Voting Language for MAOP Reconfirmation; Scope - § 192.624(a) & Completion Date - § 192.624(b)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the provisions for the scope and completion date of MAOP reconfirmation, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

For MAOP reconfirmation scope:

- Revise § 192.624(a) to strike paragraph (a)(1), which was the proposed criterion related to lines with previous reportable incidents due to crack defects.
- Create § 192.917(e)(6) to address segments with crack incident history in IM.
- Withdraw the new definitions of *modern pipe*, *legacy pipe*, and *legacy construction techniques*.
- Renumber § 192.624(a)(2) (for line segments without records) as paragraph (a)(1). Revise to refer to records required by § 192.619(a) and (c) instead of pressure test records required by Subpart J, as discussed by the committee, as shown below:

  ~~Pressure test~~ Records necessary to establish maximum allowable operating pressure ~~per subpart J~~ in accordance with § 192.619(a)(2) or (c) at the time of construction for the pipeline segment …"

- Renumber § 192.624(a)(3) (for grandfathered lines) as paragraph (a)(2). Revise to apply only to lines with MAOP ≥ 30% SMYS. PHMSA should review the costs and benefits of including class 3 and 4 non-HCA pipe < 30% SMYS.

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(cont.)

Voting Language for MAOP Reconfirmation; Scope - § 192.624(a) & Completion Date - § 192.624(b)

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For MAOP reconfirmation completion date:

- Revise § 192.624(b) to address how the completion plan and completion dates required by § 192.624(b) would apply to pipelines that are not currently applicable under § 192.624(a) but may become applicable in the future (e.g., located in a future HCA or Class 3 or 4 location), as follows:

  (3) The operator must complete all actions required by this section on 100% of the pipeline mileage ~~of locations~~ that meet the conditions of § 192.624(a) by [insert date that is 15 years after the effective date of rule] or as soon as practicable, but not to exceed 4 years after the segment first meets the conditions of § 192.624(a), whichever is later.

  PHMSA will consider a waiver or no-objection procedure for extending the timeline past 4 years.

Voting Language for MAOP Reconfirmation; Method 1 (Pressure Test) - § 192.624(c)(1) & Method 2 (Pressure Reduction) - § 192.624(c)(2)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the provisions for Method 1 and Method 2 of MAOP reconfirmation, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

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For Method 1 (pressure test):

- Delete paragraphs (ii) and (iii) to remove spike testing for lines with suspected crack defects.
- In § 192.624(c)(1), refer to Subpart J instead of § 192.505(c).
- As discussed in the committee meetings of December 2017 and March 26, 2018, if the pressure test segment does not have TVC MAOP records, use the best available information (upon which the MAOP is currently based). Create a requirement for an operator to add the test segment to its plan for opportunistically verifying material properties in accordance with § 192.607. (Most pressure tests will present at least 2 opportunities at test manifolds for material verification.)

(cont.)

Voting Language for MAOP Reconfirmation; Method 1 (Pressure Test) - § 192.624(c)(1) & Method 2 (Pressure Reduction) - § 192.624(c)(2)

For Method 2 (pressure reduction):

- Increase the look-back period from 18 months to five (5) years.
- Strike the requirement in § 192.624(c)(2)(ii) to perform fracture mechanics analysis on segments that confirm MAOP via Method 2 (Pressure Reduction).

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Voting Language for MAOP Reconfirmation; Method 3 (Engineering Critical Assessment) - § 192.624(c)(3) & Fracture Mechanics - § 192.624(d)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the provisions for Method 3 of MAOP reconfirmation and fracture mechanics, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- Strike § 192.624(d) *Fracture mechanics analysis for failure stress and crack growth analysis* and move fracture mechanics to a new stand-alone section § 192.712.

- The new § 192.712 would not specify when, or for which segments, fracture mechanics analysis would be required. It would be limited to the procedure for performing fracture mechanics analysis when required or allowed by other sections of Part 192.

- § 192.624 would not contain default Charpy toughness values or other technical fracture mechanics requirements. Requirements to perform fracture mechanics as part of ECA in § 192.624(c)(3) would simply refer to new § 192.712. PHMSA suggests revising § 192.624(c)(3)(i)(B) to read as follows:

  (B) The ECA must analyze any cracks or crack-like defects remaining in the pipe, or that could remain in the pipe, to determine the predicted failure pressure (PFP) of each injurious defect in accordance with § 192.712.

