

PRÉSENTATION RTA / AESI

Régie de l'énergie
R-3947-2015

Audience – 3, 4 et 8 novembre 2016

Introduction

Description des installations de RTA

- Sept centrales situées sur deux rivières;
- Production moyenne d'environ 2 000 MW;
- Cinq alumineries alimentées par ses centrales;
- Satisfait à environ 90 % de ses charges;
- Trois interconnexions (quatre liens);
- Réseau de transport (884 km) pour acheminer l'énergie aux alumineries;
- Sept postes de transport;
- Transporteurs auxiliaires pour des clients d'HQD;
- Contrat de transport d'électricité (HQT);
- Contrat d'achat d'énergie;
- Contrats commerciaux (HQP);
- Installations non classées BULK;
- Aucun actif critique;
- Installations RTP;
- Installations non RTP.

Description des installations de RTA

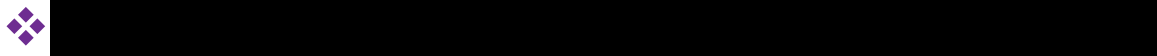
- Centre de contrôle du réseau;
- CCR de repli;
- Deux centrales opérées indépendamment (Isle-Maligne et Shipshaw);
- Description des mesures de sécurité (Preuve de RTA, para 36 à 50);
- Commentaires sur les affirmations du Coordonnateur (Pièce RTA-___)

Description des installations de RTA

❖ *Fonctions selon le Registre des installations visées par les normes de fiabilité :*

- GO
- GOP
- TO
- DP

❖ *Instructions communes encadrant les modes d'exploitation*



Description des installations de RTA

❖ *Coûts de conformité (RTA-3) (C-RTA-0028):*

- Première consultation (transmise en février 2015)
- Dépenses encourues depuis (\$1,4 M)
(Programme Rio Tinto)

Adequate Level of Reliability

Adequate Level of Reliability

➤ Background

- Principle
- FERC Directive
- Purpose

➤ Definition

”*Adequate Level of Reliability* (ALR) is the state that the design, planning, and operation of the Bulk Electric System (BES) will achieve when the **listed *Reliability Performance Objectives*** are met. Further, ***Reliability Assessment Objectives*** included in the definition must be evaluated to assess reliability risk in support of an adequate level of reliability.”

Exhibit RTA-__

Adequate Level of Reliability

➤ ALR Performance and Reliability Objectives

1. Outcomes following predefined Disturbances
2. Frequency
3. Voltage
4. Adverse Reliability Impacts
5. Restoration

➤ Applicability to Filing

Interpretation of Criterion 2.11 for PVI

Interpretation of Criterion 2.11 for PVI

Request -> Interpretation of Criterion 2.11 for PVI

Criterion 2.11 states:

2.11. Each Control Center or backup Control Center, not already included in High Impact Rating (H) above, used to perform the functional obligations of the Generator Operator for an aggregate highest rated net Real Power capability of the preceding 12 calendar months equal to or exceeding 1500 MW in a single Interconnection.

- We are requesting an interpretation and clarification of how to apply Criterion 2.11 **in the context of a PVI**; specifically, how to assess the 1500MW threshold
- We are submitting that the principle of “net injection” or “net impact” to the reliability of the RTP is a just, sound and recognized principle
- We are submitting that the principle of “net injection” or “net impact” to the reliability of the RTP should be used when determining if a PVI meets the 1500 MW threshold when evaluating criteria 2.11

Interpretation of Criterion 2.11 for PVI

Principle of “Net Injection” or “Net Impact”

- 1500 MW threshold based on impact to the BES
- NERC BES definition Exclusions use the principle of “net injection” or “net impact” (E2, E3)
- NERC Standards use the principle of “net impact” (PRC-004, PRC-005)
- Régie’s decision D-2016-059 supported the concept of “net injection” and “net impact” for PVI:
 - TOP-006 – Reporting of net power at connection points
 - TOP-001 – Firm Load Shedding → Reduction of net power imports at connection points

Interpretation of Criterion 2.11 for PVI

Challenge to Consistency of Application

Net injection analysis “... will create inconsistent application of standards which NERC rejected...” (Report from Brian D. Evans-Mongeon, p. 26)

- Québec is already unique
- BES definition (i.e. RTP), Standards, Requirements, all have unique characteristics and applicability in Québec
- NERC standard drafting teams have difficulty considering every scenario that exists
- The “plain words” of the requirements as written can have unintended consequences and implications
- Interpretation and guidance for application of NERC standards and requirements in different scenarios is common
- **Example: Dispersed Generation (DG)**

