, 1996, at approximately 1330. This was based on the inability to prove that a portion of Building 9201-5, which was within 200 feet of the material access area within Building 9204-4, had an operable alarm signal for the CAAS. The operations organization in Building 9204-4 correctly notified the plant shift superintendent (PSS) of this

condition at approximately 1247 on December 6, 1996, and the PSS indicated there was no problem. Building 9201-5 was not a facility covered by Operational Safety Requirements (OSR) and, therefore, the CAAS alarm testing conducted in that building was thought to not receive the same rigor as that of Building 9204-4. This was verified by the Building 9204-4 shift manager. The PSS office told her they do verify that all areas of the Building 9201-5 facility have an audible alarm function, but the verification was not as thorough as the verification conducted in Building 9204-4. The Building 9204-4 operations organization requested support from the PSS to evacuate and post the areas impacted by potential criticality events in Buildings 9204-4 and 9201-5, and the response was negative. The DSO manager contacted the Building 9201-5 manager by phone to notify him of the conditions, and found that it was not a normally occupied area. The operations manager and mentor from Building 9204-4 then went to the affected areas of Building 9201-5 to ensure no one was present, and the STA made signs to be posted in Building 9201-5 to restrict access in those areas without proper nuclear incident portable monitoring devices. These actions were all completed within the guidelines of the immediate completion time of the ACTION statement of the OSR.

8. The review team discussed the methodology incorporated in the BIO for establishing the probability of occurrence of the fire scenarios and reviewed the appropriate sections of the BIO. Section 5.3.2 identified five items that were used to establish the probability as being extremely unlikely (<1E-4 but >1E-6). These items, along with the establishment of inventory controls, would limit the risk associated with the design basis fire. The following are the five areas:

1. combustible material accumulation is controlled by the fire prevention program associated with Building 9204-4
2. fire detection and suppression system
3. good housekeeping practices, including inspections
4. few ignition sources
5. noncombustible building construction

Of these, the fire detection and suppression system was a safety system with associated OSRs and surveillance, and the building construction was a given. The remaining three issues were not addressed in a formal administrative requirement or with scheduled OSR-type LCO surveillance. (Finding SD-03) Without these types of required limiting conditions for operations and associated action statements, the review team was unable to be assured that all the requirements of the BIO would be maintained. These particular aspects of the safety basis implementation were also not addressed by the draft BIO implementation plan that was supplied to the review team. The DOE facility representative did, in about the May 1996 time frame, request that Y-12 fire department personnel walk down the facility to establish the combustible material status of the facility. The results of this inspection were tracked in the facility's Corrective Action Tracking System and were not entered into ESAMS. All associated projected closure dates were either past due or not established.

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-1 (CO-1, 2, 3, and 4)	Date: December 12, 1996

9. The review team conducted a review of the LCOs associated with activities in Building 9204-4. LCO 3.1.1 addressed criticality safety controls and had an associated surveillance that required fissile material activities (FMA) to be surveyed annually. The Building 9204-4 operations organization had accepted as satisfactory the last surveillance completed on July 10, 1996 (SUR-Y-OS-DS-0037). A detailed review of the results was conducted, and it was determined that a finding was generated concerning an FMA not covered by a procedure or other implementing document. This, in accordance with procedure Y52-01-001, constituted a failure of acceptance criteria 3.[2]. Further, the surveillance procedure had contradictory guidance associated with the acceptance criteria in that item 3.[2] and 3.[4] were in conflict with each other. Criteria 3.[2], as discussed above, led to a failure of the surveillance. Acceptance criterion 3.[4] stated that FMAs should be covered by procedures or other implementing documents. However, if this criteria was not met, it did not constitute failure of the surveillance. This conflicting acceptance criteria guidance could lead to less conservative interpretation of surveillance test results. Failure of the test would cause the facility to be placed in an OSR LCO action until the deficiencies were corrected. Even though the deficiency was ultimately corrected, and it was indicated that the surveillance had been successfully completed on July 10, 1996, this condition had the potential for recurrence due to the language of the surveillance procedure.

10. The Building 9204-4 fire protection system surveillances were reviewed, and the fire protection system was walked down to check system equipment condition. The fire protection system divisions 1W, 5W, 6E, and 8E parameters were verified to be within the requirements established by LCO 3.2.1 of the Building 9204-4 OSR. The last quarterly and annual surveillances required by the LCO were satisfactorily completed on time. The overall condition of the fire protection distribution and detection systems was judged to be adequate to perform its intended safety function. The labeling of major components, the fire department supervisory locks, and valve position limit switches were adequate to ensure accidental mispositioning would not occur. The OSR LCO actions and surveillances were judged to be current for both the fire protection and CAAS systems, except as noted earlier in this write up.

RA ASSESSMENT FORM

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-1 (CO-1, 2, 3, and 4)	Date: December 12, 1996

Conclusion:

The implementation plan for the Building 9204-4 BIO has not been issued and approved by DOE. Further, the draft implementation plan does not provide adequate justification for continued operations in Building 9204-4 based on the analysis in the BIO. Additionally, measures to minimize the probability of a fire, as identified in the BIO, have not been addressed. When the prestart findings associated with this core objective are resolved (Findings SD-01 and SD-03), all criteria will be met.

Inspected by: R. D. Shaffer	Approved by: _____ RA Team Manager Date: 12/12/96

Form 1

RA ASSESSMENT FORM

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-2 (CO-22)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. A drill program for routine operations has been established and implemented to ensure operator readiness and knowledge of appropriate response to indications.

2. The routine drill program is based on a graded approach driven by the specific facility hazard categorization analysis.

3. Typical drills will have equipment failure, miscalibration, process upset, or unexpected conditions scenarios.

Personnel contacted/position:

M. Schlitz, drill coordinator
G. Lovelace, operations manager
J. Chiang, drill monitor
G. Bridges, supervisor
P. Fortune, shift manager
S. McGhee, engineer
C. Griffith, mentor

Records & other documents reviewed:

1. Current QE 9404-4 drill guide listing

2. Drill guide No. 4-0018, "Glove Box Anomalies during weapons disassembly (sic)," dated 12/4/96

3. Drill guide No. 4-0014, "Process Anomalies during weapons disassembly (sic)," dated 8/29/96

4. Drill guide No. 4-0016, "CSA Violation," dated 9/12/96

5. Drill guide No. 4-0009, "MAA ventilation fan failure (sic)," dated 11/12/96

6. Procedure Y50-01-QE-013, Rev. 0.11, "General Operations of Gloveboxes DB-401 and DB-402," dated 11/12/96

RA ASSESSMENT FORM

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-2 (CO-22)	Date: December 12, 1996

Evolutions/operations witnessed:

Glove Box Anomalies drill

Discussion:

1. Six drill guides, 10 drill critique forms for drills completed in Building 9204-4, and a list of all drills conducted thus far in 1996, including the participants list were reviewed. The drill program was documented and conducted in accordance with the senior drill coordinators annual policy manual. This manual, although not an official document, was signed by the Building 9204-4 operations organization. The program guidance manual established the number and types of drills to be conducted for the calendar year and established goals to be attained within the drill program. At the time of this review, all drills scheduled for 1996 had, in all categories, been met or exceeded. The performance enhancement goals for 1996 had also, for the most part, been met. The drill guides reviewed by the team were comprehensive, and the performance criteria for each drill scenario had been agreed to by Building 9204-4 and DSO management. There was a graded approach for the feedback of drill results based on performance. In all cases, a post drill critique was conducted, which was followed by the completion of a formal drill summary form that was sent to the facility operations organization and was included in the required reading book. If there were serious performance problems associated with a drill, those were covered with the entire operations organization, either during routine Friday meetings, or if severe problems were noted, immediate corrective actions were taken. The operations manager had requested that the routine drill summary sheets not be put in the required reading program, but be collected for all of DSO and summarized on a monthly basis so any lessons learned for other facilities could be shared. This requested action had not occurred. The overall documentation associated with the QE drill program met the requirements of this readiness assessment.

2. The drill guides specified actions to be taken by the affected participants. These actions were not always documented in alarm response or abnormal-type procedures. When the reviewer questioned this, the drill coordinator explained that the actions were the responses that the operations organization expected.

