Stakeholder Comment and Replies Matrix

AESO AUTHORITATIVE DOCUMENT PROCESS

New, Amended and Removed Reliability Standards Definitions

Date of Request for Comment [yyyy/mm/dd]:	2011-08-04
Period of Consultation [yyyy/mm/dd]:	2011-08-04 through 2011-08-19

Definitions – New

Existing	Proposed	Rationale	Stakeholder Comments and/or Alternate Proposal	AESO Reply
No definition currently exists in the reliability standards.	"**aggregated generating facility**" means an aggregation of **generating units**, including any **reactive power** resources, which: (i) the **ISO** designates as an aggregated generating facility and publishes on a list posted on the AESO website; and (ii) are situated in the same proximate location at one or more **point of connections**.	The content of this definition was approved for use in the ISO rules after consulting on the Package 4 definition changes which came into effect on September 7, 2010. This version of the definition has been updated to reflect current AESO drafting standards. Namely, the term is presented in the singular and the meaning is written in the active rather than the passive voice. Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved for use in the reliability standards.	**Capital Power Corporation** **1.** What methodology will the AESO be using for designating an aggregated generating facility?	**1.** Based on stakeholder feedback and further internal review, the AESO has decided to delete the phrase "and publishes on a list posted on the AESO website" from number (i), keeping the definition more aligned with the current ISO rules version. The AESO will provide further explanation of criteria and designated facilities in an Information Document. In addition to the criteria included in the definition, the AESO currently contemplates designating an 'aggregated generating facility' if each

				generating unit is less than 10 MVA. The AESO may include other criteria on a case-by-case basis as it deems appropriate.
	"**apparent power**" means the total power, in MVA, in an alternating current power system and is calculated as the vector sum of **real power** and **reactive power.**	This definition was amended and approved for use in the ISO rules after consulting on the Package 5 definition changes which came into effect on July 23, 2010. Because this definition is used in the definitions of "power factor" and "reactive power", the AESO proposes that it be approved for use in the reliability standards.	**ATCO Electric** **2.** The Consolidated Authoritative Document Glossary (CADG) presently contains "apparent power" as an Alberta Reliability Standards (ARS) definition.	**2.** When the AESO's *Consolidated Authoritative Document Glossary* was first created, the reliability standards were still relying largely on ISO rules definitions. As such, the AESO listed the ISO rules effective date as the reliability standards effective date for definitions that originated in the ISO rules. After the AESO decided to specifically approve definitions for use in the reliability standards rather than incorporating them from the ISO rules, the AESO undertook a review of it's *Consolidated Authoritative Document Glossary* to remove any reliability standards effective dates from definitions that did not reflect specific approval of those definitions for the reliability standards. Due to a delay, the updated version of the updated *Consolidated Authoritative Document Glossary* was not posted until after the consultation began on the proposed Package 11

				definitions. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'apparent power' is not included as a reliability standards definition.
	"**business day**" means a **day** other than: (i) a holiday during which banks in Alberta are generally closed; (ii) Saturday; or (iii) Sunday.	This definition was amended and approved for use in the ISO rules after consulting on the Package 6 definition changes which came into effect on December 1, 2010. It is currently used in EOP-002-AB-2, PRC-004-WECC-AB-1 and the definition of "on peak". Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **3.** The CADG presently contains "business day" as an ARS definition. There are 2 identical "business day" definitions that can be combined.	**3.** Please see AESO Reply 2 above. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'business day' is not included as a reliability standards definition. The ISO rules definition of 'business day' and the ISO tariff definition of 'business day' are substantively the same. However, because the brackets around the sub-numbering are different, the *Consolidated Authoritative Document Glossary* recognizes them as separate items The AESO is currently addressing these types of formatting issues in it's *Consolidated Authoritative Document Glossary*.

	"**collector bus**" means the low voltage side of any step-up transformers connected to the **transmission system** where the **real power** and **reactive power** produced by any **generating units** or **reactive power** resources, or both of them, are collected.	This definition was approved for use in the ISO rules after consulting on the Package 4 definition changes which came into effect on September 7, 2010. Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved for use in the reliability standards.		
	"**generating unit**" as defined in the **Act** means the component of a power plant that produces, from any source, electric energy and **ancillary services**, and includes a share of the following associated facilities that are necessary for the safe, reliable and economic operation of the **generating uni**t, which may be used in common with other **generating units**: (i) fuel and fuel handling equipment; (ii) cooling water facilities; (iii) switch yards; (iv) other items.	This definition was amended and approved for use in the ISO rules after consulting on the Package 1 definition changes which came into effect on December 1, 2010. It is currently used in EOP-002-AB-2, EOP-003-AB-1, FAC-001-AB-0, PRC-001-AB-1, PRC-004-AB-1, PRC-004-WECC-AB-1, TPL-001-AB-0, TPL-002-AB-0, TPL-003-AB-0 and TPL-004-AB-0. Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **4.** The CADG presently contains "generating unit" as an ARS definition.	**4.** Please see AESO Reply 2 above. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'generating unit' is not included as a reliability standards definition.
	"**interconnected electric system**" as defined in the **Act** means all **transmission facilities** and all **electric distribution systems** in Alberta that are interconnected, but	This definition was amended and approved for use in the ISO rules after consulting on the Package 1 definition changes which came into effect on December 1, 2010.	**ATCO Electric** **5.** The CADG presently contains "Interconnected Electric System" as an ARS definition.	**5.** Please see AESO Reply 2 above.