Interpretation of Criterion 2.11 for PVI

Challenge to Consistency of Application

- Dispersed Generation impacted by unintended application of “plain words” in several standards:
(e.g. PRC-001, PRC-004, PRC-005, PRC-019, PRC-024, VAR-002)
- Industry spoke up, a NERC project was initiated, and a drafting team convened to clarify the applicability and responsibilities for Dispersed Generation, because:
 - “... the characteristics of operating dispersed power producing resources can be unique.”*** (RTA-___, p. 3)
 - Exhibits RTA-___ and RTA-___***
- Several standards modified to clarify applicability and intent for Dispersed Generation; Net injection/impact principle used to clarify in some cases

Interpretation of Criterion 2.11 for PVI

Request -> Interpretation of Criterion 2.11 for PVI

Similar to how industry spoke up and requested interpretation and clarification of the application of several standards and requirements to Dispersed Generation, we are:

- Requesting an interpretation and clarification of how to apply Criterion 2.11 **in the context of a PVI**; specifically, how to assess the 1500MW threshold
- Submitting that the principle of “net injection” or “net impact” to the reliability of the RTP is a just, sound and recognized principle
- Submitting that the principle of “net injection” or “net impact” to the reliability of the RTP should be used when determining if a PVI meets the 1500 MW threshold when evaluating criteria 2.11

Comments on Report from Brian D. Evans-Mongeon (B-0067)

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Would RTA be part of BES if in the USA?*

- Québec is not USA; RTA is designated a PVI in Québec
- BES definition (i.e. RTP), Standards, Requirements, all have unique characteristics and applicability in Québec
- RTA has facilities included as part of the RTP

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Does RTA meet NERC exclusions as defined by NERC*

- No. However, they were written in a simple manner to easily apply and capture most common scenarios, but may not be appropriate in all cases, hence why there is a NERC BES exception process to evaluate special cases, and a mechanism through the Régie in Québec
- Advocating for Exclusions that are appropriate for Québec instead of needing to engage the Régie
- Comments on 1-hour export above 75MVA would invalidate E2
- (B-0067) Report B. Evans-Mongeon, p. 11

“If the amount of generation exceeds the hourly load by a value of 75 MVA or greater, the entity is not eligible for the E2 Exclusion. This is true even if there is only one hour of a 75 MVA exceedance.”

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

➤ (B-0065) HQCME-8, document 1, p. 16

Par ailleurs, le même document de référence technique [BES, E2] précise ce qui suit :

“Periods of net capacity to the BES that exceed the threshold value when directed by the applicable Balancing Authority do not preclude the ability to utilize this exclusion.”

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Does RTA meet NERC exclusions as defined by NERC*

➤ Comments on requirement of single Interconnection point

➤ (B-0067) Report B. Evans-Mongeon, p. 11

“Based upon my experience and knowledge of the exclusion as a member of the NERC BES Definition Standard Development Project Team, this installation would not meet the Exclusion for two reasons. First, as illustrated in the one-line diagram below, RTA is represented by the area within the dashed black lines. As shown, there is not a single interconnection point where all of the RTA generation and load is connected to the HQT bulk power system or the HQ- designated Réseau de transport principal (RTP). There are four interconnection points between HQT and RTA”.

➤ (B-0065) HQCME-8, document 1, p. 15

Aussi, le document de référence technique du BES¹¹ précise ce qui suit :

“Multiple connection points to the BES do not preclude the use of Exclusion E2.”

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Would RTA be registered as BA/TOP in the USA?*

Comments on BA/TOP tasks that would be performed by RTA, as listed in the report:

- Receives operating and availability status of generating units ...
 - ↳ RTA would receive same information as the generator operator
- Receives annual maintenance plans ...
 - ↳ RTA would receive same information as the generator operator
- Receives final approval or denial of a request for an Arranged Interchange from the Interchange Coordinator...
 - ↳ RTA does not arrange for interchange and does not have electronic tagging
- Receives dispatch adjustments at the point of interconnection ...
 - ↳ RTA would receive same information as the generator operator or PVI (GOP – “Adjusts real and reactive power as directed by the BA and TOP”)
- Receives operating information from the Generator Operators ...
 - ↳ RTA would receive this information as the generator operator from the generator owners

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

- Provides real-time operational information for RC monitoring at the point of interconnection...
 - ↳ RTA would provide same information as the generator operator (GOP – “Provides operational data to RC”)
- Directs resources to take action to ensure balance in real time...
 - ↳ No different than any other PVI; For example, a PVI with a single generator and single Factory, the GOP as PVI would maintain their generation/load balance
- Per the “Common Instructions”, implements correction actions and emergency procedures as directed by the RC...
 - ↳ RTA would implement correction actions and emergency procedures as the generator operator (GOP – “Adjusts real and reactive power as directed by the BA and TOP” ; which can be in accordance with established procedures or market rules in other jurisdictions)

