

**US Department of Transportation
Research and Special Projects Administration
Office of Pipeline Safety**

**Integrity Management Program
49 CFR 195.452**

**Integrity Management
Inspection Protocols**

(Consolidated Format)

September 2003

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Explanation of Consolidated Inspection Form Format

This inspection form is a consolidated version of the full Integrity Management Inspection Protocols. This more compact version of the protocols was created to provide inspectors with a more manageable size document for certain applications. This new form contains all of the main protocol questions and key areas for review. It differs from the full protocol set in that the main questions and additional guidance have been written in a summary, more “keyword-like” style. Users should refer to the full protocol form if additional detail is desired. In addition, this consolidated form omits quotations from the rule, and reduces the amount of space devoted to documenting field notes. The illustration below explains the structure of these consolidated protocols.

Protocol 1.01 Keywords reflecting the subject area are entered here. Each question has a unique number, as indicated to the left.	No Issue	Issue	N/A	
Description of the subject area in the operator’s Integrity Management Program to be reviewed. This review often includes a review of the operator’s integrity management processes, procedures, and technical methods; as well as the results obtained when implementing these processes.				
<p><i>This section contains additional guidance and items for consideration by the inspector in reviewing operator responses, documentation, and records. This guidance presents characteristics typically expected in an effective Integrity Management Program consistent with the intent of the Rule. Some, all, or none of these characteristics may be appropriate depending on factors unique to each protocol, and the operator’s Integrity Management Program and its pipeline assets. Operators should be able to demonstrate that their programs address each of these characteristics or should be able to describe how their program will be effective in their absence.</i></p> <p><i>For some protocol questions, this portion of the inspection form is also used to articulate specific prescriptive requirements in the Rule. These requirements are mandatory for all Integrity Management Programs.</i></p>				<p><i>This space is provided to summarize any issues or concerns the inspector identifies in reviewing this feature of the operator’s Integrity Management Program</i></p>

Integrity Management

Inspection Form

Name of Operator: _____

Headquarters Address: Company Official: Phone Number: Fax Number: Operator ID: Activity ID:
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Persons Interviewed	Title	Phone No.	E-Mail
Primary Contact:			

OPS/State Representatives: _____

Dates: _____

System Descriptions:

Key Documents Reviewed

Document Title	Document No.	Rev. No	Date

Protocol 1 – Identification of Segments that Could Affect HCAs

Protocol 1.01 HCA Identification	No Issue	Issue	N/A	
Verify that the operator correctly identifies and maintains up-to-date locations of HCAs.				
Use of NPMS.				
Identification of NY drinking water and PA Ecological HCAs.				
Use of local knowledge to supplement NPMS.				
Provisions for periodic review and update of HCA boundaries.				
Protocol 1.02 Direct Intersection of P/Ls & HCAs	No Issue	Issue	N/A	
Verify that the operator determined all locations where its pipeline system is located in a HCA.				
Segments physically located within HCAs are identified and defined by specific locations that represent where the pipeline actually intersects that HCA boundary.				
Pipeline facilities inside HCAs are identified.				
Protocol 1.03 Direct Intersection Exceptions	No Issue	Issue	N/A	
If the operator determined that pipeline located within an HCA boundary can not affect that HCA, verify that the operator documented an adequate technical justification for this decision.				
Valid, documented analysis.				
Justification considers the following factors as appropriate: HVL properties, topographical considerations, type of HCA, and significance of consequences.				
Protocol 1.04 Release Locations	No Issue	Issue	N/A	
Verify that the operator identified potential release locations for analysis that are technically adequate.				
Proximity to water crossings.				
Consideration of topography.				
Adequate basis if fixed, predetermined spacing of release points is used.				
Consideration of facilities (e.g., tank volumes).				
Protocol 1.05 Spill Volume	No Issue	Issue	N/A	
Verify that release volume estimates are technically adequate.				
Adequate analysis of factors that influence spill volume including, but not limited to, hole size, operating conditions, leak detection and response time, drain down, design factors, and release rate (for HVL air dispersion).				
If a buffer zone is used, the spill volume basis is “reasonably conservative” and adequately considers the above factors.				
Protocol 1.06 Overland Spread of Liquid Pool	No Issue	Issue	N/A	
Verify that the operator performed a technically adequate overland spread analysis.				
Technical justification of assumptions, including spill response actions.				
Consideration of topography, ditches, drainage tiles, etc.				
If a buffer zone is used, the spread assumption(s) are documented and technically justified.				

