Pressure Vessel Inspection Code: In-service Inspection, Rating, Repair, and Alteration

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Foreword

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Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

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Pressure Vessel Inspection Code:
In-service Inspection, Rating, Repair, and Alteration

1 Scope

1.1 General Application

1.1.1 Coverage

This inspection code covers the in-service inspection, repair, alteration, and rerating activities for pressure vessels and the pressure-relieving devices (PRDs) protecting these vessels. This inspection code applies to all hydrocarbon and chemical process vessels that have been placed in service unless specifically excluded per 1.2.2; however, it could also be applied to process vessels in other industries at owner-operator discretion. This includes:

a) vessels constructed in accordance with an applicable construction code [e.g., ASME *Boiler and Pressure Vessel Code* (*BPVC*)]; where a pressure vessel has been constructed to the American Society of Mechanical Engineers (ASME) *Section VIII Code*, API 510 is intended to apply to Divisions 1 and 2 and not Division 3;

b) vessels constructed without a construction code (noncode vessels);

c) vessels constructed and approved as jurisdictional-special based upon jurisdiction acceptance of particular design, fabrication, inspection, testing, and installation;

d) nonstandard vessels.

However, vessels that have been officially decommissioned (i.e. no longer are an asset of record from a financial/accounting standpoint) are no longer covered by this “in-service inspection” code. Abandoned-in-place vessels may still need some amount of inspection and/or risk mitigation to assure they do not become a hazard because of continuing deterioration. Pressure vessels temporarily out of service and preserved for potential future use are still covered by this code.

The ASME *BPVC* and other recognized construction codes are written for new construction; however, most of the technical requirements for design, welding, nondestructive examination (NDE), and materials can be applied to the inspection, rerating, repair, and alteration of in-service pressure vessels. If for some reason an item that has been placed in service cannot follow the construction code because of its new construction orientation, the requirements for design, material, fabrication, and inspection shall conform to API 510 rather than to the construction code. If in-service vessels are covered by requirements in the construction code and API 510 or if there is a conflict between the two codes, the requirements of API 510 shall take precedence. As an example of the intent of API 510, the phrase “applicable requirements of the construction code” has been used in API 510 instead of the phrase “in accordance with the construction code.”

1.1.2 Intent

The application of this inspection code is restricted to owner-operators that employ or have access to the following technically qualified individuals and organizations:

a) an authorized inspection agency;

b) a repair organization;

c) an engineer;

d) an inspector;