

Alberta Entity Risk Factors Criteria

Date: November 7, 2023

Prepared by: AESO

Version: 1

Classification: Public

SUMMARY

The table of Alberta Enterprise Risk Factors was adapted from the NERC ERO Enterprise Risk Factors table which comprises Appendix B of the 2016 NERC ERO Enterprise Guide for Compliance Monitoring¹. The individual categories were modified to provide better alignment and applicability to the Alberta Interconnected Electric System (AIES), compared with the default NERC values. Guidance and feedback from subject matter experts within AESO was solicited in order to confirm and validate these modifications, which were presented to external stakeholders at the RSDG session on November 7, 2023. The tables and evaluation process were piloted in early 2024 with three entities and some minor modifications to the table and philosophy were subsequently made based on feedback received from those entities. The final table is presented below.

¹ <https://www.nerc.com/pa/comp/CAOneStopShop/ERO%20Enterprise%20Guide%20for%20Compliance%20Monitoring.pdf>

ALBERTA ENTERPRISE RISK FACTOR TABLE AND DEVIATIONS FROM DEFAULT NERC CRITERIA

Risk Factor	AB Criteria for Assessment				Deviation from NERC
	N/A	Low Risk	Medium Risk	High Risk	
CIP - Impact Rating Criteria	Entity has no BES cyber system (BCS)	Entity has one or more low impact BCSs	Entity has one or more medium impact BCSs	Entity has one or more high impact BCSs	No Change
ICCP Connectivity	Entity has no BCS	Entity has low impact BCSs without ICCP connections or external routable connectivity	Entity has low impact BCSs with at least one ICCP connection - or - Entity has low impact BCSs with external routable connectivity (including RTU connection with AESO) - or - Entity has medium impact BCSs	Entity has medium impact BCSs with at least one ICCP connection - or - Entity has high impact BCSs	No Change
Load	N/A	Entity total non-coincident peak load supplied is <200 MW	Entity total non-coincident peak load supplied is between 200 and 1000 MW	Entity total non-coincident peak load supplied is >1000 MW	The lower threshold for Medium Risk was lowered from 300MW to 200MW, in view of the relatively smaller size of the Alberta system.
Transmission Portfolio	Entity does not own or operate transmission facilities	Entity does not own or operate BES transmission facilities >200 kV	Entity owns or operates transmission facilities at 240/260 kV - or - Entity owns or operates over 300 km of transmission lines ≥100 kV	Entity owns or operates transmission facilities at 500 kV - or - Entity owns or operates >200 km of transmission lines at 240/260 kV	Voltage levels were adjusted to reflect Alberta standard voltages. The thresholds for length of line in the Medium and High categories was lowered to reflect the relatively smaller size of the Alberta system.
Critical Transmission	Entity does not own or operate transmission facilities >200kV	Entity has BES transmission facilities >200 kV - and - Entity does not have major substations as per AIES definition	Entity has major substations as per AIES definition	Entity owns and operates major transmission path (WECC) or Cranking Path - or - Entity owns and operates any transmission facilities under SOL	Categories were changed to reflect Alberta specific terminology and definitions for added clarity and applicability.
Voltage Control	Entity does not own or operate any voltage control equipment		Entity owns and/or operates reactive resources to provide voltage control	Entity owns and/or operates reactive resources other than generators to provide voltage control	No Change
Largest Generator Facility	Entity does not own any generation facilities	Entity's largest single generation facility is less than 67.5 MW	Entity's largest single generation facility is between 67.5 MW and 300 MW	Entity largest single generation facility is >300 MW	Thresholds were lowered and aligned with definitions in ARS to better reflect the Alberta system.
Total Generation Capacity	Entity does not own any generation facilities	Entity total generation nameplate capacity is less than 100 MW	Entity total generation nameplate capacity is between 100 and 500 MW	Entity total generation nameplate capacity is >500 MW	Thresholds were lowered to better reflect the Alberta system

Variable Generation	Entity does not meet any of the criteria	Less than 10% of the entity's BA Area total generation nameplate MVA is comprised of non-dispatched generation	10%-25% of the entity's BA Area total generation nameplate MVA is comprised of non-dispatched generation	Over 25% of the entity's BA Area total generation nameplate MVA is comprised of non-dispatched generation	This row was removed as it was considered irrelevant, since an entity with a higher concentration of non-dispatchable generation is not considered to be a higher risk to the system than an entity with a low concentration of non-dispatchable generation.
Planned Facilities (AESO is sole planner)	Entity does not meet any of the identified criteria	Entity is planning on or currently building transmission facilities <200 kV in the next 3 years - or - Entity is planning on or currently building generation facilities that are <67.5 MW in the next 3 years	Entity is planning on or currently building transmission facilities at 240/260 kV in the next 3 years - or - Entity is planning on or currently building generation facilities that are between 67.5 MW and 300 MW in the next 3 years	Entity is planning on or currently building transmission facilities >300 kV in the next 3 years - or - Entity is planning on or currently building generation facilities >300 MW in the next 3 years	Modified to align with the other generation category
RAS/SPS	Entity does not own, operate, coordinate, plan, design, or monitor the status of a RAS/SPS			Entity owns RAS, or functional components of a RAS, that is needed to meet TPL requirements	Removed the Medium category, which referred to non-TPL related RAS, which is not applicable to Alberta
Workforce Capability	Entity does not meet any of the identified criteria	Less than 25% of the Entity System Operators have <5 years of System Operator experience	Between 25 and 50% of the Entity System Operators have <5 years of System Operator experience	>50% of the Entity System Operators have <5 years of System Operator experience	No Change
System Restoration			Other TFOs which are not identified per the process set in Appendix 1 of EOP-005; such TFOs still play a role on system restoration per roles and responsibility section in the AESO's restoration plan. Other GFOs which are not specifically identified in the AESO's restoration plan, such GFOs still play a role on system restoration per roles and responsibility section in the AESO's restoration plan	Blackstart Resources, destination plants identified in the AESO's power system restoration plan, TFOs identified per the process set in Appendix 1 of EOP-005	Significant wording change to specifically reflect Alberta's restoration plan and emergency operating procedures.
UFLS Equipment	Entity has no UFLS schemes	Entity has <5% of AB UFLS load	Entity has >5% but <15% of AB UFLS load	Entity has >15% of AB UFLS load	Included specific thresholds (which are left blank in the NERC document) based on Alberta's disposition of UFLS
UFLS Development and Coordination	Entity is not responsible for developing or coordinating a UFLS program	Entity is responsible for developing and/or coordinating a UFLS program for "X" MW's of load	Entity is responsible for developing and/or coordinating a UFLS program for "X" MW's of load	Entity is responsible for developing and/or coordinating a UFLS program for "X" MW's of load	Removed this row, since this only applies to AESO
UVLS	Entity does not have UVLS responsibilities	-----	Entity is responsible for 1-"X" MWs of load shed by a UVLS program	Entity is responsible for greater than "X" MWs of load shed by a UVLS program	Removed this row, since this is not a significant component in the Alberta system and, furthermore, is adequately covered under the UFLS category.