Protocol 1 – Identification of Segments that Could Affect HCAs (continued)

Protocol 1.07 Water Transport Analysis	No Issue	Issue	N/A	
Verify that the operator performed a water transport analysis that is technically adequate.				
Documented and technically adequate assumptions.				
Valid buffer zone assumptions that bound “reasonable worst case” scenarios.				
Consideration of indirect introduction to streams due to overland spread or spray.				
Consideration of chemical properties, such as solubility of MTBE, where potential consequences warrant.				
Protocol 1.08 Air Dispersion Analysis	No Issue	Issue	N/A	
Verify that the operator analysis of the air dispersion of vapors is technically adequate.				
Appropriate analytical model/method for operator’s system-specific conditions.				
Technically valid inputs and assumptions.				
Use of adequate Threshold Level of Concern or other criteria for determining the extent of deleterious consequences.				
Valid buffer zone assumptions that bound “reasonable worst case” scenarios.				
Protocol 1.09 ID Segments that Could Affect HCAs	No Issue	Issue	N/A	
Verify that the operator determined all locations where its pipeline system could affect a HCA.				
Segments that can affect HCAs are identified by specific endpoints.				
If a buffer zone analysis is used, all pipeline locations within the buffer distance from the HCA are identified.				
Facilities other than line pipe are identified that could affect HCAs.				
Protocol 1.10 Revision Control	No Issue	Issue	N/A	
Verify that the operator has an adequate process to justify and document any changes to the segment identification results.				
Processes in place to identify any changes to HCAs, local terrain, or the pipeline that would result in changes to pipeline segments that could affect HCAs.				
Revised segment identification results are incorporated into other IM program elements or other business processes that use this information.				
Protocol 1.11 Process Formality	No Issue	Issue	N/A	
Verify that the operator has adequate guidance to assure consistent implementation of segment identification.				
Documented procedures/guidance of sufficient detail to assure consistent implementation.				
Documented roles and responsibilities.				
Specification of records to be produced and retention requirements.				
Means to assure quality/accuracy of segment identification results.				
Idle lines included in the segment identification process.				
Protocol 1.12 Timely Completion of Segment ID	No Issue	Issue	N/A	
Verify that the operator has completed segment identification by the appropriate deadline.				
Category 1 Pipelines: 12/31/2001.				
Category 2 Pipelines: 11/18/2002.				
Category 3 Pipelines: Beginning of Operation.				
Pipe category is established on May 29, 2001 and does not change regardless of changes in pipeline’s operator or owner.				

Protocol 2 - Baseline Assessment Plan

Protocol 2.01 Baseline Assessment Methods	No Issue	Issue	N/A
Verify that the assessment methods shown in the Baseline Assessment Plan are appropriate for the pipeline specific conditions and risk factors identified for each segment.			
Assessment methods appropriate for line-specific risk factors.			
If ILI is chosen, tools are capable of detecting deformation and corrosion anomalies.			
Assessment methods comply with §195.452(c)(1)(i).			
Assessment methods for low frequency ERW or lap welded pipe include capability to assess seam integrity.			
90-day notification to use “other technology”.			
If hydrostatic test is chosen, confirm effectiveness of corrosion control program.			
Assessment methods address cracks if line has known crack susceptibility.			
Protocol 2.02 Baseline Assessment Schedule	No Issue	Issue	N/A
Verify that the Baseline Assessment Plan includes a prioritized schedule in accordance with §195.452 (d).			
All segments that could affect HCAs included in the plan.			
50% of the line pipe that can affect HCAs must be scheduled for assessment prior to the compliance deadline (September 30, 2004 for Category 1 pipe and August 16, 2005 for Category 2 pipe).			
All baseline assessments of the line pipe that can affect HCAs, are scheduled to be completed prior to the compliance deadline (March 31, 2008 for Category 1 pipe, February 17, 2009 for Category 2 pipe, and date the pipeline begins operation for Category 3 pipe).			
Schedule is reasonable and achievable.			
Protocol 2.03 Risk-Based Assessment Schedule	No Issue	Issue	N/A
Verify that the prioritized schedule included in the Baseline Assessment Plan is based on the risk factors that reflect the risk conditions for each pipeline segment in accordance with §195.452 (e).			
Higher risk segments scheduled for assessment early.			
Priority based on the line specific risk factors, including those in §195.452 (e).			
Protocol 2.04 Use of Prior Assessments	No Issue	Issue	N/A
Verify that any prior assessments designated as baseline assessments are appropriate.			
Baseline assessments performed after January 1, 1996 for Category 1 pipelines have been performed using the methods prescribed in §195.452 (c) (1) (i).			
Baseline assessments performed after February 15, 1997 for Category 2 pipelines have been performed using the methods prescribed in §195.452 (c) (1) (i).			
Protocol 2.05 Updates and Revision Control	No Issue	Issue	N/A
Verify that the Integrity Management Program adequately assures that updates and revisions to the Baseline Assessment Plan are identified, justified, documented, and implemented consistent with the requirements of §195.452 (c) and (d).			
Plan revisions documented, including the reason for the revision.			
Plan updated to reflect insights learned from completed assessments & risk analysis.			
Protocol 2.06 Completed Assessments	No Issue	Issue	N/A
Verify that assessments scheduled for completion prior to the inspection were, in fact, performed and documented.			
Assessments completed as scheduled using methods specified in the plan.			
Assessment records include field activity completion dates.			

