Dr. Robert I. Van Hook[ ]
Lockheed Martin Energy Systems
P.O. Box 2009
Oak Ridge, TN 37831-8001

EA 2000-11

Subject: Preliminary Notice of Violation and Proposed Imposition of Civil Penalty $1,045,000

Dear Dr. Van Hook:

This letter refers to the Department of Energy's (DOE) investigation of the facts and circumstances concerning a number of quality assurance issues affecting nuclear safety at the DOE's Y-12 site in Oak Ridge, Tennessee. The issues included (1) significant deficiencies in the design, procurement and fabrication of the [radioactive material] Supply System [ ] which is a critical system required for resumption of [ ]operations, (2) an [unanticipated event] in the Alpha 5 Facility that resulted in 11 workers being injured, (3) a number of violations of criticality safety requirements and work process controls in Building 9212 which resulted in DOE instituting an operational standown and curtailment of [nuclear] material movements, and (4) numerous examples of violations occurring during the past 18 months involving Operational Safety Requirements (OSR) and other Authorization Basis requirements.

The DOE Office of Enforcement and Investigation (EH-Enforcement), in coordination with DOE, Oak Ridge National Nuclear Security Administration Operations Office, initiated an investigation of these events in January 2000. A formal request for relevant documentation was made and a full review of this documentation was conducted. In addition, discussions that involved DOE and DOE contractor personnel at the Y-12 site took place on March 28-30, 2000. Our findings were provided to you in the Investigation Summary Report issued May 12**,** 2000. An Enforcement Conference was held with you and members of your staff on June 8, 2000, to discuss these findings. A Conference Summary Report is enclosed.

Based on DOE's investigation and information that you provided during the Enforcement Conference and thereafter, DOE has concluded that violations of 10 CFR 830.120 (Quality Assurance Rule) likely occurred; these violations are described in the enclosed Preliminary Notice of Violation (PNOV).

Section I of the enclosed PNOV describe numerous violations associated with the [ ] project. This project involves the design and fabrication of new process equipment and system components for use with [radioactive material] upon resumption of [facility] operations. The investigation identified significant failures with virtually every phase of the project including (1) vendor qualification, (2) configuration management, (3) vendor oversight, (4) tube and supply line welding, (5) inspection and acceptance testing of welds and system components, and (6) system turnover and operations.

Section II of the PNOV describes violations associated with an [unanticipated event] which resulted in 11 workers being injured in the Alpha 5 Facility on December 8, 1999. The violations involved failures to identify and mitigate the [unanticipated] hazards associated with this material despite a number of opportunities and the availability of information to do so. These failures resulted in the workers not being properly trained for the work and unaware of the hazards associated with working with this material under certain conditions.

Section III of the PNOV describes numerous violations of requirements related to (1) the movement of [nuclear] material, (2) criticality safety limits, and (3) work process violations and training and qualification of personnel. As a result of the violations, DOE Oak Ridge instituted an operational standown and suspended movement of [nuclear] material.

Section IV describes a number of violations associated with the failure to adhere to established Authorization Basis and OSR requirements that occurred during 1999. These issues initially led to the issuance of a Special Report Order in June 1999 requiring the contractor to address the necessary steps to ensure that the facility was being operated consistent with its Safety Basis Documentation. Despite the issuance of the Order, additional work process deficiencies continued to result in violations of the Authorization Basis and OSR requirements.

DOE is concerned about the broad and programmatic nature of these violations. It is of particular concern that as early as 1994, the Defense Nuclear Facility Safety Board (DNFSB), in Recommendation 94-4 specifically noted similar deficiencies at Y-12 related to (1) criticality safety, (2) authorization basis issues, and (3) conduct of operations. In response to the findings, LMES committed to a program of wide-ranging and significant corrective actions. During the subsequent period of time, DOE elected to exercise its enforcement discretion and not to impose regulatory sanctions on top of the ongoing 94-4 safety improvement program. This decision was made in order to avoid any possibility of defocusing the important safety upgrades. This proposed enforcement action reflects the fact that DOE has already invested significant time and expense in corrective actions that, if adequately implemented, should have prevented these violations.

In accordance with the General Statement of Enforcement Policy, 10 CFR 820, Appendix A, the violations described in Sections I, II, III and IV of the enclosed PNOV have been classified as nineteen, separate Severity Level II violations. In determining the Severity Level of these violations, DOE considered the actual and potential safety

significance associated with the events under consideration, the programmatic and recurring nature of the problems, and other factors.

To emphasize the importance of maintaining a comprehensive quality program for DOE nuclear activities, I am issuing the enclosed PNOV and Proposed Civil Penalty in the amount of $1,045,000. DOE has determined that no mitigation is warranted for timely self-identification and reporting of these problems. DOE and DNFSB were instrumental in identifying the problems rather than being identified and corrected by LMES quality improvement initiatives. Additionally, programmatic work process deficiencies were identified only after the [unanticipated event]. No evidence of a proactive process of identifying these quality deficiencies was found in our evaluation. While the Independent Assessment of the [radioactive material] Supply System Line Item Project" of July 1999 was found to be a comprehensive effort to determine the breadth of the [ ] problems; there was substantial knowledge and evidence of longstanding systemic problems in the [ ] project . Further, the assessment was initiated only after DOE identification of the need for a broader evaluation of the [ ] project.

DOE also evaluated the adequacy of corrective actions identified and implemented by your organizations. Our evaluation concluded that your quality improvement process was not adequate to identify the causes of the quality problems and to prevent recurrence. In many of the events under investigation, your past corrective actions were not effective in preventing recurrence. Therefore, no mitigation for corrective actions is warranted.

DOE recognizes that significant efforts have been made during recent months to correct these quality problems. Your actions to strengthen your management structure by replacing some of your senior management and restructuring the quality organization such that quality assurance is more integrated into facility activities are considered positive steps. Because of these commitments and recent improvement, DOE has decided not to escalate the civil penalty in this case. DOE believes the corrective actions presented during the Enforcement Conference appear to address the problems areas, but would caution that several key elements are critical in order to achieve a substantial improvement in the safety culture for operations at Y-12. These critical elements include (1) effective management involvement, (2) strong coordination of the various Y-12 organizational elements involved, (3) full implementation of the corrective actions, and (4) effective monitoring of the effectiveness of these corrective actions.