Exhibit RTA-__

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Would RTA be registered as BA/TOP in the USA?*

Additional Comments:

- RTA is designated PVI; Industrial complexes are different and not necessarily required to register as a BA or TOP;
- The Rapport de Brian D. Evans-Mongeon itself acknowledges on page 11 that “behind the meter” or “net metering” installations for industrial customers:

“... provides for the customer to perform the coordination, balancing, and handling of operations at the location behind the designated metering point.”

Comments on Report from Brian D. Evans-Mongeon

- “...might seek to register...” (p.18) becomes “...would cause NERC to register...” (p. 27)

- We are aware of other large and small utilities, that perform some or all of the same functions listed in the Report of Brian D. Evans-Mongeon, that are not registered as a BA or a TOP;

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Did NERC select MOD-024/025 to be used to calculate 1500MW for criterion 2.11?*

➤ Neither MOD-024 nor MOD-025 are approved for use in Québec

➤ The report of Brian D. Evans-Mongeon states that:

*“In the use of ‘net Real Power capability,’ NERC team sought to use a value that could be verified through existing requirements. In that light, it **selected** NERC standard MOD-024 and current development efforts in that area.” (page 25)*

➤ The Guidelines and Technical Basis section of CIP-002-5.1 states that:

*“In the use of net Real Power capability, the drafting team **sought** to use a value that could be verified through existing requirements as proposed by NERC standard MOD-024 and current development efforts in that area.” (page 24)*

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Did NERC select MOD-024/025 to be used to calculate 1500MW for criterion 2.11? (continued)*

- We note that MOD-024 is only mentioned in the CIP-002-5.1 Guidelines and Technical Basis in the discussion for criterion 2.1; MOD-024 is not mentioned in the discussion for criterion 2.11
- That said, NERC's CIP Version 5 Standards Consolidated FAQs and Answers document states for criterion 2.1 that:

*“The following are **examples** that could be used for determination of Net Real Power:*

- *Any method approved by a Transmission Planner or Reliability Coordinator*
 - *Industry accepted engineering studies of net generation output, such as may be required of market participants.*
 - *The highest aggregate net generation output (e.g., from an entity's energy accounting software, NERC standard MOD-024-1, MOD- 025-2).” (page 2)*
- In addition, please note that the FAQ states that “The following are examples”, and other methods could be used for the determination of Net Real Power capability

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

- ❖ Must registered entities review cyber assets against the set of BES Reliability Operating Services (BROS)?
 - The report of Brian D. Evans-Mongeon states that:
 - “Once the impact assessment has been completed, registered entities **must** review the cyber assets associated with the impact-identified asset against a set of BES Reliability Operating Services (BROS) and timing criteria (both of which are part of the CIP Reliability Standards) to determine whether the impact-identified asset contains BES Cyber Systems.” (page 21)
 - The Guidelines and Technical Basis section of CIP-002-5.1 states that:
 - “The following provides guidance that a Responsible Entity **may** use to identify the BES Cyber Systems that would be in scope. The concept of BES reliability operating service is **useful** in providing Responsible Entities with the **option** of a defined process for scoping those BES Cyber Systems that would be subject to CIP-002-5.1. The concept includes a number of named BES reliability operating services”(page 18)

Comments on Report from Brian D. Evans-Mongeon

Challenge to Conclusions

❖ *Net injection will create inconsistent application of the NERC standards*

- We are simply requesting an interpretation and clarification of the applicability of CIP-002-5.1, criterion 2.11 that is appropriate for PVI;
- This is no different than other examples, such as for Dispersed Generation.

Comments on HQCME's additional evidence (HQCME-8, Document 1) (B-0065)

HQCME-8, Document 1

Discussion Topics – Comments on *Section 4 “L’entité RTA”*

❖ **4.1 Profil de l’entité RTA**

❖ **4.3 La demande de RTA dans le dossier R-3947-2015**

Discussion Topics – Comments on *Section 5 “L’application des norms CIP a RTA”*

❖ **5.3 Fardeau de la preuve**

HQCME-8, Document 1

Discussion Topics – Comments on *Section 6 “Preuve de RTA – pertinence”*

- ❖ *6.1 L’application du BES états-unien aux installations de RTA ...*
- ❖ *6.2, 6.3, 6.4 Exclusions E1, E2, E3*
- ❖ *6.5 Le processus d’exception*
- ❖ *6.6 L’inapplicabilité des exemples de la NERC ... à RTA*
- ❖ *6.7 L’injection nette d’une centrale de plus de 300 MVA*