Protocol 3 - Review of Assessment Results

Protocol 3.01 Qualifications of Employees	No Issue	Issue	N/A
Verify that the operator has a formal, documented process to ensure employees who review and evaluate integrity assessment results are qualified to perform this work.			
Job description, task analysis, or other means to address education, experience, skills, and training requirements, as appropriate.			
Documentation of existing personnel skills, education, training, and experience that (1) demonstrates the individual’s qualification and proficiency, and (2) identifies additional qualification needs for those individuals that do not meet all qualification requirements.			
Plan for additional training or skills to achieve & maintain qualification.			
Protocol 3.02 ILI Vendor Specifications	No Issue	Issue	N/A
Verify that the operator assures that those responsible for conducting ILI integrity assessments (i.e., ILI tool vendors) understand their responsibilities and comply with this rule.			
Specifications for tool and services to be provided by ILI vendor.			
Vendor reporting supports immediate and 180-day discovery requirements.			
Written guidelines for interacting with ILI vendor and resolving problems and variances.			
Qualifications of ILI vendor personnel.			
Protocol 3.03 Validation of Assessment Results	No Issue	Issue	N/A
Review selected verification/calibration dig records to verify that physical pipeline data obtained from field excavations was appropriately used to validate and calibrate ILI results.			
Appropriate number and location of validation digs.			
Appropriate information collected during excavation and this data is used to validate ILI tool results.			
If an operator does not perform validation digs, review the basis for this decision.			
Protocol 3.04 Integration of Other Information with Assessment Results	No Issue	Issue	N/A
Review records documenting the operator’s review of assessment results to determine if the operator integrates and analyzes all appropriate sources of other information with the assessment data.			
Process integrates previous assessment results, CP data, ROW data, maintenance data, uncertainty of assessment results including tool tolerances, consequences to HCAs, etc.			
Documentation of analysis conclusions.			
Identification of integrity issues and potential trends.			
Protocol 3.05 Identifying and Categorizing Defects	No Issue	Issue	N/A
Verify that defects have been discovered within 180 days of completion of the assessment and that defects have been categorized in accordance with the special requirements for scheduling remediation contained in §452 (h) (4).			
Documented definition of when discovery occurs.			
Assurance that discovery takes no longer than 180 days after the assessment.			
Anomalies are properly categorized per §195.452(h).			
Documentation of actions required if discovery cannot occur in 180 days.			

Protocol 3 - Review of Assessment Results (continued)

Protocol 3.06 Documentation and Distribution of Results	No Issue	Issue	N/A
Verify that results from completed assessments were documented and distributed in accordance with procedures.			
ILI records should be retained.			
Assessment review results are distributed to those that need to know the results.			
Vendor feedback on tool performance and results.			
Protocol 3.07 Hydrostatic Pressure Testing	No Issue	Issue	N/A
Verify that hydrostatic pressure tests complied with Subpart E requirements, that test acceptance was valid, that the cause of all test failures were determined and documented, and that appropriate, timely corrective action was taken.			
Documentation of test parameters and results to verify compliance with Subpart E.			
Test procedures and records that document basis for test acceptability and validity.			
Determination of the cause of hydrostatic test failures.			
Analysis of pressure reversals.			
Protocol 3.08 Other Assessment Technologies	No Issue	Issue	N/A
For assessments using “other assessment technology,” verify that the operator’s process for evaluation of the results is adequate to identify integrity threats.			
Criteria for selection of other technology.			
Procedures that comply with industry standards, if applicable.			
Procedures to validate “other technology” results.			
Procedures that address reporting and analysis of anomalies and defects.			
Protocol 3.09 Process Formality	No Issue	Issue	N/A
Verify that the operator has documented guidance or procedures that adequately describe the process steps required to perform a detailed review of assessment results, categorize anomalies per repair criteria, and perform an integrated evaluation of assessment results using all applicable data.			
Documented procedures/guidance of sufficient detail to assure qualified personnel can implement the process.			
Documented roles and responsibilities.			
Specification of records to be produced and retention requirements.			
Means to assure quality/accuracy of integrity assessment results review.			

