Welcome to RSDG October 27, 2022

- **For those attending in person, please mute your audio and mic to avoid echo.**
- Please use the foyer at the end of the room for networking due to microphone sensitivity

Evacuation Procedure for in-person attendees

Upon alarm activation, a general alarm will sound on the floor of activation, the floor above and the floor below

- Slow or Alert Alarm – 20 beats per minute
  - Standby for further instructions
  - If continuous, evacuate into the stairwells and down to the safest crossover floor that is at least two floors below the fire floor.
  - Re-enter the floor space and wait for further instructions.
- Fast or Evacuate Alarm – 120 beats per minute
  - Enter the nearest stairwell and proceed down the stairs and out of the building to the assembly point.

ASSEMBLY POINT IS THE PLAZA AREA OF 5TH AVENUE PLACE. IN INCLEMENT WEATHER, IT WILL BE THE PLUS 15 LEVEL OF BOW VALLEY SQUARE.

- Wait there until the all clear is given.
- DO NOT re-enter Calgary Place until this occurs.

Reliability Standards Discussion Group

October 2022

Land Acknowledgment

According to the National Centre for Truth & Reconciliation, land acknowledgements are a necessary first step toward honouring the original occupants of a place. They also help Canadians recognize and respect Indigenous peoples' inherent kinship beliefs when it comes to the land, especially since those beliefs were restricted for so long.

We would like to invite everyone to join us today in acknowledging the land where we live and work and ask that you reflect on the Indigenous peoples with whom we share territories and responsibilities. We are hosting this session from Calgary, which is located in the Treaty 7 region comprised of the traditional territories of the Tsuut'ina First Nation, the Blackfoot Confederacy, which includes the Kainai, Piikani, and Siksika First Nations, and the Stoney Nakoda Nations, and is also home to the Métis Nation of Alberta, Region 3.

We are grateful to have the opportunity to work and be present in this territory together with many Indigenous peoples from across Turtle Island. We offer this acknowledgment as a stepping-stone towards reconciliation by honouring the original inhabitants of the land that today we all call home and as an expression of our commitment to Indigenous communities of Alberta.

Notice

In accordance with its mandate to operate in the public interest, the AESO will be audio recording this session and making a discussion summary of the meeting available to the general public at www.aeso.ca. The accessibility of these discussions is important to ensure the openness and transparency of this AESO process, and to facilitate the participation of stakeholders. Participation in this session is completely voluntary and subject to the terms of this notice.

The collection of personal information by the AESO for this session will be used for the purpose of capturing stakeholder input for the Reliability Standards Discussion Group stakeholder sessions. This information is collected in accordance with Section 33(c) of the Freedom of Information and Protection of Privacy Act. If you have any questions or concerns regarding how your information will be handled, please contact the Director, Information and Governance Services at 2500, 330 – 5th Avenue S.W., Calgary, Alberta, T2P 0L4, by telephone at 403-539-2528, or by email at privacy@aeso.ca.

Asking questions in a hybrid session

- Please introduce yourself including the organization you work for before asking your question
- In-person
  - Raise your hand and the host will acknowledge you have a question and will indicate when it is your turn to speak
- Virtually
  - If you are accessing the session via your computer or smartphone
    1. Click “Raise Hand” and the host will be notified that you would like to ask a question.
       - *When it is your turn to ask a question, the host will unmute your microphone, you in turn will need to unmute your microphone before you can speak. Your name will appear on the screen, but your camera will remain turned off.*
    2. You can also ask questions by tapping the “Q&A” button and typing them in. Please include the organization you work for when typing your question into the Q&A.
       - *You can up-vote questions that have been already asked.*
  - If you are accessing the session via conference call
    - If you would like to ask a question press *5 on your phone’s dial pad and the host will see that you have raised your hand.
    - The host will unmute your microphone, you in turn will need to unmute your microphone by pressing *6 before you can speak. Your number will appear on the screen.

AESO Stakeholder Engagement Framework

Stakeholder participation

- The participation of everyone here is critical to the engagement process
- To ensure everyone has the opportunity to participate, we ask you to:
  - Listen to understand others' perspectives
  - Disagree respectfully
  - Balance airtime fairly
  - Keep an open mind

Welcome and Introductions

Welcome and introductions

- Daniela Cismaru, Director, External Compliance Monitoring
- Ping-Kwan Keung, Manager, Standards & Modeling
- Kathryn Kuber, Reliability Standards Technical Specialist
- Jeff Tam, Engineer-in-Training

Registrants (as of October 20, 2022)

- AltaLink Management Ltd.
- ATCO Electric
- Best Consulting Solutions Inc.
- Canadian Natural Resources Limited (CNRL)
- Cancarb Ltd.
- Capital Power
- Cenovus
- City of Lethbridge
- CNOOC International
- DOW Chemical Canada
- Enel Green Power NA
- ENMAX
- EPCOR
- Grid Subject Matter Experts
- Heartland Generation Ltd.
- Market Surveillance Administrator (MSA)
- Lionstooth Energy
- Network + Security Technology
- NRG Curtailment Solutions
- Suncor Energy Inc.
- TC Energy
- TransAlta Corporation

Session purpose and objectives

- Purpose
  - The purpose of the session is to engage stakeholders in discussions on the AESO's ARS Program
- Session objectives
  - ARS Program Enhancement Roadmap Activities
    - Present, discuss and seek feedback on the AESO's proposed risk-based methodology
    - Share our key learnings from RSDG stakeholder feedback
    - Present the RSDG and RSW (Reliability Standards Workshop) final approaches
  - October 2022 ARS Program Work Plan
  - Open Industry Discussion on ARS Program

