

Extreme Weather

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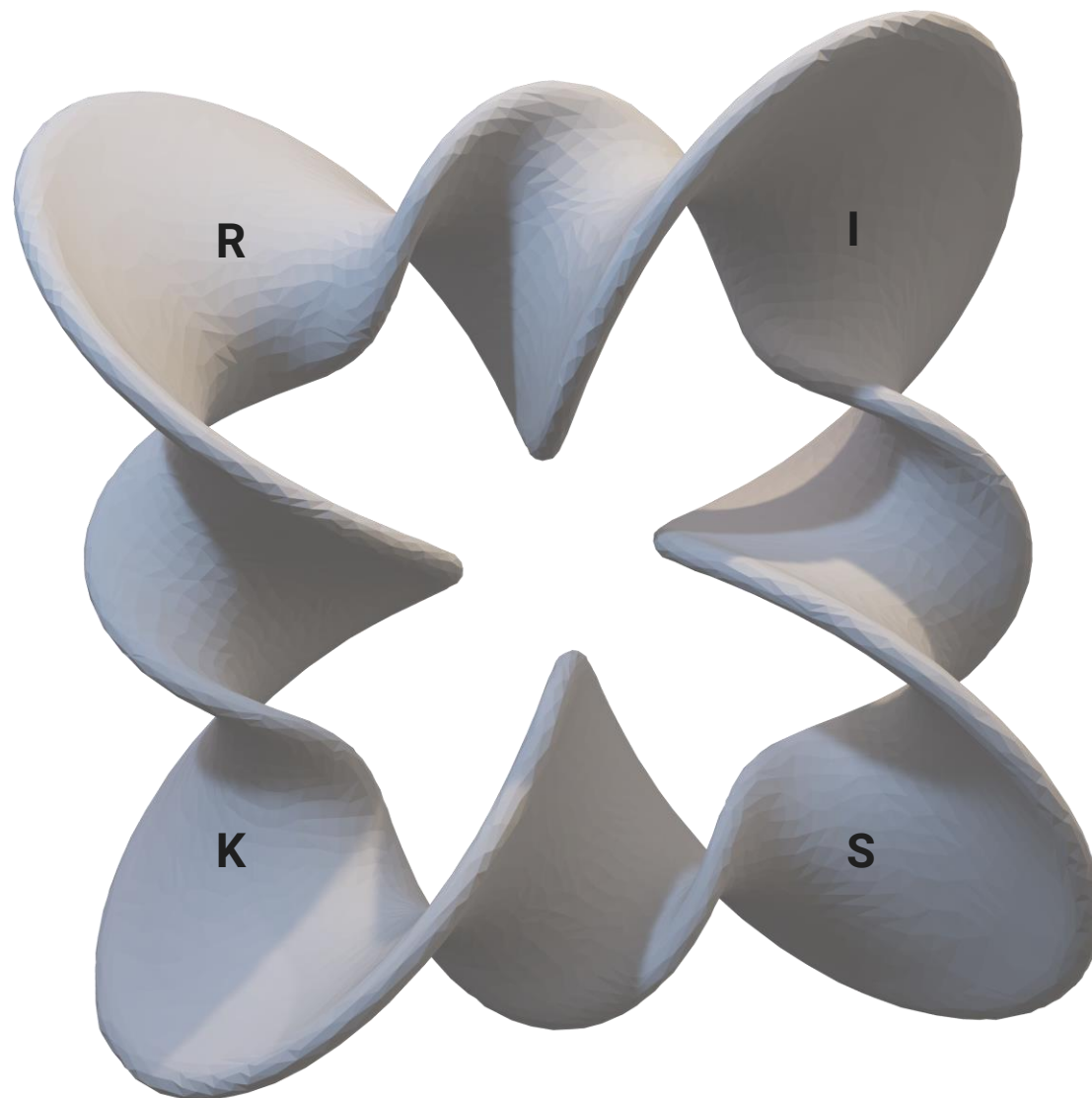
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