Protocol 4 – Remediation

Protocol 4.01 Remediation: Process	No Issue	Issue	N/A
Verify that the operator has a documented process to assure prompt action to address all anomalous conditions that could reduce a pipeline’s integrity that are discovered through the integrity assessment or information analysis.			
Preparation of a prioritized schedule for remediation of all identified repair conditions.			
Documented justification to exceed repair schedules and demonstrate that such changes will not jeopardize public safety or environmental protection.			
Notify OPS if remediation schedule can not be met and safety can not be provided through a temporary reduction in operating pressure.			
For immediate repair conditions, the operating pressure of the affected pipeline is temporarily reduced in accordance with the formula in Section 451.7 of ASME/ANSI B31.4, or the pipeline is shut down until the condition is repaired. Where pressure reduction cannot be calculated using the method of Section 451.7, the process should document the basis for determining a safe operating pressure.			
Temporary pressure reduction cannot exceed 365 days without additional remedial actions to assure the safety of the pipeline.			
Repairs comply with §195.422.			
Specification of the records to be generated during the remediation process.			
Protocol 4.02 Remediation: Implementation	No Issue	Issue	N/A
Verify that the operator has adequately implemented its remediation process and procedures to effectively remediate conditions identified through integrity assessments or information analysis.			
Prioritized schedule for remediation of anomalous conditions were prepared.			
Repairs were completed within the time frames allowed in §195.452(h).			
Schedule extensions were demonstrated not to jeopardize public safety or environmental protection.			
OPS was notified in case the schedule could not be met and safety could not be provided through a reduction in operating pressure.			
For an immediate repair condition, operating pressure was reduced or the pipeline was shutdown.			
For immediate repair conditions, temporary operating pressure was determined in accordance with the formula in Section 451.7 of ASME/ANSI B31.4 or, if not applicable, the operator provided a basis for the pressure reduction taken.			
Operating pressure was not reduced for more than 365 days without taking further remedial action to ensure safety.			
Repairs were performed in accordance with §195.422.			

Protocol 5 – Risk Analysis

Protocol 5.01 Comprehensiveness of Approach	No Issue	Issue	N/A
Verify that the operator’s process for evaluating risk requires consideration of all relevant risk categories when evaluating pipeline segment risk.			
Important risk factors related to the likelihood of failure.			
Important risk factors related to the consequences of failure.			
Integration of Segment Identification results.			
Protocol 5.02 Integration of Risk Information	No Issue	Issue	N/A
Verify that the process for evaluating risk appropriately integrates the various risk factors and other information utilized to characterize the risk of pipeline segments.			
Use of input parameters needed to adequately characterize the relevant risk factors (e.g., sufficient information to determine the potential for external corrosion).			
Technically justifiable basis for the analytical structure of any tools, models, or algorithms utilized to integrate risk information (and recognition of any limitations).			
Logical, structured, and documented processes and guidelines for any subject matter expert evaluations that are used for the integration of risk information.			
Justification for any numerical weights used in estimating measures of risk.			
Emphasis on risk to safety and environment as compared to “non-safety” risk factors such as those principally associated with business and economic risks.			
If a risk model is utilized, integration of the risk model output with any important risk factors not included in the model (for a more complete analysis of risk).			
Protocol 5.03 Risk Analysis Input Information	No Issue	Issue	N/A
Verify that adequate and appropriate data and information are input into the risk analysis process.			
Use of best available data, including the results of integrity assessments.			
Assurance of completeness and quality of input information.			
Minimizing the use of input information that is unnecessarily or excessively conservative (to avoid masking best-estimate risk insights).			
Use of sources best suited to provide whatever subjective information is used (e.g., from operator field personnel).			
Structured process for obtaining subjective information (e.g., using forms, surveys, interviews, quality checks, etc.) to ensure consistency of data.			
Use of the operator’s and industry’s operating experience data where applicable.			
Protocol 5.04 Pipeline Subdividing for Risk Analysis	No Issue	Issue	N/A
For the purposes of evaluating risk, verify that the pipeline system is sufficiently subdivided such that the analysis provides appropriate results, insights, and conclusions.			
Subdivision units with sufficiently uniform risk characteristics such that results are meaningful and representative when comparing risk at different locations.			
Appropriate application of risk factors to a pipeline subdivision unit when the factors differ across the unit.			
Method for relating the subdivision of the pipeline used in risk analysis to: (1) the sectioning of the pipeline defined for the operator’s integrity assessments, and (2) the segments that can affect high consequence areas.			
Protocol 5.05 Risk Analysis Results	No Issue	Issue	N/A
Verify that analysis results are useful for drawing conclusions and insights for Integrity Management decision making.			
Identification of the pipeline locations having the highest estimated risk.			
Identification of the most important risk drivers and the underlying causes.			
Ability to clearly differentiate the relative risks of different pipeline segments.			
Means to evaluate and reduce major sources of uncertainties.			