Agenda

Time	Agenda Item	Presenter
9:00 – 9:10	Welcome and Introductions • Housekeeping • Agenda	Ping-Kwan Keung

9:10 – 10:30	ARS Program Enhancement Roadmap Activities
	• Risk-based approach
	  ○ Overview on risk-based approach
	  ○ Present Alberta Risk Rating methodology
	  ○ Provide examples of application of methodology and criteria
	  ○ Facilitate a roundtable discussion on the Alberta specific risks criteria
	• Compliance Monitoring Program Risk-based Approach Update
	• Terms of Reference for the Reliability Standards Discussion Group and Reliability Standards Workshops overview
	• ARS interim and enhanced work plans stakeholder feedback review
	• Q&A
		Daniela Cismaru
		Kathryn Kuber
		Ping-Kwan Keung

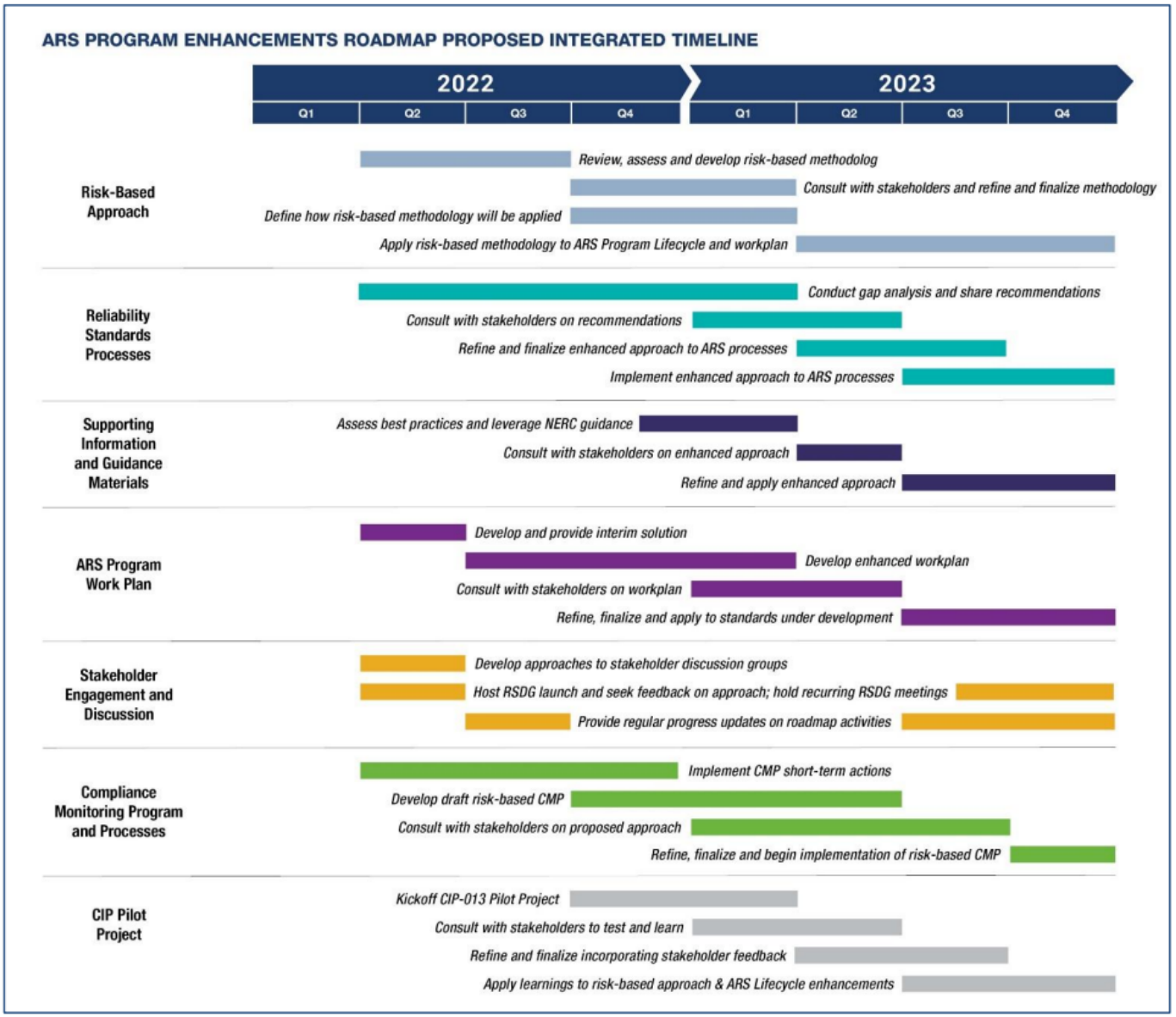
10:30 – 10:45	Coffee Break	
10:45 – 11:00	October 2022 ARS Program Work Plan • Q&A	Kathryn Kuber

11:00 – 11:45	Open Industry Discussion on ARS Program
	• AESO's action items from the June 2022 RSDG:
	  ○ Review the Information Document #2018-022, *PRC-002-AB-2 Disturbance Monitoring and Reporting Requirements* reference to PRC-002-AB-2 amendment
	  ○ Consider request for session to discuss implementation concerns on PRC-005-AB2-6, *Protection System, Automatic Reclosing, and Sudden Pressure Relaying Maintenance*
	  ○ Look into the impact of proposed Energy Storage ISO rules definitions on reliability standards
	• Q & A
		Daniela Cismaru
		Kathryn Kuber
		Ping-Kwan Keung

