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DRAFT ASME CODE FOR PUMPS AND VALVES FOR NUCLEAR POWER

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Temporary Preamble

The American Society of Mechanical Engineers has issued this "Draft Code For Pumps and Valves for Nuclear Power" for "TRIAL USE AND COMMENT", to be responsive to the urgent need by the Nuclear Power Industry and the enforcement authorities -- both local and Federal. During the period of time required to complete and issue this Code as a formal document, the Nuclear Power Industry is urged to use and to evaluate it. Comments are invited. Any comments on the draft code should be addressed to the Director of Codes and Standards, American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, New York, 10017.

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FOREWORD

The American Society of Mechanical Engineers established a committee in 1966 for the purpose of formulating a Code for the manufacture of pumps and valves for nuclear power. It is the intent of the ASME that this Code be used in conjunction with Section III, Nuclear Vessels, of the ASME Boiler and Pressure Vessel Code and USAS B31.7 Nuclear Power Piping Code so as to provide a standard of equivalent quality for the pressure equipment of a nuclear energy system of any water cooled commercial nuclear power plant.

The committee's function is to establish rules for materials, design, manufacture, examination, testing and certification of pumps and valves for nuclear power and to interpret these rules when questions arise regarding their intent.

The Code as established by the committee does not approve, recommend, or endorse any proprietary information or specific design, or as limiting the manufacturer's freedom to choose any method of design or any form of manufacture that conforms to the code rules.

Organization of the Code

The Code for Pumps and Valves for Nuclear Power provides requirements for the materials, design, manufacture, examination, testing, and certification for three classes or quality levels for nuclear power plant applications. The owner shall choose the class of pump or valve that will provide the quality required for the intended service.

It is recognized that a variety of types of water cooled nuclear power plants exist and are contemplated. Because of this variety and in conjunction with a multiplicity of systems, it is not possible to ascribe specific applications for each of the three classes.

The Code is divided into three sections, one for each of the three classes of pumps and valves. The subject matter is organized to include a division on General Requirements, Article 1. Each of the three sections is divided into seven articles as follows: Introduction, Materials, Design, Manufacture, Examination, Testing, and Certification. Several Appendixes are also included.

All requests for interpretation should be addressed to Director of Codes and Standards, American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, New York, 10017.

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ASME CODE FOR PUMPS AND VALVES FOR NUCLEAR POWER

GENERAL SECTION

ARTICLE 1
GENERAL REQUIREMENTS

110 SCOPE

The rules of this Code constitute requirements for the design, materials, manufacture, examination, inspection, pressure testing and certification of pumps and valves for use in the nuclear energy system of water cooled commercial nuclear power plants. A nuclear energy system is that part of a power plant that serves the purpose of producing and controlling an output of thermal energy from nuclear fuel.

The scope of these rules covers the strength and pressure integrity of the structure of pumps and valves whose failure would violate the pressure boundary. They are not intended to be applicable to valve operators, controllers, position indicators, pump impellers, pump drives or other accessories and devices, unless such items themselves are pressure parts. These rules provide requirements for new construction. They cover mechanical and thermal stresses but do not cover deterioration that may occur in service as a result of corrosion, radiation effects, and instability of material.

120 CODE ARRANGEMENT

The main divisions of this Code are designated as Sections. The subdivisions of the Code are designated as Articles. Article 1, General Requirements, is applicable to subsequent Sections A, B and C. Articles are given numbers and titles, as for example, Article 3, MATERIALS. The subarticles under Articles are designated by a three- or four-digit number ending in zero; thus, 310.

A reference to an Article in the text of the Code includes all of the rules in that Article. A reference to one of these subarticles in the text of the Code includes all of the applicable rules in that subarticle. Thus, reference to 310 includes all of the rules in 310 through 316.1 inclusive. Similarly a reference to a subparagraph in the text of the Code includes all