- Add requirement to verify material properties in accordance with § 192.607 if information needed for a successful ECA is not documented in TVC records, as discussed in the December 2017 committee meeting.

(Cont.)

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Voting Language for MAOP Reconfirmation; Method 3 (Engineering Critical Assessment) - § 192.624(c)(3) & Fracture Mechanics - § 192.624(d)

- Remove ILI tool performance specifications and replace with requirement to verify tool performance using unity plots or equivalent technologies.

- Revise the fracture mechanics requirements by:

  - Striking sensitivity analysis requirements and replacing with requirement that operators account for model inaccuracies and tolerances.
  - Striking references to § 192.624 [MAOP reconfirmation].
  - Striking references to § 192.506 [spike pressure test].
  - Adding a paragraph to require records be retained.
  - Operators can use a conservative Charpy energy value based on the sampling requirements at §192.607.
  - Operators can use Charpy values from similar / the same vintage pipe, until properties are obtained through an opportunistic testing program.
  - Clarifying that default Charpy values of 13-ft-lb (body) and 4-ft-lb (seam) only apply to pipe with suspected low-toughness properties or unknown toughness properties.
  - If a pipe segment has a history of leaks or failures due to cracks, the operator must work diligently to obtain toughness data if unknown. In the interim, those segments must use Charpy values of 5-ft-lb (body) and 1-ft-lb (seam).
  - Clarifying that use of differing default Charpy values may be requested by a 90-day notification to PHMSA.

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Voting Language for MAOP Reconfirmation; Method 4 (Pipe Replacement); Method 5 (Pressure Reduction for Small PIR and Diameter) - § 192.624(c)(5) & Method 6 (Other Technology) - § 192.624(c)(6)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the provisions for Method 4, Method 5, and Method 6 of MAOP reconfirmation, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

For Method 5, *Pressure Reduction for Segments with Small Potential Impact Radius and Diameter*:

- Delete the size and pressure criteria. The applicability would be based solely on a PIR of ≤ 150 feet.
- Strike ECDA, Crack Analysis Program, odorization, and fracture mechanics analysis requirements.
- Change frequency of patrols and surveys:
  - In class 1 and 2 locations to 4 times per year.
  - In class 3 and 4 locations to 6 times per year.

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For Method 6, *Other Technology*:

- Use same 90-day 'no objection' letter language the committee approved for 192.607.

Voting Language for MAOP Reconfirmation; Notification Procedure and Records - § § 192.624(e) & 192.624(f)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the provisions for MAOP reconfirmation notification procedure and records, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- PHMSA will provide guidance regarding TVC records in the preamble of the final rule as discussed in the March 2 meeting.

- Retain the notification procedure as published in the NPRM. Use same 90-day 'no objection' letter language the committee approved for 192.607 for any notification under § 192.624.

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Voting Language for Other Proposed Issues Related to MAOP - § § 192.503, 192.605(b)(5), 192.619(a)(2) 192.619(a)(4), 192.619(e), 192.619(f)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to MAOP-related provisions at sections 192.503, 192.605(b)(5), 192.619(a)(2), 192.619(a)(4), 192.619(e), and 192.619(f) are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

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- Withdraw the proposed revision to § 192.503.
- Withdraw the proposed revision to § 192.605(b)(5).
- PHMSA will consider moving 192.619(e) to be a subsection of 192.619(a) and will consider referencing section 192.624 in 192.619(a).
- Clarify that § 192.607 does not apply to distribution pipelines when determining MAOP by adding "if applicable" after the reference to § 192.607 in § 192.619(a)(4). (cont.)

Voting Language for Other Proposed Issues Related to MAOP - § § 192.503, 192.605(b)(5), 192.619(a)(2) 192.619(a)(4), 192.619(e), 192.619(f)

- Clarify that the MAOP records requirements proposed in § 192.619(f) would apply only to onshore, steel, gas transmission pipelines.

- Clarify the MAOP records requirements at § 192.619(f) only apply to records needed to demonstrate compliance with § 192.619(a) – (d). Move examples of MAOP documents to the preamble and guidance materials.

