DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 21, 1993

MEMORANDUM FOR: G.W. Cunningham, Technical Director

COPIES: Board Members

FROM: J.J. McConnell, Oak Ridge Program Manager

SUBJECT: Trip Report to Oak Ridge Y-12 Plant

1. Purpose:

   a. This memorandum documents information gained during a trip to the Oak Ridge Y-12 Plant to assess the DOE Oak Ridge Operations Office (DOE-ORO), DOE Y-12 Site Office (YSO), Martin Marietta Energy Systems (MMES), and M.K. Ferguson Order compliance self-assessment programs and to assess the status of administrative Order compliance at Y-12. The review was conducted by J. McConnell, R. Zavadoski, M. Helfrich, D. Hurt, J. Troan, and R. Warther of the DNFSB Staff and two Outside Experts, R. Thompson and T. Quale during the period May 11-14, 1993 and May 18-20, 1993.

   b. This trip was a follow up to a DNFSB Staff review conducted in June 1992. The deficiencies noted during that trip were detailed in a letter from the Chairman of the DNFSB to the Secretary of Energy dated July 7, 1992.

2. Summary: The results of the review indicate that little progress has been achieved in addressing the issues raised with the Secretary of Energy after the June 1992 trip. Further, no plans were presented to address many of those deficiencies. The following observed conditions, which were identified to the Secretary in July of 1992, persist:

   a. <u>The process used to assess compliance at Y-12 was less rigorous than the process used at other DOE defense nuclear sites.</u> The "Preparation of Assessments and Corrective Actions" procedure used by DOE-ORO (and thus YSO) relaxes several critical requirements of the instruction provided by DOE-DP for use at DP sites such as Y-12. These requirements include the definition of compliance and the actions required to declare that a site complies with a given requirement. This problem is exacerbated by the apparent lack of DOE-ORO operational line management involvement in the Order compliance assessment process.

1. MMES: The MMES procedure is less rigorous than the DOE-ORO procedure.

2. M.K. Ferguson: M.K. Ferguson has no procedure which specifically addresses Order compliance self assessments or actions required to correct non-compliances.

b. Requests For DOE Action (RFAs, i.e. CSAs, EXs, ED,s and STCSs) were not generated for deficiencies identified. DOE-ORO and the M&O contractors at Oak Ridge have not prepared Requests for DOE Action (RFAs) to address numerous deficiencies in Order compliance which have been identified. DOE-ORO personnel stated that most non-compliances are addressed in DOE Order implementation plans. These plans are not required to contain all the information required of an RFA by DP-AP-202.

c. The need for compensatory measures to address known deficiencies was not addressed. Documented evidence that the need for compensatory measures has been considered is lacking for most of the non-compliances identified by DOE-ORO and MMES. DOE-ORO personnel indicated that Order implementation plans created after October 1992 would address compensatory measures; however, there is no plan to evaluate the need for compensatory actions for the non-compliances identified during earlier reviews. In addition, those Order implementation plans created after October 1992 which were reviewed by the DNFSB Staff included a section titled "compensatory actions," but the section did not satisfy the requirements of DP-AP-202.

d. M.K. Ferguson was not assessing compliance with DOE Orders. The initial self assessment to be performed by M.K. Ferguson (a prime contractor to DOE) will not be completed until 1995. M.K. Ferguson has not implemented DP-AP-202 or any other procedure which specifically addresses DOE Order compliance.

e. The self assessments performed by DOE were weak and there was no evidence that DOE had reviewed the MMES results. The Assistant Secretary for Defense Programs (DOE-DP) took action to improve guidance on the subject when he revised the excellent instruction DP-AP-202, "Order Compliance Self-Assessment Instruction" on August 3, 1992. However, this procedure was never adopted at Oak Ridge (see a. above). No evidence was presented to indicate that DOE-DP evaluated or took issue with the DOE-ORO approach. When combined with the above, this led to a lack of emphasis on the part of the Operations Office, Site Office, and contractors regarding Order compliance; and therefore, deficiencies identified during the MMES self assessments as early as 1991 still have no corrective action plans.

3. Background: To facilitate a clear and logical approach to assessing the status of Order compliance, the DNFSB Staff focussed this review on administrative Order compliance -- that portion of the process which is associated with the first criteria of Order compliance in DP-AP-202. Administrative Order compliance is referred to in DP-AP-202 section 4.2 as, "applicable DOE Order statements (mandatory and nonmandatory) are included in appropriate documented policies, programs, and procedures." The second aspect of Order compliance, or "adherence-based Order compliance", is taken from the second part of the definition in DP-AP-202, "...documented policies, programs, and procedures are demonstrably adhered to during office or facility activities." This aspect of Order compliance will be reviewed in future trips to Oak Ridge.

