

# American Nuclear Society

**REAFFIRMED**

July 24, 2020

ANSI/ANS-59.52-1998 (R2020)

June 16, 2015

ANSI/ANS-59.52-1998 (R2015)

October 4, 2007

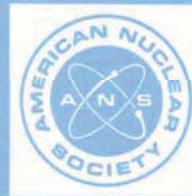
ANSI/ANS-59.52-1998 (R2007)

**Lubricating oil systems for safety-related  
emergency diesel generators**

an American National Standard

This standard has been reviewed and reaffirmed with the recognition that it may reference other standards and documents that may have been superseded or withdrawn. The requirements of this document will be met by using the version of the standards and documents referenced herein. It is the responsibility of the user to review each of the references and to determine whether the use of the original references or more recent versions is appropriate for the facility. Variations from the standards and documents referenced in this standard should be evaluated and documented.

This standard does not necessarily reflect recent industry initiatives for risk informed decision-making or a graded approach to quality assurance. Users should consider the use of these industry initiatives in the application of this standard.



published by the  
**American Nuclear Society**  
 555 North Kensington Avenue  
 La Grange Park, Illinois 60525 USA

ANSI/ANS-59.52-1998

**American National Standard  
Lubricating Oil Systems for Safety-Related  
Emergency Diesel Generators**

Secretariat  
**American Nuclear Society**

Prepared by the  
**American Nuclear Society  
Standards Committee  
Working Group ANS-59.5x**

Published by the  
**American Nuclear Society  
555 North Kensington Avenue  
La Grange Park, Illinois 60526 USA**

Approved October 23, 1998  
by the  
**American National Standards Institute, Inc.**

## **American National Standard**

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**American Nuclear Society  
555 North Kensington Avenue  
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Printed in the United States of America



## Foreword

(This Foreword is not a part of American National Standard for Lubricating Oil Systems for Safety-Related Emergency Diesel Generators, ANSI/ANS-59.52-1998.)

This standard is applicable to light water reactor nuclear power plants and is one of a series of standards, sponsored by the LWR Criteria Management Subcommittee (MC-1), intended to cover the design of auxiliary systems that support the operation of emergency diesel generator units. Other standards in this series that have been or are being developed by this working group are listed below:

Proposed Standard	Subject
ANS-59.51	Fuel Oil Systems
ANS-59.53	Starting Air Systems
ANS-59.54	Combustion Air Systems
ANS-59.55	Coolant Systems

This standard interfaces with American National Standard Criteria for Diesel-Generator Units Applied as Standby Power Supplies for Nuclear Power Generating Stations, ANSI/IEEE 387-1995. That standard does not address fluid system or component performance or design criteria. To address these fluid system requirements, this standard includes in its scope the pumps, tanks, piping and piping components, and instrumentation and control functions, as described herein. Based on discussions with the working group chairman for ANSI/IEEE 387, it was agreed that the intent of that standard is to address only the overall qualifications and boundaries of the diesel generator auxiliary systems and not the specific performance or design criteria, which are addressed in ANS-59.52.

The purpose of this standard, and the related standards under development, is to provide guidance to nuclear plant owners, designers, manufacturers, regulatory authorities, and operators, in the design of reliable, safety-related, onsite power systems for light water reactors. The reliability of lubricating oil systems must be considered when satisfying the overall reliability requirements of the diesel generator units. This is particularly important if lubricating oil systems have components that are shared between reactor units, and if the single failure criterion is applied.

This standard can also be used for non-safety-related onsite power systems, with several changes to eliminate those requirements which would not normally apply to such equipment. For example, non-safety-related equipment would not normally have to meet American National Standard Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems, ANSI/ANS-58.9-1981 (R1987), the Class 1E Power Systems requirements of American National Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations, ANSI/IEEE 308-1992, and several of the requirements described in American National Standard Nuclear Safety Criteria for Design of Stationary Pressurized Water Reactor Plants, ANSI/ANS-51.1-1983 (R1988) and American National Standard Nuclear Safety Criteria for Design of Stationary Boiling Water Reactor Plants, ANSI/ANS-52.1-1983 (R1988), for safety-related equipment, such as Seismic Category I. Other requirements, such as American National Standard ASME Boiler and Pressure Vessel Code-1995, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," and American National Standard Quality Assurance Program Requirements for Nuclear Facilities, ANSI/ASME NQA-1-1994, which normally apply to safety-related equipment but which are considered to enhance reliability, could be optional or modified to suit a particular application.

This revision to the standard has been prepared by Working Group ANS-59.5x of the Standards Committee of the American Nuclear Society, which had the following membership.

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