11:45 – 12:00	Next Steps and Session Close-Out	Ping-Kwan Keung

ARS Enhancements Roadmap Activities

ARS Program Enhancements Roadmap Proposed Integrated Timeline



ARS Risk-Based Approach

October 2022 RSDG

What we heard from stakeholders

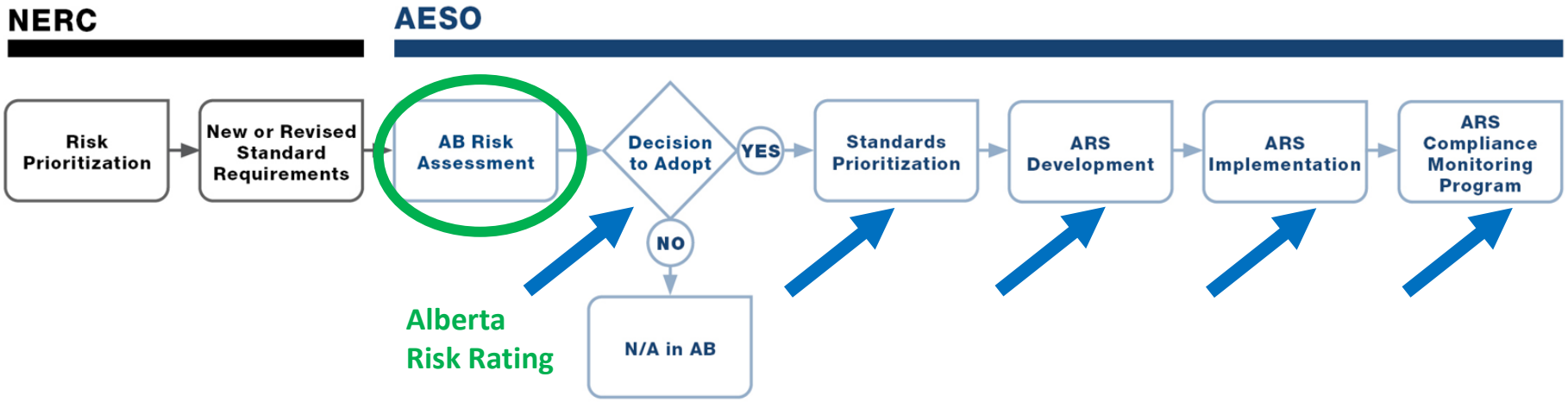
- Embed a more comprehensive risk-based approach
  - Many stakeholders support the NERC-based model for both development and monitoring of standards
  - Some stakeholders describe the one-size-fits-all ARS Program increases the regulatory burden
  - Stakeholders suggest embedding a risk-based framework in AESO decision making
  - Stakeholders recommend to incorporate the risk-based approach in the audit process

Our proposed future state objective

- Desired future state
  - The AESO will enable a more comprehensive risk-based approach across its ARS Program Lifecycle by integrating a risk-based methodology that can be used to make transparent decisions in adopting, implementing and monitoring standards
- Bridging the gap
  - Develop risk-based methodology for risk assessment
  - The risk-based methodology will need to be transparent, easy to apply and based on factors that impact grid reliability
  - Apply risk-based methodology to ARS Program Lifecycle

The Lifecycle of a Reliability Standard

RELIABILITY RISKS



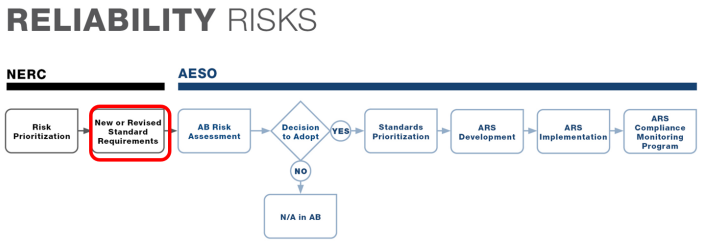
- Risk-based methodology: how we rate risk mitigation to system reliability
- Risk-based approach: how we use the risk-based methodology in the ARS lifecycle

Key Assumptions and Decisions

- Adopt NERC's risk assessment framework using Violation Risk Factors (VRF) into Alberta Risk Ratings
- Apply Alberta Risk Methodology for Alberta context, individual risks and risk ratings might be different from NERC's identification and ratings due to our unique regulatory framework, market and interconnected system.
- Use of Alberta Risk Ratings throughout the ARS lifecycle

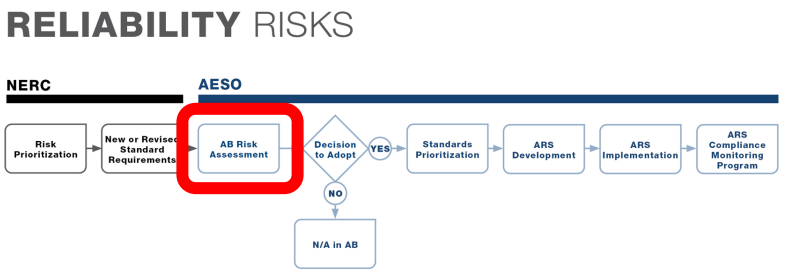
Use NERC's Violation Risk Factors (VRF) as the starting point in our risk-based approach

