DEPARTMENT OF THE ARMY
CORPUS CHRISTI ARMY DEPOT
308 CRECY STREET
CORPUS CHRISTI, TEXAS 78419-5260

April 30, 1998

Directorate of Depot Support

SUBJECT: Reply to a Notice of Violation, Nuclear Regulatory Commission (NRC) Inspection Report 040-08177/98-01

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dear Sir:

References:

a. Docket No. 040-08177, License No. STB-1168.

b. Letter, Office of the Commander, 11 March 1998, subject: NRC Inspection and 3 March 1998, subject: Advance Response to Apparent Findings.

c. Letter, Safety and Environmental Division, 30 March 1998, subject: NRC Inspection and 3 March 1998, subject: Response to Apparent Findings.

To address the additional concern stated in the cover letter about implementation of the program in the area of management control, the Corpus Christi Army Depot (CCAD) has initiated an internal program audit by the Internal Review and Audit Compliance Office (IRAC). IRAC is a CCAD agency set up for the express purpose of auditing various programs and processes at CCAD. The IRAC reports will be reviewed by management authorities (enclosure 1, Paragraph 1).

Enclosed is our response to the findings contained in NRC Inspection Report 040-08177/98-01. Each finding is quoted and our response is addressed below the finding.

If you have any questions, please contact Mr. David Scott, Health Physicist, (512) 961-2199, or Mr. Pete Epperson, Chief, Safety and Environmental Division, (512) 961-2299.

Sincerely,

Mario O. Lopez, P.E.
Director of Depot Support

Enclosure

Copies Furnished:
Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76011
U.S. Army Materiel Command, ATTN: AMCSF
U.S. Army Industrial Operations Command, ATTN: AMSIO-DMS

CORPUS CHRISTI ARMY DEPOT
CORRECTIVE ACTION TO FINDINGS IN
NRC INSPECTION REPORT 040-08177/98-01

Docket No.: 040-08177, License No.: STB-1168

1. Item A: "Paragraph e. of the facsimile, dated August 17, 1993, specifies that the licensee will inspect the radiation program annually.

"Contrary to the above, the licensee failed to perform an annual inspection of the radiation protection program for the years 1995-1997."

Explanation: The Corpus Christi Army Depot (CCAD) Radiation Protection Officer (RPO) did not adapt the existing radiation protection program to compensate for interruption of annual inspections by higher command. In the absence of inspections by higher commands, CCAD's Internal Review and Audit Compliance Office (IRAC) will perform an annual audit of the radiation protection program, based on U.S. Army Materiel Command and NRC checklists, adapted to activities at CCAD. The first review will be on 14 May 1998.

2. Item B: "Paragraph 2.d., Item 4 and Enclosure 3, Paragraph 4.1, of the letter, dated October 29, 1990, specifies that a written examination with a 70 percent minimum passing grade will be required to complete the annual worker training and that all employees who routinely work with radioactive material will receive training prior to beginning work with radioactive material and annually thereafter.

"Contrary to the above, the licensee failed to conduct annual training for the calendar years 1996-1997 and failed to grade the 1995 examinations."

Explanation: The Radiation Safety Officer did not amend license and adjust program adequately to reflect local command restructuring. Training for calendar year 1998 was conducted 23-26 March 1998. Exams were graded and personnel failing to achieve a 70 percent score on the first examination were retrained 26 March and tested at the end of class. Their grades were passing. Quizzes for 1995 were graded and filed.

Enclosure

Conduct of future training will be an element for review by IRAC and Radiation Control Committee.

3. Item C: "Paragraph g., Item 7 and Paragraph 1., Item 12, of the letter, dated October 29, 1990, specifies that the licensee will perform monthly general area air samples and breathing zone samples in all operational areas where radioactive material is processed.

"Contrary to the above, the licensee failed to perform monthly general area air samples and breathing zone samples from March 1994 to March 1998."

Explanation: Because no samples up to the time of discontinuation had shown any measurable thorium contamination and because there was a fifty percent reduction in radiation protection personnel, the RPO felt compelled to reduce the workload where effectiveness of effort showed little or no benefit. However, the RPO failed to request that the license be amended to give CCAD relief from this requirement.

Beginning in March 1998 and continuing until relief from this requirement is obtained from the NRC, the RPO will collect air samples monthly in all required areas. Performance of this sampling will be an element of the IRAC program audit.

Sampling has been done for the month of March. Twenty-four hour samples were allowed to sit for one week and then analyzed for alpha emissions. None of the samples had measurable alpha contamination when counted for 200 minutes.

NOTE: *MDA for alpha (α) was 0.035 dpm or 3.9E-16 μCi per milliliter (automatically determined by counting equipment)*

Samples were submitted to an independent laboratory to be analyzed for elemental thorium by alternate method to verify counting results.