You are required to respond to this letter and follow the instructions specified in the enclosed PNOV when preparing your response. Your response should document any additional specific actions taken to date. Corrective actions will be tracked in the Noncompliance Tracking System (NTS). You should enter into the NTS (1) any actions that have been or will be taken to prevent recurrence and (2) the target and completion dates of such actions. After reviewing your response to the PNOV, including your

proposed corrective actions entered into the NTS in addition to the results of future assessments or inspections, I will determine whether further enforcement action is necessary to ensure compliance with DOE nuclear safety requirements.

Sincerely,

John A. Gordon
Administrator

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Enclosures:
Preliminary Notice of Violation
Enforcement Conference Summary Report
List of Attendees

cc: B. Costner, S-1
D. Michaels, EH-1
M. Zacchero, EH-1
S. Cary, EH-1
K. Christopher, EH-10
R. Day, EH-10
D. Stadler, EH-2
F. Russo, EH-23
N. Goldenberg, EH-3
J. Fitzgerald, EH-5
M. Creedon, DP-1
D. Minnema, DP-45
G. Leah Dever, DOE-ORO
M. McBride, DOE-ORO
B. Hawks, DOE-ORO
W. Brumley, DOE-Y12
C. Moseley, LMES PAAA Coordinator
R. Barton, DNFSB
R. Azzaro, DNFSB
D. Thompson, DNFSB
Docket Clerk, EH-10

PRELIMINARY NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Lockheed Martin Energy Systems
Y-12 Site

EA-2000-11

During a Department of Energy (DOE) investigation conducted on March 28-30, 2000, violations of DOE nuclear safety requirements were identified. In accordance with the "General Statement of Enforcement Policy, " 10 CFR 820, Appendix A, DOE proposes to impose civil penalties pursuant to Section 234A of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2282 a., and 10 CFR 820. The particular violations and associated civil penalties are set forth below:

I. Violations Identified During the Investigation of [Radioactive Material] Supply System [ ]

A. Procurement

10 CFR 830.120 (c)(2)(iii) requires that prospective suppliers shall be evaluated and selected on the basis of specified criteria.

Contrary to the above, a number of prospective suppliers of [radioactive material process system] components were not adequately evaluated and selected on the basis of specified criteria, between October 1995 and August 1996. Specifically,

1. Procedures used to qualify the supplier for [radioactive material system components] were not adequately implemented. Examples follow:

   a. The *Procurement Quality Assurance Checklist*, dated 10-24-95, had six activities that were required to be marked "Yes" as applicable, or marked "NA" as not applicable, but had no marking as to whether these activities were required. Additionally, the "key reviewer" block and associated date were left blank.

b. The *Requisition Entry Data and Checklist* (UCN-17099), dated 10-26-95, stipulated the required documentation to be submitted by the proposing firm. The documentation was not fully completed with necessary check-off and signatures. The signature blocks for the Procurement Quality supervisor and the finance officer were not complete, and six other blocks indicating completion of activities were also blank.

c. The *Vendor Data Checklist* (TY-10028), dated 10-24-95, which documents the review and evaluation of vendor data and other steps leading to vendor certification, had only two of six steps completed.

d. The *Offer Evaluation Checklist* (TY-10030) was blank, indicating that the offer evaluation was not performed for this procurement. The checklist was to be used to evaluate the vendor's QA program description and to determine its adequacy, as well as other issues related to vendor qualification. It also would document LMES's evaluation of the acceptability of the proposed delivery schedule and any exceptions to specifications.

Despite not completing this supplier evaluation documentation, contract award to Ionics, Inc. was made on July 10, 1996.

2. In another procurement involving the B-1 Wing Scrubber Module, Section 8.0 Seller Data Submittal Requirements, of Engineering Specification JS-CM-921200-A005 (Rev. 0, 11/20/95), defined material to be submitted by the vendor. Such material was to be obtained in order to qualify the bidder. The *Quality Assurance Plan [ ]*, dated September 1994 (Y/EN-5100, Revision 1) required that bidders be qualified by submission and review of evidence of acceptability of their QA Program or other qualification documents required by the specification. However, not all of the required qualification material was submitted by Diversified Metal Products (DMP). The missing material included the (1) preliminary manufacturing plan, (2) QA Plan, (3) three reference letters, and (4) welding procedure.

Despite the omission of this material required to qualify the bidder, LMES made the award to DMP on August 31, 1996, to perform this work.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

B. Work Process

10 CFR 830.120 (c)(2)(i) *Work Processes* requires that work be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means.

Contrary to the above, work processes used during the development and fabrication of the [process equipment and system components] between October 1997 and March 1999 were not performed to established technical standards and administrative controls.

1. Procedure EP-E-21, *Transition Plan*, dated 6-24-92, requires that a transition plan be developed, and periodically updated to serve as a living plan during the engineering phase of a project and requires that the completed (final) plan be provided at project turnover, indicating all of the documentation items provided with the completed facility. However, the original project plan for the [radioactive material process system] (December 1995, Y/EN-5455, Rev. 0), was not revised or updated until August 1999, well after project turnover. No final plan was prepared at project turnover to operations, which occurred about March 31, 1999.

2. LMES procedure QA-701, *Procurement Quality,* Rev. 0 of 11/22/ 96 and Rev. 1 of 3/25/98, requires that a Request for Waiver/Deviation be obtained for any vendor nonconforming items, including nonconformance with technical or material requirements, deviations from requirements in supplier documents approved by LMES, or conditions not meeting original requirements. However, numerous changes were made to inspection documents or procedures used by vendors for the [radioactive material process] system between October 1997 and October 1998 without obtaining a Waiver or Deviation. Examples of changes made without a Waiver or Deviation are as follows:

    a. Several of the *Cylinder Enclosure Module* pre-operational inspection checklists had one or more activities marked as “Delete per LMES” or similar, with no waiver or deviation.

    b. The *Cylinder Enclosure Module Mechanical Fabrication Inspection and Tests* inspection sheet identified a deficiency for a magnetic gasket that was indicated as being accepted, but no Waiver or Deviation was obtained.

    c. The *Cylinder Enclosure Module Mechanical Fabrication Inspection and Tests* had a note that indicated for an inspection of a window, shims were added to obtain a seal of the window, per LMES. No Waiver or Deviation was obtained.

    d. The inspection sheets for the cylinder positioning cradle subassembly and the enclosure subassembly indicated several of the tests had been deleted at the direction of LMES. However, variance from the inspection checklist was not processed with the required Waiver or Deviation.

e. The *Assembled Cylinder Module Test: Remote Controlled Valve Operation* test procedure had only 6 of the 10 steps completed, but no Waiver or Deviation supported removal of these steps from the test.

f. Test and inspection procedure [ ] *Material Inspection/Certification Checklist* for the fluid bed and glove box module 1" flanges called for ANSI B16.5 Class 150 material; however, this had been lined out and changed to "Class 300" without any Waiver or Deviation.

