Asset Condition Reviewer

Continued discussion of conceptual framework

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Asset Condition (AC) Reviewer

Proposed Effective Date: January 1, 2027

- The ISO is developing a new function to provide oversight of Asset Condition Projects (ACPs) of the Participating Transmission Owners (PTOs)
  - ISO is supportive of states' and stakeholders' request that it take on this advisory role and develop a robust process for additional, independent review of ACP proposals
- Changes to the Transmission Operating Agreement (TOA) and ISO's Transmission, Markets, and Services Tariff (Tariff), including the Open Access Transmission Tariff (OATT), are required to establish this new function*
- Today's presentation continues discussion on the conceptual framework for this new role
  - Additional background on the conceptual framework was provided at the January TC

* Other impacted documents may also be identified over the course of this effort

Proposal: Primary Functions

- The Asset Condition (AC) Reviewer is proposed to have three primary categories of activities:

Reporting on TO asset management function, program development, and standardization

Individual project-by-project reviews and program reviews

Annual/regular/ periodic regional reporting

PROJECT AND PROGRAM DESCRIPTIONS

Asset Condition Project Description

- Projects that replace or modify existing TO assets to resolve damage, end-of-life, or obsolescence in order to minimize risk of failure based on results of condition assessments, or upgrade infrastructure to ensure that existing assets meet required regulatory compliance requirements
- Examples:
  - Transmission tower replacements due to documented structural issues
  - Transformer replacement due to documented degradation based on set of industry accepted criteria
  - North American Electric Reliability Corporation (NERC) CIP-014 physical security upgrades
- For the AC Reviewer, the proposed ACP definition excludes:
  - Repairs*
  - Maintenance
  - Adding new transmission lines

*Note that a TO may be asked to document why a given issue cannot be addressed as a repair

Asset Condition Programs Description

- Refers to a uniform solution for all assets included in the TO's program, based on standardized engineering, condition, and performance criteria developed by the TO
- Addresses the same need across multiple included assets, such that program inclusion reflects a consistent and demonstrable condition-based justification (*e.g.* aged, damaged, or obsolete equipment)
- Implements a common replacement or modification approach appropriate for the identified condition-based need, including standardized equipment families, design packages, or construction methods

Asset Condition Programs Description (cont'd)

- Examples of potential ACP programs include, but are not limited to, condition-driven replacements of:
  - Relay fleets with uniform end-of-life or obsolescence indicators
  - Breaker populations with systemic failure modes or parts unavailability
  - Insulator assemblies with demonstrated manufacturer-specific deterioration patterns
  - Shield wire populations replaced due to end-of-life condition

ASSET MANAGEMENT FUNCTION REVIEW

TO Asset Management Function Review

Reporting on TO asset management function, program development, and standardization

- The AC Reviewer will identify cases of inconsistency between TO practices and general industry practice, and will identify opportunities for standardization
- TOs will be asked to provide documents outlining:
  - Inventory and condition assessments
  - Periodicity and methods of monitoring and inspection
  - Prioritization and sequencing of inspections – assessment of relative risk
  - Approaches used in reviews of inspection results
  - General criteria for identifying when a need must be addressed
  - Project prioritization criteria in the case of multiple projects (including condition, risk, cost-benefit, and strategic importance)
  - Life-cycle cost analysis results
  - Asset historical performance

Examples of Asset Management Function Review Questions

Reporting on TO asset management function, program development, and standardization

- The AC Reviewer will look for the following:
  - Clearly documented asset management strategies
  - Periodic review of asset management policy documents to maintain accuracy and relevance
  - Asset management practices that are aligned with industry standards
  - Consistent application of asset management standards
  - Existence of a comprehensive asset inventory
  - Usage of asset condition metrics
  - Consistent use of risk assessment criteria, tools, and processes
  - Documented process to address emergent replacements

Asset Management Review Timing and Development

Reporting on TO asset management function, program development, and standardization

- The AC Reviewer does not propose to have completed all management function reviews and standardization efforts on day one (*i.e.*, January 2027)
- Rather, the review and standardization efforts will be ongoing activities where appropriate standards will be established over time
  - The AC Reviewer will communicate with stakeholders at the PAC regarding the progress of these efforts and will seek input regarding prioritization and approach

INDIVIDUAL PROJECT AND PROGRAMS REVIEW

Individual Project Reviews

Individual project-by-project reviews and programs reviews

- The review will begin when the TO identifies a project that meets the Tariff definition/criteria
  - Engagement will be early in the process to allow time for course correction based on feedback from the AC Reviewer, states, and stakeholders
- As part of this review, the AC Reviewer will:
  - Determine whether the TO sufficiently supported the need
  - Determine whether the TO sufficiently explored, developed, and established alternatives
  - Provide an opinion on the preferred alternative
- Timelines for each phase are being assessed
  - The AC Reviewer is using the Interim Asset Condition Review process to refine initial assumptions