- The Alberta Risk Methodology will use NERC's VRF at the start of our risk-based approach and apply it to our standards prioritization, development, implementation and compliance process steps
- For each requirement in each published reliability standard, NERC assigns a VRF of high, medium or low
  - High (25%): directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures
    - E.g., BAL-002, PRC-023, TPL-007
  - Medium (50%): systematically degrade the ability to effectively monitor and control the bulk electric system
    - E.g., most of CIP standards.
  - Low (25%): Administrative in nature
- Expanding the use of risk ratings to prioritization and development processes as VRFs are available at an earlier stage of the ARS Lifecycle



Alberta risk methodology that will be used to determine Alberta Risk Rating

- Primarily a qualitative decision to change NERC VRF, made by the AESO in consideration of differences in Alberta vs the rest of NERC. The decision is supported by quantitative data where available & practical.
- The Alberta Risk Methodology criteria will consider:
  - AIES Market and Regulatory Differences
  - Ability to island from WECC
    - Risk of causing cascading outage within Alberta will be classed as a high risk
  - Alberta's generation mix and load
- An Alberta risk rating will be determined for each requirement
  - High
  - Medium
  - Lower
  - Not applicable in Alberta



Alberta risk methodology process

1. Collection of VRF justifications for existing ARS and NERC Reliability Standards
2. Determination of Alberta Risk Ratings by AESO: analysis and rational will be provided in cases of Alberta difference from NERC
3. Publication of Alberta risk ratings

Prioritization for Alberta Risk Methodology for the suite of standards:

1. Existing versions Alberta Reliability Standards
2. NERC standards with no in-effect Alberta version
3. Alberta Reliability Standards with newer NERC versions

ARS pilot cases for Alberta Risk Methodology

1. EOP-005-AB-3 System Restoration from Blackstart Resources
2. EOP-006-AB-3 System Restoration Coordination
3. CIP-012-AB-1 Communications between Control Centres
   - No differences from NERC
4. PRC-002-AB-2 Disturbance Monitoring and Reporting
   - No differences from NERC

VRF Comparison – EOP-005-3

		NERC	Alberta
R1	TOP must develop a restoration plan approved by ISO	H	H
R2	Changes to roles & tasks in restoration plan must be notified	M	M
R3	A TOP must review & align its restoration plan with ISO	M	M
R4	TOP update/submit revised restoration plan if system changes	M	M
R5	TOP must have a copy of most recent ISO restoration plan	L	L
R6	ISO must verify the intended function of its restoration plan	M	M
R7	ISO must have blackstart resource testing requirements	M	M
R8	TOP have restoration training for op. personnel once a year	M	M
R9	TOP/DOP to provide ≥2 hrs of restoration training every 2 yrs	M	M
R10	TOP must participate in ISO's restoration drills or simulations	M	M
R11	ISO to have written blackstart resource agreements with BR	M	H
R12	Blackstart resource to have documented procedure for starting	M	H
R13	Blackstart resource to notify ISO of any known changes	M	M
R14	Blackstart resource must perform resource tests	M	H
R15	BSR to provide ≥2 hrs of training every 2 yrs to op. personnel	M	M
R16	BSR must participate in ISO's restoration drills or simulations	M	M

VRF Comparison – EOP-005-3

Reason for the difference between NERC and Alberta VRF:

R11 – NERC=M, AB=H

- AIES relies heavily on internal blackstart resources. Most NERC RCs rely substantially on neighboring resources for black start. It's imperative for the AESO to have written agreement with blackstart resource generating units

R12 – NERC=M, AB=H

- In AIES, TFO and GFO rely solely on the AESO's blackstart plan and procedures for restoration.

R14 – NERC=M, AB=H

- Similar to R11/R12, it's imperative to ensure blackstart resources' availability through defined routine and/or ad-hoc tests

VRF Comparison on EOP-006-3

	Description	NERC	Alberta
R1	ISO must develop restoration plan and implement for its area	H	H
R2	ISO must distribute most recent restoration plan to TOPs	L	M
R3	ISO must review its restoration plan every 13 months	M	M
R4	ISO must review its neighbouring RC's restoration plans	M	M
R5	ISO must review restoration plans of TOPs within its area	M	M
R6	ISO have restoration plans in primary & backup control rooms	L	M
R7	ISO must have annual restoration training program	M	H
R8	ISO conduct system restoration drill, exercise, or simulation	M	M

VRF Comparison – EOP-006-3

Reason for the difference between NERC VRF and Alberta VRF:

R2 – NERC=L, AB=M

- In AIES' deregulated framework, applicable GFOs and TFOs rely solely on the AESO's blackstart plan and procedures. It's important for the AESO to ensure all TFOs have the most recent restoration plan & procedure.

R6 – NERC=L, AB=M

- It is important for the SCs to have the most recent restoration plan & procedure, consistent with R2.

R7 – NERC=M, AB=H

- In the deregulated framework, annual training program is essential to ensure applicable TFOs and GFOs are familiar with the restoration plan & procedure and communication protocols.