	does not include an **electric distribution system** or a **transmission facility** within the service area of the City of Medicine Hat or a subsidiary of the City, unless the City passes a bylaw that is approved by the Lieutenant Governor in Council under section 138.	Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved for use in the reliability standards.	The CADG definition also includes the words "of the **Act**" at the end of the definition.	The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'interconnected electric system' is not included as a reliability standards definition. The AESO agrees with ATCO Electric that "of the Act" should be added at the end of the definition and has been added to the final proposed version of the definition for 'interconnected electric system'.
	"**ISO**" means the Independent System Operator as defined in the **Act** being the corporation established by section 7 of the **Act**.	This definition was amended and approved for use in the ISO rules after consulting on the Package 1 definition changes which came into effect on December 1, 2010. It is used extensively in the current reliability standards. Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **6.** The CADG presently contains "ISO" as an ARS definition.	**6.** Please see AESO Reply 2 above. The updated glossary is now available and stakeholders will see that 'ISO' is not included as a reliability standards definition.
	"**legal owner**" means the **person** who owns electric industry property including any one or more of:	This definition was approved for use in the ISO rules after consulting on the Package 4 definition changes		

	(i) a **generating unit**; (ii) any **aggregated generating facility**; (iii) a **transmission facility**; (iv) an **electric distribution system**; (v) an industrial system that has been designated as such by the **Commission**; and (vi) a **load** facility with **system access service** under subsection 101(2) of the **Act**.	which came into effect on September 7, 2010. Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved for use in the reliability standards.		
	"**market participant**" as defined in the **Act** means: (i) any **person** that supplies, generates, transmits, distributes, trades, exchanges, purchases or sells electricity, electric energy, electricity services or **ancillary services**; or (ii) any broker, brokerage or forward exchange that trades or facilitates the trading of electricity, electric energy, electricity services or **ancillary services**.	This definition was amended and approved for use in the ISO rules after consulting on the Package 2 definition changes which came into effect on December 16, 2009. Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved for use in the reliability standards.	**ATCO Electric** **7.** The CADG presently contains "market participant" as an ARS definition.	**7.** Please see AESO Reply 2 above. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'market participant' is not included as a reliability standards definition.
	"**maximum authorized real power**" means: (i) for an **aggregated generating facility** with one or more **collector busses**, the sum of the maximum **gross real power** that the **ISO** has authorized the **generating units** to deliver to those	This definition was approved for use in the ISO rules after consulting on the Package 4 definition changes which came into effect on September 7, 2010. Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved		

	collector busses; (ii) for an **aggregated generating facility** without a **collector bus**, the maximum **gross real power** that the **ISO** has authorized each **generating unit** to deliver to its generator terminal; or (iii) for a **generating unit** that is not part of an **aggregated generating facility**, the maximum **gross real power** that the **ISO** authorizes the **generating unit** to deliver to its generator terminal.	for use in the reliability standards.		
	"**operator**" means a **person** given expressed authority by a **legal owner** to operate on the **legal owner's** behalf any one or more of its electric industry properties, including: (i) a **generating unit**; (ii) any **aggregated generating facilities**; (iii) a **transmission facility**; (iv) an **electric distribution system**; (v) an industrial system that has been designated as such by the **Commission**; and (vi) a **load** facility with **system access service** under subsection 101(2) of the **Act**; and includes the **legal owner**, if no such other **person** has been so authorized.	This definition was approved for use in the ISO rules after consulting on the Package 4 definition changes which came into effect on September 7, 2010. Because this definition is used in upcoming reliability standards, the AESO proposes that it be approved for use in the reliability standards.		