Applicability of Review

Individual project-by-project reviews and programs reviews

- An ACP would be subject to the AC Reviewer process when the proponent forecasts the proposed project to have a PTF cost of greater than or equal to $30M-$50M on an individual line or at a single station/substation over a period of five years or less
  - For ACPs that have a mix of PTF and non-PTF costs, the determining threshold is based on the PTF cost of the project
- Programs that are expected to have aggregated costs greater than or equal to $30M-$50M on several lines and/or at several station/substations over a period of five years or less will also be subject to the AC Reviewer process

Threshold Requirements

Individual project-by-project reviews and programs reviews

- The threshold will be reevaluated periodically based on impacts of major cost change drivers such as inflation, supply chain issues, etc.
- There will be periodic reviews of TO-provided project forecasts to identify projects that should have been captured in the AC Reviewer process
  - As an additional safeguard, ACPs greater than or equal to $5M on an individual line or station/substation are presented to PAC and are captured on the Asset Condition Project List
- The ISO is seeking feedback on the proposed $30-$50M range and on which guardrails to implement for adherence to threshold rules by March 6, 2026

Review Process Overview

Individual project-by-project reviews and programs reviews

- TO identifies needs and provides information
- AC Reviewer will assess the extent to which the TO has confirmed the need for intervention
- AC Reviewer and TO provide separate presentations to PAC

Solution and Alternatives Review

- TO develops solution and alternatives with costs
- AC Reviewer provides feedback
- AC Reviewer and TO provide separate presentations to PAC

Reporting

- TO drafts final report on needs and solutions
- AC Reviewer drafts final report with opinion on project needs and solutions
- Final reports from TO and from AC Reviewer get posted after PAC feedback

Needs Review – Information Collection

Individual project-by-project reviews and programs reviews

- **Initiation of Review Process**
  - The TO identifies ACP or program that meets review applicability threshold
  - The AC Reviewer notifies the PAC of the start of the review process
- **Documentation and Information Gathering**
  - The TO collects and provides all applicable technical data, condition assessments, maintenance history, and risk analysis to the AC Reviewer to support the review process
- **Documentation Review and Gap Identification**
  - The AC Reviewer evaluates submitted data for completeness and may request additional information to fill gaps

Needs Review – Needs Analysis and Reporting

Individual project-by-project reviews and programs reviews

- **Preliminary Needs Analysis**
  - The AC Reviewer evaluates initial needs identified by the TO to determine whether TO sufficiently supported the need (e.g., assess validity of need, urgency, and accuracy)
- **PAC Presentation and Engagement**
  - The TO presents its request and the AC Reviewer presents its review and opinion to the PAC; providing information to facilitate robust, informed stakeholder engagement
- **Stakeholder Visibility and Input**
  - PAC members provide written feedback
    - This may prompt revisiting previous steps

Solutions Development

Individual project-by-project reviews and programs reviews

- **Developing Potential Solutions**
  - The TO submits solutions including replacement, refurbishment, reconfiguration, or mitigation strategies based on asset needs
  - The TO develops cost estimates for leading solutions & alternatives that incorporate engineering, procurement, and construction factors to compare alternatives fairly and effectively
- **Independent Evaluation by AC Reviewer**
  - The AC Reviewer evaluates feasibility, benefits, and future risks against appropriate industry standards and good utility practices

Alternatives Review

Individual project-by-project reviews and programs reviews

- **TO Analysis**
  - Based on/in response to AC Reviewer feedback, the TO clarifies their recommended solution with costs
- **AC Reviewer Review**
  - The AC Reviewer assesses the recommendation
- **PAC Presentation and Feedback**
  - The TO presents their report on the preferred solution and alternatives considered
  - The AC Reviewer presents its report on whether TO sufficiently explored, developed, and established alternatives, as well as provide an opinion on the TO's selected preferred alternatives
- **Refinement**
  - TO assesses stakeholder feedback to refine solutions before submittal of final documentation