3. The reviewer and the drill coordinator selected a drill involving high oxygen concentration in a glovebox during weapons disassembly operations to be run for demonstration purposes to evaluate the implementation phase of the drill program. This evolution included the pre-brief of the drill monitors, the conduct of the drill, and the post-drill critique. The drill was newly developed and had not been conducted in the facility previously. The senior drill monitor initiated the drill at a time that was both realistic and non-disruptive to the inspection activities being accomplished in the glovebox. Upon receiving the high oxygen alarm, the actions taken by the QE operations personnel were appropriate for the indications received. The materials in the glovebox were stabilized and placed in a safe condition as the first actions. The supervisor, in conjunction with the QEE, then notified the shift manager and

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began the process of identifying the cause of the high oxygen concentration. During the process of inspecting gloves, an actual cut glove was found, and the drill monitor correctly stopped the drill. All actions were conservative, and at no time were personnel or material in danger. None of the corrective actions taken were documented in alarm response procedures. Having alarm response procedures as a check list enables the supervisor in charge to have a document as an aid during the response to an upset condition.

During the implementation of the drill guide, deficiencies were noted by the reviewer in the "Expected Actions" section. All of these items were discussed by the QE operations staff participants during the drill debrief. The suggested changes were immediately documented in the drill guide by the senior drill monitor for incorporation in the next revision. The overall implementation process of a newly approved drill scenario was judged to be adequate.

Conclusion:

The drill program is in its initial development stages, and new drill guides are continuously being developed using an interactive process between the DSO drill coordinator and the QE operations organization. This process was reviewed and determined to be adequate to warrant resumption of operations associated with Quality Evaluations activities. All criteria are met.

Inspected by: R. D. Shaffer	Approved by: J P Flynn RA Team Manager Date: 12/19/96

RA ASSESSMENT FORM

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-3 (CO-25)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. Findings from the QE SOP reviews performed by DOE are completed on schedule in the Energy Systems Action Management Systems (ESAMS).

2. Open Post-start findings from the receipt, storage, and shipment (RSS) and Disassembly and Assembly (D&A) Readiness Assessments and findings generated against DSO since the resumption of the D&A have been reviewed for applicability to the QE mission. Those findings determined to be applicable have been verified to have approved corrective action plans and are on schedule in ESAMS.

Personnel contacted/position:

L. Pender, quality statistician
G. Lovelace, operations manager
F. Kassebaum, mentor
W. Estep, corrective action tracking, DSO
A. Caldwell, self-assessment coordinator, DSO
J. Chiang, corrective action tracking coordinator
K. Ivey, DOE facility representative
P. Fortune, shift manager

Records & other documents reviewed:

1. ESAMS printout for DSO/EQ-related items

2. ESAMS items: I0032541, I0032505, I0032507, I0032510, I0032515, I0032514, and I0032613

3. Building 9204-4 Corrective Action Tracking System

Evolutions/operations witnessed:

Walkdown of six corrective actions

Discussion:

1. The ESAMS findings associated with DOE reviews of the QE special operations packages (SOP) were reviewed, and the corrective action plans and associated actions were completed

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-3 (CO-25)	Date: December 12, 1996

on time and as scheduled. Further reviews were conducted to verify the DSO organization had reviewed any open post-start findings that resulted from resumption of RSS and Disassembly and Assembly (D&A), as well as new issues in ESAMS since D&A resumption, for impact on the QE mission. This was adequately addressed by the MSA team with appropriate closure criteria established and a matrix that prompted a review of applicability. The only area that was of concern was that the criteria established for the review were developed by a non-DSO professional. However, the results were reviewed by DSO management in the process of determining readiness to proceed.

2. Six MSA findings were reviewed and walked down in detail. Of those six, five were closed and one was still open at the time of the review. The review team member identified several deficiencies: (Finding SD-02)

   a. During the MSA, mock-up units were found in the mezzanine of Building 9204-4 outside the MAA with incorrect labeling. The issue was closed based on changing the deficient labels. The remaining mock ups were not checked to ensure they were properly labeled until after a similar labeling problem was discovered on December 6, 1996 (see OP-1, Item 6i).

   b. The MSA also resulted in a prestart finding because a defective sling was inside the glovebox, no tag was applied to the sling, and no entry was made in the equipment deficiency log or the shift manager's log. On December 10, 1996, during the completion of activities in a glovebox in the QE laboratory, another sling was identified as being defective. The assemblyperson set it aside and retrieved another to be used to support the on-going work activities. The sling was not tagged, and the problem was not logged in the equipment deficiency log, shift manager's log, or supervisor's log.

   c. Another MSA finding indicated that QEEs were directing work activities involving fissile material. One closed corrective action was to change the procedures to not allow QEEs to have direct fissile material activity control without involving the supervisor. The specific disassembly procedure was revised, but there were still activities being directed by the QEEs during disassembly operations (see OP-1, Item 6a).

3. A review of the self assessment and associated internal corrective action tracking system utilized by the Building 9204-4 operations organization was completed in order to determine how effective the system was. Items that related to fire protection system deficiencies, combustible loading issues, and housekeeping problems were identified with closure dates that were months overdue, or no closure date was established. These items related directly to the assumptions considered in the BIO for ensuring that the probability of occurrence of a fire in Building 9204-4 was in the extremely unlikely ($<$1E-4) range. Many of these issues were identified by the LMES fire department or the DOE facility representative during the past

Functional Area: SAFETY DOCUMENTATION (SD)	CRA Number/Title: SD-3 (CO-25)	Date: December 12, 1996

six to twelve months. There was no review of these issues for applicability to the determination of the readiness of the QE operations to resume unrestricted operations.

A review of several deficiencies identified by Fire Department personnel, the DOE facility representative, the Building 9204-4 operations manager, and Nuclear Criticality Safety Department (NCSD) personnel were reviewed to determine the status of corrective actions. With the exception of the NCSD items, none of the deficiencies had been elevated to a level that caused entry into ESAMS. In all cases, the NCSD deficiencies were timely in entry into ESAMS, and actions were on track. The deficiencies that were identified and entered into the Building 9204-4 corrective action tracking system had no formal corrective action plan, were behind schedule, and in many cases did not have any required completion date assigned. The system used to notify personnel assigned to correct the actions was E-mail messages. Operations personnel said there was a standing order that used to require long-standing deficiencies to be put into ESAMS. However, that standing order had been canceled.

Conclusion:

ESAMS contains current information from external reviews of DSO impacted programs and facilities. Some of the issues that were closed were found to be still recurring. Further, the internal corrective action tracking system implemented in Building 9204-4 warrants management attention and should be reviewed for programmatic improvements. However, upon resolution of the prestart finding (Finding SD-02) associated with this core objective, the criteria will be met.

Inspected by: R. D. Shaffer	Approved by: J P Fitzpatrick RA Team Manager Date: 12/18/96

RA ASSESSMENT FORM

Functional Area: PROCEDURES (PR)	CRA Number/Title: PR-1 (CO-7)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. Criticality Safety Approvals (CSA) and operating procedures applicable to QE activities are technically accurate, consistent with each other, and incorporate the appropriate safety limits.

2. A viable system exists for the control and issuance of procedures and CSAs.

Personnel contacted/position:

G. Lovelace, operations manager
A. Bryan, shift administrative assistant
J. Murrill, DSO procedures manager
C. Lane, DSO trainer
S. McClanahan, nuclear packaging systems manager
G. Kerley, DSO CSA manager
D. McGuire, DSO procedure writer
K. Beatty, procedures assistant (assemblyperson)
W. Purdy, DSO procedure writer
K. Jones, DSO procedures group administrative support
D. Brock, DSO alternate procedure coordinator
G. Bridges, supervisor
P. Fortune, shift manager
D. Hunnicutt, supervisor
M. Wilkerson, assemblyperson
J. McCormick, materials management supervisor
R. McKinney, material clerk
C. Griffith, mentor
M. Rolen, assemblyperson
R. Smith, assemblyperson
H. Pesterfield, assemblyperson
T. Arwood, assemblyperson
M. Spears, DSO procedures coordinator
C. Taylor, DSO procedure writer
F. Kassebaum, mentor
J. Doyle, assemblyperson
G. Diggs, assemblyperson
P. Foust, material clerk
M. Webb, material controller

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S. Jackson, assemblyperson
M. Schlitz, DSO drill program manager
J. Chiang, DSO drill team member
R. Treece, DSO drill team member
S. McGhee, engineer
D. Harless, equipment support manager