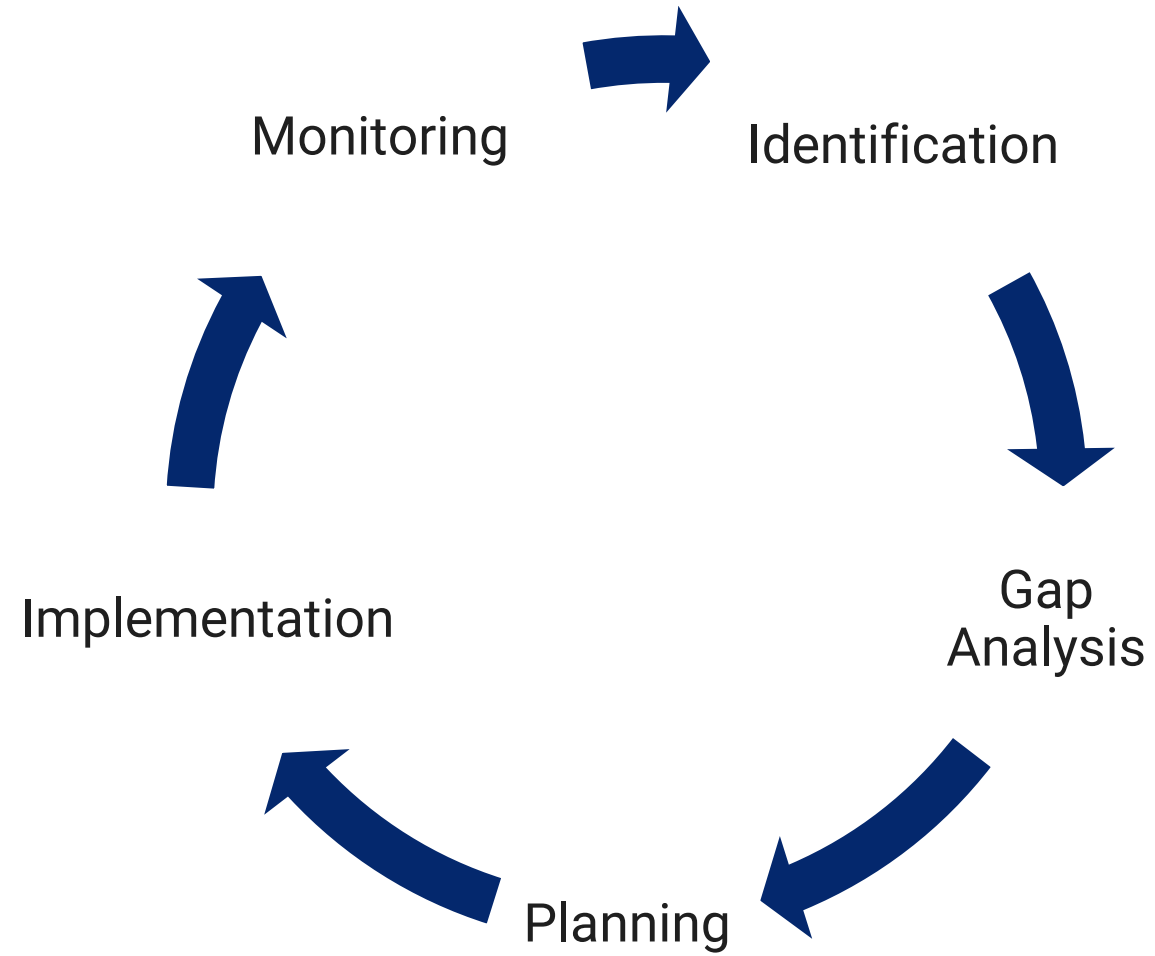
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**Electric Reliability
& Security for the West**

