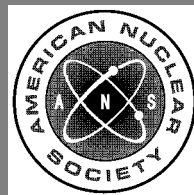


# American Nuclear Society

**medical certification and monitoring  
of personnel requiring operator licenses  
for nuclear power plants**

**an American National Standard**



**published by the  
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**American National Standard  
Medical Certification and Monitoring  
of Personnel Requiring Operator  
Licenses for Nuclear Power Plants**

Secretariat  
**American Nuclear Society**

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**Foreword** (This Foreword is not a part of American National Standard “Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants,” ANSI/ANS-3.4-2013.)

The organization that operates a nuclear power plant has responsibility for safe and reliable operation of the plant. Inherent in this overall function is the responsibility to select and retain operators and senior operators who are physically and mentally capable of such operations. The qualification of operators and senior operators is of great importance because they perform and direct manipulations of mechanisms and controls that affect the safe operation of a nuclear reactor. This standard defines and updates medical, mental health, and physical requirements for licensing of nuclear power plant reactor operators and senior operators. It also addresses the content, extent, methods of examination, and continual monitoring of licensed operators’ medical health.

This standard reflects available medical clinical knowledge with respect to certification and monitoring of personnel licensed to operate nuclear power plants. In addition, this revision provides clarification and comprehensive medical guidance to improve industry’s consistent implementation of the standard. This revision is a major rewrite. The major changes made as a result of the revision include the following:

- Specific minimum requirements, disqualifying conditions, conditional restrictions, examination methods, and monitoring methods are provided for each medical area;
- Nuclear industry operating experience and consideration of other industry medical standards are incorporated, including those of the U.S. Department of Transportation and Federal Aviation Administration;
- The medical criteria reflect progressions in medical science that include updated terminology, current medical practices, criteria for normality, and risk assessments.

This revision references documents and other standards that may have been superseded or withdrawn at the time this standard is applied. A statement has been included in the references section that provides guidance on the use of references.

This standard does not incorporate the concepts of generating risk-informed insights, performance-based requirements, or a graded approach to quality assurance. The user is advised that one or more of these techniques could enhance the application of this standard.

This revised standard was prepared by the ANS-3.4 Working Group and reviewed by Subcommittee ANS-21 and the American Nuclear Society Nuclear Facility Standards Committee (NFSC). At the time of the revision, the membership of the ANS-3.4 Working Group was the following:

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# Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants

## 1 Scope

This standard defines the physical and mental health requirements for licensing of nuclear power plant reactor operators and senior operators. It also addresses the content, extent, methods of examination, and monitoring during the term of the license.

## 2 Acronyms and definitions

### 2.1 List of acronyms

**CAC:** certified addiction counselor

**CAD:** coronary artery disease

**CADC:** certified alcohol and drug counselor

**CBC:** complete blood count

**CFR:** *Code of Federal Regulations*

**DVT:** deep vein thrombosis

**ECG:** electrocardiogram

**FEV1:** forced expiratory volume at 1 second after initiation of the test

**FOR:** Facility Operator Report

**FRS:** Framingham Risk Score

**FVC:** forced vital capacity

**Hb A1c:** glycated hemoglobin

**NRC:** U.S. Nuclear Regulatory Commission

**SAE:** substance abuse expert

**SAP:** substance abuse professional

### 2.2 Definitions

**administrative conditional restriction:** A restriction placed on an operator by the facility licensee allowing the operator to continue to perform licensed duties within the restrictions.

Administrative conditional restrictions include, but are not limited to, “no solo operations,” “no working at heights,” and “shall take medication as prescribed.”

**administrative controls:** Specific requirements including administrative hold and administrative conditional restriction. Administrative controls remain in effect until the examining physician certifies that they are no longer necessary or a condition becomes permanent and reported to the U.S. Nuclear Regulatory Commission (NRC) with a request for a license restriction.

**administrative hold:** An administrative restriction placed on an operator by the facility licensee restricting the license holder from performing licensed duties pending further evaluation of a health status change.

**conditional license:** A license issued by the NRC with specific restrictions to accommodate and adequately control identified physical or mental health situations that do not meet the minimum requirements of this standard.

**disqualifying condition:** A physical or mental health condition that prohibits the approval of an operator license.

**examining physician:** A licensed physician (Medical Doctor or Doctor of Osteopathy) who is responsible for evaluating applicants and operators and who has the ultimate responsibility for certifying that the medical examination was conducted in accordance with this standard and that the individual meets the physical and mental health requirements of this standard. The examining physician shall be conversant with this standard and shall have a general understanding of the routine and emergency activities required of a nuclear power plant reactor operator.