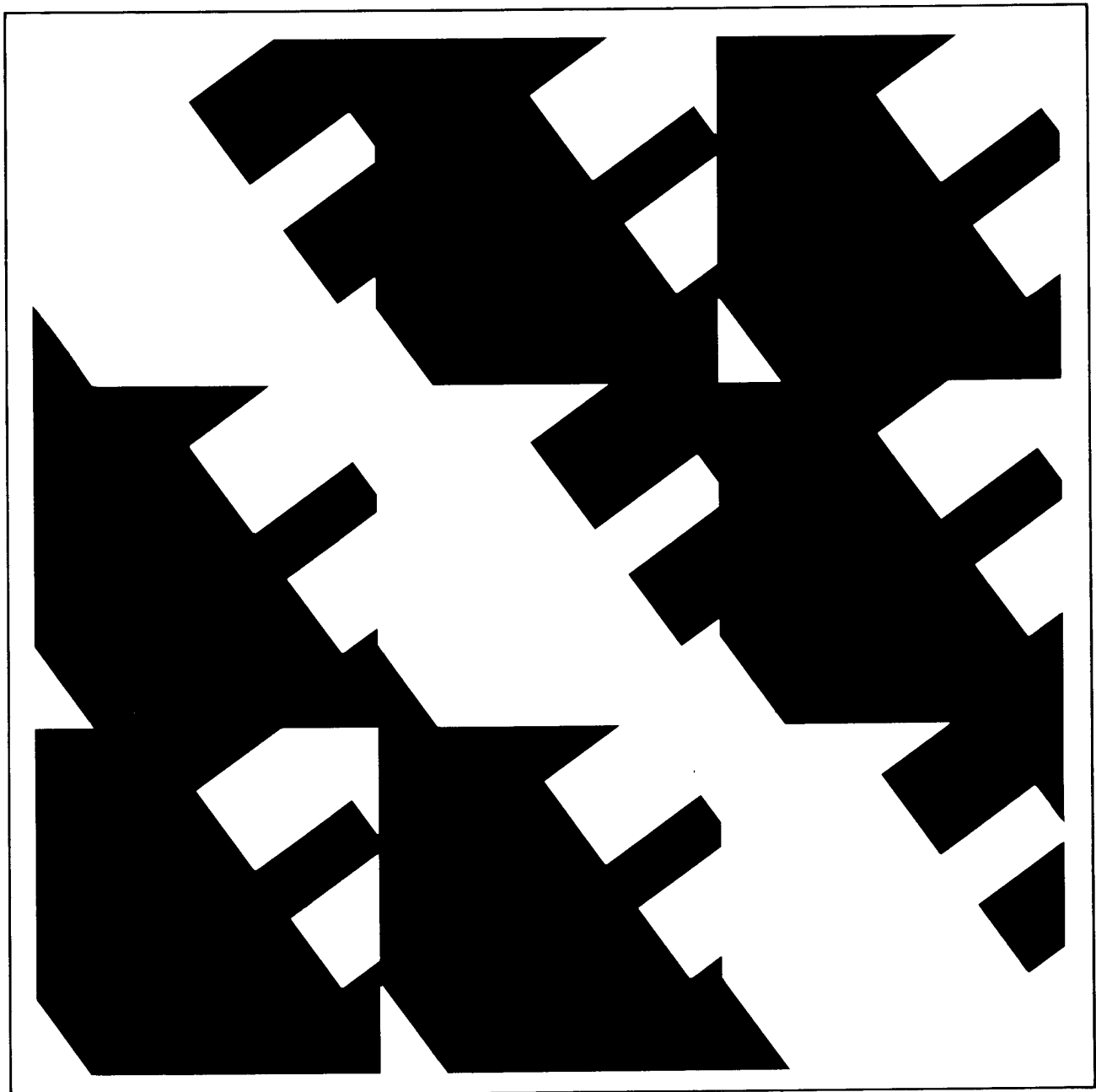


# IEEE Standard Method for Identification of Documents Related to Class 1E Equipment and Systems for Nuclear Power Generating Stations



ANSI/IEEE Std 494-1974





# *An American National Standard*

## **IEEE Standard Method for Identification of Documents Related to Class 1E Equipment and Systems for Nuclear Power Generating Stations**

### **1. Scope**

This document establishes criteria for the uniform identification of documents significant to design, construction, testing, operation, and maintenance of Class 1E equipment and systems for nuclear power generating stations. It includes recommendations for identification of specific parts of these documents. Criteria are also established for identification on documents of redundant portions of Class 1E equipment and systems.

