Criteria for Considering Class Location Waiver Requests

Purpose

This document establishes guidelines for the consideration of requests for waiver of the requirement at 49 C.F.R. § 192.611 to confirm or revise the maximum allowable operating pressure (MAOP) of a natural gas pipeline after a change in class location has occurred. If granted, a class location waiver would allow a pipeline operator to perform alternative risk control activities based on the principles and requirements of the Integrity Management Program in lieu of pipe replacement or pressure reduction.

The provision of class location waivers, where warranted, is intended to benefit both the public and pipeline operators. First, within the waiver area the pipeline operator will be conducting in-line inspections and other assessment methods, substantially increasing the operator's knowledge of the integrity of pipe structures and potentially accelerating the identification and repair of actionable anomalies that could pose a threat to the public and environment. Second, in addition to performing in-line inspections of the pipe located within the waiver areas, in most cases, operators will perform in-line inspection and repairs of any actionable anomalies identified up to 25 miles upstream and downstream of the waiver area, substantially increasing the protection afforded to populated and environmentally sensitive areas along the right of way. Third, provision of a class location waiver may avoid the delivery interruptions, supply shortages, and additional costs associated with excavating and replacing the pipe in the affected areas.

Background

On December 15, 2003, the Office of Pipeline Safety (OPS) published a Final Rule requiring operators of gas transmission pipelines to develop and implement integrity management programs for their pipelines in high consequence areas (68 FR 69778; Dec. 15, 2003). The cost-benefit analysis in the rule states that:

> Another benefit to be realized from implementing this rule is reduced cost to the pipeline industry for assuring safety in areas along pipelines with relatively more population. The improved knowledge of pipeline integrity that will result from implementing this rule will provide a technical basis for providing relief to operators from current requirements to reduce operating stresses in pipelines when population near them increases. Regulations currently require that pipelines with higher local population density operate at lower pressures. This is intended to provide an extra safety margin in those areas. Operators typically replace pipeline when population increases, because reducing pressure to reduce stresses reduces the ability of the pipeline to carry gas. Areas with population growth typically require more, not less, gas. Replacing pipeline, however, is very costly. Providing safety assurance in another manner, such as by implementing this rule, could allow RSPA/OPS to waive some pipe

replacement. RSPA/OPS estimates that such waivers could result in a reduction in costs to industry of $1 billion over the next 20 years, with no reduction in public safety.

In addition to being factored into the cost-benefit analysis of the Integrity Management Program rule, the technical soundness of issuing class location waivers has been considered in connection with the following regulations, standards, and programs:

- The Risk Management Demonstration Program
- The Integrity Management Program regulations (49 C.F.R. Part 192, Subpart O)
- The development of ASME Standard B31.8S "Managing System Integrity of Gas Pipelines"
- Various requests for waiver regarding compliance activities in class location change areas

Candidates for Waiver Consideration

The vehicle for an operator seeking a class location waiver will be through the normal case-by-case waiver approval process. Under 49 U.S.C. § 60118, OPS may grant a waiver of any regulatory requirement if granting the waiver is "not inconsistent with pipeline safety." Therefore, each operator submitting a waiver request has the burden of demonstrating that the proposed waiver would not be inconsistent with pipeline safety with respect to the particular pipe in the affected area. Each waiver request is also subject to public notice and comment. Operators of intrastate pipelines are required to submit waiver requests at the state level.

Beginning in 2004, requests for class location waivers will be considered for a number of candidate sites. During this initial period, OPS will gather data to assess whether the integrity management programs and other alternative risk control activities these waivers would be conditioned upon are being implemented effectively. The monitoring of compliance with the required activities will be conducted through periodic operator reporting requirements as well as scheduled pipeline inspections. If, after a class location waiver is granted, OPS determines that the waiver is no longer consistent with public safety, OPS may take appropriate regulatory action up to and including retraction of the waiver and requiring immediate compliance with the MAOP restrictions otherwise applicable to the changed class location. Any pipeline or pipeline section for which a class location waiver is granted remains subject to all other requirements of 49 C.F.R. Parts 190, 191, and 192.