Alberta Differences compared to NERC

- Relatively loose interconnection with WECC
  - VRF should be evaluated on impact to AIES. High risk of cascading outage within AIES will remain as high risk factor.
  - Ability to island and limiting cascading failure to and from WECC.
  - Currently, no IROL in AIES.
  - Higher range of frequency deviation events in AB
  - Most Severe Single Contingency
    - *Much larger impact from single element in AB than WECC*
    - *Double contingencies can trip 10% of generation*
  - Black start restoration relies mostly on internal Alberta assets, not interties
  - Low frequency oscillations and small signal stability risk

Red: increased risks in Alberta

Green: reduced risks in Alberta

Alberta Differences compared to NERC (con't)

- AIES Market and Regulatory Differences
  - Substation including distribution voltage buses are part of the transmission system
  - Uncongested planning requirements with single zonal energy only market
    - *No transmission rights;*
    - *Generations and loads can be located anywhere;*
    - *Reliance on free market to provide ancillary products;*
    - *Real time market, most of WECC are on Day ahead.*
  - Alberta market size threshold at 5 MW.
  - AESO fulfilling multiple roles in NERC framework.

- Different level of risk controls
  - Good level of extreme cold weather preparedness
  - Assessment of extreme heat preparedness in progress

Alberta Differences compared to NERC (con't)

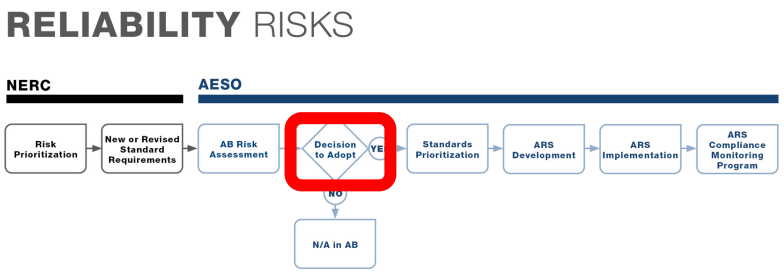
- Alberta Load and Generation Mix
  - Industrial complex are the largest group of all generation
  - High load factor at ~80%
  - High industrial loads with large motor components which impacts system voltage performance.
  - Gas interdependencies:
    - *High correlation between gas and electric demand due to winter peaks*
    - *High % of non-intermittent generation reliant on natural gas*

Questions for Stakeholders

- What do you think about the AESO's current list of differences?
- What do you think about the AESO's assessment of the differences?
- Are there other differences?

Decision will be on an exception basis to not adopt a NERC Reliability Standard

- Adopt all NERC reliability standards and only exclude those standards that are not applicable to Alberta, on an exception basis
- Exceptions will be based on:
  - Is the NERC reliability standard applicable in Alberta's regulatory framework?
  - Is the reliability risk applicable to the AIES?
  - If yes, are the reliability risks already or planned to be managed by ISO rules, Alberta legislation, regulations, AUC rules, or other authoritative documents?
- We will enhance documentation of decision rational and transparency to stakeholders.
  - Communication of rational at RSDG through the ARS program work plan prior to AUC filing.



Next Steps

- Present overview of risk-based approach on ARS lifecycle at Nov 21 stakeholder engagement meeting
- Seek feedback on the risk-based approach on ARS lifecycle and revise if needed
- Complete evaluation of Alberta risk rating for ARS and NERC Standards using Alberta risk methodology

Compliance Monitoring Program Risk-based Approach Update

Compliance Monitoring Program
Risk-based Approach Update

- In alignment with incorporating reliability risk into the CMP, to reduce administrative burden and focus monitoring on standards and market participants with the most impact on reliability risk

- The overall objective is to maintain a high level of assurance that reliability standards are being followed and where they are not, to identify and mitigate those situations as required in the AESO and MSA mandates

- Assessments of reliability risk from the RB Methodology will be a major factor in driving CMP decisions, with the concept that AESO focus monitoring on standards and requirements with the highest reliability risk and on market participants (entity risk) with attributes (footprint, facilities, configuration, controls, history, etc.) that impose the highest risk to reliability

Compliance Monitoring Program
Risk-based Approach Update (cont'd)

- Deliver a CMP structure that AESO will use to monitor compliance of ARS. The structure will include guidance on how the AESO will determine the monitoring oversight for a market participant that is required to comply with ARS.

- The CMP structure will provide guidance and transparency on how the AESO will determine the scope of monitoring, how entity risk will be incorporated into monitoring, what tools will be used in the monitoring, and other attributes of monitoring such as frequency of audits.

- Process suggestions and issues from the stakeholder comments are also expected to be included in the discussion of the CMP

- Consultation on the RB CMP is expected to begin after the RB Methodology consultations, likely starting in January 2023

Terms of Reference for RSDG and RSWs

ARS Enhancements Initiative
Background from May 2022 Session

- What we heard
  - Stakeholders recommended increased opportunities for stakeholder engagement and discussion
- Desired future state
  - Increased opportunities for stakeholder engagement with a more coordinated approach to the various touch points we have with stakeholders over the ARS Program Lifecycle
- Bridging the gap
  - Establish recurring Reliability Standards Discussion Group (RSDG) meeting to support enhanced two-way dialogue on work plans, proposals, and initiatives related to the ARS Program Lifecycle
  - Establish and hold sessions, as needed, to increase two-way dialogue on standards throughout the ARS Program Lifecycle

RSDG Proposed Approach
Background from June 2022 RSDG

- Purpose
  - To provide an open forum for stakeholders and the AESO to have high-level, non-technical discussions about the ARS Program Lifecycle
- Scope/Standing Agenda
  - ARS Program Work Plan
  - ARS Program Lifecycle Continuous Improvements
  - Reliability Standards Open Industry Discussion
- Logistics
  - Meetings held every 4 months
  - Hybrid (in person and virtual options provided)
  - Open to all stakeholders
- Recordkeeping
  - Meeting discussion summary will be created and posted