Records & other documents reviewed:

1. Controlled CSA binders 2 of 7, 5 of 7, and 6 of 7
2. Y51 series controlled procedures distribution
3. Controlled procedures binders
4. Procedure modification requests (PMR) and log
5. Document control center controlled procedures working copy log
6. CSA to procedure matrix
7. Procedure working copy files
8. CSAs QE-101, -104, -107, -111, -116
9. Procedure Y10-102, "Technical Procedure Process Control"
10. Procedure Y10-103, "Writers Guide for Y-12 Operating Procedures"
11. Procedure Y10-109, "Document Control"
12. Disassembly procedure
13. Glovebox procedure
14. Standing order SO-9204-4-96-040, "Procedure Use and Primary/Performance Documents"
15. Procedure Y50-01-025, "Tamper Indicating Devices"
16. Procedure Y50-01-09-007, "Special Nuclear Material (SNM) Vehicle Shipments and Receipts (Internal Transfers)"

RA ASSESSMENT FORM

Functional Area: PROCEDURES (PR)	CRA Number/Title: PR-1 (CO-7)	Date: December 12, 1996

Evolutions/operations witnessed:

1. Vacuum can valve leak check
2. Weapon disassembly
3. Checkweighing of scales
4. Glovebox gas sample
5. Component packing and shipping
6. Measurement of component dimensions
7. Drill: high glovebox oxygen level

Discussion:

1. Procedure Y50-01-QE-009, "Fire System Inoperability - 9204-4 Fire Patrols," was checked to verify that it contained applicable Operational Safety Requirements (OSR). The procedure contained the applicable OSR requirements for establishing and conducting fire patrols.

2. Operations in the document control center (DCC) were observed. When interviewed, responsible operations support personnel were knowledgeable regarding their duties and responsibilities, including the process for issuing and controlling working and information copies of procedures. The DCC controlled procedures working copy log was adequately maintained. Several working copies of procedures were examined, both in the DCC and in the field. Each was properly marked, and none had exceeded the seven day limit for reverification as current. The DCC contained the latest revisions of procedures, CSAs, and OSRs.

3. Operations personnel, including the shift manager, two supervisors, and three assemblypersons were interviewed to assess their understanding of the CSA and procedure revision process. Their level of knowledge with regard to the process, including how they verify CSAs and procedure current, was satisfactory.

4. Three controlled CSA binders were examined. There were no problems in two of the binders. One binder contained the following problems:

   a. CSA 18208, designator QE-119, was in the binder but was not listed in the effective index.

   b. The binder contained unapproved CSA 18539, designator EUTO-PLT-101, instead of effective CSA 18507, same title.

   c. The binder contained temporary CSA 18389, which expired June 30, 1996.

   d. The binder did not contain CSA 18318, designator NMSSS-22, which was listed in the index as effective.

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5. OSR Y/TS-1317, revision 1, copy 2 of 17, was not held by the operations manager as specified by the distribution list. When asked, the operations manager said the copy had been returned to the DCC. However, the shift administrative assistant said the copy was not in the DCC.

6. Two procedures had been placed on administrative hold in response to recent CSA modifications. Both were being tracked in the procedure data base and were prevented from use in the field.

7. Five CSAs were walked down in the field. The only discrepancy noted was an array dimension in a vault four inches less than specified in the CSA. When this was brought to the attention of an assemblyperson accompanying the walkdown, he properly directed that all individuals present back off 15 feet from the vault while he notified the shift manager of the problem. The shift manager advised the assemblyperson that procedure Y70-01-150, "General Nuclear Criticality Safety Requirements," permitted as acceptable dimensions less than specified in CSAs and up to six inches greater.

8. Valve leak checks of five vacuum cans inside a glovebox were observed. The applicable procedures were the latest revision, were correct, and were followed. A mentor was present throughout the leak checks. No deficiencies were noted.

9. Packing and shipping of a component were observed. Both evolutions were completed satisfactorily with no significant problems. Several minor problems occurred and, in each instance, were brought to the attention of the shift manager. The shift manager resolved each issue and provided direction prior to proceeding. Problems encountered and resolved included the following:

   a. Material clerks had difficulty opening the special nuclear material (SNM) transfer door and the right-hand door on the SNM vehicle.

   b. The list of pages containing the latest modification to procedure Y50-01-09-007, "Special Nuclear Material (SNM) Vehicle Shipments and Receipts (Internal Transfers)," was incorrect.

   c. Procedure Y50-05-025, "Tamper Indicating Devices," required checking the incorrect box on the tamper-indicating device (TID) application and removal form when installing a TID.

10. Several procedures within the scope of the Readiness Assessment (RA) required revision prior to use. The disassembly procedure, performed during the RA, contained recent changes not incorporated into similar procedures for other weapons. (Finding PR-01) Examples include the following:

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a. Changes to eliminate quality evaluation engineer (QEE) direction and to clarify the role of the QEE in providing guidance.

b. Changes to add requirements for the supervisor to record information or ensure that it is recorded.

c. Changes to add notes authorizing use of miscellaneous hand and power tools.

d. Changes to allow the QEE or a designee to inspect components and record their condition.

e. Changes to require that a pre-disassembly quality assurance (QA) meeting be conducted by the QEE and documented by the supervisor.

11. Measurements of component dimensions inside glovebox DB-402 were observed. No deficiencies were noted. When measurements had been taken and completed, a drill simulating high oxygen level in the glovebox was conducted while the part was still exposed to glovebox atmosphere. The following comments concern performance of the drill:

a. Drill guide expected actions were not based on an alarm response procedure (ARP). When asked, the drill coordinator said ARPs were in preparation.

b. The expected actions briefed to the drill team dealt with acknowledging the alarm, notifying supervision, and finding the source of leakage into the glovebox. When the drill was initiated, the supervisor and the engineer (who were both present) directed immediate actions to place the component in a can and seal the can with tape. At the critique, the drill coordinator acknowledged that the actions taken were correct, and the drill guide required modifications.

c. At the post-drill critique, issues such as whether drills should be announced as such, and whether alarms or other casualties should be announced, were raised. The drill coordinator said the policies needed to be set and incorporated into drill guides.

12. Ten operating procedures were compared to their associated CSAs to verify they were consistent with other. Three procedures did not contain all applicable requirements of CSA source documents (Finding PR-02):

a. Procedure Y50-01-QE-013, "General Operation of Gloveboxes DB-401 and DB-402," did not contain an administrative requirement of CSA QE-100, "Quality Evaluation Glove Boxes," limiting the types and volume of liquids that were allowed to be introduced into the gloveboxes. CSA QE-100 was listed in the procedure as a source document.

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b. Procedure Y50-QE-021, "Uranium Assay Verification Using Canberra Instrumentation (U)," listed CSA QE-101, "Fissile Material Container Loading Limits," as a source reference. The procedure did not contain any requirements annotated as "CSA-101." The CSA to procedure applicability checklist, signed by the procedure writer and a nuclear criticality safety (NCS) representative, had a disposition of criticality safety requirements form attached that stated the applicable CSA QE-101 limit applied to a four-liter (L) hospital can with lid. No step in the procedure addressed the use of a 4L hospital can with lid or referred to any CSA limits regarding its use.

c. Procedure Y50-01-QE-022, "Operation and Emptying of the Portable Fissile Vacuum Cleaners," did not contain physical requirement 1, limiting the vacuum cleaner maximum internal volume, from CSA QE-111, "Safe Volume Fissile Material Vacuum Cleaners." CSA QE-111 was listed as a source reference in the procedure. The CSA to procedure applicability checklist, signed by the procedure writer and a NCS representative, had a disposition of criticality safety requirements form attached that listed CSA QE-111 physical requirement 1 as applicable to the procedure.

The following problems existed in other procedures:

a. One procedure contained a step dealing with hooking up a vacuum cleaner. In another procedure, a step addressed marking of defects during dye penetrant testing. Each of these steps was annotated to indicate there were CSA requirements applicable to the step. When reviewed, neither CSA referenced contained requirements applicable to these steps in the respective procedures.

b. One procedure was changed in response to a change in a referenced CSA. The description of the procedure change stated that it revised oven operating sections. However, none of the paragraphs in the section of the procedure dealing with oven operations was annotated to reference a CSA, nor were paragraph markings used to indicate the change.

