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External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection

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Foreword

This standard presents standard practices for effective control of external corrosion of underground storage tank (UST) systems by cathodic protection (CP). It is intended to be used by corrosion professionals as a guideline to establish minimum requirements for using CP to control external corrosion of metallic UST systems, including those used to contain oil, gas, and water. Specifically addressed is CP of:

(a) Existing bare and externally coated steel USTs;

(b) New externally coated steel USTs;

(c) Metallic piping and flexible connectors; and

(d) Other metallic components.

For further information on testing CP systems for UST systems, refer to NACE Standard TM0101.[1]

In AMPP standards, the terms *shall* and *must* are used to state requirements and are considered mandatory. The term *should* is used to state something that is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

Section 1: General

1.1 Introduction

1.1.1 This standard presents standard practices for effective control of external corrosion of UST systems by CP. It is intended to serve as a guideline to establish minimum requirements for using CP to control external corrosion of metallic UST systems, including those used to contain oil, gas, and water, and that are buried, partially buried, or in contact with the soil.

1.1.2 When designing the CP system, the designer shall provide the owner with the design life and the assumptions used to develop the CP system design. If conditions change at the UST site, the original CP system design life may also change. Some examples of UST system changes include fluctuation in soil resistivity, UST system coating failure, adding/removing components of the UST system or site, and electrical shorting or isolation of UST components. This information should be kept as part of the permanent UST system records.

1.1.3 This standard does not designate specific practices for every situation because the complexity of some environmental conditions in which UST systems are buried precludes standardization of corrosion control practices.

1.1.4 This standard does not include corrosion control methods based on chemical control of the environment, internal linings, or the use of UST construction materials other than steel.

1.1.5 This standard does not override applicable safety codes and should not be used to infringe on the primary requirement of protecting personnel, the environment, and equipment. In any situation, the CP system design for UST systems should incorporate all requirements of any applicable codes, standards, and regulations as determined by authorities having jurisdiction.

1.1.6 The provisions of this standard shall be applied under the responsible direction of competent individuals. Such individuals must either be registered professional engineers, NACE International certified Corrosion Specialists or CP Specialists, or individuals qualified by professional education