

# American Nuclear Society

**mobile low-level radioactive  
waste processing systems**

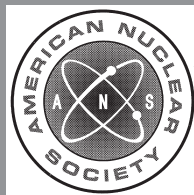
**an American National Standard**

**REAFFIRMED**

**June 30, 2016**

**ANSI/ANS-40.37-2009; R2016**

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## Foreword

(This Foreword is not a part of American National Standard “Mobile Low-Level Radioactive Waste Processing Systems,” ANSI/ANS-40.37-2009.)

A key aspect for the further development of nuclear technology is the effective management of low-level radioactive wastes (LLWs) generated during the facility operation. Fundamental to the effective management of radioactive wastes is the design, construction, and operation of radioactive waste processing systems. This standard was originally issued in 1993 in response to interest in the use of mobile radioactive waste processing systems that could be transported from facility to facility, retained in service at a facility for an extended period of time or quickly replaced by alternate treatment technology. In 2001, the U.S. Nuclear Regulatory Commission (NRC) cited this standard for mobile treatment systems in Rev. 2 of Regulatory Guide 1.143 (RG 1.143). The NRC also granted design relief in Rev. 2 of RG 1.143 when it allowed Power Piping (ANSI/ASME B31.1) versus Process Piping (ANSI/ASME B31.3) to be used for radioactive waste systems.

Unfortunately, this standard failed to be reaffirmed in 2003. This standard is being reissued to incorporate the design relief granted by the NRC in 2001 and to service continued operation at nuclear facilities and new nuclear facility construction.

It is the purpose of this standard to provide requirements for the design and operation of the mobile low-level radioactive waste processing (MRWP) system. It is the intent of this standard to identify a basis for establishing uniform practices and minimum requirements for the design, fabrication, and operation of MRWP systems as applied to nuclear facility operations (e.g., power plants, institutions, and laboratories that generate wastes approved for disposal at 10 CFR 61 LLW disposal sites). This standard’s scope does not address systems used to process waste from nuclear facilities that potentially contain fissile material in sufficient quantities to require controls to avoid criticality; i.e., ANSI/ANS-40.37-2009 requirements do not address wastes containing quantities of fissile or long-lived radionuclides that are classified as high-level or transuranic radioactive waste atypical of NRC-licensed commercial facilities and beyond the scope of 10 CFR 61. Systems applicable to non-low-level waste that use this standard might have to meet additional requirements beyond the scope of this standard. This standard addresses the technical practices and requirements necessary for radioactive waste processing operations while maintaining consideration for reducing radiation exposures to the environment, the public, and facility operating personnel.

This standard might reference documents and other standards that have been superseded or withdrawn at the time the 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.

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