Conclusion:

A viable system exists for the control and distribution of procedures and CSAs. The shift administrative assistant in charge of the DCC and the assemblyperson functioning as her assistant in the DCC are knowledgeable and conscientious. No problems were observed in the issue and control of procedure working and information copies either in the DCC or in the field. Problems exist in incorporating applicable CSA requirements into operating procedures. Although all ten procedures reviewed had undergone screening to ensure that they included applicable CSA requirements, three of the ten were missing a requirement from a CSA source document. The procedure followed during the weapon disassembly observed during the readiness assessment was adequate and correct. Once the prestart findings

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(Findings PR-01 and PR-02) associated with this core objective are resolved, all criteria will be met.

Inspected by: H. A. Oliver III	Approved by: _____ RA Team Manager Date: 12/18/96

Form 1

RA ASSESSMENT FORM

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-1 (CO-13)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. Training and qualification requirements for operations personnel have been implemented using the Y-12 Plant 90-series training procedures (Y90-010 through Y90-120).

2. Compliance with the TIM corrective action dates is current for operations and support personnel.

3. Training and qualification of personnel is at a level sufficient to support resumption, or appropriate compensatory measures are in place.

Personnel contacted/position:

J. Hartline, training manager
R. Mack, QO training manager (acting)
J. Shelton, DSO training manager
A. Bryan, shift administrative assistant
G. Bridges, supervisor
G. Lovelace, operations manager
P. Fortune, shift manager
C. Lane, DSO training manager (acting)
B. Martin, DSO training instructor
J. Ortiz, DSO training analyst
G. Kerley, DSO criticality safety coordinator
M. Hayes, FMO training manager
P. Hess, Y-12 training records manager
D. Hunnicutt, supervisor
R. Hester, QO dye penetrant supervisor
J. Yocum, LMES deputy training manager
R. Lanphear, LMES training

Records & other documents reviewed:

1. Weapon disassembly procedures

2. Quality Organization (QO) training module 14769, "Performing Manual Fluorescent Dye Penetrant Testing, Y50-55-PT-435"

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3. QE training modules 15003, "Operate Glovebox," and 15006, "Perform Gas Sample with Laser"

4. Quality Organization training documentation for November 1996 revisions to Criticality Safety Approval (CSA) QE-106 and QO Procedure Y5O-55-PT-435

5. Y-12 Training Implementation Matrix, Rev. 5, and Addendum

6. Listing of QE personnel who are successfully qualified and certified.

7. Listing of tasks defined in QE procedures.

8. Training and qualification records of six QE personnel

Evolutions/operations witnessed:

1. Dye penetrant testing
2. Valved unit gas sampling
3. Glovebox operations
4. Training review on a criticality safety approval
5. Two shift briefings and four pre-job briefings

Discussion:

1. The Training Implementation Matrix (TIM), Rev. 5, and addendum were reviewed. The addendum was approved by LMES management on March 15, 1996, and was accepted by DOE on July 24, 1996. Two QO positions - dye penetrant inspector and dye penetrant inspector supervisor - required certification according to the TIM. Training records were reviewed for the three persons in these positions, and all were current with requirements. The training module and exam for dye penetrant inspection were reviewed and found compliant.

2. The QO training manager (acting) was interviewed. The training manager was knowledgeable of requirements for retraining on revised procedures and properly explained the use of the Proficiency Logbook to track the requirement for certified persons to perform the assigned task every three months. Criticality Safety Approval QE-106, "Quality Evaluation Work Stations," was revised with an effective date of November 4, 1996. However, QO personnel were not trained on the revision until November 22, 1996. (Finding TQ-01) When asked, the training manager said QO was not on distribution for QE CSAs and had to rely upon QE notification of the inspectors, who notified QO supervision and the training manager of revisions to the CSA. He went on to say this system was inadequate, and that formal

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-1 (CO-13)	Date: December 12, 1996

notification of revisions to CSAs was being arranged so training could be completed in a timely manner.

3. Procedure Y10-102, "Technical Procedure Process Control," was identified by the DSO training manager as the basis for training on revised procedures. Procedure Y10-102 required the training manager to review the revised procedure for training impact. In DSO, a Determination of Training Needs form (Form A) was used to document this review. The training manager did not conduct the assessment but reviewed/concurred with the training assessment performed by the Building 9204-4 operations manager (on Form A).

Eight Form As completed between October-December 1996 were reviewed. The groups of QE personnel designated on the Form As to be retrained were compared with the personnel designated for tasks performed by certified positions, positions designated on the Procedure Review/Training Documentation form (Form B) by the QE supervisor or shift manager to receive training on each procedure, and the personnel who were actually trained. The following table provides results of this review:

Revised Procedure	"Form A"	Training Required for Qualified/Certified Positions*	"Form B"	Actually Trained
"A"	Assemblyperson	Assemblyperson QE Supervisor	None**	None - delay until use
"B"	Assemblyperson	None	None**	None - delay until use
"C"	Assemblyperson	Assemblyperson QE Supervisor	None - "Training not required"	None
"D"	Assemblyperson	None	None**	None - delay until use
"E"	Assemblyperson	Assemblyperson QE Supervisor	None**	None - delay until use
"F"	Assemblyperson	None	None**	None - delay until use
"G"	Assemblyperson	Assemblyperson QE Supervisor	Assemblyperson QE Supervisor	Assemblyperson QE Supervisor
"H"	Assemblyperson	Assemblyperson QE Supervisor	Assemblyperson QE Supervisor	Assemblyperson QE Supervisor

*Affected by the procedure
**Supervision indicated those needing training would be designated later.

As indicated above, there were inconsistencies between the work groups for training required, training designated, and training performed, on all eight procedures. One revised procedure was designated by the QE operations manager and DSO training manager for retraining

(review), but building supervision subsequently decided no retraining was needed and none was conducted.

When the QE shift manager was asked how Form B was completed, there was no mention of Form A. Subsequent discussion indicated QE supervision did not have access to the assessment performed by the QE operations manager and the DSO training manager. The DSO training manager said she depended on the QE training manager to obtain copies of Form B and ensure that the retraining designated by supervision was actually conducted. However, the new QE training manager indicated he was unaware of this responsibility.

The copies of those Form Bs where training was being delayed until the procedures were to be used, were filed in the "COMPLETED" section of the QE Procedure Review/Training Documentation Manual. This indicated the responsibility was on the supervisor to remember retraining would be needed when the time arrived to use the revised procedure. Filing the form in the "active" or "absentee" section of the logbook would remind supervision that action was needed prior to use of the procedure. Also, placing the procedure on administrative hold until retraining/review would better control required activities.

The QE shift administrative assistant was asked if a procedure existed for completion of Form Bs. She said a standing order "Building 9204-4 QE Document Control" had been used, but had been canceled on November 23, 1996, and nothing put in its place. When asked, the QE operations manager said the order was not needed because retraining requirements were covered in Y10 and Y90 series procedures. These procedures do not incorporate use of Form Bs. (Observation TQ-03)

4. The DSO criticality safety coordinator said draft CSAs were issued to the DSO training manager for training evaluation. However, the training instructor for DSO indicated no training evaluation was conducted, and no Form A was completed on CSA revisions. Instead, the training needs were determined by Building 9204-4 operations personnel using Form B.

5. The FMO training manager was interviewed on November 6, 1996. No QE-specific FMO procedures existed. All required training was task-based. No deficiencies were identified with TIM requirements or with minimum staffing levels of qualified FMO positions.

6. Two QE lesson plans were reviewed for compliance with Y90 series requirements. Module 15006, "Perform Gas Sample With Laser," included piloting on-shift, on the job training, oral evaluations, and performance evaluations. A log sheet in the file listed multiple reviews that had been conducted of the module by DSO training representatives at various times. Reasons for each review, e.g., a revision to a procedure that could affect the module, were not always listed. The module specified appropriate prerequisite training, including laser safety training. The module required sign-offs on the performance documentation checklist by the evaluator and by the participant. The module addressed remediation efforts consistent

with procedure Y90-090, "Y-12 Training Remediation." The quality of oral examination questions was appropriate and challenging (e.g., "how can you tell if the laser penetrated the membranes?"), and the evaluator was provided critical content for evaluating responses, compliant with Y90-070, "Development, Control, and Administration of Examinations."