RSW* Proposed Approach
Background from June 2022 RSDG

- Purpose
  - To provide an open forum for stakeholders and the AESO to discuss topics related to a specific reliability standard or set of reliability standards
- Scope
  - Topics related to development, implementation and compliance monitoring topics for a specific existing or proposed reliability standard or set of reliability standards
- Logistics
  - Ad hoc
  - Hybrid (in person and virtual options provided)
  - Open to all stakeholders
- Recordkeeping
  - Meeting discussion summary will be created and posted
  - Discussions on ARS development be included in AUC filing

*referred to as Technical Working Groups (TWG) in previous AESO stakeholder material

RSDG | June Stakeholder Feedback

- Scope
  - Supportive of:
    - High-level updates, with detailed standard-specific discussions at TWG
    - Reliability Standards Open Industry Discussion
  - Recommendation additions:
    - Follow-ups from previous meeting
    - Discussion on ISO rules or similar meetings for ISO rules
    - Detailed content discussions
    - Updates on enhanced RFI process, including queue times and trends
- Attendance
  - Recommend including:
    - AESO Compliance team
    - MSA
- Logistics
  - Recommend increasing frequency to at least every 3 months

RSW | June Stakeholder Feedback

- Scope
  - Supportive of:
    - High-level updates, with detailed standard-specific discussions at TWG
    - Topics that impact more than one reliability standard
    - Reliability standard audit worksheet (RSAW) discussions
    - Sessions for standards already in effect
  - Recommendation additions:
    - Enforcement discussions for certain situations
- Attendance
  - Recommend including:
    - AESO Compliance team
- Recordkeeping
  - Supportive of including any unresolved issues raised by market participants in ARS development meeting minutes, which are filed with the AUC as part of AESO's ARS applications.

RSDG and RSW | Terms of Reference

- Reflects the approach presented in June with the following updates.
- For RSDG:
  - Scope
    - Added standing agenda item for action items
  - Logistics
    - Hybrid meetings are preferred; however, added that virtual only meetings may be required
- For RSW:
  - Scope
    - Added clarity that topics impacting more than one standard are in scope
  - Name
    - Update from TWG to RSW to better reflect approach
      - *Sessions can be held for any phase of a reliability standards lifecycle*
      - *Attendance may change for each session*
- The Terms of Reference are living documents and all other feedback will be considered as we move forward.

ARS Program Interim and Enhanced Work Plan Update

ARS Enhancements Initiative Workplan Background from May 2022 Session

- What we heard
  - Stakeholders voiced concerns with the current ARS Program work plan and proposed changed, including:
    - Establish criteria and provide rationale for the ARS development prioritization
    - Provide and keep to target dates for all ARS development and implementation that considers budget cycles
- Desired future state
  - Enhanced ARS Program Work Plan to improve clarity and transparency
- Bridging the gap
  - Develop and provide interim solution
  - Consult with stakeholders on enhanced work plan template
  - Refine and apply enhanced work plan format incorporating outcomes from ARS Roadmap activities

Interim Workplan Proposed Approach Background from June 2022 RSDG

- Update intervals
  - Moving forward the ARS Program Interim Work Plan which will be updated prior to the RSDG meeting
- Rationale for prioritization
  - At RSDG, the AESO will provide rationale for all new additions and changes to the ARS Program Work Plan
- Current timelines
  - The AESO will provide best estimates for dates and date range, that involve stakeholders, for all standards under development
- Piloting new approach to timelines with IRO-010
  - Plan was to use a TWG to work with stakeholders to assess the work required to develop and implement IRO-010-AB-4

Stakeholder Feedback on Work Plans

- Feedback incorporated into the interim workplan
  - We have added definitions of the ARS update types
  - Adding rationale for schedule changes to work plan
  - Prioritizing CIP-013 and amendments to closely related CIP standards (i.e., CIP-003, CIP-005, and CIP-010) to pilot new approach to give market participants certainty on target schedule.

- All other feedback considered for enhanced ARS work plan
  - Adding all responsible entity types under Applicability column
  - Providing previous versions of work plan with original dates
  - Adding all approved/future NERC standards, with or without AESO plans for adoption

Next Steps

- The AESO now plans to present the enhanced ARS Workplan in 2023
  - The AESO is working on developing a list of enhanced work plan requirements
    - Considering a smart work plan tool
  - Prior to presenting the enhanced work plan tool, the AESO will:
    - Consult with stakeholders
    - Refine and finalize enhanced work plan

- Once the work plan is finalized, the ARS under development will be added to the tool
  - The work plan will include timelines for ARS targeted for development in the next 3 to 5 years