Respirable fraction measurement was done using an Anderson 2000 impacter, with most recent manufacturer's modifications, and gravimetric analysis of collection media by an independent laboratory.

Air sampling for April was conducted in the period 27-29 April 1998. However, because of the delay for decay of radon daughters, results were not yet available at the time of this letter.

Utilization factor of equipment is also being determined to establish the number of hours per year each workstation is used to process magnesium-thorium alloy. Results to be submitted to the NRC justifying relief from the monthly sampling should be completed in July 1998. Our request for relief from the requirement is to be submitted by September 1998.

4. Item D: "Item 10.1.4 of the application, dated June 21, 1989, specifies that the licensee will calibrate survey and monitoring equipment on a quarterly basis. Paragraph h., Item 8 of the letter, dated October 29, 1990, specifies that the licensee will maintain records of instrument calibration for no less than two years.

"Contrary to the above, during the period of March 1994 to March 1998, the licensee failed to maintain survey instruments calibrated at the specified frequency and failed to maintain calibration records for a minimum of two years."

Explanation: The RPO overlooked the license and army requirements for two-year retention of reports and applied the minimum NRC requirement to have on hand the current report only. Copies of calibration records for the period of March 1996 through March 1998 for survey and monitoring instruments have been requested from TMDE, Redstone Arsenal, Alabama, and are in process of acquisition. Documents should be in hand by 1 June 1998.

An amendment request is being prepared to amend our license(s) to require calibration intervals for "ACTIVE" survey instruments in accordance with the contemporary U.S. Army Test, Measurement, and Diagnostic Equipment standards as published in Technical Bulletin 43-180, Calibration and Repair Requirements for the Maintenance of Army Materiel. Reason: Periodically, TMDE is extending calibration intervals according to reliability of individual instrument types in holding their calibration.

Corrective Action
Corpus Christi Army Depot

Realignments, reductions in force, and transportation problems have compelled TMDE to depart from their previous stricter than minimally necessary requirement of quarterly calibration intervals for radiac equipment whenever possible. The CCAD license requirement is based on the earlier TMDE standard.

Review of calibration records will be an element of the IRAC program audit.

Dated at Corpus Christi Army Depot
this 30th April 1998

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

April 3, 1998

Peter T. Epperson, Director,
Industrial Risk Management
Department of the Army
Corpus Christi Army Depot
SDSCC-GT, Mail Stop 23
Corpus Christi, Texas 78419-6070

SUBJECT: NRC INSPECTION REPORT 040-08177/98-01 AND NOTICE OF VIOLATION

Dear Mr. Epperson:

On March 3, 1998, the NRC conducted an inspection at the Corpus Christi, Texas, facility.

Based on the results of this inspection, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are of concern because they were identified by the NRC.

In addition to the violations identified during this inspection, we are concerned about the implementation of your program in the area of management control. Specifically, based on the findings of the inspection, it appears the RSO was allowed to implement the radiation safety program with little management oversight. This resulted in the discontinuation of various license commitments without apparent management input or awareness. Therefore, in addition to your letter dated March 11, 1998, a response is required describing those actions planned or taken to improve the effectiveness of the management control of your licensed operations, with particular emphasis on measures currently being taken to prevent further violations. Your response may reference or include previously docketed correspondense.

Please follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," is enclosed. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room (PDR).

Should you have any questions concerning this inspection, please contact Robert A. Brown, at (817) 860-8130 or D. Blair Spitzberg, Ph.D., at (817) 860-8191.

Sincerely,

Ross A. Scarano, Director
Division of Nuclear Materials Safety

Docket No.: 040-08177
License No.: STB-1168

Enclosures:
1. Notice of Violation
2. NRC Information Notice 96-28

cc w/Enclosure 1:
Texas Radiation Control Program Director

ENCLOSURE 1

NOTICE OF VIOLATION

Corpus Christi Army Depot
Corpus Christi, Texas

Docket No.: 040-08177
License No.: STB-1168

During an NRC inspection conducted on March 3, 1998, four violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

Condition 13 of License STB-1168 states, in part, that licensed materials shall be used in accordance with the statements, representations, and conditions specified in application dated June 21, 1989, letter dated October 29, 1990, application dated March 25, 1993, and facsimile dated August 17, 1993.

A. Paragraph e. of the facsimile dated August 17, 1993, specifies that the licensee will inspect the radiation protection program annually.

Contrary to the above, the licensee failed to perform an annual inspection of the radiation safety program for calendar years 1995 -1997.

This is a Severity Level IV violation (Supplement VI).