Module 15003, "Operate Glovebox," was also reviewed with similar results. The module contained several typographical errors, but none detracted from the useability of the training material. References to valves and connections in steps in the lesson plan were compared to a schematic of the external glove box vacuum cleaner with no discrepancies noted.

7. Appendix II of the Plan of Action listed QE and QE support personnel by craft, consistent with qualified and certified positions in the TIM. Lists of individuals for each position were current and included an adequate number of qualified and certified persons to meet minimum staffing requirements for each position.

8. Training on modules required for qualified and certified positions were determined acceptable based on a review of TMS records. No training deficiencies were noted. Files of six QE persons in Building 9709 were reviewed. Files contained records of education, work experience, tests on plant-level TMS modules, tests on QE-specific requirements, qualification cards, oral exams, etc. Files were organized by category (e.g., experience, education, etc.), although recent submissions to the files had not yet been incorporated.

9. A review of the training records for all QE operations personnel revealed that three persons (QE operations manager, QE shift manager, one assemblyperson) did not meet minimum entry level educational requirements for their positions.

Minimum Requirements	Assembly person	Manager
Education	High School	B.S. Engineering or related science plus
Experience	None	4 years nuclear experience

The assemblyperson's file contained a form approved by the Building 9204-4 operations manager and DSO training manager that listed alternatives to education requirements. However, the alternatives (incumbent taking Sylvan courses) approved on the form were not consistent with requirements of procedure Y90-020, "Exceptions, Extensions, Alternatives, & Waivers," and the rationale for approving the exception was not entered. (Observation TQ-4) When asked, LMES training personnel indicated that the original DOE order applicable to TIM allowed incumbents to be grandfathered. The operator was in the position prior to the

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-1 (CO-13)	Date: December 12, 1996

initial TIM and was eligible for grandfathering. However, the exception form did not identify grandfathering as the basis for the exception.

The QE operations manager and one shift manager did not meet the requirement for a four-year engineering (or related) degree. The exception form in each person's training file was approved by the DSO manager. However, rationale consistent with procedure Y90-020 to support approving the exceptions were not entered on the forms.

10. The Implementation Plan required that a simulation/evolution be used to verify proper management action to qualify a transferee to a QE job. During the RA, it was decided to use an existing drill guide that did not include a transferee as an element of the drill. To substitute, questions were posed to the QE training manager, a QE shift manager, and a QE supervisor. All identified the need for training and qualification in accordance with the TIM requirements for certified/qualified positions. Further, interviews included questions that illustrated understanding by QE personnel of the need for training and qualification, including review of revised procedures.

11. TMS training records of all QE personnel in certified/qualified positions were reviewed. All personnel met training requirements for their assigned positions. No deficiencies were noted. Accordingly, no compensatory measures or compliance schedule existed.

12. Three operators, two supervisors, and a shift manager were interviewed. A total of eight questions addressed training and qualification. The supervisors and shift manager demonstrated that they understood how to determine the training status of operators, how to handle a question about a worker's training status, and how to handle a problem with a step in a procedure. One of the supervisors was not certain of the difference between qualified and certified positions, but understood the need for training in accordance with established requirements prior to assigning any worker to a job in QE.

    The operators all responded correctly to questions regarding CSA training, the need to verify training prior to performing a job, how to respond to unauthorized materials in a fissile storage array, and how to respond to errors in a procedure.

13. Retraining and review of a CSA were observed with no deficiencies (see CO-16). According to the QE training manager, no other training, e.g. job performance measures, oral examination, was conducted during the Readiness Assessment. In lieu of observing a second training activity, reviews of training modules, training records, interviews, and observation of work in progress were used to conclude training was effective in producing operators with adequate level of knowledge (see CO-17).

RA ASSESSMENT FORM

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-1 (CO-13)	Date: December 12, 1996

Conclusion:

Training and qualification programs for operations personnel are established, documented, and implemented. The programs cover the range of duties to be performed. All criteria are met.

Inspected by: C. K. Stalnaker	Approved by: _____ RA Team Manager Date: 12/18/96

Form 1

RA ASSESSMENT FORM

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-2 (CO-16)	Date: December 12, 1996

Method of Appraisal (short narrative description):

Reviewed documents, conducted interviews, walked down the facility and equipment, and observed evolutions as indicated below.

Criteria:

1. Applicable personnel have been trained to the latest revision of the procedure.

2. Personnel understand the procedure compliance policy.

Personnel contacted/position:

G. Bridges, supervisor
J. Vermillion, engineer
A. Bryan, shift administrative assistant
J. Hartline, training manager
J. Shelton, DSO training manager
P. Fortune, shift manager
C. Lane, DSO training manager (acting)
B. Martin, DSO training instructor
J. Ortiz, DSO technical analyst
B. Wilkinson, product engineer
P. Hess, Y-12 training records manager
D. Hunnicutt, supervisor
R. Hester, QO dye penetrant supervisor
P. Davis, QO dye penetrant inspector

Records & other documents reviewed:

1. QE Procedure Review and Training Documentation Logbook

2. Training records of QE personnel (TMS)

3. Training records of Quality Organization and maintenance personnel supporting QE (TMS)

4. TMS training deficiency reports for QE

5. Task-to-training matrix for NCSAs and procedures

6. Instructor's guide for Module 15003, Glovebox Operations

RA ASSESSMENT FORM

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-2 (CO-16)	Date: December 12, 1996

Evolutions/operations witnessed:

1. Shift briefing and quality briefing on December 4 and December 5, 1996, for a weapon disassembly
2. Retraining class on NCSA QE-102 on December 5, 1996, following an incident involving a work table inside the MAA
3. Dye penetrant testing
4. Valved unit gas sampling
5. Glovebox operations

Discussion:

1. During the shift briefings on December 4 and December 5, 1996, the supervisor repeatedly asked and obtained concurrence that assemblypersons understood they were to stop at any time they could not comply with the procedure for disassembly.

2. During disassembly operations, a checkweight was placed on a work table that was posted as a fissile work table. A question was raised about the CSA acceptability of the checkweight being on the table. Personnel backed off 15 feet and secured the area until NCS engineers determined a violation of the CSA had not occurred. This action demonstrated proper action in the event of a potential violation of a criticality safety requirement. Also, a retraining session on the CSA was conducted by the supervisor with all involved persons following the incident. The training was comprehensive and provided opportunity for assemblypersons and others to ask questions. The reasons for the incident were reviewed and suggestions for improving use of the work table solicited.

3. QE personnel, by craft and name, were identified in writing on a controlled list for certified and qualified positions. TMS training records were reviewed with the QE training manager. Lesson plans and instructor guides were reviewed for task-based training and found to be consistent with Y-12 Plant procedural requirements. Deficiency reports were generated that showed no persons on the list of qualified and certified QE personnel were deficient on any training module required for work in Building 9204-4.

4. Training on revised procedures and revised CSAs was not recorded in TMS. Instead, local QE management logged this training in a procedure review and training documentation logbook kept in the office of the shift manager. This logbook was reviewed, and the following problems were found:

   a. QE management designated persons to receive retraining by marking their names on a preprinted log sheet completed for each revised procedure or CSA. In three examples since October 1996, personnel not designated for training were trained and signed off the log sheet.

b. One log sheet (96-252) was in the completed section of the logbook, but it had not been signed by an employee on extended illness.

c. Personnel signed one log sheet (96-240) as having received training before the shift manager issued the log sheet.

No procedure covered the use of the logbook. When asked how the retraining was controlled, a standing order (9204-4-96-026) was provided. This order had been canceled on November 23, 1996, by the QE operations manager and not replaced, according to the shift manager. However, the standing order was still being used to control retraining.

5. Revised QE procedures were reviewed for training requirements. Although training needs were identified, training had been delayed until the procedures were used. (See CO-13.) (Finding TQ-02)

6. One QE procedure was designated for retraining by the QE operations manager and the DSO training manager. However, assessment by the QE supervisor determined no training was needed, and none was conducted. (See CO-13.) (Finding TQ-02)

7. Minimum staffing requirements had been designated in writing for each QE position. There were numbers of qualified and certified persons for each position sufficient to meet or exceed the minimum staffing levels.

8. Three operators interviewed indicated they would stop activities and notify supervision in the event a procedure could not be followed. A supervisor and the shift manager also gave proper responses for a situation involving a procedure with errors or a procedure that could not be followed due to unexpected field conditions.

