Design Guidelines for Installation of Automatic Shut-off Valve (ASV) and Remote Control Valve (RCV) Systems In Natural Gas Transmission Pipelines

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1. Introduction

The purpose of this document is to provide information and guidance on the installation design of automatic shut-off valves (ASVs) or remote control valves (RCVs) in existing and new natural gas transmission pipelines. ASVs and RCVs are automated valves that can be utilized for a number of gas control purposes, but this guidance document is focused on their installation in transmission pipeline systems for the specific purpose of providing isolation of pipeline sections upon a pipeline event and subsequent unplanned gas release. ASVs/RCVs are not simply valves but are engineered systems that vary greatly in complexity, autonomy, reliability, cost, etc. The paper provides guidance on the design, installation, operational and maintenance considerations that an operator should take into account to provide for successful utilization. This guideline is intended for use as a reference document by natural gas pipeline operators, federal and state regulators, public interest groups and the general public.

Each operator serves a unique and defined geographic area and its system infrastructures vary widely based on a multitude of factors, including facility condition, past engineering practices and materials. Each operator will need to evaluate the guidance covered in this document in light of system variables, the operator's independent integrity assessment, risk analysis and mitigation strategy. It is recognized that not all of these guidelines will be applicable to all operators due to the unique set of circumstances that are attendant to their specific systems.

Consult the manufacturer(s) or other resources as necessary when considering a particular ASV, RSV or other system component to confirm its performance characteristics will accommodate your particular system's unique characteristics and variables.