# American Nuclear Society

**WITHDRAWN**

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## volume reduction of low-level radioactive waste or mixed waste

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# American National Standard for Volume Reduction of Low-Level Radioactive Waste or Mixed Waste

Secretariat
**American Nuclear Society**

Prepared by the
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**Standards Committee**
**Working Group ANS-40.35**

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**American National Standard**

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# Foreword

(This Foreword is not a part of American National Standard for Volume Reduction of Low-Level Radioactive Waste, ANSI/ANS-40.35-1991.)

A key aspect for the further development of nuclear waste treatment technology is the effective management of low-level radioactive wastes (LLW) and mixed wastes (MW). Fundamental to the effective management of such radioactive wastes is the design, construction, and operation of waste processing systems. There continues to be substantial interest in the use of waste processing systems that provide significant volume reduction (VR) or destruction of waste streams, or both. Additional interest was generated by recent legal interpretations that require special treatment for the component of any MW containing Resource Conservation and Recovery Act (RCRA) defined waste. In the evaluation of these processing systems, there are several important factors that need to be considered. These include public health and safety, worker safety, economics, liability, RCRA, and the conservation of disposal site resources.

Waste processing systems must meet regulatory requirements for performance, effluent releases, and worker safety. Waste forms produced by these systems also need to meet the disposal site requirements to ensure that the disposal facility performance objectives will be met. Economic considerations involving equipment capital and operating costs, transportation costs, future liability under RCRA, and disposal charges also play an important role in the choice of systems. In addition, conservation of land resources at existing and future disposal facilities may make it necessary to reduce the volumes of wastes accepted for disposal.

It is the purpose of this standard to establish those technical factors that affect the ultimate choice, design, and operation of the VR system. It is the intent of this standard to identify a basis for establishing uniform practices and minimum requirements for the design, construction, and operation of LLW and MW VR systems as applied to nuclear facility operations (power, institutions, laboratories, and disposal sites).

This standard addresses the technical practices and requirements necessary for VR of LLW and MW while maintaining consideration for reducing radiation and chemical exposures to facility operating personnel and releases to the environment.

The committee recommends that the use of additional LLW VR equipment as descibed in this standard be weighed against the use of tight administrative controls to reduce waste volume generation while maintaining strict compliance with the spirit and letter of RCRA. Administrative procedures should be the first step used to control the quantity of waste generated. The second step is use of VR equipment to properly handle and process wastes prior to disposal.

This standard was prepared by Working Group ANS-40.35 of the Standards Committee of the American Nuclear Society. The members of Working Group ANS-40.35 are as follows:

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American National Standards Committee N48, Radioactive Waste Manangement, had the following membership at the time it reviewed and approved this standard:

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