Corrosion Control Document Systems

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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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1 Scope

This recommended practice (RP) provides users with the basic elements for developing, implementing, and maintaining a Corrosion Control Document (CCD) for refining, and at the owner's discretion, may be applied at petrochemical and chemical process facilities.

A CCD is a document or other repository or system that contains all the necessary information required to understand materials damage susceptibility issues in a specific type of operating process unit at a plant site. CCDs are a valuable addition to an effective Mechanical Integrity Program. They help to identify the damage mechanism susceptibilities of pressure-containing piping and equipment, factors that influence damage mechanism susceptibilities, and recommended actions to mitigate the risk of loss of containment or unplanned outages.

This RP serves as the basis for CCD development, implementation, and maintenance to maintain consistency and to integrate the CCD work process with other plant integrity programs, such as Management of Change (MOC), Process Hazards Analysis (PHA), and Reliability Centered Maintenance (RCM). Some of these programs have significant overlap with the development of CCDs, including Risk-based Inspection studies (see API Recommended Practice 580 and API Recommended Practice 581), Integrity Operating Windows (see API Recommended Practice 584), in-house unit corrosion reviews, circuitization/systemization programs, and similar types of corrosion studies. Development of CCDs can serve as a useful starting point for establishing these programs if they have not been undertaken.

This document provides the owner-operator with information and guidance on the work processes for development and implementation of CCDs for the owner-operator process units. While some generic examples are provided in the text and in 5.9, this document does not contain a complete list of unit-specific CCDs or operating plant variables for the numerous types of hydrocarbon processing units in the industry.

The rigor of review, the level of documentation, and even the need to develop a CCD will depend on the complexity of the process unit under consideration and the inherent risk associated with the process. It is the responsibility of the facility owner-operator to determine the level of detail contained within their CCD.

The scope of this standard includes:

— descriptions of CCDs and definitions of related terminology;

— creating, establishing, and maintaining CCDs;

— data and information typically needed to create CCDs;

— descriptions of the various types of CCDs needed for process units;

— documenting and implementing CCDs;

— reviewing, changing, and updating CCDs;

— integrating CCDs with other risk management practices;

— roles and responsibilities in the CCD work process; and

— knowledge transfer to all stakeholders.

Typical CCDs cover the pressure-containing components of fixed equipment. The types of equipment and associated components typically covered by CCDs are: