Transmission Rules/Towers Review Working Group

Meeting Minutes – July 10, 2014

Time: 9:30 am to 3:00 pm

Location: AESO Offices, 2500, 330 5th Ave SW; 25th Floor; Room 2538 or via Conference Call

Attendance List:

Attended	Name	Company	Email
X	[redacted]	AESO	[redacted]
		AESO	
X		AESO	
		AltaLink	
X		AltaLink	
X-CC		EPCOR	
X		ENMAX	
X		ENMAX	
		ATCO Electric	
X		ATCO Electric	
		ATCO Electric	
		TFCMC	
X		UCA	

CC = via Conference Call

1	Review of Needs List • Item 68: AESO Regional Plans: AESO ([redacted]) identified planned transmission lines of sufficient length that tower design could be justified from the AESO regional plans. Two areas comprising 5 lines were noted for investigation; one was for single circuit 240kV and the other for double circuit 240kV. ACTION: [AESO] or [AESO] to get a date from planning for delivery of planning data to enable further analysis. • Item 73: Right of Way Width – AltaLink did not have an update on this item, however the WG members agreed that all parties need to come to an agreement. ACTION: Each TFO will discuss this item internally and bring their respective positions back to the WG for further discussion. • Item 74: AltaLink's Definition of Waterfowl in regards to removal (or marking) Overhead Shield Wire – Relates to Item 92. For clarity, item 74 declared complete. • Item 86: Addition of Economic Parameters in the ID - If TFO's analysis indicates a need for new towers it should be discussed with the AESO prior to undertaking such work. This will avoid duplication where two parties might undertake similar development and, in such a case, could save 500K-1M in unnecessary costs. [AESO] will put the last sentence back in the ID statement. • Item 87: Proposal for Investigating Minimum Spacing for Ice Unloading – RD tower information still outstanding; also outstanding is Item 95 request for TFO operations feedback on whether ice unloading occurs as suspected and if it results in outages. • Item 89: RD tower drawings – Item carried forward (see related item 87). • Item 91: Meeting with AESO Planners – Item declared complete. • Item 92: ATCO to propose revisions to rule with regard to the use of lightning arrestors when unable to use overhead shield wires – Discussion was prompted during treatment of Item 74 where removal of shield wires was discussed to reduce avian mortality. Item carried forward to next meeting. • Item 93: Regarding line optimization; AESO to investigate their position on capital cost credit for optimized conductor – Should there be a credit to offset initial capital cost for a larger, more optimal

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	conductor where justified on the basis of offsetting future losses? [AESO] to investigate and report at next meeting. • Item 94: WG to read through the current version written in the optimization section in the ID - Apparent conflict between requirements for conductor optimization and specifying a thermal limit of 100 deg C. ID doc implies there is no conflict. ATCO ([redacted]) commented that, in their opinion, using a 100C thermal limit in addition to specifying the need for conductor optimization is in conflict. AESO ([redacted]) observed that this will be addressed in the S3: 240kV Conductor Sizing investigation which has been assigned to [AESO]. WG to bring any further comments or proposals for inclusions in the study to the next meeting – Pending results of the S3 investigation, this item was declared complete. • Item 95: Request to TFOs to investigate operational experience with outages induced by ice unloading on transmission lines – Re-word ice-shedding for clarity and re-issue request by July 24th, 2014. TFOs to provide response by next meeting. Item carried forward to next meeting. • Item 96: Wording for section 21.6 (exemption of insulator strength on slackspans) – AESO ([redacted]) received feedback; did not agree with all of it; further discussion resulted during the meeting and general agreement reached on the concept. [AESO] will re-word to capture committee input and send out by July 24th. Item carried forward. • Item 99: Galloping Report – [AltaLink] absent, no further information on recent galloping outages available for meeting. Carried forward for next meeting. [AESO] recommended [AltaLink] to engage [AltaLink] in discussion. Item carried forward. • Item 100: AESO planners to rerun analysis and provide data to [AESO] – Item declared complete. • Item 101: Item declared complete.
2	Update on Studies • AESO ([redacted]) let the WG know that the FTP site was created and is ready for use. There are two types of access edit/add or read only. It was decided that everyone should have edit/add permissions with the understanding that you will leave a master copy and do a “save as” if you want to make any changes. ACTION: [AESO] will send an email to committee members with access instructions by the end of the week. • AESO ([redacted]) gave an update on the studies as follows: o S1: Galloping Cost Impact: Comments from first draft are being considered and report will be revised. Currently awaiting RD tower information and ice shedding feedback from TFOs before investigation proceeds further. o S2: Loading cost comparison highlights – Draft report has been posted on AESO ftp site for committee review and comments. [AESO] noted that it is fairly preliminary and expects questions and comments and invites further discussion direction on scope. ACTION: Each TFO is requested to send their comments to [AESO] by July 24th. Preliminary findings: ▪ For 138kV the 502.2 requirements did not have significant economic impact. CSA deterministic loads tend to govern pole strength in heavy loading area, and in medium loading area the increases could be achieved at low cost for economical spans. ▪ There would be minimal cost savings with the 138kV regardless of CSA loading area accomplished by removing 502.2 requirements. ▪ For 240kV in CSA medium load area the AESO 502.2 requirements do impact pole strength fairly significantly. Less so in the CSA heavy load area. ▪ Estimated pole costs are listed in the conclusion but concern is more for pole availability. AESO 502.2 may be pushing wood pole options out of practical use (H1-3 class poles). o S3: 240kV Conductor Sizing: Awaiting planning information; currently on hold. o S4: Optimized Conductor: Study hasn’t started – waiting for initial results from S3 study.

	• Committee members discussed the seemingly artificial nature of wood, composite, and steel pole pricing. Difficult to fully evaluate pricing impact with large variations in industry pricing. • Cost monitoring committee – AESO ([redacted]) advised WG that the cost monitoring group representative would like to meet with this WG. ACTION: [AESO] will have further discussions within the AESO regarding terms of engagement with the cost monitoring group.
	Other Items Discussed • ACTION: AESO ([redacted]) to schedule the next meeting on August 14, 2014.