Criteria

The age and manufacturing process of the pipe, construction processes used and operating and maintenance history are all significant factors that must be considered in the waiver process. Additionally, certain threshold requirements must be met in order for a pipeline section to be considered a candidate site. Among these requirements are:

- No pipe segments changing to Class 4 locations will be considered
- No bare pipe will be considered
- No pipe containing wrinkle bends will be considered
- No pipe segments operating above 72% SMYS will be considered for a Class 3 waiver
- Records must be produced that show a hydrostatic test to at least 1.25 x MAOP
- In-line inspection must have been performed with no significant anomalies identified that indicate systemic problems
- Up to 25 miles of pipe either side of the waiver location must be included in the pipeline company's Integrity Management Program and periodically inspected with an in-line inspection technique

While each waiver request is considered in its entirety, requests involving pipelines with operating conditions reflecting higher risk will merit more rigorous scrutiny and require increasing levels of justification. The following table outlines in more detail the specific parameters of pipe design and operating conditions that OPS considers in reviewing class location waiver requests. It contains three categories specifying: (1) the parameters within which a waiver request is probably consistent with pipeline safety; (2) the parameters within which a request is possibly consistent with pipeline safety; and (3) those within which a request requires substantial justification to demonstrate it is consistent with pipeline safety. These criteria reflect OPS' current thinking and are subject to change as more experience with the issuance of class location waivers is gained.

CRITERIA	PROBABLE ACCEPTANCE	POSSIBLE ACCEPTANCE	REQUIRES SUBSTANTIAL JUSTIFICATION
CLASS LOCATION			
Class Location Change	1 to 2 or 2 to 3	1 to 3	
PIPE DESIGN AND CONSTRUCTION			
Pipe Manufacture	Pipe Manufactured and installed in 1980[1] or later.	Pipe Manufactured and installed prior to 1980.	LF-ERW, DC-ERW, EFW, furnace lap welded pipe, pipe manufactured prior to 1954, pipe of unknown manufacturing process, or pipe known to contain manufacturing defects that could lead to failure (based on manufacturer and year of manufacture).
Pipe Material	Welded steel pipe with toughness meeting the current requirements of ASME B31.8 or pipe of known toughness.[2]	Pipe of low or unknown toughness where the operator has addressed this risk in their integrity management plan.	Pipe other than steel, pipe installed with mechanical joints, or steel pipe of unknown toughness.
Design Stress	Less than or equal to 72% of SMYS.	Up to 80% SMYS for grandfathered systems for Class 2.	
Pipe Girth Welds	Records exist[3] that demonstrate that the girth welds were volumetrically inspected during construction.	At least 1% of girth welds in the waiver location have been excavated and volumetrically inspected following construction.[4]	No radiographic inspection either during of after construction or welds made using oxy-acetylene welding process.
Pipe Coating	FBE, Multi-layer Epoxy	Polyethylene Tape, Coal Tar	Other coating materials.

[1] 1980 was selected as a year after which there is a high degree of confidence that line pipe manufactured in accordance with the requirements of API-5L is free of manufacturing defects that could fail in service. Pipe manufactured prior to 1980 may also be acceptable. OPS will consider revising this date to an earlier date if supported by the vintage pipe study currently being completed by industry.
[2] Pipe purchased to a technical specification that specified a minimum toughness requirement is considered pipe of known toughness.
[3] Records could include purchasing or other records, actual NDE reports or radiographs are not required.
[4] This post construction girth weld volumetric inspection is not required to be evaluated to new construction acceptance criteria. They should be evaluated for evidence of any flaws that would increase the likelihood of a failure as well as any gross construction defects that limit the load carrying ability of the girth weld.

CRITERIA	PROBABLE ACCEPTANCE	POSSIBLE ACCEPTANCE	REQUIRES SUBSTANTIAL JUSTIFICATION
PRESSURE TESTING			
Test Pressure	Tested to at least 90% SMYS and 125% MAOP.	Tested to 125% MAOP.	
Test Failures	No history of pressure test failures.	Some pressure test failures where it can be documented that they are not indicative of a systemic problem in the pipeline system.	Pressure test failures that are indicative of a systemic problem in the pipeline system.
ENVIRONMENTAL CONSIDERATIONS			
Depth of Cover	Cover meeting the requirements of § 192.327 (a).	Additional protection[5] provided when cover does not meets the requirements of §192.327 (a).	Cover not meeting the requirements of §192.327 (a) without additional protection in areas of earth movement such as industrial and quarry activities or plowing on the ROW.
Local Geology	Located in stable soil.	Actions have been implemented to address known geologic instability issues in waiver location.	Known geologic instability issues in waiver location (e.g. flood, subsidence, landslide, fault line) that have not been mitigated.
OPERATIONAL CONSIDERATIONS			
Leaks and Failures	No history of leaks, failures or systemic problems on similar system pipe that is found in the waiver area.[6]	No reportable history of leaks, failures or systemic problems on similar system pipe that is found in the waiver area in the past 20 years.	Reportable leaks or failures from manufacturing defects that are indicative of a systemic integrity issue in the waiver area.
Service	Dry gas service only with adequate protection to prevent wet gas infiltration.[7] No measurable H_2S.	Wet gas service where actions have been taken to prevent internal corrosion (e.g. internal coating). May include trace quantities of H_2S.	Wet gas service. Gas containing measurable H_2S.