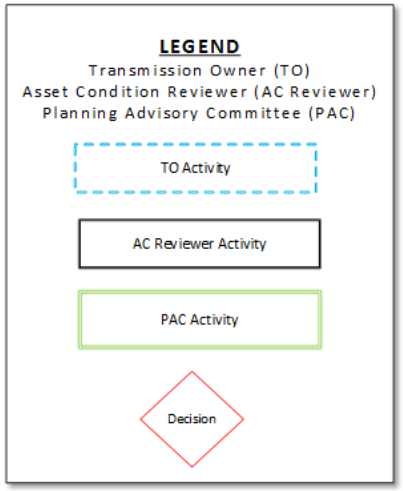
Final Opinion and Reporting (For Individual Projects and Programs)

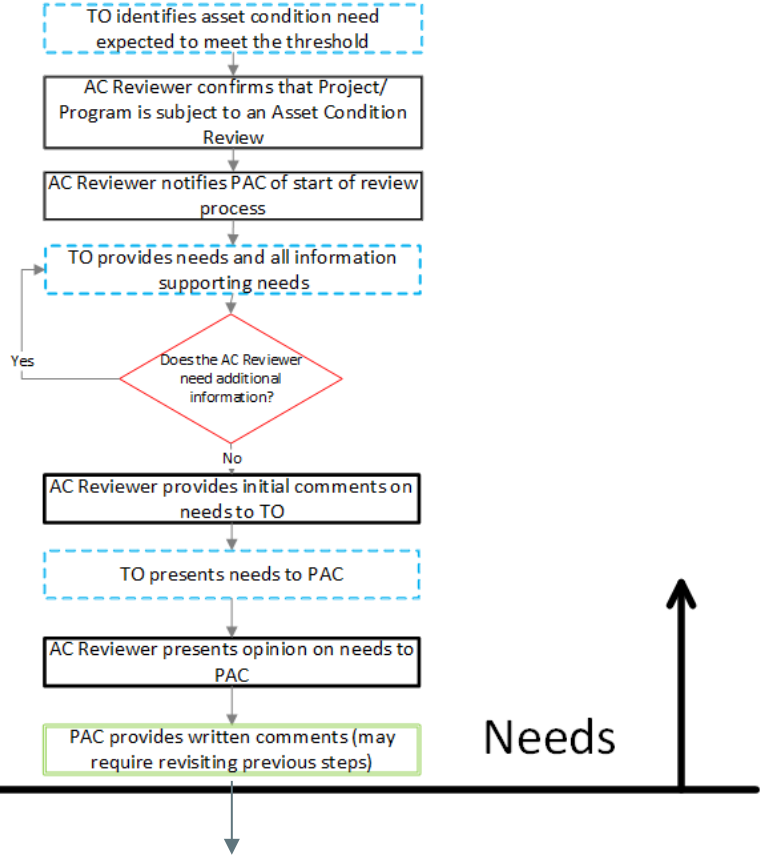
Individual project-by-project reviews and programs reviews

- **Report Drafting**
  - The TO and AC Reviewer draft detailed reports covering needs and solution evaluations
- **Stakeholder Comment Opportunity**
  - Draft reports are published for the PAC to provide written feedback
- **Consideration of Feedback**
  - The TO and AC Reviewer revise reports accounting for comments as appropriate
- **Public Posting**
  - The AC Reviewer publicly posts final reports
  - Posting of final reports marks review cycle completion