g. Inspection procedure IEY-921200-FB601 specified a 5-point calibration check at different airflows for various valves. However, testing of solenoid valve HV-668 was crossed-out, with no Waiver or Deviation processed for this procedure change.

h. Inspection procedures IEY-921200-FB-603 and …-FB-703 for differential pressure switches were marked "DEL," but no Requests for Waiver or Deviation were processed to approve omission of these inspections.

i. Inspection procedure IEY-921200-FB604 specified a 5-point calibration of four pressure differential transmitters. The criteria were applied to three of the switches, but were changed by the vendor inspector for the fourth switch. No Waiver or Deviation was processed for this variance from procedures.

j. The fluid bed/glovebox module inspection report covering conduit penetrations (Y-EN-5451) was marked as "accept," with a note that indicated the specified "Chico A" had not been installed at the direction of a particular individual. Another note on the report indicated that a test meter different from the model specified in the procedure had been used. No Waiver or Deviation was processed for these variances from procedures.

k. The [ ] fluid bed inspection procedure [ ] (Y-EN-5451), Part E, was crossed out and replaced with a handwritten procedure. No Waiver or Deviation was processed for this variance from procedure.

l. Leak tests of the [ ] fluidbed filter blowback system (Y-EN-5451) [ ] were waived because the filter elements were not in place. No Waiver or Deviation was processed for this variance from procedure.

m. Leak tests of the [ ] fluidbed nitrogen system, Part B [ ] (Y-EN-5451), were not marked as either pass or fail for valves PCV-711, PCV-712, PCV-715, and PCV-729. A note indicated there was leakage through a weephole. LMES signed-off as having witnessed an acceptable test. No Waiver or Deviation was processed for this variance from procedure.

n. *Pressure Measurement Test* checksheets for the assembled fluidbed module had several informal changes: test pressure requirements were changed by handwritten entries, temperature measurement on the preheater was changed[ ], and the pressure indicator for reading test pressures was changed from PI-604 to PI-704. No Waiver or Deviation was processed for these variances from procedure.

o. For inspections and tests on the glovebox modules (Y-EN-5451), 13 of 32 steps were deleted for the powder transfer and fluidization test. No Waiver or Deviation was processed for these variances from procedure.

p. The [ ] glovebox nitrogen system leak test[ ] (Y-EN-5451), for PCV-512 and PCV-514 was marked "Pass*." The (*) note indicated there was a leak through a weephole. No Waiver or Deviation was processed for this variance from procedure. There was no indication of repair or retest.

q. The glovebox door test JS-IEY-921200-A009 had only five of 10 steps marked as completed in the "Program Installation and Test" section. A note indicated steps were deleted per directions from a particular individual. No Waiver or Deviation was processed for this variance from procedure.

r. [ ]Part 3 of Y-EN-5452[ ] reported the results of measurements of the final dimensional inspection of the assembled B-1Wing Scrubber Module. Some of the required dimensions were marked-up and initialed by the LMES piping engineer, without processing a Request for Waiver or Deviation.

s. For *Assembled B1 Scrubber Module Test: Conductivity Measurement* in Part 3 of Procedure Y-EN-5452, 3 of the 12 B-1 scrubber conductivity measurements or checks were marked out and initialed "OK" by the LMES instrument engineer without processing a Request for Waiver or Deviation.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

C. Documents & Records (Inadequacies)

10 CFR 830.120(c)(1)(iv) requires that documents shall be prepared, reviewed, approved, issued, used, and revised to prescribe processes, specify requirements, or establish design.

10 CFR 830.3 defines a *Record* as a document that provides objective evidence of an item, service, or process, and a *Service* as including the performance of work, such as design, construction, fabrication, inspection, and nondestructive examination/testing.

Contrary to the above, at various times between December 1996 and March 1999 documents and records required to provide evidence of proper design,

construction, fabrication, or inspection were not adequate to provide objective evidence of completion of work.

1. ASME B31.3 specifies in-process inspection requirements for welding. Also LMES Engineering Specification (WBS 1.2.4, Division 18A) specifies in-process inspection requirements in Section 18100. However, the forms (#UCN-1149A, #TRI-082, and #TRI-042) used by LMES inspection personnel for weld inspection records of [radioactive material process system] welds did not include data to record objective evidence to demonstrate that all of the ASME and Engineering Specification required inspections had been properly performed. Parameters that were not recorded were preheating, joint clearance, internal alignment and welding position.

2. Section 18100 of LMES Engineering Specification (WBS 1.2.4, Division 18A) specifies that the backside of the weld be purged with argon and that the gas be analyzed to verify the oxygen content requirement is met. However, the weld inspection record form used for the [] project (#UCN-1149A, #TRI-082, and #TRI-042) did not record that the argon purge gas was used for both passes, and did not record that the oxygen content was tested to be within specifications prior to beginning welding. Also, the use of calibrated equipment to analyze purge gas was not recorded.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

D. Documents & Records (Improper Completion)

10 CFR 830.120(c)(1)(iv) *Documents and Records* requires that records shall be specified, prepared, reviewed, approved, and maintained.

Contrary to the above, at various time between January 1997 and August 1998 numerous examples of records were not properly prepared, since required witnessing by LMES of vendor inspections or tests was not recorded, or other sign-offs were not recorded. Examples are as follows:

1. The *Cylinder Enclosure Module p*re-operational inspection checklist that is part of LMES engineering specification *Cylinder Module Inspections and Tests* had numerous steps covering pipe cleaning, pneumatic proof tests and other system inspections. Many of the activities were not signed-off by an LMES. Similar omissions occurred for the tests and inspections of the vaporizer module.

2. The *Cylinder Enclosure Module Mechanical Fabrication Inspection and Tests* inspection sheet identified a deficiency for a magnetic gasket. Ionics, Inc. sign-off was missing from completion/resolution of this item.

3. The test and inspection sheet for the *Cylinder Module - Post-Fabrication Dimensional Inspection Procedure* had no LMES representative sign-off of the measurements performed on January 9, 1998.

4. EIP-921200-FB022 contained inspection and test requirements for miscellaneous electrical equipment, with each inspection step signed. However, the columns for accept/reject for each step were not marked to indicate if the observations were accepted or rejected.

5. The *Preoperational Inspection Checklist - Pneumatic Transfer Piping* for the fluid bed/glovebox module (Y-EN-5451) was approved by the vendor and the LMES representative although none of the criteria had been checked off.

