Hazardous Liquid Pipeline Facilities Integrity Management

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Introduction

This document is, in part, the successor to API Recommended Practice 2611, *Terminal Piping Inspection—Inspection of In-service Terminal Piping Systems*, which was published in 2011 and is now withdrawn. That document is no longer supported by API, but is available for use by industry.

Hazardous Liquid Pipeline Facilities Integrity Management

1 Scope

1.1 General

This recommended practice (RP) covers the integrity management of hazardous liquid facilities. This RP provides guidance on:

— high-consequence area impact determinations;

— data integration;

— threat identification;

— risk assessment;

— inspection and reinspection;

— preventive and mitigative measures (P&MM);

— performance measures.

Facilities include terminal and pipeline station piping systems within terminal and pipeline facility boundaries and includes off-plot piping. Off-plot piping includes, but is not limited to, piping between facilities, piping that comes from or goes to a refinery or other type facility, or piping that may cross a road, ditch, or other property outside the confines of a terminal facility. This RP covers the integrity management of all pressure-containing components directly used in the transport or storage of hazardous liquids within a liquids pipeline facility.

Piping for transportation of hazardous liquids, such as but not limited to crude oil, highly volatile liquids (HVLs), gasoline, diesel, biofuels, lubricating oils, jet fuel, and aviation fuel are covered by the scope of this document.

This RP does not apply to refinery piping, sanitary waste piping, cast iron piping, or nonmetallic gravity flow piping systems. Tanks are considered and reviewed as part of the high-consequence area analysis and risk assessment. For guidance on the inspection and maintenance of tanks, refer to API 653 or API Std 2610 [1].

This RP builds on concepts developed in API RP 1160, *Managing System Integrity for Hazardous Liquid Pipelines*. Additional guidance is available in documents such as API 570 and API Std 2610.

1.2 Integrity Management of Facilities

1.2.1 General Considerations

A facility integrity management program is a documented set of policies, processes, and procedures to manage facility risk. Integrity management is more complex for facilities than for mainline pipe due to the nature and complexity of facility assets and operations. Attributes of facility assets that can distinguish it from mainline piping are:

— variable operating stresses;

— multiple types and sizes of piping and tubing, both aboveground and belowground, which may be insulated and/or on pipe supports;

— smaller sizes of pipe often joined by nonwelded fittings;