   In addition to interviews, four pre-job briefings were observed where supervisors (QE and QO) and operators (assemblypersons and inspectors) demonstrated clear understanding of the procedure compliance policy.

9. The following evolutions were observed. In each case, the personnel assigned to perform work (including workers and supervisors) were current with required training modules and had reviewed the latest revisions of the associated procedures for the work performed:

   a. dye penetrant testing (QO dye penetrant supervisor and inspector)

   b. valved unit gas sampling (QE supervisor and QE assemblypersons)

   c. glovebox operations (QE supervisor and QE assemblypersons)

RA ASSESSMENT FORM

Functional Area: TRAINING AND QUALIFICATION (TQ)	CRA Number/Title: TQ-2 (CO-16)	Date: December 12, 1996

10. Training records of personnel assigned to perform multiple tasks and activities during the RA were reviewed. In all cases, personnel met TIM requirements for the position assigned and had reviewed the latest revision of the procedure used, as recorded in the procedure review and training logbook.

11. Evolutions demonstrated understanding by supervision and workers of the need to comply with procedure requirements. In all evolutions, the importance of compliance was stressed in pre-job briefings by supervisors and acknowledged by workers. In the dye penetrant evolution, the QO supervisor stopped work until the part was marked in compliance with the procedures. In the valved unit gas sampling evolution and the weapon disassembly, the reader-repeat back method was used to provide step-by-step guidance to ensure compliance with the procedure. See CO-17 for additional information.

Conclusion:

When prestart finding TQ-02 is resolved, the criteria will be met.

Inspected by: C. K. Stalnaker	Approved by: _____ RA Team Manager Date: 12/18/96

Appendix C

DEFICIENCY FORMS (FORM 2)

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-18)	Date: 12/9/96 ID #: OP-01

Requirement:

Work involving fissile material shall be conducted by certified fissile material handlers and supervised by certified fissile material supervisors.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-18

Finding X Observation: _____

Discussion:

During performance of the procedure for disassembly activities, the QEE directed activities of the assemblypersons on several occasions. The QEE is not certified as a supervisor for fissile material activities.

One of the activities he directed involved passing two pieces of fissile material past one another. On two occasions, a designer gave hand signals, which were followed, to an assemblyperson. The hand signals involved rotation of fissile material.

Finding Designation: Prestart X Poststart _____	Inspector: W. E. Hill
Group Leader: J. L. Sprinkle Date: 12/10/96	Approved: RA Team Manager Date: 12/10/96

Form 2

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/7/96 ID #: OP-02

Requirement:

Good operating discipline should ensure that facility configuration is maintained in accordance with design requirements and that the operating shift know the status of equipment and systems.

Reference(s) (specific as to section):

1. IEEE Standard 450, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications"

2. Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-19

Finding X Observation: _____

Discussion:

A temporary modification has been made to a fire cycle panel. The temporary modification does not address periodic surveillance of the lead acid batteries that have been added.

Temporary modification TM-96-003 replaced an old nickel cadmium battery bank used to supply back-up power to fire cycle panel 9204004FCS08E with lead acid batteries. The replacement batteries are rated at approximately 200 percent of the old nickel cadmium bank. The replacement was to have been for about one month and was completed on March 30, 1996. These batteries are connected via allegator clips to terminals inside the fire cycle panel and are supposed to be on continuous float charge of approximately 0.1 amps. The two batteries are typical heavy-duty lead acid truck batteries in series with 200 amp-hour capacity.

The temporary modification has undergone six extensions since it was implemented, with a current expiration date of March 30, 1997. Although there is no negative impact on the system based on the choice of the replacement battery capacity and rating, lead acid batteries in this type of service should be surveilled periodically. Because the initial intent was to only install these replacement batteries for one month, the surveillance aspects were not addressed. However, the temporary modification has been in place for over eight months, and lead acid batteries have maintenance necessities, particularly those that are maintained on a positive float for long periods. The current configuration does not lend itself to easy monitoring, because no level can be seen in the battery case without removing caps, and gassing can be expected, and the battery charger is in a locked cabinet with no external indication of correct

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/7/96 ID #: OP-02

operation. Monitoring is especially warranted due to the temporary method of connection (alligator clips) not being as reliable as threaded fastener connections.

Finding Designation: Prestart_____ Poststart X	Inspector: Ronald D. Shaffer
Group Leader: J R Spunkler Date: 12/10/96	Approved : RA Team Manager Date: 12/10/96

Form 2

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/6/96 ID #: OP-03

Requirement:

Comply with IS-107 in performing lockouts/tagouts.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-19

Finding_____ Observation: _____X_____

Discussion:

The administrative requirements associated with lockout/tagout are not always met. The following are examples:

1. The lockout/tagout permit notebook was reviewed. It contained four active permits. The four permits were reviewed, and the following were noted:

   a. On permit #114312, the location listed in block 1 was written over instead of being crossed out, initialed, dated, and then correctly entered.

   b. On permit #114312, the location of the breaker (tag 01) listed in block 2 was Building 9204-16 instead of its actual location in Building 9204-4.

   c. On permit #114316, the "Independent Verification Required" box in block 1 was not checked "yes" or "no", and the original lock/tag placement (block 3) was not initialed as being independently verified. However, the original tag was temporarily suspended and removed. Block 5 on the attached temporary suspension form was checked "yes", indicating independent verification was required. In addition, the independent verification box in block 8 (Lock/Tag Placement) contained the independent verifiers signature.

   d. The temporary suspension form attached to permit #114316 required the initials and badge number of the person hanging the lock/tag and the person performing independent verification. However, the "Lock/Tag Placed" box and "Ind. Ver." box contained signatures and no badge numbers.

   e. Procedure IS-107 required initials and badge numbers to be entered in block 3 (Lock/Tag Placement) on the permit. However, on permit #114319 and #114327, there were no badge numbers in block 3.

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/6/96 ID #: OP-03

2. A memo, dated December 3, 1996, in the front of the lockout/tagout permit notebook listed five people who were approved to perform the duties of the Issuing Authority (IA) and sign the permit. Three permits had been closed and initialed on December 5, 1996, by someone other than one of the five people listed on the approved list of IAs. When asked, this person said he removed the associated tags, signed off/completed the permits, and then destroyed the tags and permits since they were not required to be kept. This person also said he was approved to sign the permits as an IA. Later, the shift manager said this person was listed on the previous list of IAs, but was not on the current list.

3. Chapter 9.0, "Lockouts/Tagouts," of the Nuclear Operations Conduct of Operations Manual stated that the current revision of Procedure Y70-527, "Energy Isolation and Control," was to be complied with in performing lockout/tagouts. However, the correct reference was Procedure IS-107, "Lockout/Tagout," which superseded Procedure Y70-527 over six months ago.

Finding Designation: Prestart_____ Poststart_____	Inspector: J. R. Sprenkle
Group Leader: J. R. Sprenkle Date: 12/10/96	Approved : J. P. Flora RA Team Manager Date: 12/10/96

Form 2

UNCLASSIFIED

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/7/96 ID #: OP-04

Requirement:

Methods should be implemented to ensure all facility personnel are promptly alerted to facility emergencies.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-19

Finding X Observation: _____

Discussion:

Messages transmitted over the Emergency Notification System in Building 9204-4 cannot always be understood.

On one occasion, an operator in the QE laboratory said he was unable to understand what the message was, but said he knew what it was supposed to be. In this case, it was a test. No one in Building 9204-4 notified the PSS that the message could not be understood.

Finding Designation: Prestart X Poststart	Inspector: Ronald D. Shaffer
Group Leader: J. R. Spruill Date: 12/10/96	Approved : RA Team Manager Date: 12/10/96

Form 2

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/11/96 ID #: OP-05

Requirement:

Equipment deficiencies are identified using the Deficient Material Condition Tag, and the shift manager/shift supervisor shall log such information, as appropriate.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-19

Finding X Observation: _____

Discussion:

Deficient Material Condition (DMC) tags are not always recorded in the Equipment Deficiency Identification Log.

The MAA was walked down, and DMC tags found inside the MAA were noted. The tags were compared to those listed in the Equipment Deficiency Identification Log. Two of three tags noted in the reclamation area were not listed in the log. One of two tags noted in the QE laboratory were not listed in the log.