6. Two test procedure checksheets for remote-controlled air-operated solenoid valves for the assembled [ ]fluid bed modules were missing LMES witness signatures.

7. Post-fabrication dimensional inspections were recorded on inspection checksheet[ ]. No vendor inspector or LMES witness signatures were on the checksheet in the records.

8. The glovebox door test JS-IEY-921200-A009 had no LMES witness sign-off in the designated signature line.

9. The *B-1 Scrubber Equipment Labeling Inspection* report (in Y-EN-5452) contained a signature block for LMES witness/approval. No LMES individual signed off on this report.

10. Test reports for subassemblies H, I, and J [ ] had signature blocks for LMES witness, however, no LMES witness sign-off appeared on these records.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

E. Inspection & Testing (Inadequacies)

10 CFR 830.120(c)(2)(iv) *Inspection and Acceptance Testing* requires that inspection and testing of specified items, services, and processes shall be conducted using established acceptance and performance criteria.

Contrary to the above, between October 1997 and July 1998 numerous examples were identified where tests and inspections were performed outside of specified conditions or where the results did not meet specified acceptance criteria, yet were marked as “accept.” The following are examples of such violations:

1. The test and inspection sheet for the *Cylinder Module - Post-Fabrication Dimensional Inspection Procedure* of January 9, 1998, indicates that 10 of the 18 dimensional measurements were outside the required tolerance. The dimensions were identified in the procedure as critical to the proper operation and/or fit of the module. The component inspections were signed-off without any formal disposition to accept the discrepant condition, to process a Request for Waiver or Deviation, or to correct and retest. Similar deficiencies were found for the dimensional examination of the vaporizer module.

2. On the *Assembled Cylinder Module Instrumentation Inspection*, five of 16 attributes were marked "Fail." A note was added that "correction of failures will be made by LMES." No formal disposition of the discrepant condition or Request for Waiver or Deviation was processed.

3. Test and inspection procedure[ ] *Material Inspection/Certification Checklists[ ]* for the fluid bed and glove box modules indicated that the stainless steel flanges were not the correct grade of stainless steel. However, the checklist was signed-off at the bottom as accepted.

4. Inspection procedure IEY-921200-FB606 specified test requirements for thermocouples and temperature transmitters. The test was specified to be performed between [specified temperature limits]. However, testing was performed [outside the temperature limits].

5. Post-fabrication dimensional inspections were recorded on inspection checksheet[ ]. Of several dimensional measurements required, one-dimensional measurement was not recorded and three were outside of tolerance. Although a DMP Nonconformance Report was initiated, nothing indicated that corrective action was taken and dimensional checks were re-performed.

6. [ ]Part 3 of Y-EN-5452[ ] reported the results of measurements of the final dimensional inspection of the assembled B-1 Wing Scrubber Module. In total, 26 of 44 required measurements were out of specification. However, all were marked acceptable by the LMES piping engineer.

7. For test procedure *Assembled Cylinder Module Test: Enclosure Pressure Measurement*, two steps related to confirming the alarm sounds, and that the alarm clears, under certain conditions. The inspection notes indicate that there was "No Alarm" yet the inspection procedure was initialed as successfully completed.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

F. Inspection & Testing (Failure to Perform)

10 CFR 830.120(c)(2)(iv) *Inspection and Acceptance Testing* requires that inspection and testing of specified items, services, and processes shall be conducted using established acceptance and performance criteria.

Contrary to the above, numerous examples were identified between October 1997 and July 1998 where inspection and testing of specified items, services and processes were not completed or were inadequately performed in accordance with established acceptance and performance criteria in that–

1. The *Assembled Cylinder Module Test: Remote Controlled Valve Operation* test procedure had only six of the 10 steps completed. Additionally, the vendor did not sign off on the procedure.

2. Test and inspection procedure [ ]*Material Inspection/Certification Checklists* for the fluid bed and glovebox stainless steel pipe schedule 40S, steel plate and bar stock had no check-offs, dates or signatures on the data sheets.

3. The inspection checklist for 1" stainless steel flanges for the fluid bed and glovebox modules had only three of the eight inspection criteria marked as having been met, yet the other five were left blank. The record had been approved and signed-off. (ref. [ ] *Material Inspection/Certification Checklists)*

4. The Y-EN-5451 inspection reports for differential pressure testing of pneumatic transfer piping sections A, B, and C, and the test result tabulation were all blank. No signatures or dates were included.

5. The assembled fluid bed module inspection checksheet (Y-EN-5451) was blank, including inspections of alignments, bolt locations, and welds. Also the signature block for LMES witness was blank.

6. Leak tests of the [ ]fluidbed filter blowback system[ ] (Y-EN-5451), were waived because the filter elements were not in place. There was no indication the tests were performed later.

7. For the inspections of the glovebox module PLC cabinet, IEY-921200-FB-504 (Y-EN-5451), 12 of 28 components on the inspection report were not marked as accept or reject.

8. The [ ]glovebox nitrogen system had six required leak tests (Y-EN-5451). Only three of the six tests had data entered, bringing into question whether the other three tests had been performed. For the three that were apparently performed, test documentation is not conclusive on the adequacy of the tests since the notes indicate leaks were observed, yet two of these tests were "passed."

9. The [ ] Fluid Bed *Instrumentation Inspection* form (from Y-EN-5451) was blank, indicating that these inspections were not performed.

10. Part 1, Section 1 of Y-EN-5452 contained requirements for vendor prefabrication inspection and tests of the B-1 Wing Scrubber[ ]. The entire 20-page inspection form had no data entries.

11. Inspection report [for] Y-EN-5452 included hydrostatic leak testing requirements for subassembly G. However, one of the seven valves to be tested was not marked as pass or fail for the Open and Closed tests.

12. Several steps for the Cylinder Enclosure Module Mechanical Fabrication Inspection and Tests and the Cylinder Enclosure Module Mechanical Inspection and Tests – Cylinder Positioning Cradle Subassembly checksheets were not signed-off by the vendor (Ionics).

13. Several instrument items in inspection sheet IEY-921200-FB-800 were not marked as accept or reject.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

G. Design Control

10 CFR Part 830.120(c)(2)(ii) *Design* requires that design work, including changes, shall incorporate applicable requirements and design bases.

Contrary to the above, between June and July 1999 changes to design work did not adequately incorporate applicable requirements and design bases.