October 14, 2025



Bing Videos





What is the most valuable tool the industry has to mitigate risk?



**What is the most effective tool
industry has to mitigate risk?**

Risks

	2011 Event	2014 Event	2018 Event	2021 Event	2022 Event
Significant levels of incremental unplanned electric generating unit losses with top causes found to be mechanical/electrical, freezing, and fuel issues.	✓	✓	✓	✓	✓
Significant natural gas production decreases occurred, with some areas of the country more severely affected.	✓			✓	✓
Short-range forecasts of peak electricity demands were less than actual demands for some BAs in event area	✓		✓	✓	✓

Implementation of Mitigation

- Outreach (Industry, ERO Enterprise)
- Programs
- Small Group Advisory Sessions (SGAS)
- Compliance Guidelines (PG/IG)
- Reliability Guidelines
- Reliability Standards
- Technical Conferences
- White Papers
- Technical Committees
- Enforcement
- Lessons Learned
- Others



WECC Assurance Program

- Why have one?
- What is assurance? Confidence of mind or manner.
- What information do we have?
- What achievements have others made?
 - ReliabilityFirst [Assist Visits](#)
 - MRO [Generator Winterization Program](#)
 - Texas RE



WECC has interacted with 35+ entities to date

Program Approach



Charter

- Purpose
- Responsibilities
- Team composition
- Leadership
- Meetings
- Reporting



Entity Selection Work Instructions

- Risk attributes
- Data sources
- Time frames
- Criteria



Proposal

- Purpose
- Reasons for program involvement
- Scope of program/advisory team
- Program process
- Documentation/follow-up
- Document/information exchange



Communication Strategy and Materials

- Individualized
- Collective
- Media platform selection
- Physical visits
- Develop supporting materials
 - Feedback forms
 - Walkdown checklists
 - Risk attribute primers
- Tracking tools & reporting

Engagement with Entities

Why me?

- Identification of risks requiring better understanding interconnection-wide;
- Risk impact on the Western Interconnection (both collectively and individually);
- Need for development and identification of best practices or effective internal controls;
- Newly registered entities or those planning to register soon;
- Concerns about inherent risks and obligations for identified risks;
- Mitigation plan uncertainties noted during outreach activities;
- Confusion over the applicability of a Standard or Requirement to a registered entity's functions;
- Development of an understanding of expectations (e.g., Utility Commissions); and
- Guidance on general readiness.
- Opportunity to discuss practices that are working well.

Next Steps

- Review Request for Information—Sent to ~20 entities
- Follow-up (as needed)
 - Email
 - Webex or Teams meeting
 - Site visits
- Individualized feedback provided
- Update [Interconnection Document](#)
- National document being considered

Note: the program is designed to approach any risks and will be used for other high-priority risks in the future

Program Support

- Executive Sponsor
- Team Leads—Entity Monitoring, Operations Analysis, Stakeholder Engagement
- Team Members—Entity Monitoring, Operations Analysis, Stakeholder Engagement, Oversight Planning, Enforcement Mitigation, Registration and Certification
- Advisory Team—Registered Entities (RC, GO), Regional Entities, State Utility Commissions
- The Advisory Team will provide guidance, input, and objective feedback on the program, its execution, and value proposition for WECC, registered entities, and the Western Interconnection community



Would you be interested in being involved?

Small Group Advisory Sessions (SGAS)

- Small Group Advisory Sessions
 - 2025 (August 18–22, 2025)
 - [2024 FAQ](#)
 - [2023 FAQ](#)



Should there be another SGAS?

Compliance Guidance

- Compliance Guidance Policy (2015)
 - Implementation Guidance
 - Examples of implementing a Standard
 - [Project 2024-03 Drafting Team/NAGF](#) Determining Extreme Cold Weather Temperature
- Practice Guides
 - Direction to CMEP staff on approaches
 - [Cold Weather Preparedness](#)

- What topics would be good subjects for Compliance Guidance with respect to Extreme Weather?