4. Discussion: The initial staff review of Order compliance at Y-12 was conducted by nine DNFSB Staff members and Outside Experts on June 22-24, 1992 as part of an assessment of the implementation of Board Recommendations 90-2 and 91-1. The trip report from that review was provided to the Secretary of Energy on July 7, 1992. Some of the deficiencies relating to Order compliance and self assessments identified in that report included: 1) the process used to assess compliance at Y-12 was less rigorous than the process used at other DOE defense nuclear sites; 2) RFAs were not generated for deficiencies identified; 3) the need for compensatory measures to address known deficiencies was not addressed and justified; 4) MMES was not meeting the schedules of DOE Order implementation plans; 5) M.K. Ferguson was not assessing compliance with DOE Orders; and, 6) the deficiencies indicated that Order and standards were not yet a way of operating the plant for DOE and its contractors, but rather a task that must be periodically completed to satisfy external requirements. All of these deficiencies still exist at Y-12.

   a. The DOE-ORO and MMES Order compliance self assessment procedures deviate from the directive provided by Defense Programs at DOE Headquarters to govern Order compliance reviews at DP facilities. M.K. Ferguson has not implemented DP-AP-202 and has no procedure of their own to review DOE Order compliance and address non-compliances. Although DOE-DP has had a copy of the DOE-ORO procedure since February 1992, they have not yet concurred with the Oak Ridge methodology or provided additional direction.

      1) The enclosure to this memorandum provides a comparison of DP-AP-202, the DOE-ORO and the MMES procedures for Order compliance. As shown in the definitions of compliance in the enclosure, the adherence portion of Order compliance assumes that Order requirements are followed, unless there is evidence to the contrary (and in MMES' procedure there must be evidence of a pervasive problem). This is significant because the DOE-ORO procedure states that actual "walkdowns" are not required for these assessments. As a result, the DOE-

ORO and MMES assume that they are in compliance with the Orders, which is contrary to DOE HQ assumptions, but have no mechanism in place to verify that this is the case. It is also noteworthy that this approach conflicts with criteria 9, "Management Assessment" of DOE Order 5700.6C, "Quality Assurance".

2) The DOE-ORO definition of compliance includes a second statement that, "Compliance may also exist when we know the requirement is being implemented without documented evidence, in cases where the requirement statement does not specifically require documentation." This view of Order compliance is in conflict with the definition of compliance in DP-AP-202.

3) The DOE-ORO procedure does not require an assessment of any mandatory requirements incorporated in DOE Orders only by reference. DOE-ORO personnel stated that the basis for these exclusions was that requirements such as those of the EPA are imposed and reviewed by other existing methods. This approach does not consider standards which are not laws such as NFPA fire codes made mandatory in DOE Order 5480.7, "Fire Protection" and ANSI/ANS nuclear criticality safety standards made mandatory in DOE Order 5480.24, Nuclear Criticality Safety".

b. DOE-ORO and MMES personnel identified numerous non-compliances for which there are no RFAs and no plans to generate RFAs. A total of six RFAs were identified to the Staff during the review. DOE-ORO personnel stated that DOE Order implementation plans were used in place of RFAs. The Order implementation plans provided for the Staff's review did not include all of the information required in an RFA such as a clear description of the problem, discussion of increased risk of being out of compliance, compensatory actions (see c. below), and step-by-step action plans which identify managers responsible for each step (see d. below).

c. The documents presented to the staff as evidence of plans to correct non-compliances rarely included an evaluation of the need for compensatory actions or justification for their omission. The few discussions of compensatory actions identified to the Staff were in the four CSAs presented for review and in DOE Order implementation plans created after October 1992.

d. Some of the implementation plans presented to the staff as responsive to the Order compliance effort were actually generated to address findings of other reviews such as Tiger Team assessments and TSAs. These plans did not specifically address non-compliances on a requirement-by-requirement basis. Some of the implementation plans presented to the Staff failed to address Order compliance at all. These plans also failed to provide milestones and

meaningful descriptions of intermediate actions or identify the managers responsible for completing the tasks. Many of the plans provided no more detail than a proposed date by which the deficiency will be resolved. As a result, it is impossible for the DNFSB Staff to assess the adequacy of these plans or the status of their implementation. The Staff did determine that several of the actions which were past due had not been completed as scheduled. In those cases were the deadline had been extended, there was no documented reconsideration of the need for compensatory actions.

5. Future Staff Actions:

   a. As noted above the staff will continue to assess the adherence-based aspect of compliance with DOE Orders during future reviews.

   b. This trip only covered a subset of the DOE Orders of safety significance. Future reviews will include an assessment of the status of administrative Order compliance with other DOE Orders.

   c. The Staff will follow-up on corrective actions (both existing and new) created to address the issues identified above.

