



Designation: C 986 – 89 (Reapproved 1995)^{ε1}

Standard Guide for Developing Training Programs in the Nuclear Fuel Cycle¹

This standard is issued under the fixed designation C 986; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

^{ε1} NOTE—Keywords were added editorially in June 1995.

1. Scope

1.1 This guide covers a systematic process for the development of training programs. This approach is recommended for use within the nuclear fuel cycle. However, the steps described can be beneficially applied to the development of other technical training programs. It is particularly valuable for promoting the efficiency and safety of a complex technical operation.

1.2 This guide provides a description of the activities to be considered in developing effective training programs. It is written from the viewpoint of an industrial user. The approach is based on an operating organization (company) using its resources to develop training programs to meet that company's specific needs.

1.3 The responsible organization or individual who would perform the activities described will differ due to the unique variability in organizational structures of those applying the process. This is, therefore, not addressed in this guide. It is also not within the scope of this guide to prescribe the specific method for performing the activities.

1.4 There are many associated activities and decisions not considered such as training facility design, audio-visual resources, and documentation systems. However, to reduce the possibility of oversight, it is recommended that the user refer to "A Checklist for Technical, Skills, and Other Training."

2. Referenced Documents

2.1 *American Society for Training and Development Document:*

A Checklist for Technical, Skills, and Other Training²

3. Terminology

3.1 *Descriptions of Terms and Symbols Specific to this Standard:*

3.1.1 The following terms are presented in hierarchical order:

3.1.2 *programs*—the total accumulation of training activities that prepares an individual to perform the defined duties of a particular job (that is, reactor operator).

3.1.3 *courses*—the specific portions of a training program that are designed to present certain job duties or core knowledge important to the job (that is, radiation safety, reactor cooling system).

3.1.4 *units*—the subdivisions of training courses where certain subjects related to specific duties are presented (that is, radiation self-survey, primary coolant flow).

3.1.5 *lessons*—the component parts of a course unit that present individual subject material (that is, the Geiger-Müller counter, the PC-1 coolant pump).

3.1.6 *job analysis*—the examination of a job to determine the duties, tasks, and associated activities performed in a job. The results are lists that clearly define the job in terms of what is done.

3.1.7 *task analysis*—the systematic examination of exactly what is done when performing a task (the action steps, operations, or elements), the conditions under which it is performed, and the standards for adequate performance. The product of this is a detailed description of exactly what the employee must do and how it is done.

4. Significance and Use

4.1 The purpose of this guide is to outline a generic process for development of training programs which meet the demanding requirements of the nuclear fuel cycle. The application of this process is intended to promote a training program that will be thorough, effective, and efficient in providing the knowledge and skill required for the job at hand.

4.2 The product of the overall process is a training program. Several of the steps in the process result in tangible elements that can document the process and provide a basis for independent review of the development efforts. This allows assessment of the completeness and applicability of the training program.

4.3 The process steps described here should comprise all the needed elements for an accreditable/auditable training program. However, the depth of detail pursued by an organization

¹ This guide is under the jurisdiction of ASTM Committee C-26 on Nuclear Fuel Cycle and is the direct responsibility of Subcommittee C26.08 on Quality Assurance and Reference Materials.

Current edition approved Nov. 24, 1989. Published January 1990. Originally published as C 986 – 83. Last previous edition C 986 – 83.

² Available from American Society for Training and Development, Suite 305, 600 Maryland Ave., S. W., Washington, D. C. 20024.