

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)<sup>1</sup> 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

updated on 7/19/96

PDR IEE Notice 96-028 960501

<sup>1</sup>Copies of NUREG-1600 can be obtained by calling the contacts listed at the end of the Information Notice.

IDTR  
11C

DFD

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.

LIST OF RECENTLY ISSUED  
 NMSS INFORMATION NOTICES

| Information Notice No. | Subject  | Date of Issuance | Issued to  |
|------------------------|--|------------------|--|
| 96-21                  | Safety Concerns Related to the Design of the Door Interlock Circuit on Nucletron High-Dose Rate and Pulsed Dose Rate Remote Afterloading Brachytherapy Devices | 04/10/96         | All NRC Medical Licensees authorized to use brachytherapy sources in high- and pulsed-dose-rate remote |
| 96-20                  | Demonstration of Associated Equipment Compliance with 10 CFR 34.20   | 04/04/96         | All industrial radiography licensees and radiography equipment manufacturers                           |
| 96-18                  | Compliance With 10 CFR Part 20 for Airborne Thorium  | 03/25/96         | All material licensees authorized to possess and use thorium in unsealed form                          |
| 96-04                  | Incident Reporting Requirements for Radiography Licensees  | 01/10/96         | All Radiography Licensees and Manufacturers of Radiography Equipment                                   |
| 95-58                  | 10 CFR 34.20; Final Effective Date   | 12/18/95         | Industrial Radiography Licensees.  |
| 95-55                  | Handling Uncontained Yellowcake Outside of a Facility Processing Circuit   | 12/6/95          | All Uranium Recovery Licensees.  |
| 95-51                  | Recent Incidents Involving Potential Loss of Control of Licensed Material  | 10/27/95         | All material and fuel cycle licensees.   |
| 95-50                  | Safety Defect in Gammamed 121 Bronchial Catheter Clamping Adapters   | 10/30/95         | All High Dose Rate Afterloader (HDR) Licensees.  |
| 95-44                  | Ensuring Combatible Use of Drive Cables Incorporating Industrial Nuclear Company Ball-type Male Connectors   | 09/26/95         | All Radiography Licensees.   |

LIST OF RECENTLY ISSUED  
 NRC INFORMATION NOTICES

| Information Notice No. | Subject  | Date of Issuance | Issued to   |
|------------------------|--|------------------|---|
| 96-27                  | Potential Clogging of High Pressure Safety Injection Throttle Valves During Recirculation  | 05/01/96         | All holders of OLs or CPs for pressurized water reactors  |
| 96-26                  | Recent Problems with Over-head Cranes  | 04/30/96         | All holders of OLs or CPs for nuclear power reactors  |
| 96-25                  | Transversing In-Core Probe Overwithdrawn at LaSalle County Station, Unit 1   | 04/30/96         | All holders of OLs or CPs for nuclear power reactors  |
| 96-24                  | Preconditioning of Molded-Case Circuit Breakers Before Surveillance Testing  | 04/25/96         | All holders of OLs or CPs for nuclear power reactors  |
| 96-23                  | Fires in Emergency Diesel Generator Exciters During Operation Following Undetected Fuse Blowing  | 04/22/96         | All holders of OLs or CPs for nuclear power reactors  |
| 96-22                  | Improper Equipment Settings Due to the Use of Nontemperature-Compensated Test Equipment  | 04/11/96         | All holders of OLs or CPs for nuclear power reactors  |
| 96-21                  | Safety Concerns Related to the Design of the Door Interlock Circuit on Nucletron High-Dose Rate and Pulsed Dose Rate Remote Afterloading Brachytherapy Devices | 04/10/96         | All U.S. NRC Medical to the Licensees authorized to use brachytherapy sources in high- and pulsed-dose-rate remote afterloaders |
| 96-20                  | Demonstration of Associated Equipment Compliance with 10 CFR 34.20   | 04/04/96         | All industrial radiography licensees and radiography equipment manufacturers  |

OL = Operating License  
 CP = Construction Permit

- 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.

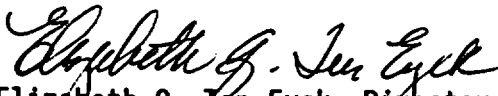
It is important to take immediate corrective action to address the specific findings of the violation. For example, if the violation was issued because radioactive material was found in an unrestricted area, immediate corrective action must be taken to place the material under licensee control in authorized 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.

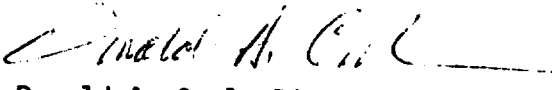
In evaluating the root causes of a violation and developing effective corrective action, consider the following:

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

*Attachments filed in Jacket*