Appendix G of Procedure Y14-37-036, *Configuration Management – Change Control Process,* required that the (SSC) grade be specified on the Facility Change Notice, and that other pertinent information on the basis for the change and affected documents be identified in the FCN. However, numerous FCNs for the [radioactive material process system] did not have the required SSC grade specified, and had other data omissions. The omissions included (1) no stated basis or reason for the change, (2) missing references to drawings or specifications pertaining to the change, (3) failure to check the applicable Unreviewed Safety Question Determination outcome, and (4) not identifying the controlled documents, testing or other requirements affected by the change. Examples of FCNs with such deficiencies include the following:

1. FCN #28 concerning the vapor barrier for the [ ] vaporizer.
2. FCN #30 pertaining to [ ]system thermocouples.
3. FCN #31 for modifying temperature controller input to the fluid.
4. FCN #32 for tank level.

5. FCN #40 concerning installation of the B-1 Wing filter station and nitrogen filter for the [ ]system.
6. FCN #41 concerning piping elbows in the pneumatic transfer line.
7. FCN #44 related to [ ]system check valves.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

H. Quality Improvement (Failure to Perform Trending)

10 CFR 830.120 (c)(1)(iii) *Quality Improvement* requires that items, services, and processes that do not meet established requirements be identified, controlled, and corrected according to the importance of the problem and work affected. Correction shall include identifying the causes of the problems and working to prevent recurrence.

Contrary to the above, between December 1996 and August 1999 items, services and processes not meeting established requirements were not identified, controlled or corrected.

Step D.1 of Procedure Y60-301, *Control of Nonconforming Items and Services,* requires that Nonconformance Reports (NCR) be evaluated to identify trends in types of NCRs, or issues within organizations, divisions, or programs. However, no such trending of NCRs was being performed by LMES.

This violation constitutes a Severity Level II problem.
Civil Penalty - $55,000

I. Quality Improvement (Nonconformance Report Deficiencies)

10 CFR 830.120 (c)(1)(iii) Quality Improvement requires that processes to detect and prevent quality problems shall be established and implemented. Items, services, and processes that do not meet established requirements shall be identified, controlled, and corrected according to the importance of the problem and work affected. Correction shall include identifying the causes of the problems and working to prevent recurrence.

Contrary to the above, between December 1995 and March 1999, items, services and processes not meeting established requirements were not identified, controlled or corrected.

1. Nonconformance Report Deficiencies

Procedure Y60-301, (formerly QA-301) *Control of Nonconforming Items (and Services)*, specifies the information to be included in Nonconformance Reports (NCRs). However, this procedure was not adequately implemented in preparation of NCRs. The following are example NCR's that did not contain the required information:

a. NCR-99-EUO/9212-006 pertained to deficiencies in thermocouples for the [radioactive material process system]. This NCR did not reference the drawing or specification pertaining to the deficiency as required by the NCR form.

b. NCR-99-EUO/9212-0001 pertained to receipt of filters made of the incorrect material and micron size. The NCR did not indicate that the remedial actions had been taken to correct the problem.

c. NCR-99-EUO/9212-0005 pertained to preheaters that had an improper jacket. This NCR also had data missing from certain fields, such as the reference source document pertaining to the deficiency.

d. Inspection report [for] Y-EN-5452 included hydrostatic testing requirements for subassembly E. However, one of the valves required to be hydro-tested was noted as "damaged – did not hydro." No NCR was initiated for this "damaged" valve.

2. NCRs for "Use-As-Is" Material

Procedure Y60-301 requires that an NCR be issued for nonconforming conditions, including for nonconformances resulting from vendor supplied items prior to acceptance, such as "Use-As-Is" items. However, several cases of nonconforming conditions addressed in MK-Ferguson NCRs that were dispositioned "Use-As-Is" by LMES did not have an LMES NCR. Examples of these cases include the following:

a. NCR 99-001 concerning six rejected of Monel piping.

b. NCR Y98-SC003 R/1 concerning multiple Hasteloy piping weld deficiencies.

c. NCR Y98-SC002 concerning use of an unqualified procedure for Hasteloy welding.

d. NCR Y98-002 on numerous Hastelloy field welds not meeting acceptance criteria.

e. NCR 97-008 on exceeding the maximum time for pouring concrete from a particular batch.

f. NCR Y97-005 concerning vendor welding prior to approval of required qualification records.

g. NCRs Y96-023 and Y96-024 on required ASTM specification to be met for concrete reinforcing bars.

h. NCR Y95-012 concerning concrete not meeting required compressive strength.

Collectively, the above violations constitute a Severity Level II problem.
Civil Penalty - $55,000

J. Quality Improvement (Lack of Timely Corrective Action)

10 CFR 830.120 (c)(1)(iii) Quality Improvement requires that processes to detect and prevent quality problems shall be established and implemented. Items, services, and processes that do not meet established requirements shall be identified, controlled, and corrected according to the importance of the problem and work affected. Correction shall include identifying the causes of the problems and working to prevent recurrence.

Contrary to the above, between January and December 1998, a number of quality problems associated with the [radioactive material process system] welding activities were not detected by LMES inspection and assessment activities and were not corrected in a timely manner.

1. LMES inspection personnel failed to detect and reject several weld defects during performance of visual weld inspections prior to March 1998. For example, four Hastelloy piping welds were found by DOE in March 1998 with rejectable defects located in the piping intended for installation [in] Building 9212. These welds were not in conformance with visual installation and inspection requirements, but had passed inspections by LMES in January 1998.

2. The [ ]welding assessment conducted by LMES, with a report issued in December 1998, was inadequate in that it did not detect and correct in a timely manner numerous welding deficiencies that existed in the [radioactive material process system]. Specifically, the assessment did not evaluate the following potential quality problems:

   a. Inspectors and supervisors did not question welder QQ5s certification following extensive shop weld failures.

   b. Engineering did not ensure visual inspection requirements were adequate in absence of radiographic testing, despite indications of difficulty in welding Hastelloy.

c. LMES inspection reports were not questioned, such as the failure to record all parameters required by ASME B31.3 for in-process inspection.iv. LMES failed to timely and thoroughly evaluate and disposition potential weld inspection deficiencies indicated by a statement from welder QQ5 asserting that weld inspections performed by LMES ET&I personnel were not performed, but were signed off as such on the weld inspection documentation.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

II. Violations Identified during the Investigation of the December 8, 1999, [Unanticipated Event] in the Alpha 5 Facility

A. Quality Improvement

10 CFR 830.120 (c)(1)(iii) Quality Improvement requires that processes to detect and prevent quality problems shall be established and implemented. Items, services, and processes that do not meet established requirements shall be identified, controlled, and corrected according to the importance of the problem and work affected.

