

EMAL COMMENTS: Bruce Power dated January 26, 2018 jfs

From: WHITEHEAD Paul(PJ) - BRUCE POWER [<mailto:paul.whitehead@brucepower.com>]
Sent: Friday, January 26, 2018 2:17 PM
To: BoardSec <BoardSec@oeb.ca>
Cc: COOK Alan(AB) - CONTRACTOR <ALAN.COOK@brucepower.com>
Subject: EB-2016-0299 Comments

Bruce Power is replacing the 4 synchronizing breakers in the Bruce B switchyard in the future so we've been reviewing the requirements in the TSC and specifically Appendix 2.

We'd like to see a clarification of the requirements as Alan mentions below. Additionally the statement "80kA usually limited to 63kA" is confusing. We'd like further explanation of when the requirements change from 80 to 63 kA and what process is used. Obviously the IESO reviews changes via their Connection Assessment process but it would be good if the TSC provided more detail and clarity around this point. It's important when procuring replacement equipment.

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From: COOK Alan(AB) - CONTRACTOR
Sent: January 26, 2018 11:17 AM
To: WHITEHEAD Paul(PJ) - BRUCE POWER
Cc: WELLS Bill(BN) - CONTRACTOR; BANDEY Tabasum(T) - BRUCE POWER
Subject: Clarification from IESO re TSC Appendix 2 - 80 kA limitation
Importance: High

Hi Paul, you asked for a memo to request the IESO to clarify, in the TSC Agreement itself, the proper interpretation of short-circuit current limitations for a connected entity.

RE APPENDIX 2:

The Fault Level of "80 (usually limited to 63 kA)" is ambiguous and could mean one of two things:

1. A CONNECTION limitation
 - a. Meaning: a connected Entity (eg. Bruce Power switchyard) cannot connect IF the fault capacity in the Switchyard, by calculation EXCEEDS 80 kA
2. A DISCONNECTION specification
 - a. Meaning: a connected entity must have connected circuit breakers capable of interrupting fault currents up to 80 kA.

Bruce Power believes that the correct interpretation is 1 above, a CONNECTION limitation.

However, since various parties have been discussing the merits of both interpretations, I am recommending that the IESO provide clarification inside the TSC itself when it is revised.

Respectfully submitted
Alan Cook, P.Eng
Switchyard Oversight Team

APPENDIX 2

TRANSMISSION SYSTEM CONNECTION POINT PERFORMANCE STANDARDS

Ref	Item	Requirement		
1	Voltage variations	Transmission voltages of 500 kV, 230 kV and 115 kV shall be maintained in accordance with the Market Rules. Voltages below 50 kV shall be maintained in accordance with CSA 235		
2	Fault Levels ¹	Nominal Voltage (kV)	Maximum 3-Phase Fault (kA)	Maximum SLG Fault (kA)
		500	80 (usually limited to 63 kA)	80 (usually limited to 63 kA)
		230	63	80 (usually limited to 63 kA)
		115	50	50
	Higher values may exist for short times during switching	44	20	19 (usually limited to 8 kA)
		27.6 (4-wire)	17	12
		27.6 (3-wire)	17	0.45
		13.8	21	10

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