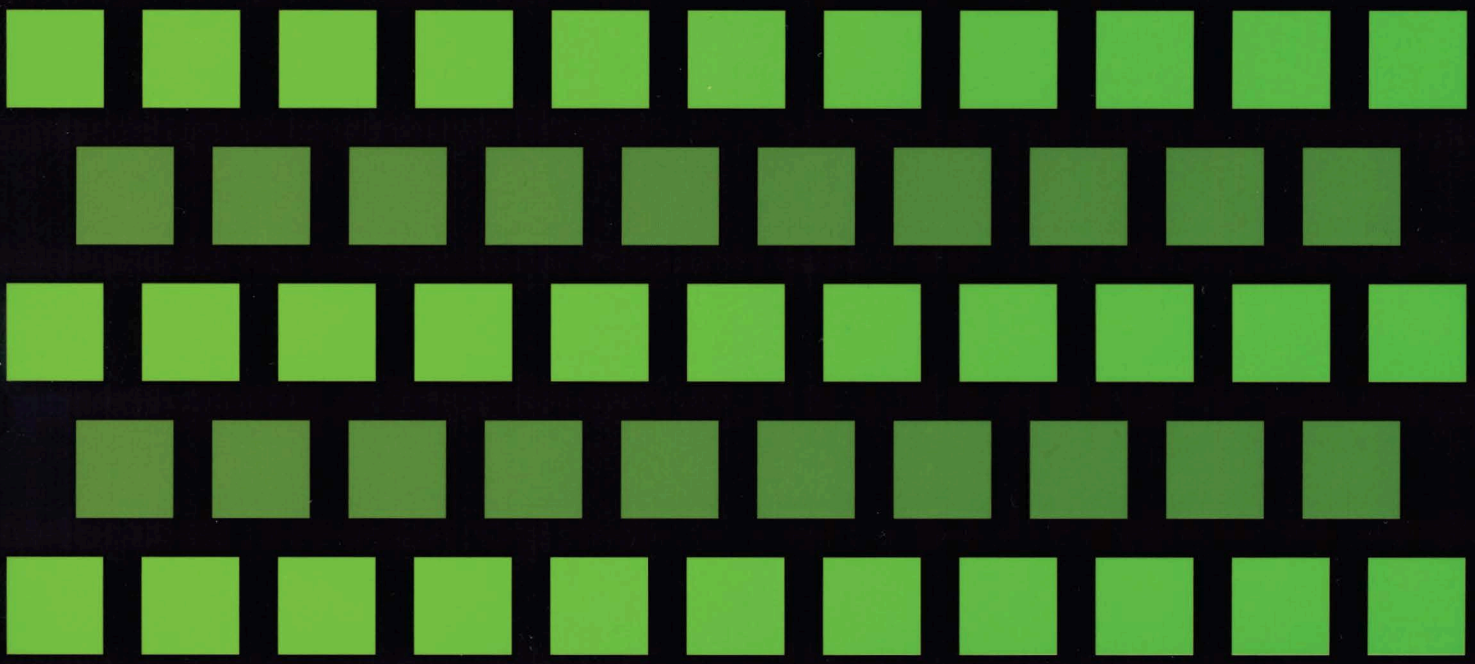
STP/PT-002

ASME SECTION I PED GUIDE

Supplement to Guide for ASME Stamp Holders Use of ASME Section I to Meet the EC Pressure Equipment Directive (97/23/EC)



ASME STANDARDS TECHNOLOGY, LLC

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Date of Issuance: May 27, 2005

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ISBN No. 0-7918-2991-X

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FOREWORD

ASME has received requests from all over the world to provide guidance to manufacturers who have been or will be impacted by the European PED Reference[1]. The result was the publication of the "ASME Guide for ASME Stamp Holders on Using Section VIII, Division 1 to meet the EC Pressure Equipment Directive."[2] Now, this guide provides information to manufacturers who want to use ASME Section I, Power Boilers to meet the PED.

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ABSTRACT

This guide is intended as a supplement for ASME stamp holders using ASME Boiler and Pressure Vessel Code (BPVC) Section I [3]as the basis for conformity with the European Commission (EC) Pressure Equipment Directive (PED), 97/23/EC[1]. This guide provides a comprehensive review of the PED and ASME Section I.

Manufacturers of Section I boilers will find this supplement, combined with the existing guide [2], to be useful tools when working with a Notified Body (NB) toward compliance with the PED and applying CE marking to their products.

This supplement is intended to be used in combination with the existing guide[2], which contains an explanation of the European New Approach, and continues with the goals of the PED and a description of its scope of coverage. Then, the existing guide goes into an in-depth analysis of the PED's concept of hazard categories and the various combinations of conformity assessment modules that can be used for each hazard category. Then, each of the PED Essential Safety Requirements (ESR) are covered, including materials, use of notified bodies, and requirements for CE marking. Those aspects are not reproduced in this supplement, as they are generic to all pressure equipment under the PED.

In this supplement, the reader is presented with some general guidance and updates on PED issues critical to ASME stamp holders. The majority of the supplement consists of a detailed comparison of the technical requirements of the PED with Section I, followed by a modified version of an "Annex ZA" for Section I. This Annex ZA provides instructions regarding what additional tasks must be completed to meet the administrative requirements of the PED.