Protocol 5 – Risk Analysis (continued)

Protocol 5.06 Risk Analysis for Facilities	No Issue	Issue	N/A
Verify that technically adequate approaches are used to identify and evaluate the risks of facilities that can affect HCAs.			
Documentation of the approach to evaluate risk of facilities that could affect HCAs.			
Results that facilitate the determination of measures to reduce facility risks.			
Protocol 5.07 Process Formality and Implementation	No Issue	Issue	N/A
Verify that the operator has documented guidance or procedures that adequately describe the process steps required to perform an evaluation of risk.			
Documented guidance of sufficient detail to assure qualified personnel can implement the process.			
Documented roles and responsibilities.			
Training requirements for individuals with key risk analysis responsibilities.			
Specification of records to be produced and retention requirements.			
Means to assure quality/accuracy and reasonableness of risk analysis results.			
Communication of results and application of results in operator decision processes.			
Protocol 5.08 Risk Analysis Update	No Issue	Issue	N/A
Verify that the process for evaluating risk includes steps to review and update assumptions, input information and supporting tools as necessary.			
Analysis reflects the current pipeline configuration and operation.			
Analysis reflects the current pipeline material condition and maintenance/surveillance program activities.			
Analysis reflects up to date consequence characteristics in the vicinity of the pipeline (e.g., population growth along pipeline corridor).			
Documentation of changes to the risk evaluation process.			
Periodic review and update of risk analysis tools and methods.			

Protocol 6 – Preventive and Mitigative Actions

Protocol 6.01 Preventive and Mitigative Actions Considered	No Issue	Issue	N/A
Verify that the process to identify additional preventive and mitigative actions includes consideration of risk and covers a broad spectrum of alternatives.			
Identification of the most significant location-specific risk contributors.			
Consideration of broad spectrum of preventive and mitigative actions including those listed in §195.452(i)(1).			
Review of the effectiveness of current preventive and mitigative actions.			
Consideration of both work processes (e.g., procedures/operations) and physical design modifications.			
Consideration of additional preventive and mitigative actions for non-pipe facilities.			
Protocol 6.02 Risk Analysis Application	No Issue	Issue	N/A
Verify that the process evaluates the effects of potential actions on reducing the likelihood and consequences of releases.			
Consideration of all risk factors required by §195.452(i)(2).			
Assurance that the risk analysis is up to date prior to use.			
Protocol 6.03 Decision Basis	No Issue	Issue	N/A
Verify that the process provides an adequate basis for deciding which candidate preventive and mitigative actions are implemented.			
Systematic decision-making process that includes risk analysis results.			
Priority for additional actions on the highest risk lines and facilities.			
Basis for how much benefit (e.g., risk reduction, etc.) is necessary for additional actions to be implemented.			
Documentation of candidate preventive and mitigative measures that have been considered, including those that have not been implemented.			
Implementation of approved additional actions as previously planned and scheduled.			
Protocol 6.04 Process Formality and Implementation	No Issue	Issue	N/A
Verify that the operator has documented guidance that adequately describes the steps to identify, evaluate, and implement preventive and mitigative measures to protect HCAs.			
Includes all major additional preventive and mitigative evaluation areas (general additional measures, Leak Detection, and EFRDs).			
Evaluation of additional preventive and mitigative measures in a timely manner.			
Technical justification or validation of key assumptions.			
Means to assure quality/accuracy and reasonableness of preventive/mitigative action decisions.			
Incorporation of pipeline and facility changes into any updates to preventive and mitigative evaluations.			
Documented roles and responsibilities.			
Specification of records to be generated and the associated retention period.			
Periodic updates to the evaluation of preventive and mitigative measures.			
Protocol 6.05 Installed Leak Detection System Information	No Issue	Issue	N/A
Identify installed leak detection capability on pipelines and facilities that can affect an HCA.			
Note type of system, frequency of monitoring, and actions required upon indication of a suspect condition (e.g., CPM, transient conditions, etc.).			