	"**power factor**" means the ratio of **real power** to **apparent power**.	This definition was amended and approved for use in the ISO rules after consulting on the Package 5 definition changes which came into effect on July 23, 2010. It is currently used in FAC-001-AB-0. Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **8.** The CADG presently contains "power factor" as an ARS definition.	**8.** Please see AESO Reply 2 above. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'power factor' is not included as a reliability standards definition.
	"**reactive power**" means the power, in MVAr, developed when there are inductive, capacitive or nonlinear elements in an alternating current power system and is calculated as the vector difference between **apparent power** and **real power**.	This definition was amended and approved for use in the ISO rules after consulting on the Package 5 definition changes which came into effect on July 23, 2010. It is currently used in FAC-001-AB-0, TPL-001-AB-0, TPL-002-AB-0, TPL-003-AB-0 and TPL-004-AB-0. Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **9.** The CADG presently contains "reactive power" as an ARS definition.	**9.** Please see AESO Reply 2 above. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'reactive power' is not included as a reliability standards definition.

	"**real power**" means the power, in MW, which does useful work and is developed when there are resistive elements in an electric power system.	This definition was amended and approved for use in the ISO rules after consulting on the Package 5 definition changes which came into effect on July 23, 2010. It is currently used in BAL-001-AB-0a. Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **10.** The CADG presently contains "real power" as an ARS definition.	**10.** Please see AESO Reply 2 above. The AESO's updated *Consolidated Authoritative Document Glossary* is now available and stakeholders will see that 'real power' is not included as a reliability standards definition.
	"**transmission system**" as defined in the **Act** means all **transmission facilities** in Alberta that are a part of the **interconnected electric system**.	This definition was amended and approved for use in the ISO rules after consulting on the Package 4 definition changes which came into effect on September 7, 2010. It is currently used in FAC-003-AB-1, PRC-001-AB-1, TPL-001-AB-0, TPL-002-AB-0, TPL-003-AB-0 and TPL-004-AB-0. Because the AESO is proposing to eventually delete the language in the current reliability standards which incorporates ISO rules definitions into the reliability standards and because this definition is also used in upcoming reliability standards, the AESO proposes that it be specifically approved for use in the reliability standards.	**ATCO Electric** **11.** The CADG presently contains "transmission system" as an ARS definition. There are 2 "transmission system" definitions that can be combined.	**11.** The AESO agrees with ATCO Electric that 'transmission system' is a current reliability standards definition and that the ISO rules version of this definition and the reliability standards version should be consolidated. The AESO had intended to list this definition in the proposed amendments section of this consultation document.

Definitions - Amended				
Existing	**Proposed**	**Rationale**	**Stakeholder Comments and/or Alternate Proposal**	**AESO Reply**
"**balancing authority area**" means the collection of generation, transmission and loads, within the metered boundaries of a **balancing authority area,** and supports **Interconnection** frequency in real-time.	"**balancing authority area**" means the collection of generation, transmission and **loads**, within the metered boundaries of the~~a~~ **balancing authority ~~area,~~** and for which the **balancing authority** maintains **load**-resource balance ~~and supports **Interconnection** frequency in real-time~~.	This definition is currently used in BAL-001-AB-0a, BAL-006-AB-1, MOD-018-AB-0 and various definitions. The AESO proposes to update this definition to make it consistent with the ISO rules definition which was approved in the Package 6 definition changes which came into effect on December 1, 2010.		
Definitions – Removed				
Existing	**Proposed**	**Rationale**	**Stakeholder Comments and/or Alternate Proposal**	**AESO Reply**
"corrective action plan" means a list of actions and an associated timetable for implementation to remedy a specific problem.		The term "corrective action plan" is used in PRC-004-AB-01. In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		
"**facility**" means a set of electrical equipment that operates as a single **bulk electric system element**, including without limitation, a transmission line, generating unit, shunt compensator, or transformer.		The term "facility" is used throughout the ISO rules and the reliability standards. It is currently a defined term in the reliability standards but not in the ISO rules. In the AESO's opinion, plain language is sufficient to communicate the meaning of the	**ATCO Electric** **12.** No objection to "facility" removal. However, If "**facility"** is removed, does "transmission facilities" in "interconnected electric system" and "transmission	**12.** The definition of 'transmission facility' in 'interconnected electric system' and 'transmission system' has always been the definition from the *Electric Utilities Act* ("Act") and not this definition of 'facility'.