Standards (Operations)

- [Project 2013-01 Cold Weather](#)—Did not get past Standards Authorization Request (SAR) stage
- [Project 2019-06 Cold Weather](#)
 - EOP-011-2, IRO-010-4, and TOP-003-5 (Effective 4/1/2023)
- [Project 2021-07 Extreme Cold Weather](#)
 - Address recommendations from [February 2021 Cold Weather Report](#)
 - EOP-011-4 and EOP-012-2 (Effective 10/1/2024—R3 10/1/2025), TOP-002-5 (10/1/2025)
 - July 2024 FERC approved EOP-012-2 but directed modifications



Standards (Operations)

- [Project 2024-03 Revisions to EOP-012-2](#)
 - Clarify Generator Cold Weather Constraint while removing all references to “reasonable cost,” “unreasonable cost,” “cost,” and “good business practices” and replace them with objective, unambiguous, and auditable terms.
 - Compliance Enforcement Authority (CEA) receive, review, evaluate, and confirm the validity of each Generator Cold Weather Constraint in a timely fashion.
 - Shorten and clarify the corrective action plan implementation timelines (24/48 months for existing/new).
 - Extensions of a corrective action plan implementation deadline beyond the maximum implementation is pre-approved by CEA.
 - Ensure that the Generator Owner informs relevant registered entities of operating limitations.
 - More frequent reviews of Generator Cold Weather Constraints.

EOP-012-3 Overview (Effective October 1, 2025)

- R1—Calculate ECWT (five years), cold weather data, unit minimum—CAP
- R2—New units (10/1/2027) operate to ECWT/wind/12 hours—Constraint
- R3—Existing units (before 10/1/2027) operate to ECWT—CAP
- R4—Implement cold weather preparedness plan—lowest ECWT, cold weather data, identify Generator Cold Weather Critical Components (GCWCC), annual inspection/maintenance of GCWCC
- R5—Train on cold weather preparedness plan
- R6—Generator Cold Weather Reliability Event—CAP for unit, similar units
- R7—R1, R3, R9 CAPs—Actions 24/28 calendar months, updates to plan, cold weather data
CAP extension request
- R8—Constraints per Attachment 1, 15 days COD, 45 days determination **CEA-Constraint validation**
- R9—Review Constraints 36 calendar months
- [Generator Cold Weather CAP Extension and Constraint Process](#)

Standards (Operations)

- [Project 2025-01 Canadian-Specific Revisions to EOP-012-3](#)
 - Align language with regulatory practices and processes for each province for development, approval, implementation, and extension requests of Corrective Action Plans and Generator Cold Weather Constraint declarations
 - Define and implement alternative Extreme Cold Weather Temperature and Generator Cold Weather Reliability Event definitions/applicability
 - Use of “apparent cause” in the Generator Cold Weather Reliability Event definition needs to better focus investigation efforts on “addressable cold-weather events”
 - “Updated to account for the environmental geographical differences specific to non-US entities, including allowing additional flexibility in the definition of ECWT and GCWRE”