B. Paragraph 2.d, Item 4, and Enclosure 3, paragraph 4.I. of the letter dated October 29, 1990, specifies that a written examination with a 70 percent minimum passing grade will be required to complete the annual radiation worker training and that all employees who routinely work with radioactive material will receive training prior to beginning work with radioactive material and annually thereafter.

Contrary to the above, the licensee failed to conduct annual training for the calendar years 1996-1997 and failed to grade the 1995 examinations.

This is a Severity Level IV violation (Supplement VI).

C. Paragraph g., Item 7; and paragraph I., Item 12, of the letter dated October 29, 1990, specifies the licensee will perform monthly general area air samples and breathing zone samples in all operational areas where radioactive material is processed.

Contrary to the above, the licensee failed to perform monthly general area air samples and breathing zone samples from March 1994 to March 1998.

This is a Severity Level IV violation (Supplement VI).

D. Item 10.I.4 of the application dated June 21, 1989, specifies that the licensee will calibrate survey and monitoring equipment on a quarterly basis. Paragraph h.,

Item 8 of the letter dated October 29, 1990, specifies the licensee will maintain records of instrument calibration for no less than 2 years.

Contrary to the above, during the period March 1994 to March 1998, the license failed to maintain survey instruments calibrated at the specified frequency and failed to maintain calibration records for a minimum of 2 years.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Corpus Christi Army Depot is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Arlington, Texas
this 3rd day of April 1998

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

May 1, 1996

NRC INFORMATION NOTICE 96-28: SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION

Addressees

All material and fuel cycle licensees.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to provide addressees with guidance relating to development and implementation of corrective actions that should be considered after identification of violation(s) of NRC requirements. It is expected that recipients will review this information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not new NRC requirements; therefore, no specific action nor written response is required.

Background

On June 30, 1995, NRC revised its Enforcement Policy (NUREG-1600)[1] 60 FR 34381, to clarify the enforcement program's focus by, in part, emphasizing the importance of identifying problems before events occur, and of taking prompt, comprehensive corrective action when problems are identified. Consistent with the revised Enforcement Policy, NRC encourages and expects identification and prompt, comprehensive correction of violations.

In many cases, licensees who identify and promptly correct non-recurring Severity Level IV violations, without NRC involvement, will not be subject to formal enforcement action. Such violations will be characterized as "non-cited" violations as provided in Section VII.B.1 of the Enforcement Policy. Minor violations are not subject to formal enforcement action. Nevertheless, the root cause(s) of minor violations must be identified and appropriate corrective action must be taken to prevent recurrence.

If violations of more than a minor concern are identified by the NRC during an inspection, licensees will be subject to a Notice of Violation and may need to provide a written response, as required by 10 CFR 2.201, addressing the causes of the violations and corrective actions taken to prevent recurrence. In some cases, such violations are documented on Form 591 (for materials licensees)

~~9604290193~~

GPP

[1]Copies of NUREG-1600 can be obtained by calling the contacts listed at the end of the Information Notice.

which constitutes a notice of violation that requires corrective action but does not require a written response. If a significant violation is involved, a predecisional enforcement conference may be held to discuss those actions. The quality of a licensee's root cause analysis and plans for corrective actions may affect the NRC's decision regarding both the need to hold a predecisional enforcement conference with the licensee and the level of sanction proposed or imposed.

Discussion

Comprehensive corrective action is required for all violations. In most cases, NRC does not propose imposition of a civil penalty where the licensee promptly identifies and comprehensively corrects violations. However, a Severity Level III violation will almost always result in a civil penalty if a licensee does not take prompt and comprehensive corrective actions to address the violation.

It is important for licensees, upon identification of a violation, to take the necessary corrective action to address the noncompliant condition and to prevent recurrence of the violation and the occurrence of similar violations. Prompt comprehensive action to improve safety is not only in the public interest, but is also in the interest of licensees and their employees. In addition, it will lessen the likelihood of receiving a civil penalty. Comprehensive corrective action cannot be developed without a full understanding of the root causes of the violation.

Therefore, to assist licensees, the NRC staff has prepared the following guidance, that may be used for developing and implementing corrective action. Corrective action should be appropriately comprehensive to not only prevent recurrence of the violation at issue, but also to prevent occurrence of similar violations. The guidance should help in focusing corrective actions broadly to the general area of concern rather than narrowly to the specific violations. The actions that need to be taken are dependent on the facts and circumstances of the particular case.

The corrective action process should involve the following three steps:

1. Conduct a complete and thorough review of the circumstances that led to the violation. Typically, such reviews include:

   - Interviews with individuals who are either directly or indirectly involved in the violation, including management personnel and those responsible for training or procedure development/guidance. Particular attention should be paid to lines of communication between supervisors and workers.

