

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

May 7, 1997

**NRC INFORMATION NOTICE 97-23: EVALUATION AND REPORTING OF FIRES AND UNPLANNED CHEMICAL REACTION EVENTS AT FUEL CYCLE FACILITIES**

Addressees

All fuel cycle conversion, enrichment, and fabrication facilities.

Purpose

The U.S. Nuclear Regulatory Commission is issuing this information notice to alert addressees to 10 CFR Parts 20, 40, 70, and 76 requirements for notification and/or reporting of fires and unplanned chemical reaction (e.g., explosions) events at their facilities. It is expected that recipients will review this information for applicability to their facilities and consider actions, as appropriate. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

Several fires and/or unplanned chemical reactions have recently occurred during the processing of licensed material at fuel cycle facilities. These events involved off-normal processing conditions that had the potential to cause significant degradation to facility safety or safeguards features and/or endanger the safety of site personnel.

Additionally, other potentially significant fires or unplanned chemical reactions may have occurred at these and other facilities during the processing of licensed material. The Commission is concerned that such events, particularly those involving unplanned chemical reactions, are not being adequately reported to NRC.

Discussion

Fires and/or unplanned chemical reactions may directly, or through system interactions, cause or increase the likelihood of the release of hazardous chemicals or nuclear materials that could quickly exceed the thresholds and/or reporting requirements discussed in 10 CFR.

Title 10 CFR 20.2202, 40.60, 70.50, and 76.120 contain requirements for notifying the Commission of certain events that reach discussed thresholds. Specifically, 10 CFR 20.2202 states that an immediate or 24-hour notification is required for any event involving nuclear

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material that might have caused or threatens to cause certain exposures. These exposures could be from the nuclear material or from an inadvertent criticality that may result from the event. Also, 10 CFR 40.60, 70.50, and 76.120 require a 24-hour notification of any unplanned fire or explosion damaging licensed material or damaging any device, container, or equipment containing licensed material in quantities greater than 5 times the lowest annual limit on intake specified for the material in Appendix B of 10 CFR 20.1001-20.2401.

The reported information is necessary for NRC to independently determine that regulatees took appropriate actions to prevent and/or mitigate hazardous releases. Also, this information allows NRC to adequately assess these events to determine their safety/safeguards significance and to evaluate if any industry-wide implications exist. Specifically, NRC needs to evaluate these events to determine if any potential or actual degradation or failure of safety features relied on for the prevention or mitigation of hazardous releases has occurred.

Related Generic Communications

NRC Information Notice 93-60, "Reporting Fuel Cycle and Materials Events to the NRC Operations Center," provides further guidance for licensee consideration when notifying and/or reporting events to NRC.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate regional office.

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

Technical contact: Garrett Smith, NMSS  
(301) 415-8118  
E-mail: gas@nrc.gov

Attachments:

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

*Attachments filed in Tricket*

LIST OF RECENTLY ISSUED  
NMSS INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
97-20	Identification of Certain Uranium Hexafluoride Cylinders that do not Comply with ANSI N14.1 Fabrication Standards	04/17/97	Registered users of transportation packages for uranium hexafluoride
97-04	Implementation of a New Constraint on Radioactive Air Effluents	02/24/97	All materials, fuel cycle, and non-power reactor licensees
97-03	Defacing of Labels to Comply with 10 CFR 20.1904(b)	02/20/97	All material licensees involved with disposal of medical waste
96-72	Undetected Failures that May Occur During Patient Treatments with Teletherapy Devices	12/24/96	All teletherapy licensees
96-70	Year 2000 Effect on Computer System Software	12/24/96	All U.S. Nuclear Regulatory Commission licensees, certificate holders, and registrants
96-66	Recent Misadministrations Caused by Incorrect Calibrations of Strontium-90 Eye Applicators	12/13/96	All U.S. Nuclear Regulatory Commission Medical Use Licensees authorized to use strontium-90 eye applicators
96-63	Potential Safety Issue Regarding the Shipment of Fissile Material	12/05/96	All U.S. Nuclear Regulatory Commission licensees authorized to possess special nuclear material in unsealed quantities greater than a critical mass

LIST OF RECENTLY ISSUED  
NRC INFORMATION NOTICES

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Information Notice No.	Subject	Date of Issuance	Issued to
97-22	Failure of Welded-Steel Moment-Resisting Frames During the Northridge Earthquake	04/25/97	All holders of OLs or CPs for nuclear power reactors
97-21	Availability of Alternate AC Power Source Designed for Station Blackout Event	04/18/97	All holders of OLs for nuclear power reactors
97-20	Identification of Certain Uranium Hexafluoride Cylinders that do not comply with ANSI N14.1 Fabrication Standards	04/17/97	All holders of OLs for nuclear power
97-19	Safety Injection System Weld Flaw at Sequoyah Nuclear Power Plant, Unit 2	04/18/97	All holders of OLs or CPs for nuclear power reactors
94-14, Supp. 1	Failure to Implement Requirements for Biennial Medical Examinations and Notification to the NRC of Changes in Licensed Operator Medical Conditions	04/14/97	All holders of OLs or CPs for nuclear power and non-power reactors and all licensed reactor operators and senior reactor operators
97-18	Problems Identified During Maintenance Rule Baseline Inspections	04/14/97	All holders of OLs, CPs, and decommissioning-stage licenses for nuclear power reactors

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OL = Operating License  
CP = Construction Permit

material that might have caused or threatens to cause certain exposures. These exposures could be from the nuclear material or from an inadvertent criticality that may result from the event. Also, 10 CFR 40.60, 70.50, and 76.120 require a 24-hour notification of any unplanned fire or explosion damaging licensed material or damaging any device, container, or equipment containing licensed material in quantities greater than 5 times the lowest annual limit on intake specified for the material in Appendix B of 10 CFR 20.1001-20.2401.

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\* SEE PREVIOUS CONCURRENCE

OFC	FCOB	E	FCOB	E	OGC	N	TECH ED	N	FCSS	E
NAME	GSmith:th*		PTing*		RFonner*		EKraus*		ETen Eyck*	
DATE	04/30/97		04/30/97		04/30/97		04/30/97		05/01/97	

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Title 10 CFR 20.2202, 40.60, 70.50, and 76.120 contain requirements for notifying the Commission of certain events that reach discussed thresholds. Specifically, 10 CFR 20.2202 states that an immediate or 24-hour notification is required for any event involving nuclear material that might have caused or threatens to cause certain exposures. These exposures could be from the nuclear material or from an inadvertent criticality that may result from the event. Also, 10 CFR 40.60, 70.50, and 76.120 require a 24-hour notification of any unplanned fire or explosion damaging licensed material or damaging any device, container, or equipment containing licensed material in quantities greater than 5 times the lowest annual limit on intake specified for the material in Appendix B of 10 CFR 20.1001-20.2401.

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NAME	AS&Smith:th		PTing		ES for per Email RFonner		ES for per Email EKraus		ETen Eyck
DATE	4/30/97		4/28/97		4/30/97		4/30/97		5/1/97

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