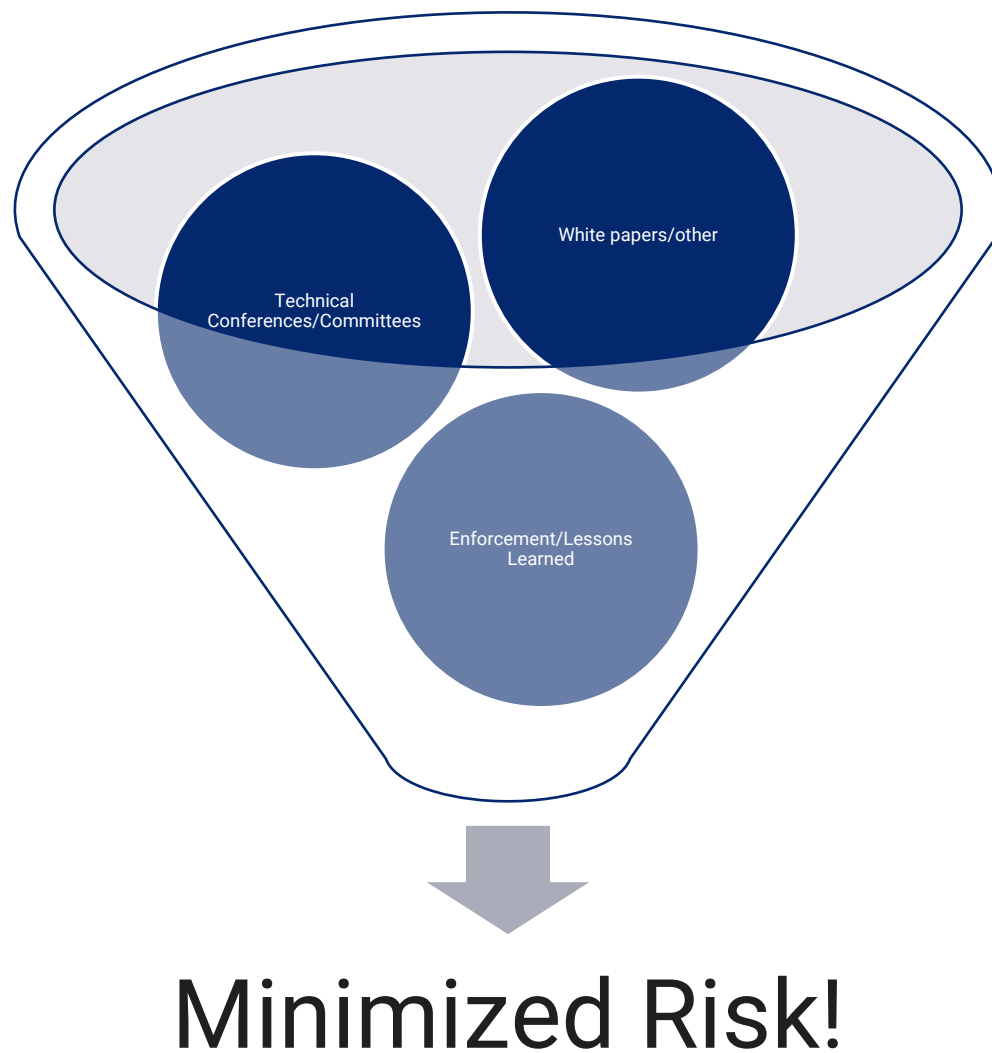
Standards (Planning)