Protocol 6 – Preventive and Mitigative Actions (continued)

Protocol 6.06 Leak Detection Capability Evaluation Factors	No Issue	Issue	N/A
Verify that the process for evaluating leak detection capability adequately considers all of the §195.452(i)(3)-required factors and other relevant factors.			
Evaluation considers the required set of factors, plus other factors that may be relevant to the evaluation of the operator’s leak detection capability.			
Consideration of enhancements to existing leak detection capability (e.g., increasing the monitoring frequency of existing techniques).			
Consistent application of a risk-based decision-making process for leak detection enhancements, as described in Protocol question 6.03.			
Evaluation of the operational availability and reliability of the leak detection systems, and the operator’s process to manage system failures.			
Protocol 6.07 Operator Actions and Reactions	No Issue	Issue	N/A
Verify that the process adequately considers and documents operator actions and reactions associated with leak detection systems.			
Documented basis for all operator reactions credited in the leak detection evaluation.			
Measures applied to assure that required actions are accomplished and prudently restored if varying modes of pipeline operations require controllers or other personnel to engage/activate or mute/disable certain attributes of the overall leak detection capabilities.			
Integration of emergency response procedures and incident mitigation plans with associated leak detection indications.			
Adequate guidance to assure that operating personnel have the authority and responsibility to initiate reaction measures and to shutdown the pipeline if warranted.			
Assurance that supervision is always promptly available for contact if procedures require that operating personnel contact supervision prior to initiating response actions and/or shutting down the pipeline.			
Protocol 6.08 EFRD Need Evaluation Factors	No Issue	Issue	N/A
Verify that the process for evaluating the need for additional EFRDs adequately considers all of the §195.452(i)(4)-required factors and other relevant factors.			
Consideration of required §195.452(i)(4) evaluation factors, including the benefits of reduced consequences expected due to reducing spill volume.			
Consideration of any additional relevant line-specific factors.			
Consideration of risk analysis results (e.g., identification of highest risk segments).			
Consideration of system detection times, operator response times, remotely controlled valve response characteristics, and system isolation time assessments, as applicable.			
Evaluation of the need for additional EFRDs to respond to releases during transient conditions.			
Consideration of the potential effects of additional EFRDs, including a) conducting proper valve sequencing during intended EFRD activations, b) the operator’s ability to promptly detect and react to inadvertent EFRD activations, and c) possible elevated pressures caused by transient conditions during EFRD activations.			
Consistent application of a risk-based decision-making process for additional EFRDs, as described in Protocol question 6.03.			