Enclosure

Comparison of DP-AP-202 to Directives on Order Compliance
at Oak Ridge

Term	DP-AP-202 (DP-HQ)	DOE-ORO Order Compliance Assessment Process (Operations Office)	Performing a Compliance Assessment (MMES)
Compliance	"Compliance exists when applicable DOE Order statements (mandatory and nonmandatory) are included in appropriate documented policies, programs, procedures, and practices, AND these *documented policies, programs, procedures, and practices are demonstrably adhered to during office or facility activities.*"	"Compliance exists when applicable DOE Order statements are included in appropriate documented policies, programs, procedures, and practices and *there is no reason to believe that these documented policies, programs, procedures and practices are not adhered to during office or facility activities.* *Compliance may also exist when we know the requirement is being implemented without documented evidence, in cases where the requirement statement does not specifically require documentation.*"	"A condition indicating that (1) all provisions of a requirement are being fully and adequately addressed in existing documentation and that *no known pervasive implementation problems exist; (2) a tailored application exists; or (3) a requests for approval of compliance document implementation plan exists and the corrective action schedule is being met.* (This is the definition agreed to by Y-12 Plant and the DOE Field Office. [sic]"
Compliance Assessment	Under the definition of Document Order Statement is followed, this document states, "Reports of audits, inspections, evaluations, or assessments contain sufficient detail to show that the required activity was performed and that the results were acceptable.	"Actual 'walkdowns' of structures, systems, components, processes, or procedures *are not required* for these assessments. Such detailed reviews should be performed at a later date as part of the ongoing self-assessment and appraisal processes."	"A process for determining the degree to which the Y-12 Plant is in compliance with a required compliance document via evaluation of current policies, standards, procedures, records, and program plans as evidence of compliance."
CSA	CSA identifies the following: • Corrective actions • Compensatory actions • Increased hazards and potential for adverse consequences • Alternative corrective actions	Compensatory actions, where necessary to mitigate risk, *may also be proposed.*	

Deficiency	"A deficiency exists when an applicable nonmandatory statement in a DOE Order is not included in appropriate documented policies, programs, procedures, and practices; OR if it is included, when these documented policies, programs, procedures, or practices are not demonstrably adhered to during office or facility activities. A deficiency also exists when a site feels the need to improve the implementation of a mandatory Order statement with which the site already complies."	A deficiency exists with respect to an applicable mandatory requirement statement when (1) the statement does not specifically require that the activity be controlled by a formal document; (2) observations and records show that the requirement statement is met; and (3) no formal documentation exists to control the activity.	"A deficiency exists with respect to an applicable requirement when (1) the statement does not specifically require that the activity be controlled by a formal document ... (2) observations and records show that the requirement statement is met, and (3) no formal documentation exists to control the activity."
Graded Approach	"Graded approach is the process used by the M&O contractor or DOE Field Office to determine how to apply specific statements contained in a DOE Order to a given structure, system, component, process, or procedure. The result of this determination is not whether a particular requirement is applicable or not, but instead addresses the degree of rigor needed for implementation.	1. On the negative side - "The process used by the M&O contractor or DOE-ORO to determine how to apply specific *mandatory requirements* contained in a DOE Order to a given program..." 2. On the positive side - The result of this determination is not whether a particular requirement is applicable or not, but instead addresses the degree of rigor needed for implementation.	Not defined in Order compliance documentation.
Exemption	"A request for DOE Approval that identifies a specific noncompliance and seeks permanent relief from the mandatory Order statement."		
Tailored Application	Not defined.	Not defined.	A method of compliance with a required compliance document that varies from the explicit document requirements. Tailored applications are to be documented, budgeted and approved by Y-12 Plant Management, and concurred with by DOE.

Compensatory Measure	"Those actions that are necessary to reduce the risk of the noncompliance or deficiency to an acceptable level until corrective actions can be achieved to mitigate or eliminate the noncompliance and risk."	"Those actions deemed necessary to offset the safety or security risk(s) associated with a particular noncompliant condition(s) during the interim until compliance is achieved."	Not defined.
RFA	A documented request to DOE which identifies a noncompliance or deficiency, proposes corrective and/or compensatory actions, and requests DOE approval of such requests."	"A written request to the appropriate approval authority which identifies noncompliance, proposes a solution, and requests approval of the proposal."	
STCS	"A Request for DOE Approval that identifies a specific noncompliance and associated compensatory and corrective actions."	"An RFA that identifies a specific noncompliance or group of noncompliances and proposes corrective actions. Compensatory actions ... may also be proposed."	