October 2022 ARS Program Work Plan

October 2022 ARS Program Work Plan
Approved Standards Not in Effect

Alberta Reliability Standard		Project Type	Applicability	AESO Stakeholder Engagement Process	AUC Process	Effective Date / Inactive Date*	Background Material	Comments (includes rational for changes from last po workplan and related ISO rules development)
Standard No.	Standard Name							
CIP-012-AB-1	Cyber Security – Communications between Control Centres	New	ISO and MP	Q4 2021 to Q2 2022	Q2 2022	ISO: Q3 2022 MP: Q3 2023	TWG CIP-012-AB-1 Implementation Proposed New Alberta Reliability Standard CIP-012-AB-1, *Cyber Security - Communications between Control Centres*	**Changes**: The AUC approved CIP-012-AB-1, with the AESO proposed effective date, on June 8, 2022 in Decision 27372-D 2022. As a result, the following changes were made in this ta (1) Status: "Forwarded to the AUC" to "Approved" (2) AUC Process and Effect Date/Inactive Date: removed "pr
EOP-005-AB-3	System Restoration from Blackstart Resources	New Version	ISO and MP	Q2 2022 to Q3 2022	Q3 2022	Q4 2023	Proposed New EOP-005-AB-3 & EOP-006-AB-3, Retirement of Existing EOP-005-AB-2 & EOP-006-AB-2	**Changes**: The AESO posted replies to Stakeholder commen June 27, 2022, forwarded a letter to the AUC requesting AUC approval on July 12, 2022, and received AUC approval on Au 2022 in Decision 27516-D01-2022. As a result, the following were made in this table: (1) Status: from "Under Development" to "Approved" (2) Stakeholder Engagement Process: from "Q2 2022 to (esti Q2/Q3 2022" to "Q2 2022 to Q3 2022" (3) AUC Process: from "Estimate Q3/Q4 2022" to "Q3 2022" (4) Effective Date for EOP-005-AB-3 and EOP-006-AB-3: fro "Estimate Q4 2023 or Q1 2024" to "Q4 2023" (5) Inactive Date for EOP-005-AB-2 and EOP-006-AB-2: from "Estimate Q3 2023 or Q4 2023" to "Q3 2023"
EOP-005-AB-2	System Restoration from Blackstart Resources	Retire	ISO and MP			Q3 2023		
EOP-006-AB-3	System Restoration Coordination	New Version	ISO			Q4 2023		
EOP-006-AB-2	System Restoration Coordination	Retire	ISO			Q3 2023		
PER-006-AB-1	Specific Training for Personnel	New	MP	Q4 2020 to Q1 2021	Q1 2021 to Q2 2021	Q3 2023	PER-006 Specific Training for Personnel	**New:** AESO Information Document Posted: ID #2021-008, *P Supplemental Information* was posted June 29, 2022 on the 006 webpage.
PRC-018-AB-1	Disturbance Monitoring Equipment Installation and Data Reporting	Retire	ISO and MP	Q3 2018 to Q4 2018	Q4 2018	Q3 2025	Implementation Plan included in Appendix 2 of PRC-002-AB-2	
PRC-025-AB-2	Generator Relay Loadability	New	MP	Q1 2019 to Q2 2019	Q2 2019 to Q3 2019	Q4 2024	PRC-025 Generator Load Reliability	

October 2022 ARS Program Work Plan
Standards Under Development

Alberta Reliability Standard		Project Type	Applicability	AESO Stakeholder Engagement Process	AUC Process	Effective Date / Inactive Date*	Background Material	Comments (includes rational for changes from last posted workplan and related ISO rules development)
Standard No.	Standard Name							
COM-001-AB-3	Communications	New Version	ISO and MP	Q1 2018 to (estimate) Q4 2022 / Q1 2023	Estimate: Q4 2022 / Q1 2023	Estimate: Q4 2023 or Q1 2024	Proposed New COM-001-AB-3, New COM-002-AB-4, Retirement of Existing COM-002-AB1-2a and COM-001-AB1-1.1	**Related ISO Rule under Development:** The proposed COM-001-AB-3 and COM-002-AB-4 are being developed with a proposed amendment to Section 502.4 of the ISO rules, *Automated Dispatch and Messaging System and Voice Communication System Requirements*, which can be found here: Section 502.4 Stakeholder Engagement AESO website
COM-001-AB1-1.1	Telecommunications	Retire	ISO and MP			Estimate: Q3 2023 or Q4 2023		
COM-002-AB-4	Operating Personnel Communications Protocols	New Version	ISO and MP			Estimate: Q4 2023 or Q1 2024		
COM-002-AB1-2a	Communications and Coordination	Retire	ISO and MP			Estimate: Q3 2023 or Q4 2023		
CIP-003-AB-8	Cyber Security – Security Management Controls	New Version	ISO and MP	Estimate: Q4 2022 to Q2 2023	Estimate: Q2 2023/Q3 2023	Target (staggered): Q3 2024 to Q2 2025	NERC Project 2016-02 – Modifications to CIP Standards	**New:** The AESO has decided to prioritize the adoption of NERC CIP-013-2, as well as the adoption of the newest versions of NERC CIP-003, CIP-005 and CIP-010. Adopting CIP-013 will address reliability risks and stakeholder concerns. The AESO has performed a preliminary analysis of CIP-013 and has determined that there are benefits in adopting NERC CIP-003-8, CIP-005-7 and CIP-010-4 at the same time. The AESO will provide more information as it becomes available on the AESO website.
CIP-003-AB-5	Cyber Security – Security Management Controls	Retire	ISO and MP				AESO CIP-003 webpage	
CIP-005-AB-7	Cyber Security – Electronic Security Perimeter(s)	New Version	ISO and MP				NERC Project 2019-03 – Cyber Security Supply Chain Risks	
CIP-005-AB-5	Cyber Security – Electronic Security Perimeter(s)	Retire	ISO and MP				AESO CIP-005 webpage	
CIP-010-AB-4	Cyber Security – Configuration Change Management and Vulnerability Assessments	New Version	ISO and MP				NERC Project 2019-03 – Cyber Security Supply Chain Risks	
CIP-010-AB-1	Cyber Security – Configuration Change Management and Vulnerability Assessments	Retire	ISO and MP				AESO CIP-010 webpage	
CIP-013-AB-2	Cyber Security Supply Chain Risk Management	New	ISO and MP				NERC Project 2019-03 – Cyber Security Supply Chain Risks	