The quality assurance program, as applied to Class 1E equipment procurement, should provide records sufficient to meet the needs and requirements of IEEE Std 279-1971, Criteria for Protection Systems for Nuclear Power Generating Stations (ANSI N42.7-1972), and IEEE Std 308-1974, Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations. Additional identification on procurement documents is, therefore, not required.

### **2. Purpose**

The purpose of this document is to provide a method for identification of documents relating to Class 1E equipment and systems such that users of the documents will be able to recognize those systems which must meet the requirements set forth in IEEE Std 279-1971 (ANSI N42.7-1972) and IEEE Std 308-1974.

### **3. Definitions**

**Class 1E.** The safety classification of the electric equipment and systems that are essential to emergency reactor shutdown, containment isolation, reactor core cooling, and contain-

ment and reactor heat removal, or otherwise are essential in preventing significant release of radioactive material to the environment.

**documents.** Drawings and other records significant to the design, construction, testing, maintenance, and operation of Class 1E equipment and systems for nuclear power generating stations.

**NOTE:** Within the context of this standard, documents include:

(1) Drawings such as instrument diagrams, functional control diagrams, one line diagrams, schematic diagrams, equipment arrangements, cable and tray lists, wiring diagrams

(2) Instrument data sheets

(3) Design specifications

(4) Instruction manuals

(5) Test specifications, procedures, and reports

(6) Device lists

Not to be included as documents within the context of this standard are: project schedules, financial reports, meeting minutes, correspondence such as letters and memoranda, and equipment procurement documentation covered by quality assurance programs.

**nuclear safety related.** That term used to call attention to safety classifications incorporated in the body of the document so marked.

**NOTE:** As used in this document, the term calls attention to the safety classification Class 1E.

**redundant equipment or systems.** A piece of equipment or a system that duplicates the essential function of another piece of equipment or a system to the extent that either may perform the required function regardless of the state of operation or failure of the other.

**significant.** Demonstrated to be important by the safety analysis of the station.

### **4. Requirements**

#### **4.1 Document Identification**

**4.1.1** Any document, as defined in Section 3, for Class 1E equipment and systems, in

whole or in part, shall be identified with the term *nuclear safety related*.

4.1.2 The term *nuclear safety related* shall be placed conspicuously on the title or first page. Drawings for Class 1E equipment and systems shall have these words located in or immediately adjacent to the title block.

4.1.3 The term *nuclear safety related* shall be displayed in a character size equal to or larger than the largest size used in words in the body of the document.

#### 4.2 Additional Identification of Specific Parts of Nuclear Safety Related Documents

4.2.1 Except as provided in Section 4.2.2, documents that are only in part nuclear safety related shall have the nuclear safety related or the non-nuclear safety related information identified to differentiate the two.

4.2.2 Documents in the form of written descriptions in which the nuclear safety related portions are evident by the text do not require identification other than that specified in Section 4.1.2.

#### 4.3 Additional Identification of Redundant Class 1E Equipment and Systems on Nuclear Safety Related Documentation

4.3.1 Information that pertains to a specific equipment or system requiring separation from a redundant equipment or system shall be identified as pertaining only to that equipment or system. This identification shall include the equipment or system designation.

4.3.2 Documents pertaining entirely to a single redundant equipment or system shall be identified as pertaining to that equipment or system by placing the proper designation in or adjacent to the title of the document.

4.3.3 In addition to the information contained in Section 4.3.1, which pertains to equipment or systems shared by more than one unit, the information itself shall be identified as being shared by those units.

4.3.4 Designations that are adopted for identification of specific equipment or systems shall be shown on the document immediately adjacent to portions pertaining to the specific equipment or systems.