- Clarify that the MAOP records requirements proposed under section § 192.619 are not retroactive, similar to the proposal that the committee voted on at the March 2, 2018 meeting.
  - Existing records on pre-existing P/L must be retained for P/L life.
  - New pipelines must make and retain records for life of pipeline.
  - Other sections such as §§ 192.624 and 192.917 would require when, and for which pipeline segments, missing MAOP records must be verified in accordance with §§ 192.624 and/or 192.607.
  - MAOP records would be required for any pipeline placed in service after the effective date of the rule.

Approved GPAC Language 3/27/18

Voting Language for Integrity Management Clarifications - § § 192.917(e)(3), (e)(4), & (e)(6)

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the provisions for IM clarifications, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

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- Revise proposed § 192.917(e)(3) as follows:
  - In paragraph (e)(3), delete the phrase "*and must reconfirm or reestablish MAOP in accordance with § 192.624(c)*"
  - In paragraph § 192.917(e)(3)(i), delete the reference to § 192.624(a)(1) and replace with "*the segment has experienced a reportable in-service incident, as defined in § 191.3, since its most recent successful subpart J pressure test, due to an original manufacturing-related defect, or a construction-, installation-, or fabrication-related defect.*"

- In conjunction with striking the previously proposed § 192.624(a)(1), add a new § 192.917(e)(6) to address cracking within IMP as suggested by PHMSA staff during the meeting, presented in the slides, and revised by the committee.

- In § 192.917(e)(4), delete the phrase related to pipe body cracking.

- PHMSA will consider removing the term "hydrostatic" from (e)(3) and allowing other authorized testing procedures.

3. Integrity Management
§§ 192.917(e)(3) and (e)(4)

- **In light of committee comments from the June 2017 meeting, PHMSA suggests the Committee consider:**
  - **PHMSA**: In conjunction with striking the previously proposed 192.624(a)(1), add a new 192.917(e)(6) to address cracking within IMP (as proposed by the committee). This would be similar to corrosion in 192.917(e)(5):

(6) *Cracks. If an operator identifies any crack or crack-like defect (including, but not limited to, stress corrosion cracking or other environmentally assisted cracking, unstable seam defects, selective seam weld corrosion, girth weld cracks, hook cracks, and fatigue cracks) on a covered pipeline segment that could adversely affect the integrity of the line, the operator must evaluate, and remediate~~,~~ as necessary, all pipeline segments (both covered and non-covered) with similar characteristics – which may include operating and maintenance histories; material properties; and environmental characteristics - associated with the crack or crack-like defect. An operator must establish a schedule for evaluating, and remediating~~,~~ as necessary, the similar segments that is consistent with the operator's established operating and maintenance procedures under part 192 for testing and repair.*

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Voting Language for Definitions - § 192.3

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the proposed definitions but excepting the definitions of "transmission line," "distribution center," and "traceable, verifiable, and complete records," are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

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- Strike the definition of "electrical survey."
- Revise the definition for "close interval survey," "in-line inspection," and "in-line inspection tool" to read as recommended by PHMSA staff during this meeting and as presented in the slides.
- Revise the definition for "dry gas or dry natural gas" as revised by the committee during the meeting and reflected in the slides.
- Consider adding "free-swimming" to the definition for "pipe segment can accommodate inspection by means of an instrumented in-line inspection tool" per committee comments at the meeting.

4. Definitions
§ 192.3

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- **Dry gas or dry natural gas :**
  - **NPRM Definition**: *"Dry gas or dry natural gas* means gas with less than 7 pounds of water per million (MM) cubic feet and not subject to excessive upsets allowing electrolytes into the gas stream."
  - **PHMSA:** suggests Committee accept the definition, as modified below per comments received in response to the NPRM.
  - The proposed new definition was based on use of this term in proposed changes to 192.927, internal corrosion direct assessment. During the June 2017 meeting, the Committee voted on 192.927. However, the new definition was not explicitly included in the voting language.
    - *Dry gas or dry natural gas* means gas ~~with less than 7 pounds of water per million (MM) cubic feet and not subject to excessive upsets allowing electrolytes into the gas stream~~ above its dew point and without condensed liquids ~~being formed via pressure reductions~~.

4. Definitions
§ 192.3

- **Pipe segment can accommodate inspection by means of instrumented inline inspection tools:**
  - **NPRM Proposed Revision**: *N/A*
  - **PHMSA:**
    - Plans to include a discussion in the preamble since comments were received in response to the NPRM.
    - *Pipe segment can accommodate inspection by means of an instrumented inline inspection tool* means a pipe segment that can undergo an *in-line inspection* using an free-swimming *in-line inspection tool* without any permanent physical modification of the pipeline.