Contrary to the above, during 1999, processes to detect and prevent quality problems were inadequate in that–

During the development of the crucible change-out procedure and subsequent recovery plan, LMES quality processes failed to identify and mitigate the [unanticipated] hazard presented by the formation of [a chemical compound] and the subsequent contact with mineral oil. Specific examples include (1) AEC Health and Safety Bulletin, 1967, (2) Brethericks Handbook of Reactive Chemical Hazards, 1975-1990, (3) Hazardous Materials – National Fire Protection Association, 1991, (4) Hazard Screening Evaluation for [] Building 9720-27, LMES, 1997-1999, and (5) Material Safety Data Sheet for [a certain] Alloy Callery Chemical Company, 1999.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

B. Personnel Training and Qualification

10 CFR 830.120 (c)(1)(ii) Personnel Training and Qualification requires that personnel be trained and qualified to ensure they are capable of performing their assigned work.

Contrary to the above, during 1999, personnel training was not conducted as required. Examples include the following:

1. LMES Procedure Y73-208INS, "*Hazard Communication Program Instruction,"* Requirements Section B.1 and B.2, dated 9/21/99, require that employees receive information and training on the hazardous chemicals in his or her work area and that each employee potentially exposed to hazardous chemicals shall receive Hazard Communication Level I Training. However, workers and safety staff involved with the crucible change-out and subsequent [unanticipated event] recovery had not received the work area hazard communication training and or the Hazard Communication Level I Training as required.

2. LMES Manual Y14-001INS, "Conduct of Operations Manual," Chapter 1, Sections IV.B.1.l and IV.B.2.b, dated 3/26/99, require the Operations and Support Managers to ensure that facility personnel receive the training they require in order to perform their jobs safely and effectively. The crucible change-out procedure, Y50-24-81-030, section 3.1, revision 0.0, effective date 6/23/99, requires that the Arc Melting Line Supervisor ensure operators are trained prior to performing their specific work activities. The [chemical] Training Manual, Y/MA-6741, dated 1/18/88, provided detailed instruction on the physical/chemical properties of [the chemical], a description of the [associated] system, safety and handling of [the chemical], and fire fighting techniques to combat a [chemical] fire. However, operating personnel involved in the crucible change-out or subsequent [chemical] spill recovery were not trained in [appropriate] safety procedures and fire fighting methods discussed in the [chemical] Training Manual.

3. Y14-001INS, Chapter 16, section V.D, dated 3/26/99, requires that the Operations Managers/Production Managers ensure the personnel performing independent verification are trained on independent verification requirements and techniques. However, the individuals performing the verification and validation of the crucible change-out procedure in May 1999, had not been formally trained in the process used to verify and validate that the procedure was technically and administratively correct.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

C. Work Processes

10 CFR 830.120 (c)(2)(i) Work Processes requires that work be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means.

Contrary to the above, during 1999, work was not performed to established standards and controls through the use of procedures. Examples include the following:

1. Crucible Change-Out

   a. The process used to develop the crucible change-out procedure is governed by Y15-202, "*Technical Procedure Process Control,*" dated 10/30/98. Part of this development process is the verification and validation of the draft procedure by the verifier(s), validator(s), and procedure writer. This verification and validation process involves the use of Verification and Validation Checklists as included in Appendix I and J of the procedure. However, the procedure was not adequately implemented in that the step in the procedure to open the sump valve prior to the argon purge was omitted.

   b. Y15-202, section G, requires the categorization of technical procedures by the cognizant Facility Manager, using the checklist provided in Appendix F of the procedure. However, the crucible change-out procedure was miscategorized as a category III procedure not requiring step by step compliance, instead of a Category I or II procedure.

   c. [The chemical] Training Manual, Y/MA-6741, section IV.D, describes the emergency response to a loss of [chemical] primary containment to include the use of Met-L-X in covering the released [material]. However, the crucible change-out procedure does not address this response and directs the use of mineral oil in lieu of Met-L-X (section 4.8.1[7]). The use of mineral oil is contraindicated when [the chemical] has been exposed to oxygen.

   d. Y14-192, *"Occurrence Notification and Reporting,"* section "What to Do," A.4, dated 10/27/99, requires that facility supervision report events/conditions to the Plant Shift Superintendent. However, Depleted Uranium Operations facility supervision did not report the [chemical] spill on December 1, 1999, to the Plant Shift Superintendent as required.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

2. [Chemical] Spill Recovery and [Unanticipated Event]

a. LMES procedure Y15-204, “Work Instruction Process and Development,” section “What to Do,” A.5 and Appendix B, dated 9/13/99, establishes a graded approach to determine the need for and the development, review, and approval of Work Instructions. However, the clean up of the [chemical] spill was performed using a “recovery plan” rather than a formal procedure, contrary to the requirements.

b. LMES procedure 70-525, “Operations Safety Work Permit,” dated 10/31/91, requires the preparation of an Operations Safety Work Permit (OSWP) for work involving exceptional hazard-exposure potential as defined in section III.A of the procedure. Examples of exceptional hazard-exposure potential are found in section VI.A.2 and in Appendix A of the procedure and include chemical hazards such as work with toxic or corrosive materials. An additional emphasis is placed on nonproceduralized jobs requiring respiratory protection and the need for formal evaluation by the Industrial Hygiene Department. However, an OSWP was not prepared which specifically addressed the hazard potential associated with [the chemical].

c. Y50-24-81-030, “Skull Caster Furnace Crucible Changeout,” section 4.8.1[6], dated 6/23/99, requires the use of a full-face shield and a protective [ ]suit when cleaning any [certain chemical] spill. However, on December 8, 1999, workers cleaning the [chemical] spill were not wearing the full-face shield and protective [ ] suit.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

III. Violations Identified during the Investigation of the Building 9212 Operational Standown on November 5, 1999, and the Building 9212 [radioactive] Material Activity Shutdown on December 14, 1999.

A. Quality Improvement

10 CFR 830.120 (c)(1)(iii) Quality Improvement requires that processes to detect and prevent quality problems shall be established and implemented. Items, services, and processes that do not meet established requirements shall be identified, controlled, and corrected according to the importance of the problem and work affected.

Contrary to the above, between August 1997 and January 2000**,** processes to detect and prevent quality problems were inadequate in that–

LMES deficiencies in conduct of operations, criticality safety, and training which led to the operational standown at Building 9212 in November 1999 and the

subsequent shutdown of [nuclear] material activities in December 1999, were identified by DOE during the scheduled Readiness Assessment (RA) and through routine activities performed by DOE rather than by LMES's quality processes. Specifically, LMES did not adequately–

– Identify the deficiencies related to the [nuclear] material administrative storage limits.

