Guidelines for a Material Verification Program (MVP) for New and Existing Assets

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Guidelines for a Material Verification Program (MVP) for New and Existing Assets

1 Scope

1.1 Purpose

The purpose of this recommended practice (RP) is to provide guidelines for an owner/user to develop and implement a material verification program (MVP) as part of an asset integrity program. The MVP uses positive material identification and other methods to verify that the nominal composition of an asset, an asset component, or weldment within the pressure envelope is consistent with the selected or specified construction materials.

A well-designed and well-implemented MVP is an important management system used to minimize the potential for release of hazardous substances due to nonconforming materials of construction.

1.2 About this Document

This recommended practice provides the guidelines for material verification programs involving ferrous and nonferrous alloys during the construction, installation, maintenance, and inspection of new and existing process equipment. It applies to metallic materials purchased for use either directly by the owner/user or indirectly through distributors, fabricators, or contractors, and includes the supply, fabrication, and installation of these materials.

This recommended practice is applicable to all refining and petrochemical industries, and may be applied in other industries and or businesses at the discretion of the owner/user. It is intended to be applied by any owner/user wishing to verify and/or validate that the materials of construction received, fabricated, and/or installed are in accordance with material and/or company specification(s).

1.3 Supersedes Notice

This version of API RP 578 (third edition) supersedes and wholly replaces the second edition (2010) of API RP 578 (*Material Verification Program for New and Existing Alloy Piping Systems*). The third edition contains many of the same paragraphs and language of the second edition, but it has been revised, reformatted, and re-visualized into a more encompassing document for all types of assets that may have an applicable material verification program.

2 Normative References

There are no documents considered to be normative for the application of this document. A bibliography can be found at the end of this document.

3 Terms, Definitions, and Acronyms

3.1 Definitions

3.1.1
alloy material
Any metallic material (including welding filler materials) that contains alloying elements, such as chromium, nickel, or molybdenum, that are intentionally added to enhance mechanical or physical properties and/or corrosion resistance. Alloys may be ferrous or nonferrous.