Reliability Standards Open Industry Discussion

Action Items follow up from the June 2022 RSDG

- PRC-002 ID Reference to future PRC-002 Amendment
  - Removed reference to future reliability standard PRC-002 amendment
  - Once the risk-based approach to prioritization is completed, any proposed amendment will be listed on the ARS work plan.
- PRC-005-AB2-6 Update on Request for Implementation RSW
  - The AESO requests that any stakeholder, with specific PRC-005 implementation questions, submit their questions to the AESO's RFI email by end of 2022.
  - The AESO will review all questions received in Q1 2023 and determine its approach addressing the questions, which may include hosting an RSW.
- Impact of energy storage ISO rules definitions on ARS
  - Addressed in the Energy storage ISO rules engagement: *The AESO confirms that the scope of [the ES ISO rules] initiative is to incorporate energy storage into the ISO rules and the definitions for the ISO rules. Additional work will be required to incorporate energy storage into the ARS through the formal ARS consultation process. The AESO will discuss plans and proposals for kicking off this work with the RSDG.*

Open Discussion

Next Steps and Session Close-Out

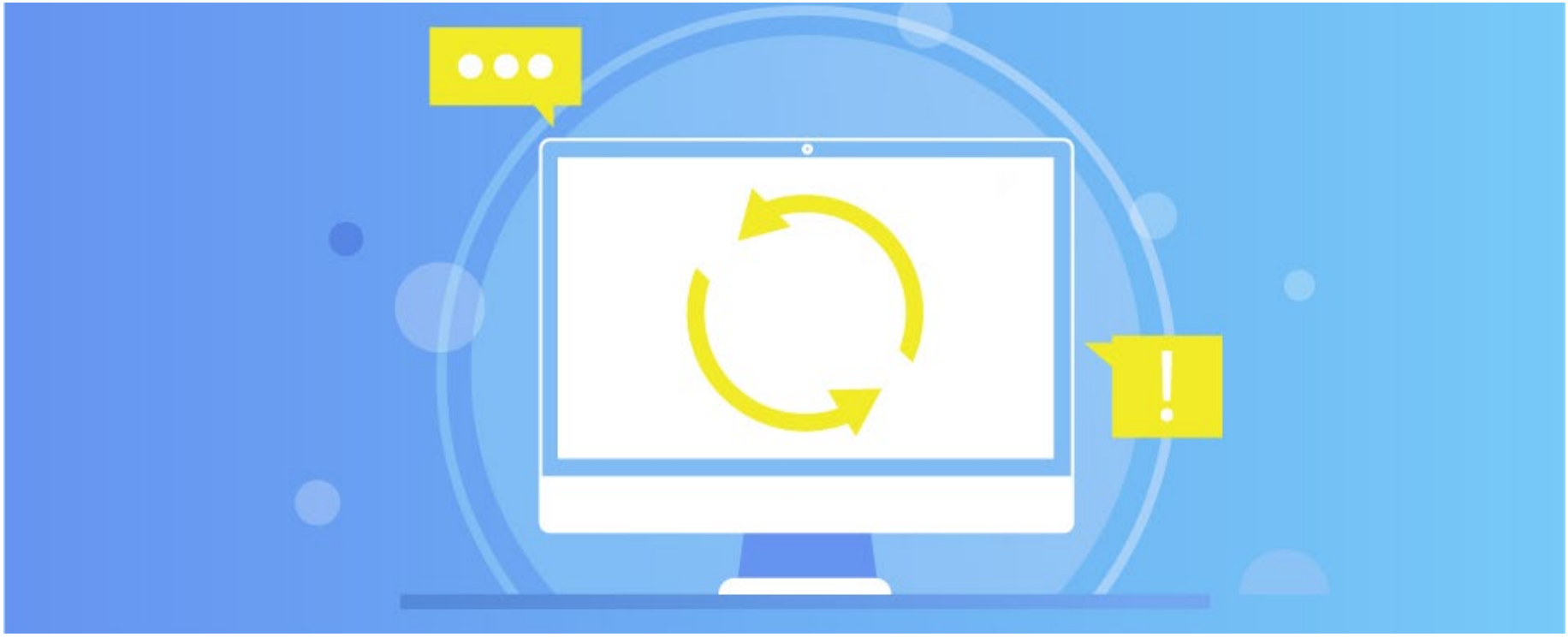
Session close-out

- We want to thank you for attending the RSDG and we would appreciate your feedback on the session
- Launch poll
  - The purpose of the session was clear
  - The information was presented in a clear manner
  - The presentation content was clear and informative
  - I found this session valuable

Request for feedback

- We invite all interested stakeholders to provide their input on the AESO's proposed risk-based approach via the questions set out in the **Stakeholder Comment Matrix of the Nov 21 stakeholder session**. The comment matrix will be available on our website at www.aeso.ca
  - Path: Rules, Standards and Tariff > Alberta Reliability Standards > ARS Program Enhancements

Contact the AESO



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Thank you