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Voting Language for Definitions - § 192.3

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to the proposed definitions for "transmission line" and "distribution center," are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- Revise the definition for "transmission line" to read as follows:

  - *Transmission line* means a pipeline or connected series of pipelines, other than a gathering line, that: (1) transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not down-stream from a distribution center; (2) has an MAOP of 20 percent or more of SMYS; ~~or~~ (3) transports gas within a storage field; or (4) is voluntarily designated by the operator as a transmission line.

    Note: A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas.

- Include a definition for "distribution center" and consider revising the definition per the definition provided by the industry and read aloud by member Allen during the meeting on March 27, 2018, as follows:

- "Distribution center" means the initial point where gas enters piping used primarily to deliver gas to customers who purchase it for consumption as opposed to customers who purchase it for resale, for example:
  - (1) at a metering location,
  - (2) a pressure reduction location, or
  - (3) where there is a reduction in the volume of gas, such as a lateral off a transmission line.

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Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to provisions for repair criteria applicability, general provisions, and pressure reductions, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

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- Add an effective date to § 192.711(b)(1) to clarify that § 192.713 is not retroactive.
- Clarify in § 192.711(a) that pressure reductions would be required for immediate conditions and in cases where repair schedules cannot be met.
- Refer to § 192.713 for repairs and pressure reductions to avoid duplication in these sections.
- Clarify that § 192.713(a) applies to segments not covered under subpart O (i.e., non-HCAs)
- Clarify § 192.713(c) to replace the phrase “impairs the serviceability” with reference to the repair criteria in § 192.713(d). (cont.)

Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

- Revise § 192.913(d) to clarify that repair criteria apply to onshore transmission pipelines.

- Revise § 192.713(d)(2) to strike “the lower of” and allow pressure reduction to be the calculated safe pressure based on class location or 80% of operating pressure or 1.1 times predicted failure pressure (based upon situational safety to public/operating personnel).

- Require that operators document and keep records of the calculations or decisions used to determine the reduced operating pressure, and the implementation of the actual reduced operating pressure for a period of 5 years.

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Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to provisions for repair criteria applicability, general provisions, and pressure reductions, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- When anomalies cannot be repaired in the specified timeframe, clarify that pressure reductions are required comparable to IM requirements (subpart O).

- Add notification requirements in § 192.713 comparable to IM requirements to require that operators notify PHMSA when:
  - They cannot meet the schedule for evaluation and remediation required under § 192.713 and cannot provide safety through a temporary reduction in operating pressure or through another action, and
  - A temporary pressure reduction exceeds 365 days.

- Modify §§ 192.713(d) and 192.933(d) to require that operators use the following assumed values needed to determine predicted failure pressure (PFP) or pressure reduction when these values are not known or not documented in records:
  - Specified Minimum Yield Strength (SMYS) – Assume Grade A pipe, or determine material properties under § 192.607, or use basis for the current MAOP;
  - Pipe diameter and wall thickness – use basis for current MAOP or determine material properties under § 192.607.

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Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to provisions for dent repair criteria, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- Allowing (but not require) ECA analysis for the following dent-related repair criteria (HCA and non-HCA):
  - Dent with indication of metal loss, cracking, or stress riser
  - Smooth topside dent > 6% diameter (or 0.50 in. deep for D<NPS12)
  - Dent > 2% diameter (or >0.25 in. deep for D<NPS12) that affects pipe curvature at a girth weld or seam weld
  - Dents analyzed by ECA, but shown to not exceed critical strain levels would be Monitored Conditions; PHMSA will consider language to accommodate alternative ECA methods such as FEA

- Revise the immediate condition for dent anomalies with indications of metal loss, cracking, or stress risers in non-HCAs as follows:
  - Allow an engineering critical assessment (ECA) to analyze dent anomalies with indications of metal loss, cracking or stress risers, and prioritize repair criteria as follows:
  - **Immediate**: topside defects that exceed critical strain levels,
  - **2 Year**: bottom-side that exceed critical strain levels, and
  - **Monitored**: defects that do not exceed critical strain levels.

