
Maintenance for DOT Regulated ValvesENGINEERING PROCEDURE

1 SCOPE AND INTENT**1.1 SCOPE**

1.1.1 This procedure is part of a procedures manual that covers operations and maintenance of pipeline systems. Emergency response, manual update requirements and general pipeline patrolling, maintenance and repair are covered in the manual.

1.1.2 This procedure covers maintenance for valves in DOT regulated pipelines.

1.1.3 This procedure does not cover valve repair. Valve repairs are performed by API certified valve repair shops.

1.1.4 Valve maintenance for gas transmission lines shall be performed annually with a maximum interval of 15 months.

1.1.5 Valve maintenance for liquid transmission lines shall be performed semi-annually with a maximum interval of 7.5 months.

1.2 INTENT

The intent of this procedure is to ensure that valves in DOT regulated pipelines will function as designed while the pipeline is in operation.

Approved: _____ **Date:** _____
Manager Safety, Health and Environmental

Approved: _____ **Date:** _____
Environmental Manager

2 REFERENCES

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- 2.1 ASME B 31.4 Liquid Transmission and Distribution Piping Systems
- 2.2 ASME B 31.8 Gas Transmission and Distribution Piping Systems
- 2.3 API SPEC. 6D Specification for Pipeline Valves
- 2.4 49 CFR Part 192 Transmission of Natural and Other Gas by Pipeline
- 2.5 49 CFR Part 195 Transportation of Hazardous Liquids by Pipeline

3 DEFINITIONS AND TERMS

- 3.1 CGI - Combustible Gas Indicator.
- 3.2 DOT - Department of Transportation
- 3.3 ESD - Emergency Shutdown Device
- 3.4 MSDS - Manufacturers Safety Data Sheet.
- 3.5 Valve maintenance refers to work that can be performed on valves on site and while the pipeline is in service or during a scheduled shut down.
- 3.6 Valve repairs refers to work that cannot be performed on site.
- 3.7 VCM - Vinyl Chlorinated Monomer

4 GENERAL

This procedure lays out the general requirements for valve maintenance. It is designed to supplement the information provided by the valve manufacturers.

5 PERSONNEL REQUIREMENTS

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- 5.1 Company and contract employees performing maintenance on pipeline valves shall have received the Southern Louisiana Safety Council Training course and Plant Specific Training provided by Company training officers.
- 5.2 Company and contract employees performing work on pipeline valves should be trained in safety requirements for the material being transported and the equipment being used.
- 5.3 Company and contract employees performing maintenance on pipeline valves shall be familiar with emergency response procedures for the material being transported in the pipeline that is being maintained.
- 5.4 Company and contract employees performing maintenance on pipeline valves shall be trained craftsman, experienced in valve maintenance for the type and size valves that are being serviced.

6 SAFETY

- 6.1 Review the MSDS for the material being transported in the pipeline and determine what personal protective equipment is required.
- 6.2 Use the MSDS to determine the maximum exposure limits and establish monitoring techniques to ensure safe exposure limit is not exceeded.
- 6.3 Determine wind direction by placing a telltale (light weight string or cloth) on a fence or pipe that is visible from your work location and try to stay upwind of valves or fitting that might be leaking.
- 6.4 Listed in the table below are materials that are transported in Company pipelines and some of the personal protective equipment that might be required on a valve maintenance work site.

Material or Chemical	Safety Equipment Required
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Ethylene	Fire Extinguisher
Hydrogen	Combustible Gas Indicator
VCM Vapors	Fire Retarding Clothing
VCM Liquids	Eye Goggles
Kerosene	Ear Plugs
Ethylene Dichloride	Full Face Mask
Natural Gas	Supplied Air Face Mask with
	Egress Bottle
	Slicker Suits and Boots
	Non-Sparking Tools

7 PROCEDURE

7.1 Planning

- 7.1.1 Obtain the equipment file for the pipeline with the valve being maintained and review previous inspection and maintenance reports to establish the history of the valve.
- 7.1.2 Make a maintenance plan based on past experiences and valve manufacturer's recommended maintenance procedures.
- 7.1.3 Obtain tools, materials and safety equipment that might be needed to execute your maintenance plan.
- 7.1.4 Contact Operations for the facility where the pipeline originates and obtain a Work Permit.
- 7.1.5 Ask Operations for permission to operate or partially operate the valve and obtain agreement on the percent of operation that is acceptable.
- 7.1.6 Give a copy of your plan to your supervisor.

7.2 Site Preparation

- 7.2.1 Determine that the work site is safe.

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7.2.2 Clear the work site of vegetation and soil accumulation that might be deleterious to the equipment.

7.2.3 Check that “Danger” and “Warning” signs are in place and are legible. Replace as necessary.

7.2.4 Check that valve wheels, handles or wrenches are installed or are available and that protective devices to prevent unauthorized use are in place.

7.3 Clean and Lubricate

Perform maintenance in accordance with manufacturer’s recommendation. As a minimum perform the following:

7.3.1 Clean the valve of dirt and corrosion build up.

7.3.2 Lubricate as specified by the manufacturers procedure.

7.3.3 Clean and lubricate exposed riser threads if necessary.

7.3.4 Check the open-close indicators for integrity.

7.3.5 Touch up paint as required.

7.4 Function Test

7.4.1 In accordance with Operations instructions, operate or partially operate the valve to ensure that the valve will function.

7.4.2 If the valve does not function properly, determine the reason for the function failure and repair if possible.

7.4.3 If the valve cannot be repaired during this maintenance procedure, schedule additional maintenance or repair as required.

7.4.4 Return the valve to its original position.

7.4.5 Return valve wheels, handles and/or wrenches to their original secured condition to prevent unauthorized operation of the valve.

7.5 Fugitive Emissions Test

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7.5.1 Use a CGI to check for fugitive emissions on all fittings and connections.

7.5.2 Tighten leaking fittings, flanges or valve packing if possible.

7.5.3 If fittings, flanges or valve packing are leaking and cannot be repaired during this maintenance procedure, reschedule maintenance and indicate the special requirements for correcting the defect.

7.6 Documentation

7.6.1 Maintenance report shall be placed in the equipment file.

7.6.2 Send a copy of the report to DOT coordinator.

7.6.3 Send a copy of the report to the Senior Inspector.