Protocol 7 - Continual Process of Evaluation and Assessment

Protocol 7.01 Periodic Evaluation and Assessment Intervals	No Issue	Issue	N/A
Verify that the operator has an adequate process for performing periodic integrity evaluations and determining re-assessment intervals for pipeline segments that could affect HCAs.			
Periodic evaluation of pipeline integrity to update the understanding of pipe condition and location-specific integrity threats.			
Consideration of appropriate and updated pipeline-specific risk factors.			
Each segment is re-assessed on a schedule not to exceed five years.			
Protocol 7.02 Assessment Methods	No Issue	Issue	N/A
Verify that the assessment methods shown in the continual assessment plan appear to be appropriate for the pipeline specific conditions and risk factors being evaluated.			
Appropriate assessment methods for segment-specific integrity issues and risks.			
Consideration of completed assessment results.			
ILI tools must be capable of detecting corrosion and deformation anomalies.			
Assessment methods for all low-frequency ERW pipe or lap-welded pipe are capable of assessing seam integrity unless an engineering analysis shows that the pipe is not susceptible to longitudinal seam failure.			
If technology other than pressure testing or in-line inspection is planned, notification to OPS at least 90 days before conducting the assessment is required.			
Protocol 7.03 Assessment Interval Variances	No Issue	Issue	N/A
Verify that the operator's IM Program includes provisions for submitting notifications to OPS for assessment intervals longer than 5-years.			
1. Engineering Justification Notifications <ul style="list-style-type: none"> • 270 days before the end of the five year re-assessment deadline; • Describe use of other technology such as external monitoring to provide equivalent understanding of the condition of the line pipe; and • Propose an alternate interval. 			
2. Unavailable Technology Notifications <ul style="list-style-type: none"> • 180 days before the end of the five year re-assessment deadline; • Demonstrate interim actions to evaluate integrity of pipeline segment; and • Provide an estimate of when assessment can be completed. 			
Protocol 7.04 Process Formality	No Issue	Issue	N/A
Verify that the operator has documented guidance that adequately describes the process steps required to provide continual evaluation and assessment of pipeline integrity.			
Documented guidance/procedures of sufficient detail that qualified personnel can implement the process.			
Documented roles and responsibilities.			
Specification of records to be produced and retention requirements.			
Means to assure quality/accuracy of results.			
Protocol 7.05 Process Implementation	No Issue	Issue	N/A
Verify that periodic integrity evaluation and the determination of future assessment methods and intervals are being performed as required by the rule, and are consistent with the operator's program documentation.			
Review results of periodic integrity evaluations and technical basis for selection of integrity assessment methods and intervals.			
Timely determination of future assessment methods and intervals.			
Documentation that re-assessments were completed as scheduled.			
Technical justification and other records to support any notifications for variance from the 5-year re-assessment interval.			

Protocol 8 - Program Evaluation

Protocol 8.01 Program Evaluation Approach	No Issue	Issue	N/A
Verify that the operator’s IM Program includes a process for performing IM Program evaluations as required in §195.452 (f) (7).			
Use of periodic self-assessments, internal/external audits, management reviews, or other self-critical evaluations to assess program effectiveness.			
Description of the scope, objectives, and frequency of periodic evaluations.			
Clear performance goals to measure the effectiveness of key integrity activities.			
Assignment of responsibility for implementing required actions.			
Records generated for the periodic IM Program Evaluation (e.g., records of completed audits, disposition of recommendations, etc.).			
Review and follow-up of program evaluation results, findings, and recommendations, etc., by appropriate company managers.			
Protocol 8.02 Performance Metrics	No Issue	Issue	N/A
Verify that the operator has an adequate set of performance metrics to provide meaningful measure of the IM Program performance and effectiveness in reducing risk.			
Description of the type and frequency of performance metrics to be used.			
Overall program implementation metrics.			
Threat-specific metrics.			
Defined performance goals.			
Bench-marking company performance using data from outside the company.			
Trending of equipment or material failures and “near-misses.”			
Protocol 8.03 Communication of Evaluation Results	No Issue	Issue	N/A
Verify that the operator communicates goals and results of the IM Program evaluations to managers and workers involved with IM Program implementation.			
Periodic reports distributed to responsible field and headquarters managers.			
Communication of performance evaluation results, including the most important integrity issues and actions taken to address these issues.			
Management follow-up and actions taken to address significant integrity issues.			
Protocol 8.04 Root Cause Analysis Process	No Issue	Issue	N/A
Verify that the operator has an effective root cause analysis and a lessons learned program.			
Rigorous analyses of problems/incidents that identify human factors issues, management systems problems, generic component or process failures.			
Identification of recommendations & corrective actions; and tracking of actions to closure.			
Communication of lessons learned from root cause analysis to company employees.			
Identification of positive trends and system-wide implementation of good practices.			
Protocol 8.05 Process Implementation	No Issue	Issue	N/A
Verify that the process for evaluating IM Program performance is being implemented as specified by the program documents.			
Data collection and analyses have been implemented.			
Trends and/or insights are being identified.			
Self-assessments and/or management audits have been completed.			
Performance problems, positive trends, and improvements have been identified.			
Specified actions have been implemented or scheduled for implementation.			
Reviews have been performed to ascertain the effectiveness of risk control decisions.			
Documentation to demonstrate that IM Program performance has been communicated to company personnel responsible for IM Program implementation			