- Tours and observations of the area where the violation occurred, particularly when those reviewing the incident do not have day-to-day contact with the operation under review. During the tour, individuals should look for items that may have contributed to the violation as well as those items that may result in future violations. Reenactments (without use of radiation sources, if they were involved in the original incident) may be warranted to better understand what actually occurred.

- Review of programs, procedures, audits, and records that relate directly or indirectly to the violation. The program should be reviewed to ensure that its overall objectives and requirements are clearly stated and implemented. Procedures should be reviewed to determine whether they are complete, logical, understandable, and meet their objectives (i.e., they should ensure compliance with the current requirements). Records should be reviewed to determine whether there is sufficient documentation of necessary tasks to provide an auditable record and to determine whether similar violations have occurred previously. Particular attention should be paid to training and qualification records of individuals involved with the violation.

2. Identify the root cause of the violation.

Corrective action is not comprehensive unless it addresses the root cause(s) of the violation. It is essential, therefore, that the root cause(s) of a violation be identified so that appropriate action can be taken to prevent further noncompliance in this area, as well as other potentially affected areas. Violations typically have direct and indirect cause(s) As each cause is identified, ask what other factors could have contributed to the cause. When it is no longer possible to identify other contributing factors, the root causes probably have been identified. For example, the direct cause of a violation may be a failure to follow procedures; the indirect causes may be inadequate training, lack of attention to detail, and inadequate time to carry out an activity. These factors may have been caused by a lack of staff resources that, in turn, are indicative of lack of management support. Each of these factors must be addressed before corrective action is considered to be comprehensive.

3. Take prompt and comprehensive corrective action that will address the immediate concerns and prevent recurrence of the violation.

   It is important to take immediate corrective action to address the specific findings of the violation. For example, if the violation was issued because radioactive material was found in an unrestricted area, immediate corrective action must be taken to place the material under licensee control in authorized locations. After the immediate safety concerns have been addressed, timely action must be taken to prevent future recurrence of the violation. Corrective action is sufficiently comprehensive when corrective action is broad enough to reasonably prevent recurrence of the specific violation as well as prevent similar violations.

In evaluating the root causes of a violation and developing effective corrective action, consider the following:

1. Has management been informed of the violation(s)?

2. Have the programmatic implications of the cited violation(s) and the potential presence of similar weaknesses in other program areas been considered in formulating corrective actions so that both areas are adequately addressed?

3. Have precursor events been considered and factored into the corrective actions?

4. In the event of loss of radioactive material, should security of radioactive material be enhanced?

5. Has your staff been adequately trained on the applicable requirements?

6. Should personnel be re-tested to determine whether re-training should be emphasized for a given area? Is testing adequate to ensure understanding of requirements and procedures?

7. Has your staff been notified of the violation and of the applicable corrective action?

8. Are audits sufficiently detailed and frequently performed? Should the frequency of periodic audits be increased?

9. Is there a need for retaining an independent technical consultant to audit the area of concern or revise your procedures?

10. Are the procedures consistent with current NRC requirements, should they be clarified, or should new procedures be developed?

11. Is a system in place for keeping abreast of new or modified NRC requirements?

12. Does your staff appreciate the need to consider safety in approaching daily assignments?

13. Are resources adequate to perform, and maintain control over, the licensed activities? Has the radiation safety officer been provided sufficient time and resources to perform his or her oversight duties?

14. Have work hours affected the employees' ability to safely perform the job?

15. Should organizational changes be made (e.g., changing the reporting relationship of the radiation safety officer to provide increased independence)?

16. Are management and the radiation safety officer adequately involved in oversight and implementation of the licensed activities? Do supervisors adequately observe new employees and difficult, unique, or new operations?

17. Has management established a work environment that encourages employees to raise safety and compliance concerns?

18. Has management placed a premium on production over compliance and safety? Does management demonstrate a commitment to compliance and safety?

19. Has management communicated its expectations for safety and compliance?

20. Is there a published discipline policy for safety violations, and are employees aware of it? Is it being followed?

This information notice requires no specific action nor written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below.

Elizabeth Q. Ten Eyck, Director
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Donald A. Cool, Director
Division of Industrial
and Medical Safety
Office of Nuclear Material Safety
and Safeguards

Technical contacts:

Nader L. Mamish, OE
(301) 415-2740
Internet:nlm@nrc.gov

Daniel J. Holody, RI
(610) 337-5312
Internet:djh@nrc.gov

Bruno Uryc, Jr., RII
(404) 331-5505
Internet:bxu@nrc.gov

Bruce L. Burgess, RIII
(708) 829-9666
Internet:blb@nrc.gov

Gary F. Sanborn, RIV
(817) 860-8222
Internet:gfs@nrc.gov

Attachments:
1. List of Recently Issued NMSS Information Notices
2. List of Recently Issued NRC Information Notices