Finding Designation: Prestart_____ Poststart X	Inspector: J. R. Sprenkle
Group Leader: J. R. Sprenkle Date: 12/11/96	Approved : RA Team Manager Date: 12/11/96

Form 2

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/11/96 ID #: OP-06

Requirement:

The operations manager shall include compensatory measures in timely orders to insure affected personnel are aware of the measures. Equipment status boards shall appropriately reflect the installation and removal of compensatory measures.

Reference(s) (specific as to section):

Section M of Chapter 8.0 of the Nuclear Operations Conduct of Operations Manual

Finding X Observation: _____

Discussion:

The compensatory measures required by the Request for Approval (RFA) for Conduct of Operations are not always implemented. In addition, the compensatory measures are not included in timely orders or the facility's status board.

The operations manager said all chapters specified in the RFA had been fully implemented. However, this fact had not been transmitted to DOE yet for their concurrence. He also said the compensatory measures listed in the RFA were still applicable until DOE concurred that they were no longer needed.

When asked what compensatory measures were in effect for Chapter VIII and Chapter X, the operations manager said a mentor was required to be present during the alignment portion of the fire system and CAAS surveillances to provide independent verification.

When asked what compensatory measures were in effect for Chapter XVI, the operations manager said a mentor was required to be present whenever a procedure on "the list" was performed. An approved list, dated March 8, 1996, was provided and reviewed. It listed 22 procedures. The operations manager also provided a draft list that listed 26 procedures. He said that it was going to be the "official" list after resumption activities had been completed.

When asked what compensatory measure was in effect for Chapter XII, "Shift Turnover," the operations manager was not able to provide a definitive answer. He said they really do not do shift turnover, because activities in Building 9204-4 were single shift operations. However, the RFA listed Chapter XII as applicable, and required a mentor as a compensatory measure.

RA DEFICIENCY FORM

Functional Area: Operations (OP)	CRA Number/Title: (CO-19)	Date: 12/11/96 ID # OP-06

Step M.3 of Chapter 8.0 of the Nuclear Operations Conduct of Operations Manual required compensatory measures to be included in timely orders to ensure affected personnel were aware of the measures. None of the compensatory measures required for Chapters VIII, X, XII, or XVI were listed on the timely orders.

The facility's status board was reviewed. Step M.4 of Chapter 8.0 required equipment status boards to reflect the installation and removal of compensatory measures. The status board did not reflect any compensatory measures associated with Chapters VIII, X, XII, or XVI. The only compensatory measure alluded to on the status board was that supplemented CAAS coverage was required for Kathebar fan housing, thorium room, and Alpha 5 West.

Two QE supervisors and the shift manager were interviewed. Weaknesses were noted pertaining to the compensatory measures in place affecting the QE organization and the documentation requiring mentors to be present.

Finding Designation: Prestart X Poststart	Inspector: J. R. Sprenkle
Group Leader: J. R. Sprenkle Date: 12/11/96	Approved : RA Team Manager Date: 12/11/96

Form 2

UNCLASSIFIED
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RA DEFICIENCY FORM

Functional Area: Procedures (PR)	CRA Number/Title: (CO-7)	Date: 12/10/96 ID # PR-1

Requirement:

Procedures are technically accurate and contain the appropriate level of detail for the task.

Reference(s) (specific as to section):

Y/OA-6270, "Quality Evaluation Activities Covered by Plan of Action Y/OA-6257, Revision 2(U)"

Finding X Observation: _____

Discussion:

Several procedures within the scope of the Readiness Assessment (RA) require revision prior to use. The disassembly procedure, performed during the RA, contains recent changes not incorporated into similar procedures for other weapons. The following are examples of changes that need to be incorporated into other disassembly procedures:

a. changes to eliminate quality evaluation engineer (QEE) directing fissile activities and to clarify the role of the QEE in providing guidance

b. changes to add requirements for the supervisor to record information or ensure that it is recorded

c. changes to add notes authorizing use of miscellaneous hand and power tools

d. changes to allow the QEE or a designee to inspect components and record their condition

RA DEFICIENCY FORM

Functional Area: Procedures (PR)	CRA Number/Title: (CO-7)	Date: 12/10/96 ID #: PR-01

e. changes to require that a pre-disassembly quality assurance (QA) meeting be conducted by the QEE and documented by the supervisor

Finding Designation: Prestart X Poststart	Inspector: H. A. Oliver III
Group Leader: H. A. Oliver III Date: 12/10/96	Approved : RA Team Manager Date: 12/10/96

Form 2

RA DEFICIENCY FORM

Functional Area: Procedures (PR)	CRA Number/Title: (CO-7)	Date: 12/11/96 ID #: PR-02

Requirement:

Criticality Safety Approvals (CSA) and operating procedures applicable to QE activities are technically accurate, consistent with each other, and incorporate the appropriate safety limits.

Reference(s) (specific as to section):

CO-7

Finding X Observation: _____

Discussion:

Some procedures did not contain all applicable requirements of CSA source documents. The following are examples:

a. Procedure Y50-01-QE-013, "General Operation of Gloveboxes DB-401 and DB 402," did not contain an administrative requirement of CSA QE-100, "Quality Evaluation Glove Boxes," limiting the types and volume of liquids that may be introduced into the gloveboxes. CSA QE-100 was listed in the procedure as a source document.

b. Procedure Y50-QE-021, "Uranium Assay Verification Using Canberra Instrumentation (U)," listed CSA QE-101, "Fissile Material Container Loading Limits," as a source reference. The procedure did not contain any requirements annotated as "CSA-101." The CSA to procedure applicability checklist, signed by the procedure writer and a nuclear criticality safety (NCS) representative, had a disposition of criticality safety requirements form attached that stated the applicable CSA QE-101 limit applied to a four-liter (L) hospital can with lid. No step in the procedure addressed the use of a 4L hospital can with lid, or referred to any CSA limits regarding its use.

c. Procedure Y50-01-QE-022, "Operation and Emptying of the Portable Fissile Vacuum Cleaners," did not contain physical requirement 1, limiting the vacuum cleaner maximum internal volume, from CSA QE-111, "Safe Volume Fissile Material Vacuum Cleaners." CSA QE-111 was listed as a source reference in the procedure. The CSA to procedure applicability checklist, signed by the procedure writer and a NCSA

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Functional Area: Procedures (PR)	CRA Number/Title: (CO-7)	Date: 12/11/96 ID # PR 02

representative, had a disposition of criticality safety requirements form attached that listed CSA QE-111 physical requirement 1 as applicable to the procedure.

Finding Designation: Prestart X Poststart	Inspector: H. A. Oliver III
Group Leader: [signature] Date: 12/11/96	Approved: [signature] RA Team Manager Date: 12/11/96

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RA DEFICIENCY FORM

Functional Area: Training & Qualification (TQ)	CRA Number/Title: (CO-13)	Date: 12/05/96 ID # TQ-01

Requirement:

Training and qualification of personnel is at a level to support resumption.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-13

Finding X Observation: _____

Discussion:

There is no formal system that notifies Quality Organization (QO) management of revisions to QE Criticality Safety Approvals (CSA). QO is not on distribution for QE CSAs. QO is informed of the need for retraining by QE personnel. Therefore, training is not always conducted in a timely manner.

CSA QE-106 was revised with an effective date of November 4, 1996, but QO training was not conducted until November 22, 1996. When asked, QO personnel said they learned of the revision to QE-106 when they arrived in Building 9204-4 to perform a job that required use of the CSA.

Finding Designation: Prestart_____ Poststart X	Inspector: C. K. Stalnaker
Group Leader: _____ Date: 12/10/96	Approved: _____ RA Team Manager Date: 12/10/96

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Form 2

RA DEFICIENCY FORM

Functional Area: Training & Qualification (TQ)	CRA Number/Title: (CO-16)	Date: 12/10/96 ID #: TQ-02

Requirement:

Applicable personnel have been trained to the latest revision of procedures.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-16

Finding X Observation: _____

Discussion:

QE personnel are not always trained on revised procedures.

A product procedure was revised by reformatting it into a Y51 procedure. An assessment of training by QE supervision did not identify the need for any training. However, the revised procedure included precautions and limitations not in the product procedure, renumbered action steps and procedure sub-sections, and also deleted references to CSAs that were no longer applicable.

Six revised QE procedures have recently been issued, and personnel have not been trained.