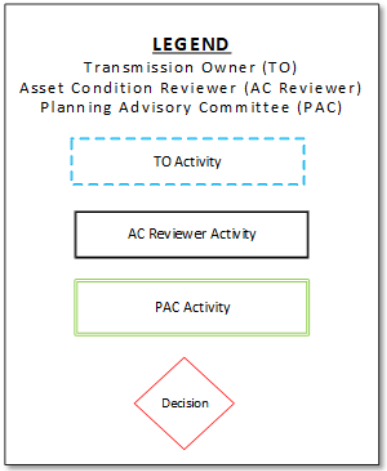
Workflow

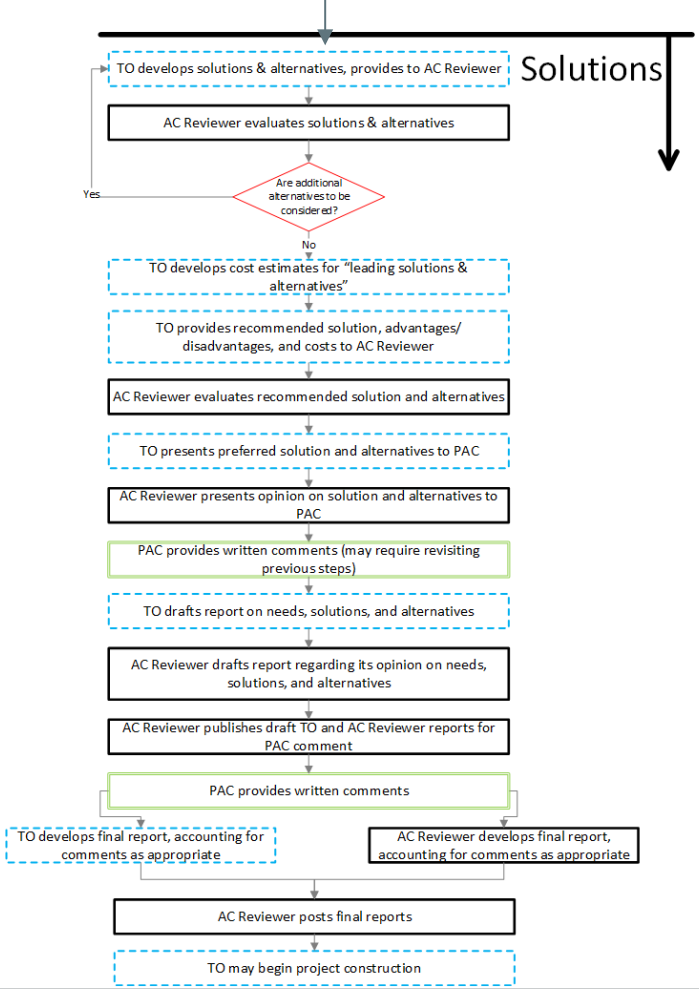
Individual project-by-project reviews and programs reviews





Workflow (cont'd)





Individual project-by-project reviews and programs reviews

Ongoing Reporting

Annual/regular/ periodic regional reporting

- The AC Reviewer will provide ongoing reporting to the PAC covering items such as the following:
  - Discussion of projects and programs reviewed during the year
  - Forecast of projects to be forthcoming in the following year
  - Commentary on overall regional status
  - Commentary on longer-term expectation for upcoming projects
  - Commentary on TO asset management programs & standardization
  - Observations on industry trends: equipment, codes, supply chain, etc.
  - Recommendations for proposed process improvements
- The first annual report would be scheduled for Q1 2028

Role of the Reliability Committee (RC)

- The RC's role is not proposed to change
  - The RC will continue to review and provide recommendation on Proposed Plan Applications (PPAs) and Transmission Cost Allocations (TCAs)
- The PAC is expected to be the forum for stakeholder review and discussion of ACP proposals

PRINCIPLES, OBJECTIVES, AND STRUCTURE

AC Reviewer Permanent Function

Key Principles and Objectives

- Scrutinize the TOs' asset management functions and project proposals
  - Ensuring that the technical need for equipment replacement has been sufficiently demonstrated by the TO
  - Ensuring that cost-effectiveness is an integral part of the TO's solution development
  - Providing clear, comprehensive, and actionable reporting in a timely manner
- Maintain impartiality from all interested parties, provide technical competence, and build trust and credibility by sharing information clearly and completely
- Identify inconsistencies and inefficiencies
  - Opportunities for standardization and consistency, and clear understanding of remaining differences

Technical Need and Cost-Effectiveness

Confirming the Technical Need (replace equipment when there is a demonstrated need to do so)

Preliminary Needs Analysis

The AC Reviewer evaluates initial needs identified by the TO to determine whether TO sufficiently supported the need (*e.g.*, assess validity of need, urgency, and accuracy)

PAC Presentation and Engagement

The TO presents its request and AC Reviewer presents its review and opinion to the PAC; providing information to facilitate robust, informed stakeholder engagement

Stakeholder Visibility and Input

PAC members provide written feedback; This may prompt revisiting previous steps

Arriving at Cost-Effective Solutions

The AC Reviewer will identify cases of inconsistency between TO practices and general industry practice, and will identify opportunities for standardization

Developing Potential Solutions

The TO submits solutions including replacement, refurbishment, reconfiguration, or mitigation strategies based on asset needs. The TO develops cost estimates for leading solutions & alternatives that incorporate engineering, procurement, and construction factors to compare alternatives fairly and effectively.