[5] Additional protection may include additional damage prevention measures described under damage prevention in this table.
[6] For this protocol, the inspection area containing the waiver location is defined as an area within 25 miles, a compressor station, or permanent inspection tool launcher or receiver site either side of the waiver location which ever is less.
[7] Dry gas service is defined as less than 7 lbs. of water per MMCF.

CRITERIA	PROBABLE ACCEPTANCE	POSSIBLE ACCEPTANCE	REQUIRES SUBSTANTIAL JUSTIFICATION
Pressure Fluctuations	Light to moderate pressure spectrum.		Aggressive to Very Aggressive pressure spectrum or evidence of past fatigue failures[8].
Cathodic Protection	Requirements of 192 Subpart I have been met for entire life of the pipeline with no evidence of coating damage due to excessive current.	Meets requirements of 192 Subpart I and there is no evidence of external corrosion or only isolated corrosion damage that has been appropriately mitigated.	Evidence of systemic corrosion damage in the inspection area[9].
Safety Related Condition Reports	No SRCR's related to line pipe integrity in the inspection area containing waiver location.	No SRCR's related to line pipe integrity in at waiver location.	SRCR's related to line pipe integrity in at waiver location.
INTEGRITY MANAGEMENT PROGRAM			
Program	Entire waiver location treated as an HCA with additional measures applied in inspection area containing waiver location.	Entire waiver location treated as an HCA.	
ILI Time Frame	Performed within two years of waiver application. If ILI is performed after waiver application, waiver is contingent on completion of the inspection and repairs.	Performed within five years of waiver application. If ILI is performed after waiver application, waiver is contingent on completion of the inspection and repairs.	No ILI.
ILI Type	High Resolution Metal Loss and Slope Deformation Tools.	Low Resolution Metal Loss and Geometry Tools.	Low Resolution MFL on seamless pipe.
Direct Assessment (ECDA and SCCDA[10])	Performed in accordance with Subpart O in the waiver area with no significant anomalies.[11]		Significant anomalies or evidence of injurious SCC.

[8] An aggressive to very aggressive pressure spectrum may be typical of that encountered in bi-directional systems or systems associated with gas storage where large frequent pressure cycles occur.
[9] For this protocol, the inspection area containing the waiver location is defined as an area within 25 miles, a compressor station, or permanent inspection tool launcher or receiver site either side of the waiver location which ever is less.
[10] The SCCDA shall include either Wet Fluorescent or High Contrast (black on white) magnetic particle inspection.

CRITERIA	PROBABLE ACCEPTANCE	POSSIBLE ACCEPTANCE	REQUIRES SUBSTANTIAL JUSTIFICATION
Coating Assessment	Coating in good condition with no evidence of disbondment.		Coating in poor condition, significant holidays, or gross disbondment.
Damage Prevention	Damage prevention program based on best practices endorsed by the Common Ground Alliance.		Areas of industrial activity or deep plowing on the ROW without additional damage prevention measures in place
INSPECTION AND ENFORCEMENT HISTORY			
Inspection Findings	No enforcement actions in the OPS Region under consideration in the last five years.	No outstanding enforcement actions in the inspection area containing the waiver location.	Outstanding compliance actions or history of enforcement actions

[11] Since ILI is required in addition to direct assessment, only a single dig site will be required at the waiver location unless the results of the direct assessment indicate that additional investigation is warranted.