– Verify [nuclear] material administrative storage limits for all [storage cans] when the limit was changed [ ].

– Identify the nuclear criticality safety requirement violation pertaining to the dolly movement during the LMES RA process.

– Verify that issues pertaining to [nuclear] material dolly movements may potentially exist elsewhere in EUO operations until DOE pressed this issue.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

B. Personnel Training and Qualification

10 CFR 830.120 (c)(1)(ii) Personnel Training and Qualification requires that personnel be trained and qualified to ensure they are capable of performing their assigned work.

Contrary to the above, between October and November 1999, personnel training was not conducted as required in that–

1. The electrician performing the thermocouple connection had not been trained in the use of Y52-37-94-001, "Reduction Furnaces' Control Circuit Surveillance," revision 1.1, effective date 10/22/99, as required by Y14-001INS, "Conduct of Operations Manual," Chapter 16, section V.A.2.

2. Y14-001INS, Chapter 16, section V.A.9, requires that personnel using a Category I procedure for the first time to be accompanied by a person who has performed the procedure previously. However, the electrician performing the job evolution for the first time worked alone.

This violation constitutes a Severity Level II problem.
Civil Penalty - $55,000

C. Work Process

10 CFR 830.120 (c)(2)(i) Work Processes requires that work be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means.

Contrary to the above, between November and December 1999, work was not performed to established standards and controls through the use of procedures. Examples include the following:

1. Operational Standown at Building 9212

   a. Y70-37-103, "Containers and Material Handling, section "What To Do," A.2.n, effective date 8/20/99, requires a minimum [ ] spacing between the dolly and process equipment and between the dolly and a storage array. However, the procedure was not adequate in that movement of the dolly through the area could not physically be performed and still maintain compliance with the spacing requirement

   b. LMES procedure Y15-202, "*Technical Procedure Process Control,"* provides for the verification and validation of technical procedures. Checklists provided in Appendix I and J of the procedure aid verifier(s), validator(s), and writer(s) in identifying deficiencies in the procedure. However, Y15-202 was not implemented in that LMES failed to identify that certain dolly movements in Building 9212 could not physically be performed and remain in compliance with Y70-37-103.

   c. Y14-001INS, Chapter 16, Section V.B.10 and 12 requires that workers comply with procedures and perform procedural steps and sections sequentially. However, on November 1, 1999, while performing a Reduction Furnace Control Circuit Surveillance (Category I procedure), the thermocouple connection was signed off as complete. The connection configuration was then changed after the procedure signoff.

   d. Y14-001INS, Chapter 16, section V.B.13, requires that each step in the procedure be performed as written. However, on November 1, 1999, unauthorized and unspecified equipment was used in performing the Reduction Furnace Control Circuit Surveillance (Category I procedure).

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

2. [Nuclear] Material Activity Shutdown at Building 9212

   Criticality safety procedure CSR-STOR-C-037, "Chemical Area Storage," revision 5, section 4.3.3.5, dated 8/13/99 sets administrative control limits on the

storage of [nuclear] material in [storage cans.] However, on December 14, 1999, [storage cans] were found to exceed the [ ] administrative limits.

This violation constitutes a Severity Level II problem.
Civil Penalty - $55,000

IV. Violations Identified during the Investigation of Noncompliances With Y-12 Authorization Basis (AB) and Operational Safety Requirements (OSR)

10 CFR 830.120 (c)(2)(i) Work Processes requires that work be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means.

Contrary to the above, at various times between August 1999 and April 2000, work was not performed in accordance with the following established standards or instructions:

Work Processes

– Limiting Condition for Operation (LCO) 3.5.1 of OSR Y/MA-7255] for Building 9212 requires a minimum system pressure for sprinkler system #3[ ]. However, on August 23, 1999, it was determined that the system pressure for this sprinkler was [below the minimum].

– LCO 3.5.1, Action Statement A.2, of OSR Y/MA-7255 for Building 9212 requires that fire patrols be instituted in periods that a sprinkler system is inoperable [beyond a set] period [ ]. However, on September 29, 1999, surveillance records did not establish whether the surveillances had been completed within the required [ ]time frame for five sprinkler systems during surveillances in May and June 1999 and fire patrols had not been instituted.

– Administrative Control requirement 5.2.2 of OSR Y/MA-7255 for Building 9212 requires that the Shift Manager be present for any [nuclear] material handling activities or any operation requiring command function responsibility. However, on November 12, 1999, the vacuum producer was isolated from [the] processing equipment and could not have been utilized for movement of [nuclear] material. It thus should have been placed in the warm standby mode. However, the system was left in the operation mode in a period in which the Shift Manager was absent from the facility.

– Procedure Y74-809 “Unreviewed Safety Question Determinations” requires that for as-found conditions, if the condition could indicate a potential inadequacy of previous safety analyses, to place the facility within the authorization basis or in a safe condition, and obtain DOE approval. However, on November 19, 1999, degradation of structural components for Building 9720-5 was identified and despite

a positive USQ Determination, the facility continued to operate in a condition that was outside the authorization basis.

– LCO 3.1.1, paragraph 3.1.1.2, of OSR Y/TS-1314 for the 9204-2E Facility requires that where the [emergency] alarm is not audible above background noise, equivalent methods be provided such as by [ ] PRDIs [ ] However, on March 10, 2000, two workers entered a Building 9204-2 and 9204-2E containment area without wearing required PRDIs (Personal Radiation Detector Instruments).

– LCO 3.1.1, paragraph 3.1.1.2, of OSR Y/TS-1317 for the 9204-4 Facility requires that where the [emergency] alarm is not audible above background noise, equivalent methods be provided [ ]. [ ] However, on April 6, 2000 two workers entered a Building 9201 fan room that was posted [to require] PRDIs (DMC 100) [ ] for [entry] without wearing PRDIs.

Collectively, these violations constitute a Severity Level II problem.
Civil Penalty - $55,000

Pursuant to the provisions of 10 CFR 820.24, Lockheed Martin Energy Systems is hereby required within 30 days of the date of the Preliminary Notice of Violation and Proposed Imposition of Civil Penalty, to submit a written statement or explanation to the Director, Office of Enforcement and Investigation, Attention: Office of the Docketing Clerk, P.O. Box 2225, Germantown, MD 20875-2225. Copies should also be sent to the Manager, DOE Oak Ridge, National Nuclear Security Administration Operations Office, and to the Cognizant Secretarial Offices at Headquarters for the facilities that are subjects of this notice. This reply should be clearly marked as a “Reply to a Preliminary Notice of Violation” and should include the following for each violation: (1) admission or denial of the alleged violations; (2) any facts set forth which are not correct and (3) the reasons for the violations if admitted, or if denied, the basis for denial. Corrective actions that have been or will be taken to avoid violations will be delineated with target and completion dates in DOE’s Noncompliance Tracking System. In the event the violations set forth in the Preliminary Notice of Violation are admitted, this Notice will constitute a Final Notice of Violation in compliance with the requirements of 10 CFR 820.25.