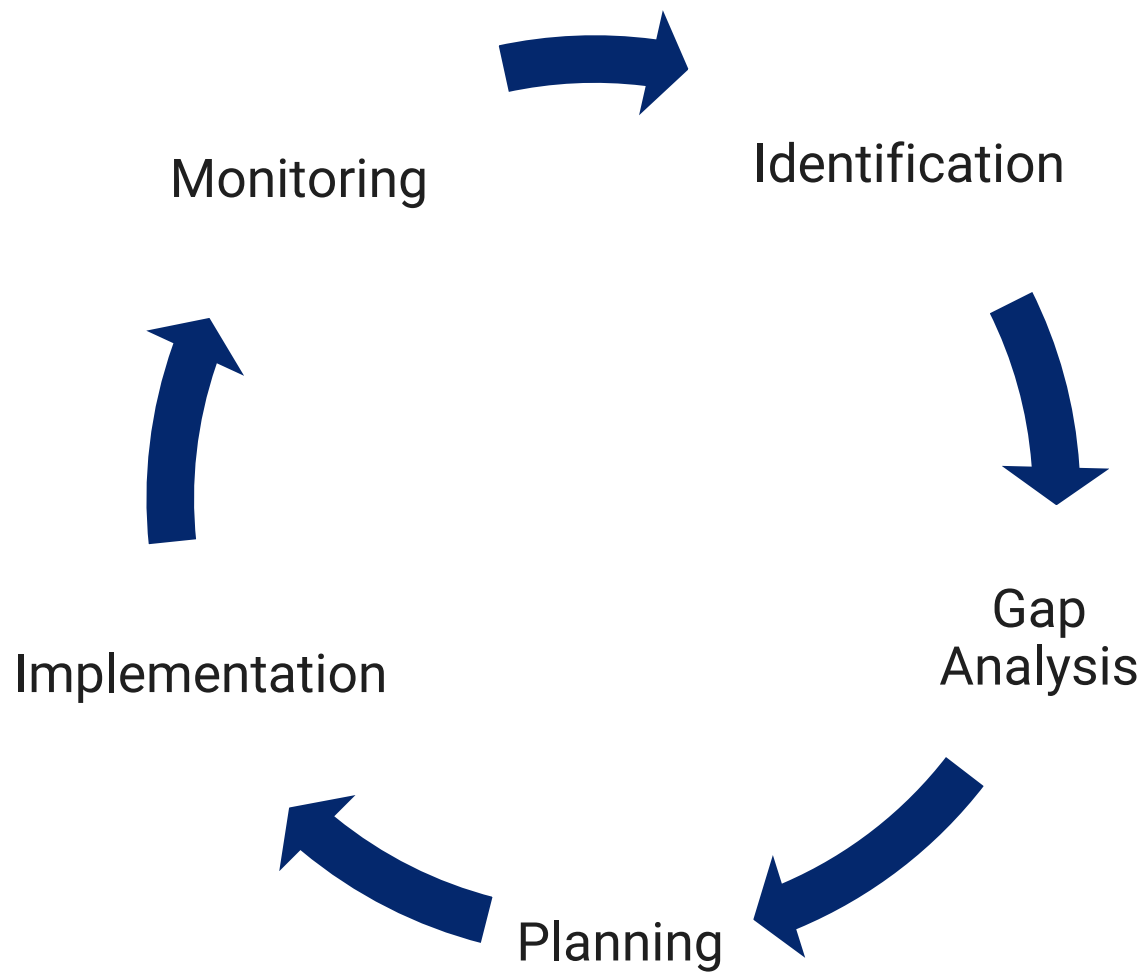
- [Project 2022-03 Energy Assurance with Energy-Constrained Resources](#)
 - BAL-007-1 (April 1, 2027)
 - **Energy Reliability Assessment (ERA)**—Assessment of the resources necessary to reliably supply the Electrical Energy required to serve Demand and to provide Operating Reserves for the Bulk Power System throughout the associated assessment period.
 - Shall account for: forecast or **assumed** Demand profiles, resource capabilities and operational limitations (including **fuel supply**), energy transfers between BAs, “known” BES Transmission constraints affecting delivery.
 - TOP-003 (October 1, 2026) Data specification for ERA data needs.
- [Project 2023-07 Transmission System Planning Performance Requirements for Extreme Weather](#)
 - TPL-008-1 (April 1, 2026, and beyond)
 - **Extreme Temperature Assessment (ETA)**—Documented evaluation of future Bulk Electric System performance for extreme heat and extreme cold benchmark temperature events.
 - Forecast seasonal and temperature adjustments for load, generation, transmission, and transfers within a zone.

Outreach

- [WECC Winter Readiness](#)
- [MRO- Generation Outages During Extreme Cold Weather](#)
- [ReliabilityFirst After Action Report](#)
- [ReliabilityFirst 2024-2025 Winter Reliability Assessment Presentation](#)
- [SERC University](#)
- [SERC Cold Weather Preparedness](#)
- [Texas RE Extreme Events Resiliency Workshop](#)
- [Texas RE 2023 Winter Weatherization Workshop](#)
- [NPCC Cold Weather Preparedness](#)

The rest of the story







Questions



WECC



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