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O-P1-17

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

March 26, 1999

NRC INFORMATION NOTICE 99-08: URINE SPECIMEN ADULTERATION

Addressees

All holders of operating licenses for nuclear power reactors and licensees authorized to possess or use formula quantities of strategic special nuclear material (SSNM).

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to remind addressees of a recent attempt by an employee to circumvent fitness-for-duty (FFD) testing. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On December 21, 1998, at the Arkansas Nuclear One nuclear power station, the licensee discovered that a contractor employee adulterated his urine specimen with a commercially available substance during pre-access FFD testing. The substance is designed to dissipate tetrahydrocannabinol (THC), marijuana's metabolite, to a level that gas chromatography or mass spectrometry (GC/MS) techniques cannot detect.

This particular adulterant apparently destroys the THC metabolites in a urine specimen within two hours of introduction. In this case, the specimen screened positive (more than 135 nanograms per milliliter) for THC at the licensee's on-site testing facility before the adulterant could sufficiently dissipate the THC. The specimen was then sent for GC/MS confirmation to a laboratory certified by the U.S. Department of Health and Human Services (HHS). When the HHS-certified laboratory determined the specimen to be negative, the licensee requested that the laboratory test the specimen for adulterants. The specimen then tested positive for pyridinium chlorochromate.

The licensee interviewed the individual who allegedly adulterated the sample, and he admitted to being a frequent user of marijuana. While most recently working at a local, non-nuclear business, the individual was subjected to urinalysis for illegal drugs. The individual also admitted to avoiding detection by successfully employing this adulterant during prior urinalysis. This was the individual's first attempt to gain unescorted access to an NRC-licensed nuclear facility. The licensee denied the individual access and treated the event as a refusal to submit to a drug test.

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Following this event, the licensee began checking specimens for adulterants at its on-site testing facility. The licensee has since determined that one type of clinical dipstick was not as effective as another in reacting to pyridinium chlorochromate. The licensee now requires its contracted HHS-certified laboratory to test for adulterants in all specimens that it forwards for confirmation.


Discussion of Safety Significance

Licensees' FFD programs continue to identify users of illegal drugs in all disciplines within the nuclear worker population. Urinalysis is not the only method that a licensee has to identify FFD issues resulting from illegal drug usage, but it is the most reliable. Therefore, a capability to adulterate a urine specimen and circumvent the drug detection process could significantly increase the risk of safety-related activities being conducted by personnel under the influence of an illegal substance.

Section 26.10 of Title 10 of the Code of Federal Regulations (CFR) states that FFD programs must: "(a) provide reasonable assurance that nuclear plant personnel, transporter personnel, and personnel of licensees authorized to possess or use formula quantities of SSNM, will perform their tasks in a reliable and trustworthy manner and are not under the influence of any substance, legal or illegal, or mentally or physically impaired from any cause, which in any way adversely affects their ability to perform their duties safely and competently; (b) provide reasonable measures for the early detection of persons who are not fit to perform activities within the scope of this part; and (c) have a goal of achieving a drug free workplace and a workplace free of the effects of such substances." Section 26.24 of 10 CFR states, in part, that the licensee shall implement a chemical testing program to provide a means to deter and detect substance abuse. Section 2.1(b) of Appendix A to 10 CFR Part 26 states that "licensees may test for any illegal drugs during a for-cause test, or analysis of any specimen suspected of being adulterated or diluted through hydration or other means."

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

This information notice is available electronically at <http://www.nrc.gov/NRC/reference.html>.



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LIST OF RECENTLY ISSUED
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Information Notice No.	Subject	Date of Issuance	Issued to
99-07	Fire Protection Preaction Sprinkler System Deluge Valve Failures and Potential Testing Deficiencies	3/22/99	All U.S. NRC licensees
99-06	1998 Enforcement Sanctions as a Result of Deliberate Violation on NRC Employee Protection Requirements	3/19/99	All U.S. Nuclear Regulatory Commission licensees
99-05	Inadvertent Discharge of Carbon Dioxide Fire Protection System and Gas Migration	3/8/99	All holders of licenses for nuclear power, research, and test reactor, and fuel cycle facilities
99-04	Unplanned Radiation Exposures to Radiographers, Resulting from failures to follow Proper Radiation Safety Procedures	3/8/99	All radiography licensees.
99-03	Exothermic Reactions Involving Dried Uranium Oxide Powder (Yellowcake)	1/29/99	All operating uranium recovery facilities that produce oxide powder (U ₃ O ₈) (yellowcake)
99-02	Guidance to Users on the Implementation of a New Single-Source Dose-Calculation Formalism and Revised Air-Kerma Strength Standard for Iodine-125 Sealed Sources	1/21/99	All medical licensees authorized to conduct brachytherapy treatments.

OL = Operating License
CP = Construction Permit

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Licensees' FFD programs continue to identify users of illegal drugs in all disciplines within the nuclear worker population. Urinalysis is not the only method that a licensee has to identify FFD issues resulting from illegal drug usage, but it is the most reliable. Therefore, a capability to adulterate a urine specimen and circumvent the drug detection process could significantly increase the risk of safety-related activities being conducted by personnel under the influence of an illegal substance.

Section 26.10 of Title 10 of the Code of Federal Regulations (CFR) states that FFD programs must: "(a) provide reasonable assurance that nuclear plant personnel, transporter personnel, and personnel of licensees authorized to possess or use formula quantities of SSNM, will perform their tasks in a reliable and trustworthy manner and are not under the influence of any substance, legal or illegal, or mentally or physically impaired from any cause, which in any way adversely affects their ability to perform their duties safely and competently; (b) provide reasonable measures for the early detection of persons who are not fit to perform activities within the scope of this part; and (c) have a goal of achieving a drug free workplace and a workplace free of the effects of such substances." Section 26.24 of 10 CFR states, in part, that the licensee shall implement a chemical testing program to provide a means to deter and detect substance abuse. Section 2.1(b) of Appendix A to 10 CFR Part 26 states that "licensees may test for any illegal drugs during a for-cause test, or analysis of any specimen suspected of being adulterated or diluted through hydration or other means."

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NOTE: This document was reviewed by NMSS.

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