Finding Designation: Prestart X Poststart	Inspector: C. K. Stalnaker
Group Leader: [signature] Date: 12/10/96	Approved: [signature] RA Team Manager Date: 12/10/96

Form 2

RA DEFICIENCY FORM

Functional Area: Training & Qualification (TQ)	CRA Number/Title: (CO-13)	Date: 12/10/96 ID #: TQ-03

Requirement:

Training and qualification programs of personnel is at a level sufficient to support resumption.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-13

Finding_____ Observation: _____X_____

Discussion:

The reviews conducted to determine the need for training on revised procedures, CSAs, and other documents are not well coordinated and controlled.

1. QE supervision conducts reviews of revised procedures, CSAs, and other documents for assessment of needed training. Retraining is conducted based on the results of these reviews. These reviews are being conducted in accordance with standing order "Building 9204-4 QE Document Control." The standing order was canceled on November 23, 1996.

2. The QE operations manager also assesses revised procedures for training impact and recommends retraining. His recommendation is reviewed by the DSO training manager, and results are recorded on a Determination of Training Needs form. The results of these assessments are not always the same as those conducted by QE supervision in (1) above. In one example, the QE operations manager and DSO training manager specified retraining of assemblypersons, but none was conducted following assessment by QE supervision. For eight procedures recently issued, none of the results of the reviews by the QE operations manager and DSO training manager were identical to the results of assessments performed by QE supervision.

Finding Designation: Prestart_____ Poststart_____	Inspector: [signature]
Group Leader: [signature] Date: 12/11/96	Approved: [signature] RA Team Manager Date: 12/11/96

Form 2

RA DEFICIENCY FORM

Functional Area: Training & Qualification ((TQ)	CRA Number/Title: (CO-13)	Date: 12/12/96 ID #: TQ-04

Requirement:

Training and qualification requirements for operations personnel have been implemented using the Y-12 Plant 90-series training procedures.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-13

Finding_____ Observation: _____X_____

Discussion:

Procedure Y90-020, "Exceptions, Extensions, Alternatives, and Waivers," specifies that alternatives to job entry level educational requirements may be substituted on a case-by-case basis and gives examples of how to document exceptions on the "Alternative to Educational Requirements" form ("Form").

Forms for alternatives to educational requirements for two QE managers and an assemblyperson do not provide the rationale for approving the exception as specified in procedure Y90-020.

Finding Designation: Prestart_____ Poststart_____	Inspector: C. K. Stahlnaker
Group Leader: [signature] Date: 12/12/96	Approved : [signature] RA Team Manager Date: 12/12/96

Form 2

RA DEFICIENCY FORM

Functional Area: Safety Documentation (SD)	CRA Number/Title: (CO-14)	Date: 12/5/96 ID # D-01

Requirement:

The implementation plan for the basis for interim operation (BIO) is verified to contain the justification for continued operations during the implementation period.

Reference(s) (specific as to section):

Plan of Action for the Resumption of Quality Evaluation Activities, Section V.A.2. CO-1 to CO-4

Finding X Observation: _____

Discussion:

The current implementation plan for the 9204-4 BIO does not address the actions or compensatory measures required to justify continued operations until the BIO is fully implemented. The plan does not require full implementation for approximately six months. The approved BIO has new safety requirements in the area of inventory control and requires other mitigative actions, such as removal of wooden pallets and thorium parts. These items are not specifically called out in the implementation plan, and the justification for continued operations is not in place to support QE activities during the implementation phase.

Finding Designation: Prestart X Poststart	Inspector: Ronald D. Shaffer R. D. Shaffer
Group Leader: Ronald D. Shaffer Date: 12/6/96	Approved : J. P. Flynn RA Team Manager Date: 12/6/96

Form 2

RA DEFICIENCY FORM

Functional Area: Safety Documentation (SD)	CRA Number/Title: (CO-25)	Date: 12/10/96 ID #: SD-02

Requirement:

A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor was verified.

Reference(s) (specific as to section):

Plan of Action for Resumption of Quality Evaluation Activities, Section V.A.2. CO-25

Finding X Observation: _____

Discussion:

Corrective actions do not always correct the problems that they are intended to correct. The actions sometimes focus only on the symptoms, and not on the actual problem.

Six MSA findings were reviewed and walked down. Of those six, five were closed, and one was still open at the time of the review. The following deficiencies were identified:

a. During the MSA, mock-up units were found in the mezzanine of Building 9204-4 outside the MAA with incorrect labeling. The issue was closed based on changing the deficient labels. The remaining mock ups were not checked to ensure they were properly labeled until after a similar labeling problem was discovered on December 6, 1996.

b. The MSA also resulted in a pre-start finding because a defective sling was inside the glovebox, and no tag was applied to the sling, and no entry was made in the equipment deficiency log or the shift manager's log. On December 10, 1996, during the completion of activities in a glovebox in the QE laboratory, another sling was identified as being defective. The operator set it aside and retrieved another to be used to support the on-going work activities. The sling was not tagged, and the problem was not logged in the equipment deficiency log, shift manager's log, or supervisor's log.

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RA DEFICIENCY FORM

Functional Area: Safety Documentation (SD)	CRA Number/Title: (CO-25)	Date: 12/10/96 ID #: [illegible]

c. Another MSA finding indicated that QEEs were directing work activities involving fissile material. One closed corrective action was to change the procedures to not allow QEEs to have direct fissile material activity control without involving the supervisor. The specific disassembly procedure was revised, but there were still activities being directed by the QEEs during disassembly operations.

Finding Designation: Prestart X Poststart	Inspector: Ronald D. Shaffer
Group Leader: [signature] Date: 12/10/96	Approved: [signature] RA Team Manager Date: 12/10/96

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RA DEFICIENCY FORM

Functional Area: Safety Documentation (SD)	CRA Number/Title: (CO 1-4)	Date: 12/10/96 ID #: SD-01

Requirement:

The safety documentation is verified to characterize the hazards and risks and identifies mitigating measures to protect worker and public safety from the characterized hazards.

Reference(s) (specific as to section):

Plan of Action for Resumption of Quality Evaluation Activities, Section V.A.2. CO 1-4

Finding X Observation: _____

Discussion:

Some of the measures addressed in the BIO to minimize the probability of a fire are not incorporated into procedures to ensure appropriate surveillances are conducted.

Section 5.3.2 of the BIO identifies five items that are used to establish the probability of a fire as being extremely unlikely (<1E-4 but >1E-6). These items, along with the establishment of inventory limits, minimize the risk associated with the design basis fire. The five areas are as follows:

1. control of combustible material accumulation by the fire prevention program associated with Building 9204-4
2. fire detection and suppression systems
3. good housekeeping practices, including inspections
4. few ignition sources
5. noncombustible building construction

Of these, the fire detection and prevention system is a safety system with associated OSRs and surveillances, and the building construction is a given. The remaining three issues are not addressed formally with scheduled OSR-type surveillances. These particular aspects of

RA DEFICIENCY FORM

Functional Area: Safety Documentation (SD)	CRA Number/Title: (CO 1-4)	Date: 12/10/96 ID #: SD-03

the safety basis implementation are also not addressed by the current BIO Implementation Plan.

Finding Designation: Prestart X Poststart	Inspector: Ronald D. Shaffer
Group Leader: Ronald D. Shaffer Date: 12/10/96	Approved : RA Team Manager Date: 12/10/96

Form 2

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Appendix D

READINESS TO PROCEED MEMO

LOCKHEED MARTIN

Memorandum

Date: December 2, 1996

To: J. P. Flynn, Jr.

cc: R. B. Bonner, J. P. Crociata, G. L. Lovelace, M. K. Morrow, P. R. Wasilko (RC)

From: for E. P. Gustavson, 9704-2, MS-8010 (4-2527)

Subject: **Readiness to Proceed - Lockheed Martin Energy Systems, Inc., Readiness Assessment**

The Quality Evaluation Management Self-Assessment (MSA) was completed on November 15, 1996. The results are documented in *Management Self-Assessment Report for the Resumption of Quality Evaluation Activities and Quality Support Functions*, Document Y/OA-6284. In summary, a total of 35 findings were received (16 were screened as prestart and 19 were screened as poststart). All of the 16 prestart findings are closed.

Based on the closure status of the MSA finding, I feel that we are ready to proceed with the Lockheed Martin Energy Systems, Inc., readiness assessment on December 4, 1996. If you have further question, please contact P. R. Wasilko at 4-0499.

FPG:smc