HQCME-8, Document 1

Discussion Topics – Comments on *Section 6 “Preuve de RTA – pertinence”*

❖ **6.8 *Le centre de contrôle de RTA contrôlant plus de 1500 MW***

❖ **6.9 *L’impact du réseau RTA sur le réseau RTP***

❖ 6.9.1 *L’évènement du 8 juin 2014 relaté par RTA*

❖ 6.9.2 *Autres évènements historiques*

❖ 6.9.3 *Études de perturbations*

❖ 6.9.4 *Impact sur les limites*

HQCME-8, Document 1

Discussion Topics – Comments on *Section 8 “Recommandation due Coordonnateur”*

- ❖ *8.1 Impact négatif sur la fiabilité*
- ❖ *8.2 Le fardeau appartient a RTA*

Conclusions

Conclusions

RTA demande que les modifications suivantes soient apportées :

- i. la définition de *réseau de transport principal* (RTP) devrait être plus précise à l'égard des PVI, en incluant certaines exclusions ou autres critères applicables au Québec, afin de mieux correspondre avec la nouvelle définition de *système de production-transport d'électricité* (BES) utilisée pour (i) déterminer l'applicabilité des normes de fiabilité à une entité visée et (ii) établir le Registre des entités visées par les normes de fiabilité (le « **Registre** »); en ce qui concerne les exclusions ou autres critères qui pourraient être applicables au Québec, RTA réfère la Régie au texte de la nouvelle définition de BES à la page 7 du Rapport AESI.

Conclusions (suite)

- ii. la puissance assignée des installations de production d'un PVI devrait être calculée, aux fins de déterminer l'applicabilité des normes de fiabilité et de leurs exigences, uniquement sur la base de la puissance « nette » injectée au(x) point(s) d'interconnexion avec le réseau d'HQT au lieu d'inclure la puissance utilisée par ses propres installations industrielles et/ou toute puissance utilisée pour les fins de la charge locale, le cas échéant;

Conclusions (suite)

- iii. le critère d'exclusion proposé pour les installations de production de 300MVA ou moins ne devrait pas être seulement appliqué à une installation de production individuelle, mais devrait être pour l'ensemble des installations d'un PVI en utilisant la puissance « nette » injectée au(x) point(s) d'interconnexion avec le réseau de HQT;

Conclusions (suite)

- iv. le critère d'exclusion mentionné au paragraphe (iii) ci-haut devrait être révisé (RTA propose ainsi de modifier le texte de l'exemption additionnelle suggéré par le Coordonnateur et cité par la Régie au paragraphe 30 de la Décision D-2016-119) comme suit :
- Les installations de production ou les installations d'un PVI qui rencontrent les deux conditions suivantes :
 1. la puissance nominale « nette » d'injection de l'installation au(x) point(s) d'interconnexion avec le réseau HQT est de 300 MVA ou moins;
 2. aucun groupe de l'installation ne peut être synchronisé avec un réseau voisin;

Conclusions (suite)

- v. le Registre devrait identifier les installations de production RTP et les installations des PVI qui ne sont pas assujetties à l'application de la version 5 des normes CIP, de la même manière que le Registre identifie les entités ayant des actifs critiques ou non;
- vi. le Registre devrait identifier les installations de production RTP et les installations des PVI qui sont assujetties aux critères 2.3, 2.6, 2.7 ou 2.9 de l'Annexe 1 de la norme CIP-002-5.1;

Conclusions (suite)

- vii. pour les fins de déterminer le seuil du 1500 MW prévu aux critères 2.1, 2.11 et 2.13 de l'Annexe 1 de la norme CIP-002-5.1, la puissance assignée des installations de production d'un PVI devrait être calculée uniquement sur la base de la puissance « nette » injectée au(x) point(s) d'interconnexion avec le réseau de HQT au lieu d'inclure la puissance utilisée par ses propres installations et/ou toute puissance utilisée pour les fins de la charge locale, le cas échéant;

Conclusions (suite)

- viii. conformément à la portée de chaque critère de l'Annexe 1 de la norme CIP-002-5.1 eu égard aux installations de RTA décrits dans le Registre et aux principes ci-haut mentionnés, aucune des installations de RTA ne devrait avoir un Impact élevé (H) ou moyen (M).

Merci

大成 DENTONS

Dentons Canada S.E.N.C.R.L.
1, Place Ville Marie
Bureau 3900
Montréal (Québec) H3B 4M7
Canada

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