

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

November 24, 2004

NRC INFORMATION NOTICE 2004-20: RECENT ISSUES ASSOCIATED WITH NRC  
MEDICAL REQUIREMENTS FOR LICENSED  
OPERATORS

**ADDRESSEES**

All holders of operating licenses for nuclear power reactors and research and test reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

**PURPOSE**

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to highlight concerns related to the conduct and documentation of medical examinations for applicants and holders of reactor operator and senior operator licenses (hereafter referred to collectively as licensed operators). 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**

The NRC depends on facility licensees to ensure that the personnel who perform and evaluate licensed operator medical examinations understand the regulatory requirements, the applicable medical standards, and the physical demands of the operators' duties, thereby ensuring that the examinations are performed correctly and any medical defects are accommodated with compensatory license restrictions or, if necessary, by removal from licensed duties. Failure to detect a disqualifying medical condition could adversely affect an operator's ability to perform assigned duties under stressful and demanding accident conditions, thereby distracting the rest of the crew and increasing the possibility of operational errors that could endanger public health and safety.

The NRC also depends, in large part, on facility licensees to ensure that their licensed operators are familiar with and adhere to the individual license conditions specified in Section 55.53. Licensed operators should understand that they are responsible for meeting all the conditions of their license and for promptly informing their employer if they develop any medical condition, such as needing to wear glasses or taking a prescription or over-the-counter medication, that could affect their fitness to safely operate the facility.

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## **BACKGROUND**

The NRC's requirements related to the conduct and documentation of medical examinations for operators are contained in Subpart C, "Medical Requirements," of 10 CFR Part 55, "Operators' Licenses." Specifically, Section 55.21, "Medical examination," requires every operator to be examined by a physician when he or she first applies for a license and every two years thereafter. The physician must determine whether the operator meets the requirements of Section 55.33(a)(1), i.e., the operator's medical condition and general health will not adversely affect the performance of assigned operator duties or cause operational errors that endanger public health and safety.

Every time an operator applies for a license pursuant to Section 55.31, "How to apply," or Section 55.57, "Renewal of licenses," an authorized representative of the facility licensee must complete and sign Form NRC-396, "Certification of Medical Examination by Facility Licensee," attesting, pursuant to Section 55.23, "Certification," that a physician has conducted the required medical examination and determined that the operator's medical condition and general health meet the requirements of Section 55.33(a)(1). The facility licensee must also certify which industry standard (i.e., the 1983 or 1996 version of ANSI/ANS-3.4, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants," or the 1988 revision of ANSI/ANS-15.4, "American National Standard for the Selection and Training of Personnel for Research Reactors") or other NRC-approved method was used in making the fitness determination.

The ANSI standards describe a number of specific operator health requirements and disqualifying conditions. If an operator's health does not meet the minimum standards, the facility licensee must request a conditional license in accordance with Section 55.23(b) by submitting the appropriate medical evidence with Form NRC-396. Pursuant to Section 55.33, "Disposition of an initial application," and Section 55.57, as applicable, the Commission will review the license application based on the facility licensee's certification and include any conditions in the license that might be necessary based on the supporting medical evidence.

If, at any time during the term of an operator's license, the operator develops a permanent physical or mental condition that causes the operator to fail to meet the requirements of Section 55.21, the facility licensee must notify the Commission, in accordance with 10 CFR 50.74(c), within 30 days of learning of the diagnosis. If a conditional license is requested, the facility licensee must, again, provide medical certification on Form NRC-396, as described in Section 55.23.

For additional information on this subject, refer to NRC IN 91-08, "Medical Examination for Licensed Operators" (issued February 5, 1991), IN 94-14, "Failure to Implement Requirements for Biennial Medical Examination and Notification to the NRC of Changes in Licensed Operator Medical Conditions" (issued February 24, 1994), and IN 94-14, Supplement 1 (issued April 14, 1997).

## **DISCUSSION**

Given the importance of the operators' role in maintaining reactor safety, the NRC staff becomes concerned whenever inspection results, facility audits, and other indicators suggest that facility

medical programs may not be receiving sufficient management oversight to ensure that the fitness of licensed operators is being maintained at the required level. The following recent examples indicate a potential problem in this area:

