Cathodic Protection of Aboveground Petroleum Storage Tanks

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Introduction

Persons planning to construct an aboveground storage facility, replace existing aboveground storage tanks and associated piping systems, or cathodically protect existing aboveground storage tanks and associated piping should refer to applicable local, state, and federal fire, safety, and environmental regulations as well as the most recent edition of the following publications:

— API Standard 650;

— API Recommended Practice 652;

— API Standard 653;

— API Specification 12B;

— API Specification 12D;

— API Specification 12F;

— API Standard 2610;

— NACE RP0193;

— NACE RP0285;

— NFPA 30;

— NFPA 70; and,

— PEI RP200.

The appropriate government authority having jurisdiction should be consulted for regulations that apply to the area of installation prior to taking any action suggested in this recommended practice.

Cathodic Protection of Aboveground Petroleum Storage Tanks

1 Scope

1.1 The purpose of this recommended practice (RP) is to present procedures and practices for achieving effective corrosion control on aboveground storage tank bottoms through the use of cathodic protection. This RP contains provisions for the application of cathodic protection to existing and new aboveground storage tanks. Corrosion control methods based on chemical control of the environment or the use of protective coatings are not covered in detail.

1.2 When cathodic protection is used for aboveground storage tank applications, it is the intent of this RP to provide information and guidance specific to aboveground metallic storage tanks in hydrocarbon service. Certain practices recommended herein may also be applicable to tanks in other services. It is intended to serve only as a guide to persons interested in cathodic protection. Specific cathodic protection designs are not provided. Such designs should be developed by a person thoroughly familiar with cathodic protection practices for aboveground petroleum storage tanks.

1.3 This RP does not designate specific practices for every situation because the varied conditions in which tank bottoms are installed preclude standardization of cathodic protection practices.

2 Normative References

2.1 Standards, Codes, Publications, and Specifications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Specification 12B, *Bolted Tanks for Storage of Production Liquids*

API Specification 12D, *Field Welded Tanks for Storage of Production Liquids*

API Specification 12F, *Shop Welded Tanks for Storage of Production Liquids*

API Recommended Practice 500, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities*

API Recommended Practice 575*, Inspection of Atmospheric and Low Pressure Storage Tanks*

API Standard 620*, Design and Construction of Large, Welded, Low-pressure Storage Tanks*

API Standard 650*, Welded Tanks for Oil Storage*

API Recommended Practice 652*, Lining of Aboveground Petroleum Storage Tank Bottoms*

API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*

API Recommended Practice 1615, *Installation of Underground Petroleum Storage Systems*

API Recommended Practice 1621*, Bulk Liquid Stock Control at Retail Outlets*

API Recommended Practice 1632, *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*