#### 4.4 Symbols and Abbreviations

4.4.1 Symbols and abbreviations may be used to satisfy the requirements of Sections 4.2 and 4.3. If symbols or abbreviations are used, the document shall contain an explanation of each symbol or abbreviation or shall contain a reference concerning where this information can be found.

## 5. References

IEEE 279-1971, Criteria for Protection Systems for Nuclear Power Generating Stations (ANSI N42.7-1972).

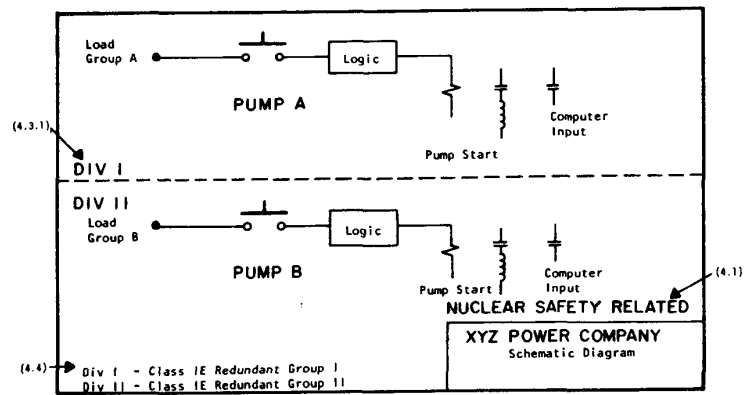
IEEE Std 308-1974, Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations

### Appendix Examples

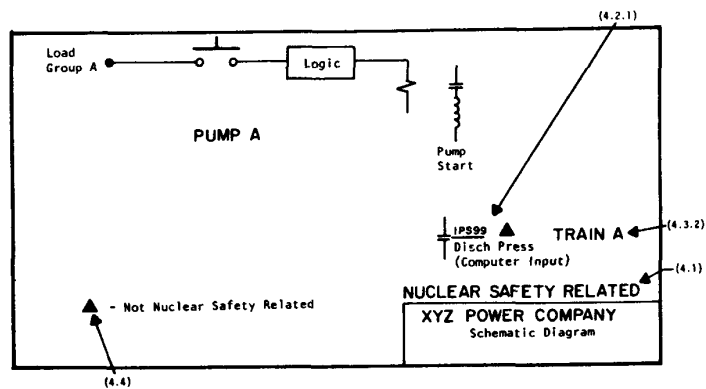
(This appendix is not a part of IEEE Std 494-1974, Standard Method for Identification of Documents Related to Class 1E Equipment and Systems for Nuclear Power Generating Stations.)

Figs A1 through A5 are examples of identification methods that meet the intent of this document. They are presented for illustrative purposes only; any suitable method of identification of nuclear safety related information may be used if that method meets the criteria

outlined in the text. The parenthesis-enclosed numbers refer to those text paragraphs that pertain to the identification used in the illustrations and are not to be used on the documents.

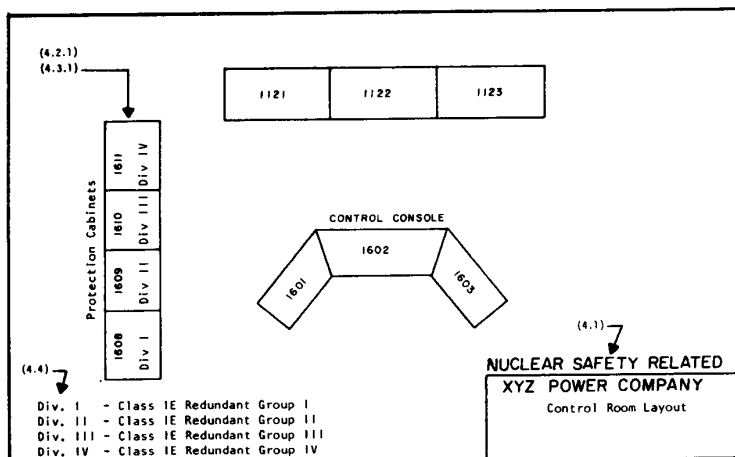


(A)