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Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to provisions for cracking repair criteria, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- Strike the proposed definitions of *Significant Seam Cracking* and *Significant Stress Corrosion Cracking* in § 192.3.
- Delete the phrase "any indication of" from the repair criteria related to cracking.
- Combine the repair criteria for stress corrosion cracking and seam cracking.
- Require that PFP for all time-depending cracking anomalies be calculated using the fracture mechanics procedure in § 192.712.

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- Revise the definition of "hard spot" to read as follows:
  - *Hard spot* means an area on steel pipe material with a minimum dimension greater than two inches (50.8 mm) in any direction and hardness greater than or equal to Rockwell 35 HRC (Brin~~n~~ell 327 HB or Vickers 345 HV10).

(cont.)

Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

- Consider the below Cracking Repair Criteria for immediate conditions:
  - Crack depth plus corrosion > 50% of pipe wall thickness;
  - Crack depth plus any corrosion is greater than the inspection tool's maximum measurable depth; or
  - The crack anomaly is determined to have ~~(or will have prior to the next assessment)~~ a predicted failure pressure (PFP) that is less than 1.25 x MAOP
  - PHMSA will consider 1.1 x MAOP for immediate conditions after tool tolerance has been field verified and applied.
  - Clarify that material records necessary for evaluating crack defects are determined and documented in accordance with § 192.712.

- Consider the below Cracking Repair Criteria for 1-yr (HCA) and 2-yr (non-HCA) conditions:
  - Crack depth plus corrosion > 50% of pipe wall thickness
  - The crack anomaly is determined to have ~~(or will have prior to the next assessment)~~ a predicted failure pressure (PFP) that is less than 1.39 times MAOP (for class 1 or 2) or 1.50 time MAOP (for other class~~es 2,~~ 2 2, 3 and 4)~~, or could grow to an immediate condition (1.25 times or less of MAOP) prior to the next assessment~~.
  - Crack anomalies that do not meet either the Immediate or 1-yr/2-yr conditions would be a Monitored Condition.

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Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to provisions for corrosion metal loss repair criteria, but excluding the anomaly repair timing, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

- Revise the repair criteria for corrosion metal loss affecting a long seam in HCAs and non-HCAs as follows:
  - Insert the word 'preferentially' to assure that this criterion would not be applied to corrosion pits near a long seam. It would apply to corrosion along the seam that could lead to slotting-type, crack-like defects.

- Delete the following repair criteria (HCAs and non-HCAs):
  - Gouge or groove > 12.5% wall thickness
  - Area of corrosion > 50%

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- Revise proposed § 192.485(c) to include reference to §192.712 for evaluating corrosion in proximity to cracks or crack-like defects and for operators to make and retain records.

Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

- Revise the repair criteria for scheduled conditions regarding the predicted failure pressure as follows:

- PHMSA will apply similar Predicted Failure Pressure factors to Alternate MAOP pipelines based on class location / design factor.

- In-the-ditch remediation should be based on class location and MAOP.

- Change discovery period for non-HCAs from 180 to 240 days.

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- PHMSA will evaluate the use of an PFP ratings/thresholds for remediation schedules of anomalies at a crossing of another pipeline in an area with widespread circumferential corrosion, or is in an area that could affect a girth weld.

Voting Language for Repair Criteria - § § 192.485(c); 192.711; 192.713; 192.933

The proposed rule as published in the Federal Register and the Draft Regulatory Evaluation, with regard to provisions for scheduled conditions regarding the predicted failure pressure repair criteria, are technically feasible, reasonable, cost-effective, and practicable, if the following changes are made:

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- Incorporate § 192.933(c) (i.e., ASME B31.8S, section 7, Figure 4) into § 192.713.
- Operators must consider ILI tool tolerance (account for uncertainty and accuracy) on all runs.
- Remove the PFP standards for Class 1 and 2 from the proposed §§ 192.713(d)(3)(iii) and 192.933(d)(2)(iii).
- For Class 3 and 4, revise the proposed §§ 192.713(d)(3)(iii) and 192.933(d)(2)(iii) to consider a PFP ratio between 1.39 – 1.50 based on the technical discussions of the committee.
  - Scheduled corrosion metal loss repair conditions must be remediated in 1 year in HCAs and 2 years in Non-HCAs (Same as the NPRM).
- PHMSA will provide appropriate guidance to improve the understanding and use of ASME B31.8S, Section 7, Figure 4.