PART I - UPDATE OF ISSUES ON USING THE ASME CODE TO MEET THE PED

1. BACKGROUND

With the passing of the mandatory date for implementation of the PED, many questions that existed are beginning to be answered. CEN has managed to issue harmonized standards for most equipment, but there is little experience in using these standards, and the full suite of harmonized supporting standards remains incomplete. During the transition period from November 29, 1999 through May 30, 2002, few harmonized standards were available, so all of the equipment that was CE marked during that period was built to nonharmonized standards. Therefore, manufacturers have gained more experience using nonharmonized standards to construct pressure equipment with CE marking, and the ASME Boiler and Pressure Vessel Code (ASME Code) is one of the most commonly used for PED compliance, both within Europe and around the world. There are some basic steps that will facilitate the use of the ASME Code to meet the PED. This document helps explain what those steps are specifically in regards to Section I of the ASME Boiler and Pressure Vessel Code [3], and the special considerations that must be given to assemblies.

2. USE OF NONHARMONIZED STANDARD

When using a nonharmonized standard, many of the criteria for demonstrating compliance with the essential safety requirements of the PED revolve around the concept of "equivalent overall level of safety." For that reason, it is valuable to select a notified body (NB) that is familiar with the requirements and design/fabrication philosophies of the ASME Code. There are several ASME accredited Authorized Inspection Agencies that have established affiliations with European inspection bodies that are notified under the PED. These organizations bring knowledge of the ASME Code and the PED and can advise manufacturers as to what needs to be done in addition to ASME requirements to meet the PED. This document will inform manufacturers of these additional requirements so they have more information to make a business decision as to whether to proceed to engage a NB in order to enter the European market.

ASME has spent the last several years working on issues related to the use of its standards to meet the PED. Through meetings with NBs, the European Commission (EC), and also through workshops with users of ASME standards in the United States, Europe, and Asia, it became clear that some issues require changes, either in the ASME standards themselves, or how the processes of the PED are used for their application. The following are some of the most recent developments in those important areas.

2.1 Material Specifications

In May 2002, ASME was committed to working with manufacturers submitting proposals for European Approval of Materials (EAM) to the European Commission to gain approval of ASME material specifications for repeated use under the PED. ASME began a program of funding the necessary data collection and submittal in concert with a European NB and a U.S. manufacturer. Over one dozen of the most commonly used pressure equipment materials were submitted at a cost of $20,000 USD. Other notified bodies also submitted proposed EAMs covering ASME materials. However, the European Commission determined that Article 11, paragraph five of the PED prohibits the issuance of EAMs for grades of materials for which there exist an equivalent European harmonized standard. All of the submittals for EAMs for ASME materials were subsequently rejected. This means that the only method for using ASME materials under the PED is the Particular Material Appraisal (PMA) route. ASME has spent the last two years working with notified bodies to bring some uniformity to the PMA process, which is not clearly defined in the PED. The result has reduced the amount of redundancy of the process because it has been clarified that PMAs can be used repeatedly (by the same manufacturer using the same NB) for similar applications. There still remain some areas of uncertainty, the most recent being a guideline issued by the European Commission that

seems to imply that the material manufacturer must "guarantee" the properties used by the equipment manufacturer in his design under the PED. This guideline, 7/24, is being interpreted differently by different notified bodies and manufacturers should investigate this issue with potential notified bodies as part of the normal process for engaging the services of a NB prior to vessel construction.

2.2 Qualification of NDE Personnel

The PED requires that qualification of Nondestructive Examination (NDE) personnel be performed by a Recognized Third Party Organization (RTPO) recognized specifically for this task. The traditional ASME approach has been to place responsibility for qualification of such personnel on the manufacturer (employer). Some years ago, Section V of the ASME Boiler and Pressure Vessel Code [5] was revised to recognize the American Society for Nondestructive Testing (ASNT) ASNT Central Certificate Program (ACCP). This allowed manufacturers to utilize a central certification program instead of performing the testing themselves, provided the process was described in the manufacturer's quality program. In response to requests from Europe, a recent addendum to Section V expanded the provision even further, recognizing any national or regional certification program, provided it meets the minimum requirements of Section V and the process is described in the manufacturer's quality system. This allowed users of ASME standards in Europe to use their existing qualifications to meet both the ASME Code and the PED. In the United States, ASNT entered into an agreement with a European RTPO wherein the results of the ASNT ACCP program were acceptable as meeting the requirements of the equivalent European program, and those of the PED. Therefore, manufacturers that qualify their NDE personnel under the ACCP program realize cost savings by not having to develop their own testing programs, and they are able to meet the PED requirements at the same time.

2.3 Discussions with the European Commission

Beginning in April 2002, ASME has been involved in an exchange of correspondence between the U.S. Department of Commerce and the European Commission's Enterprise Directorate-General (DG), the office responsible for the PED. The issues discussed above, and others, were included in this correspondence, and the result was a meeting between the two offices held in May 2004 in Washington, D.C. There was general agreement among those present regarding what the major issues were in complying with the PED. There were also discussions regarding the U.S. pressure equipment regulatory system and the role that ASME Codes and Standards play in that system. Some suggestions were made regarding reconciliation of material specifications and another meeting was held in September 2004 that included industry representatives from both the United States and Europe. ASME will continue to pursue these and other avenues for progress in maintaining and improving the recognition of its Codes and Standards around the world through technical improvements and discussions with government authorities.