		term and the current definition does not add any significant clarity. In addition, removing this definition will eliminate any confusion between the definition and the various non-defined uses of the word.	system" definitions now include non-BES elements as well?	In the AESO's opinion, removing this definition does not change how bulk electric system elements are addressed in the definitions of 'interconnected electric system' and 'transmission system'. The definition of 'transmission facility' in the Act does currently include non-BES elements.
"facility rating" means the maximum or minimum voltage, current, frequency, or real or reactive power flow through a facility that does not violate the applicable equipment **rating** of any equipment comprising the facility.		The term "facility rating" is used once in each of the appendices of TPL-001-AB-0, TPL-002-AB-0, TPL-003-AB-0 and TPL-004-AB-0 in the following sentence: "All *ratings* must be established by the applicable entity consistent with applicable *ISO* rules addressing *facility ratings*." The term "facility rating" is also used in the definition of "system operating limit". In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		
"frequency deviation" means a change in Interconnection frequency.		The term "frequency deviation" is used in BAL-001-AB-0a and BAL-003-AB-0a. In the AESO's opinion, plain		

		language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		
"high voltage direct current or **HVDC"** means a **high voltage direct current** power **transmission facility** that uses direct current to transfer power.		The term "HVDC" is used in INT-003-AB-2. On further review, the AESO is of the opinion that the definition is not entirely correct as it states that HVDC is a facility when, in fact, it is more appropriate to refer to it as a characteristic of a facility. This is, in fact, how the term is used in the reliability standard. In addition, it is the AESO's opinion that plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity. On a go forward basis, the AESO will write out the term in full.	**ATCO Electric** **13.** "HVDC" should be retained. Why should "HVDC" be removed if the CADG includes standard electricity terms such as "apparent power", "power factor", "reactive power" and "real power"?	**13.** The AESO disagrees with ATCO Electric that 'HVDC' should be retained. While the AESO is of the opinion that plain language is sufficient to communicate the meaning of the term proposed for deletion, it is not of the opinion that the same is true of the defined terms 'apparent power', 'power factor', 'reactive power' and 'real power'. The latter are more technical terms and their meaning cannot be understood by simply stringing together the common dictionary meaning of their individual component words.
"**owner of industrial system**" means the owner of an industrial system designated as such by the **Commission** in accordance with the *Hydro and Electric Energy Act* and includes the operator of such system.		The term "owner of industrial system" is not currently used in any reliability standards.		
"rating" means the operational limits of a **transmission system** element under a set of specified		The term "rating" is used in the reliability standards in both a defined and undefined sense.		

conditions.		In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		
"schedule" means to set up a plan or arrangement for an **interchange** transaction.		The definition of the term "schedule" is currently drafted as a verb. However, the term is most commonly used in the reliability standards and the ISO rules as a noun or an adjective. In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity. In addition, removing this definition will eliminate any confusion between the definition and the various non-defined uses of the word.		
"stability" means the ability of an electric **system** to maintain a state of equilibrium during normal and abnormal conditions.		The term "stability" is currently only used in the definitions of "stability limit" and "system operating limits". In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.	**ATCO Electric** **14.** "stability" should be retained. Why should "stability" be removed if the CADG includes standard electricity terms such as "apparent power", "power factor", "reactive power" and "real power"?	**14.** Please see AESO Reply 13 above.
"stability limit" means the maximum power flow possible through some particular point in the **system** while maintaining **stability**		The term "stability limit" is currently only used in the definition of "system operating limit".		

in the entire **system** or the part of the **system** to which the **stability** limit refers.		In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		
"**surge**" means transient variation of current, voltage, or power flow in an electrical circuit or across an electric system.		The term "surge" is used once in FAC-001-AB-0 in reference to "surge protection". In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.	ATCO Electric **15.** "surge" should be retained. Why should "surge" be removed if the CADG includes standard electricity terms such as "apparent power", "power factor", "reactive power" and "real power"?	**15.** Please see AESO Reply 13 above.
"system" means a combination of generation, transmission, and distribution of components.		The term "system" is used throughout the reliability standards to mean both the defined term and other types of "systems", such as "communications systems". In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity. In addition, removing this term as a definition will eliminate any confusion between the definition and any non-defined uses of the word.		
"tie line" means a circuit connecting two balancing authority areas.		The term "tie line" is used in BAL-001-AB-0a, BAL-003-AB-0a and BAL-006-AB-1. "Tie line" is also used in the definition of "import load remedial action scheme" but is not		

		bolded and this use pre-dates its introduction as a defined term. In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity. In addition, on a go forward basis, the AESO intends to use the term "intertie" in order to better align with the language in the *Transmission Regulation*.		
"**Transmission Maintenance and Inspection Plan**" or "**TMIP**" means a written plan for the regular and ongoing maintenance of transmission facilities.		The term "Transmission Maintenance and Inspection Plan" or "TMIP" is used in FAC-501-WECC-AB-1. In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		
"transmission vegetation management plan" or **TVMP** means a plan for vegetation management work to ensure the **reliability** of electric transmission **systems**.		The term "transmission vegetation management plan" or "TVMP" is used in FAC-003-AB-1. In the AESO's opinion, plain language is sufficient to communicate the meaning of the term and the current definition does not add any significant clarity.		