Independent Evaluation by AC Reviewer

The AC Reviewer evaluates feasibility, benefits, and future risks against appropriate industry standards and good utility practices

The Importance of an Efficient Planning Process

- Evolving industry trends underscore the criticality of an agile and responsive system planning process
  - Policy changes that affect the pace of load growth and the likelihood of different resource additions
  - Potential introduction of new large loads such as data centers
  - Changing resource mix and evolving system performance needs
    - Accounting for inverter-based resources
  - Major process changes for ongoing activities such as interconnection and long-term planning

Process Efficiency

- A new department within System Planning
  - Enables future coordination with other planning activities, such as right-sizing, as identified by many stakeholders
  - Leverages existing capabilities to achieve a quick start-up of the new function
  - Best enables broad view of all planning projects to ensure efficiencies (*e.g.*, reliability and public policy projects) and responsiveness

Independence and Impartiality

- The ISO considers its independence to be one of its most critically important characteristics
  - The ISO intends to implement the AC Reviewer impartially from all interested parties
- The ISO already conducts the regional expansion planning process in an open and independent manner
  - For a time, several reliability projects were identified to catch up from period of underinvestment and changes in system usage
    - Recently, the number of incremental reliability projects has reduced considerably – as demand growth has also slowed

Regular Board Reporting

- The AC Reviewer will present directly to the ISO Board of Directors on the implementation and outcomes of the function
  - Will ensure ongoing Board oversight of management (*e.g.*, regularly-scheduled reports provided directly to the System Planning and Reliability Committee of the Board)

Inefficiency of a Separate Structure

- A separate AC Reviewer structure will introduce redundancies and inefficiencies
- The ISO's Internal Market Monitor reviews the actions of the marketplace and the performance of the ISO
  - Market offers are largely confidential and cannot be shared publicly – the AC Reviewer intends to reveal as much information as possible, publicly through the PAC
    - Sharing information clearly and completely to build trust and credibility is a key rationale for conceiving the AC Reviewer
  - The AC Reviewer is reviewing the activities of the TOs – the AC Reviewer is not reviewing the actions of the ISO, as the ISO is not the entity responsible for asset condition planning and solution development
- The roles envisaged in the ISO's acceptance do not require a separate function
  - In particular, the AC Reviewer function will:
    - Be advisory and will not make decisions on whether a project will proceed
    - Not be a petitionary party in a regulatory or siting proceeding
    - Not make legal findings or issue prudency opinions

Reminder – ISO as the New England AC Reviewer

- The ISO has agreed to take on this role, subject to the following limitations, which have been accepted by all New England TOs and the states:
  - The TOs will indemnify the ISO for any liability related to the ISO's reviewer role on ACPs, except for the ISO's gross negligence or willful misconduct;
  - The "Asset Condition Reviewer" role is advisory. It will not make decisions about whether to proceed with specific ACPs, nor will it be the petitioning party in any local, state, or federal regulatory or siting proceeding concerning an ACP; and
  - The "Asset Condition Reviewer" will not make a legal finding on or issue an opinion on the question of whether the costs of any given ACP are prudent

Summary of Objectives and Guardrails

- Clear and comprehensive rules, criteria, and reporting
  - Need to replace equipment is confirmed
  - Cost-effectiveness is a considered part of solution development
- Open presentation and feedback with the Planning Advisory Committee
  - Ongoing process improvement
- Transparent identification of inconsistencies between TOs
  - Drive towards standardization
- Regular reporting to the Board

Conclusion

- The ISO is developing the AC Reviewer function to bring greater visibility, consistency, and regional confidence to TOs' ACP submissions so participants have the information needed for their roles and responsibilities
- The updates shared today reflect stakeholder input on definitions, thresholds, and the end-to-end review process
- By March 6, 2026, stakeholders are encouraged to provide feedback on the proposed $30-$50M range and on which guardrails to implement for adherence to threshold rules
- The ISO will continue refining the proposal and preparing necessary TOA and Tariff changes over the coming months
  - Initial TOA and Tariff revisions are expected to be presented at the March TC meeting
  - Pending stakeholder support and FERC approval, the new AC Reviewer function is targeted to begin in January 2027
- The ISO is looking forward to continued feedback as the proposal develops

Stakeholder Schedule

Stakeholder Committee and Date	Scheduled Project Milestone
Transmission Committee January 21, 2026*	Introduction to conceptual framework and incorporation of stakeholder feedback received to date
Transmission Committee February 24, 2026	Continued discussion of conceptual framework
Transmission Committee March 18, 2026	Refinements to conceptual framework and introduction to TOA and Tariff redlines
Transmission Committee April 21, 2026	Continued review of incremental proposal adjustments and/or TOA and Tariff redlines and introduction of conceptual stakeholder amendments
Transmission Committee May 14, 2026	Continued review of incremental proposal adjustments and/or TOA and Tariff redlines and introduction of stakeholder amendment redlines
Transmission Committee June 24, 2026	Vote on ISO proposal and potential amendments
Participants Committee August 6, 2026**	Vote on ISO proposal and potential amendments

* Progress updates will be provided to the PAC in January and July

** PTO AC and B&F action will be required ahead of the PC vote and FERC filing

Questions

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