Notification Requirements

Under 49 C.F.R. § 192.611(d) class location change sites have a 24-month remediation time limit that begins with the identification of the site. Accordingly, operators who have candidate sites should submit written notice to OPS of their intent to request a class location waiver as early in the 24-month period as possible. With respect to intrastate pipelines, since state agency approval is required, the operator should submit the notice to both the applicable state agency and OPS. In the notification, the operator must include the following information:

- A list of the proposed waiver sites including their beginning and ending mileposts and a map of the class change location(s), adjacent housing and other structures (within the 1320-foot corridor, or C-FER Circle if potential impact radius is greater than 660 feet (must have actual data, do not prorate)), identification of current and previous class location designation, and the reason for the class change. The operator shall indicate when this condition changed creating the new class location area and will provide verification of those date changes.
- Attributes associated with the inspection area containing the proposed waiver location(s) including:
    - Pipe Vintage
        - Date of installation
        - Pipe manufacturer
    - Diameter, wall thickness, grade and seam type
    - Coating type
    - Depth of Cover
    - Local geology and risks associated with the terrain
    - Maximum Allowable Operating Pressure (MAOP) (revised MAOP, if applicable); historical maximum and minimum operating pressure
    - Hydrostatic test records
    - Girth weld radiography records
    - In-line inspection records (date launched, tool type, vendor or operator evaluated log, dig records, was the tool tolerance accurately reflected in digs)
    - Cathodic Protection records
- Identify the inspection area containing the proposed waiver location(s).
- Limits of HCAs within the inspection area containing the proposed waiver location(s), if applicable.
- Direct Assessment results for the proposed waiver area (ECDA, SCCDA, and coating)
- Any incidents associated with the inspection area containing the proposed waiver location(s) (both reportable and non reportable)
- History of leaks on the pipeline in the inspection area containing the proposed waiver location(s) (both reportable and non reportable)
- List of all repairs on the pipeline within the inspection area containing the proposed waiver location(s).

- On-going damage prevention initiatives on the pipeline within the inspection area containing the proposed waiver location(s) and a discussion of its effectiveness.
- A list of all Safety Related Condition Reports related to line pipe integrity submitted on the inspection area containing the proposed waiver location(s).
- A summary of the integrity threats to which the pipe within the site is susceptible based on Part 192 criteria.
- An in-line inspection schedule and a hydrostatic testing schedule (if a valid in-line inspection and hydrostatic test have not already been conducted). These inspections/tests must be scheduled such that they will be completed, and any actionable anomalies remediated in accordance with Part 192, Subpart O, prior to the end of the 24-month compliance window. The operator shall provide 30 days prior notice of any ILI or direct assessments to be performed within the inspection area containing the waiver location(s). Note: Final approval of the waiver will be based on the results of the hydrostatic test and ILI results and remedial activities.
- The operator must determine and provide certification that the inspections/activities associated with this site will not impact or defer any of the operator's assessments for HCAs under Part 192, Subpart O, particularly those associated with the most significant 50%.
- A summary list of any additional proposed alternative risk control activities for each candidate site, including any sites not located in a HCA (i.e., inspections and assessments, electrical surveys, increased patrolling, leak surveys, public education, etc. above and beyond the current requirements of Part 192). Include the mileposts within which each activity would be conducted (additional mileage upstream and downstream of the waiver area is expected) and the proposed time interval for performing the activities on an ongoing basis. Note that OPS may require that the scope or the interval of any proposed alternative risk control activity be modified or require additional activities before granting a waiver.
- Describe the safety benefit both to the specific waiver request site, and areas outside the waiver location. This should specifically include the number of residences and identified sites at the proposed waiver location(s) and within the inspection area containing the waiver location(s).

Reporting Requirements

Within three months following approval of a class location waiver and annually thereafter, operators will be required to periodically report the following:

- Define the economic benefit to the company. This should address both the cost avoided from not replacing the pipe as well as the added costs of the inspection program (required for the initial report only).
- The results of any ILI or direct assessments performed within the inspection area containing the waiver location(s) during the previous year.
- Any new integrity threats identified within the inspection area containing the waiver location(s) during the previous year.
- Any encroachment in the inspection area including the waiver location(s) including the number of new residences or gathering areas.

- Any incidents associated with the inspection area containing the waiver location(s) that occurred during the previous year. (both reportable and non reportable)
- Any leaks on the pipeline in the inspection area containing the waiver location(s) that occurred during the previous year. (both reportable and non reportable)
- List of all repairs on the pipeline the inspection area containing the waiver location(s) made during the previous year.
- On-going damage prevention initiatives on the pipeline in the inspection area containing the waiver location(s) and a discussion on its success.
- Any mergers, acquisitions, transfers of assets, or other events affecting the regulatory responsibility of the company operating the pipeline to which the waiver applies.

Supplemental Reporting

To the extent possible, the pipeline company should provide the following information with the first annual report:

- Describe the benefit to the public in terms of energy availability. Availability should address the benefit of avoided disruptions required for pipe replacement and the benefit of maintaining system capacity.