- The checklist that one facility used to track the ANSI testing requirements specifically noted discrepancies for a number of operators, but the examining physician nevertheless signed the overall physical examination as satisfactory. One operator was noted to have disqualifying cardiovascular conditions (arrhythmia and peripheral vascular insufficiency) and an unsatisfactory electrocardiogram that should have warranted a “no-solo” license restriction, but when the inspectors questioned the physician who had completed the checklist, he simply changed the unsatisfactory conditions to satisfactory in front of the inspectors without evaluating the medical record. Other examples included a skin condition affecting the ability to wear protective clothing, abnormalities related to the endocrine system, blood, and blood-forming organs, and various laboratory tests.
- While following up on concerns raised by an NRC inspector, a facility licensee found that some tests specified in the ANSI standard (e.g., nose sensitivity and neurological testing) had not been completed for any of its licensed operators. The facility licensee implemented immediate corrective action by testing its operators before they were allowed back on shift.
- During an audit of its medical records, a facility licensee discovered that two of its recently licensed operators had preexisting medical conditions (histories of myocardial infarction and coronary heart disease) that had not been reported on their original NRC-396 forms. The facility licensee submitted new NRC-396 forms with the required medical evidence but again failed to recommend any license conditions to accommodate the operators’ medical defects, which preclude solo operation of a nuclear power plant per the ANSI standard. Upon review, the NRC amended both operators’ licenses to include “no-solo” license restrictions.
- As a follow-up corrective action, the facility licensee audited the medical records at other sites and identified two additional operators who had potentially disqualifying medical conditions but did not have restrictions on their licenses. The licensee’s root cause review of this problem identified a company-wide flaw in the training provided to doctors and nurses contracted to perform the medical evaluations. The licensee found that the doctors had been trained that the site nurse or licensed nurse practitioner would inform the doctors if there were any requirements for a regulatory restriction based on the results of the physical exam. However, the nurses were not trained to point out the regulatory restrictions to the doctors and did not question the doctors’ decisions when no regulatory restrictions were recommended.
- Several other facility licensees, while performing routine or reactive audits of their licensed operators’ medical records, have recently identified various medical conditions, including heart attacks and poor vision, that should have been reported to the NRC pursuant to 10 CFR 55.25. The most egregious case involved an operator who should have been restricted from solo operation since suffering a heart attack in 1996; the facility licensee was unable to determine why the condition went unreported.

- In one instance, as the result of an unclear facility procedure, a licensed operator waited for seven months before informing the site nurse that his personal physician had prescribed a medication that could adversely affect his ability to perform licensed duties. The site nurse compounded the problem by waiting another month before informing facility management so the operator could be removed from licensed duties and the NRC could be notified.

The purpose of this IN is to remind facility licensees (1) that licensed operators and the personnel who perform and interpret their medical examinations need to be familiar with the regulatory requirements and guidelines; (2) that any time a licensed operator fails to meet any of the medical standards outlined in the applicable version of ANSI/ANS-3.4, the failure must be reported to the appropriate NRC regional office on Form NRC-396; and (3) that Form NRC-396 must include a copy of all supporting medical information and, if deemed necessary, the specific recommended wording for the conditional license to be issued to the affected operator.

## CONTACTS

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contact(s) listed below or to the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

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Patrick L. Hiland, Chief  
Reactor Operations Branch  
Division of Inspection Program Management  
Office of Nuclear Reactor Regulation

Technical Contacts: David C. Trimble, NRR  
301-415-2942  
E-mail: [dct@nrc.gov](mailto:dct@nrc.gov)

Richard J. Conte, RI  
610-337-5183  
E-mail: [rlc@nrc.gov](mailto:rlc@nrc.gov)

James H. Moorman, RII  
404-562-4637  
E-mail: [jhms2@nrc.gov](mailto:jhms2@nrc.gov)

Roger D. Lanksbury, RIII  
630-829-9631  
E-mail: [rdl@nrc.gov](mailto:rdl@nrc.gov)

Anthony T. Gody, RIV  
817-860-8159  
E-mail: [atg@nrc.gov](mailto:atg@nrc.gov)

Patrick M. Madden, NRR  
301-415-1188  
E-mail: [pmm@nrc.gov](mailto:pmm@nrc.gov)

Attachment: List of Recently Issued NRC Information Notice

LIST OF RECENTLY ISSUED  
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
2004-19	Problems Associated with Back-up Power Supplies to Emergency Response Facilities and Equipment	11/04/2004	All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.
2004-18	Recent Safety-related Event at Panoramic Wet-source-storage Irradiator	10/26/2004	All licensees authorized to possess and use sealed sources in panoramic wet-source-storage irradiators, and irradiator vendors.
2004-17	Loose Part Detection and Computerized Eddy Current Data Analysis in Steam Generators	08/25/2004	All holders of operating licenses for pressurized-water reactors (PWRs), except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor.
2004-16	Tube Leakage Due to a Fabrication Flaw in a Replacement Steam Generator	08/03/2004	All holders of operating licenses for pressurized-water reactors (PWRs), except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor.
2004-15	Dual-Unit Scram at Peach Bottom Units 2 and 3	07/22/2004	All holders of operating licenses for nuclear power reactors except those who have permanently ceased operation and have certified that fuel has been permanently removed from the reactor vessel.

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