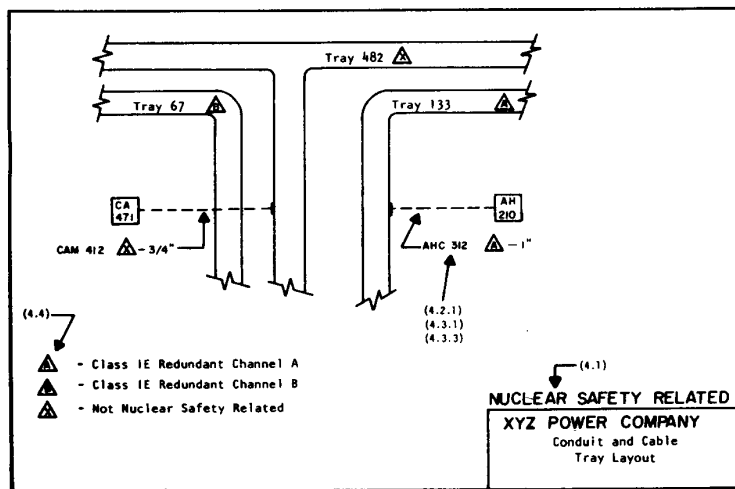


(B)

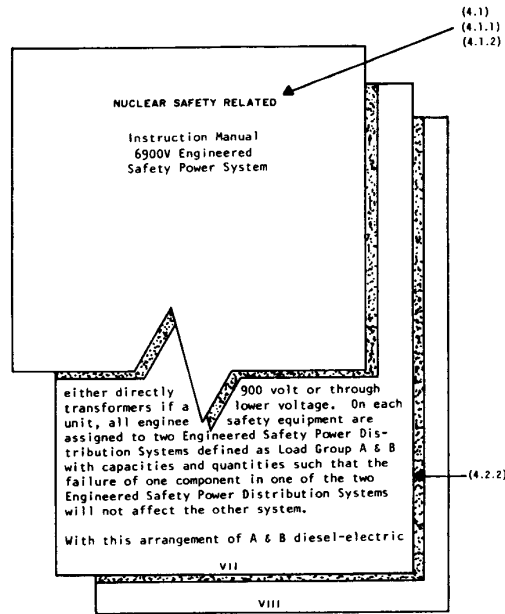
**Fig A1  
Schematic Diagram**



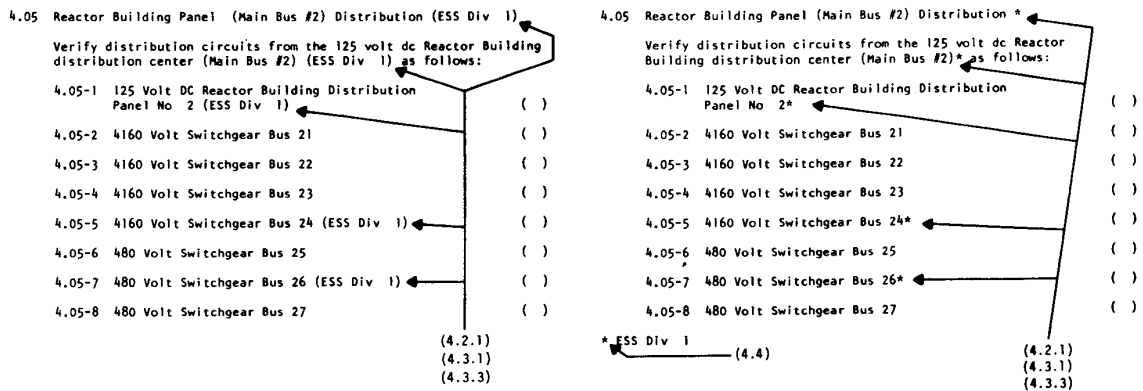
**Fig A2**  
**Control Room Layout**



**Fig A3**  
**Conduit and Cable Tray Layout**



**Fig A4**  
**Instruction Manual**



(A)

(B)

**Fig A5**  
**Test Procedure**