Any request for remission or mitigation of civil penalty must be accompanied by a substantive justification demonstrating extenuating circumstances or other reasons why the assessed penalty should not be paid in full. Within the 30 days after the issuance of the Notice and Civil Penalty, unless the violations are denied, or remission or mitigation is requested, Lockheed Martin Energy Systems shall pay the civil penalty of $1,045,000 imposed under Section 234a of the Act by check, draft, or money order payable to the Treasurer of the United States (Account 891099) mailed to the Director, Office of Enforcement and Investigation, Attention: Office of the Docketing Clerk at the above address. Should Lockheed Martin Energy Systems fail to answer within the time specified, the contractor will be issued an order imposing the civil penalty.

In requesting mitigation of the proposed civil penalty, Lockheed Martin Energy Systems should address the adjustment factors described in Section VIII of 10 CFR 820,

Appendix A.

Sincerely,

John A. Gordon
Administrator

~~A.~~Dated at Washington, DC
this day of 2000

ENFORCEMENT CONFERENCE SUMMARY

NTS-ORO- -LMES-Y12NUCLEAR-1999-0005
NTS-ORO- -LMES-Y12NUCLEAR-1999-0009
NTS-ORO- -LMES-Y12NUCLEAR-1999-0010

The Office of Enforcement and Investigation (EH-Enforcement) held an Enforcement Conference with the representatives of Lockheed Martin Energy Systems, Inc. (LMES) on June 8, 2000, at Germantown, Maryland. EH-Enforcement held the meeting to discuss the facts, circumstances, and corrective actions pertaining to a series of quality assurance breakdowns with regard to LMES compliance with 10 CFR 830.120. An Investigation Summary Report describing the Department's evaluation of the events was transmitted to LMES on May 12, 2000, as an enclosure to the letter requesting this conference. The problems described in the Investigation Summary Report included (1) deficiencies in the design, procurement, and fabrication of the [radioactive material] Supply System [ ], (2) failures in formality of operations leading to the [unanticipated event] in the Alpha 5 Facility, (3) failures in formality of operations leading to the operational standown and [nuclear] material handling shutdown at Building 9212, and (4) lack of adherence to established Operational Safety Requirements (OSR) and Authorization Basis (AB) requirements.

The conference was called to order by R. Keith Christopher, Director, Office of Enforcement and Investigation. A list of attendees is attached. LMES provided EH-Enforcement with a written compilation of their factual accuracy comments to the Investigation Summary Report. In addition, LMES provided a written statement addressing the accuracy of [radioactive material process system] welding records. Information provided by LMES and key areas discussed at the conference is summarized below.

Bill Haight [ ] provided a corporate perspective on the parent company's efforts to examine, at the corporate level, the lessons learned from the [Alpha 5 Facility]explosion and the actions taken to enhance the quality of the products and services delivered by LMES.

Bob Van Hook [ ] acknowledged the seriousness of the events under consideration and emphasized LMES accountability. Dr. Van Hook stated that a lack of management leadership was a major factor in the events, and he outlined the actions LMES is taking to remedy this problem.

Paul Wasilko [ ] summarized the LMES response to the [unanticipated event]and the planned corrective actions with scheduled completion dates. Mr. Wasilko acknowledged that hazard identification and analysis, procedural issues, and event identification and reporting contributed to the chain of events leading to the [unanticipated event].

Douglas Craig [ ] acknowledged that OSR and AB requirement violations are continuing to occur since the issuance of the Special Report Order but indicated that improvement has been observed. Mr. Craig went on to describe six primary causes for these violations and the corrective actions taken to address each cause. Mr. Craig also addressed the issues related to the [radioactive material system]. He acknowledged that the [ ] project had Price-Anderson Amendments Act quality assurance deficiencies. Mr. Craig then went on to describe the corrective actions to address both defects in the [radioactive material process system] and larger programmatic deficiencies.

Harold Connor [ ] addressed the issues related to the Building 9212 operational standown and [nuclear] material handling shutdown. Mr. Connor identified concerns with 9212 procedure compliance and self-assessment efforts and acknowledged that the events under considerations were significant, both individually and collectively. Mr. Connor then went on to address corrective actions relative to leadership, organizational restructuring, restart, and self-assessment.

Ed Bergin [ ] summarized the LMES presentation by describing the Systematic Improvement Program whereby weaknesses relative to management responsibility and accountability, system and work process implementation, and assessment processes are being addressed. Mr. Bergin went on to describe the site wide corrective actions LMES is taking to include leadership, quality assurance and organizational changes.

During the conference, EH-Enforcement requested additional information on the LMES investigation into the completeness and accuracy of [radioactive material process system] welding records to justify the LMES conclusion that there was no intentional falsification of welding records by LMES personnel. Mr. Christopher then adjourned the conference.

Lockheed Martin Energy Systems, Inc.
Y-12 Site

Enforcement Conference
List of Attendees

DOE Office of Enforcement and Investigation

R. Keith Christopher, Director
Richard Day, Enforcement Specialist
Sharon Hurley, Supervisory Investigator
Howard Wilchins, Senior Litigator
Hank George, Technical Advisor

DOE Office of Oversight

Frank Russo, EH-2 Liaison to EH-Enforcement

DOE Office of Defense Programs

Joe King, DP-45
Jeffery Roberson, DP-45
Phillip Aiken, DP-24

DOE Oak Ridge National Nuclear Security Administration Operations Office

Robert Poe, Assistant Manager for Environment, Safety and Health
Martin McBride, Director of Nuclear Safety Directorate
Brenda Hawks, Nuclear Safety Team Leader
William Brumley, Assistant Manager for Defense Programs
Sarah Hartson, Authorization Basis Program Manager

Lockheed Martin

Bill Haight [ ]

Lockheed Martin Energy Systems

Robert Van Hook [ ]
Ed Bergin [ ]

Douglas Craig [ ]
Paul Wasilko [ ]
Harold Connor [ ]
Bill Altman [ ]
Ed St.Clair [ ]
Gary Hagan [ ]
Chuck Moseley [ ]
Alan Lewis [ ]
Jimmy Stone [ ]
Rebekah Bell [ ]