Transmission Rules/Towers Review Working Group

Meeting Minutes – May 22, 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	
X		AltaLink	
X		AltaLink	
X		EPCOR	
X		ENMAX	
		ENMAX	
X		ATCO Electric	
X		ATCO Electric	
		ATCO Electric	
		TFCMC	
X		UCA	

CC = via Conference Call

1	Agenda • AESO ([redacted]) proposed a revision to the agenda as follows: 2. Review of Needs List, 3. Photos of Icing from UCA, 4. Update on TFCMC, 5. Update on Studies
2	Review of Needs List • Item 66: Transferring Revisions to ID and Rule – AESO ([redacted]) has sent out the current revisions to date. The WG is requested to let [AESO] know if anything was missed. Item declared complete. • Item 68: AESO Regional Plans – AESO ([redacted]) gave an update to the WG. The preliminary list is currently being created. Further input regarding line length is required from AESO Planners. Item carried forward. ACTION: [AESO] to book a meeting with [AESO], [AESO] and AESO Planners to further discuss. • Item 73: Right of Way Width – AltaLink ([redacted]) has reviewed AltaLink's existing right of way standards and let the WG know that it is consistent with what is in the rule. The WG engaged in further discussion on the topic. AltaLink and ATCO expressed their position that they are not sure this belongs in the rule. AESO reiterated their position that specified minimums were preferred to ensure that good practices were maintained. • Item 74: AltaLink's Definition of Waterfowl in regards to removal (or marking) Overhead Shield Wire – After some discussion amongst the members, the WG reviewed the current revisions to section 14. ACTION: [ATCO] will propose revisions to rule with regard to lightning arrestors. Item 74 declared complete. • Item 77: AESO to Send Out the Rule and ID with Revisions-to-date – AESO ([redacted]) has sent out the current revisions to date. The WG is requested to let [AESO] know if anything was missed. Item declared complete. • Item 78: New Language for Line Optimization and ACSS – The WG engaged in further discussion. AESO ([redacted]) noted that intent was to provide visibility into the proposer's reasoning for conductor selection.

2500, 330-5th Avenue SW, Calgary, Alberta T2P 0L4 Phone: 403-539-2450 Fax: 403-539-2949
www.aeso.ca www.poweringalberta.com

	Further discussion; AltaLink ([redacted]) noted that conductor flagged as optimal may not be chosen for a number of reasons including maintenance, stocking a new, unfamiliar, conductor and accessories. AESO ([redacted]) pointed out that conductor optimization study includes more than capital costs and increased maintenance or stocking of additional materials should be part of the overall selection. ATCO ([redacted]) asked if the customer gets the benefit of reduced losses to offset additional capital costs for larger (optimized) conductor. AltaLink ([redacted]) questioned the purpose of optimization if alternate conductor is usually chosen. AESO ([redacted]) also noted that without any requirements for such an investigation, there are examples of inappropriate (undersized) conductor selection since the customer is not accountable for losses, but is responsible for the capital costs. ACTION: [AESO] committed that the AESO would come up with a position on capital cost credit for optimized conductor. ACTION: [AESO] has requested that the WG read through the current version written in the optimization section in the ID, and bring comments and/or proposed revisions to the next meeting. • Item 81: Draft Wording to Investigate Operational Experience with Outages Induced by Ice Unloading - AESO ([redacted]) sent this out to the WG. ACTION: [AESO] to resend the request to the TFOs. The TFOs are to get back to [AESO]. • Item 83: Update Section 19 with EPCOR's Proposal - Item declared complete. • Item 84: Propose Wording on Section 21.6 for Exemption of Insulator Strength on Slack Spans – AESO ([redacted]) gave his proposed revisions to the WG. The WG discussed and made recommendations for further revisions. ACTION: [AESO] to make further revisions based on the WG's recommendations. • Item 85: Review of Meeting Minute Documentation – The WG was requested by AESO ([redacted]) to review the minutes after each meeting carefully and advise if further documentation is required. ACTION: [AESO] will receive comments and update minutes accordingly. Item 85 declared complete. • Item 86: Addition of Economic Parameters in the ID – AESO ([redacted]) added economic parameters. The WG is requested to review it and bring comment to the next meeting. Item carried forward. • Item 87: Proposal for Investigating Minimum Spacing for Ice Unloading – AESO ([redacted]) has sent a change notice to [AESO] and is awaiting his approval. ACTION: [AESO] will review change notice and get back to [AESO]. The WG had no further concerns regarding this item. Galloping report to consider cost implications of: Zone C: Shorten arm to differential ice spacing Zone A, B: Shorten arm to a) AESO 502.2 Spacing for galloping b) Differential Ice spacing Item 87 carried forward. • Item 88: Incorporated into item 87. Item 88 complete. • Item 89: Item carried forward. • Item 90: Item declared complete.
3	Tower/Line Icing Photos from UCA • UCA ([redacted]) showed the WG photos of tower and line icing for their information.
4	Update on TFCMC • AESO ([redacted]) gave the WG an update on questions he received from [CCA] from the TFCMC. UCA ([redacted]) will first work with [CCA] to prescreen the questions. Then AESO ([redacted]) will request the assistance of the WG to answer [CCA]'s questions. AESO ([redacted]) advised the WG that he may have [CCA] attend a future WG meeting. AESO ([redacted]) will advise the date ahead of time once it is confirmed. • AESO ([redacted]) also advised the WG that he is attending the next TFCMC meeting on Friday, May 30th to give an update and will be required to put together a slide deck. [AESO] requested [AESO]'s assistance with the technical content in advance of the meeting. [AESO] agreed.

5	Update on Studies • AESO ([redacted]) gave the WG an update on the studies: o Galloping: [AESO] hasn't received any further comments back from the WG at this time. [AESO] also let the WG know that he is in the process of setting up a FTP site so that documents can be shared with WG members. The FTP should be available within the next week. At the last meeting, [AESO] was requested to add additional scope to the study. [AESO] is awaiting [AESO]'s approval and will proceed once obtained. The WG engaged in further discussion on this topic. ACTION: AltaLink ([redacted]) will investigate recent galloping outages internally and bring the information back to the WG for possible inclusion with galloping report. o Environmental Loading Cost: AESO ([redacted]) gave the WG an update on this study. The WG engaged in further conversation. [AESO] discussed preliminary findings: • 502.2 loading requirements do not appear to govern 138kV H-frame construction in areas subject to CSA Heavy Loading. • For 240kV, wood pole H-frame still possible with 502.2 loadings but require pole classes in the H1 to H2 ranges. AltaLink ([redacted]) commented that pole availability in those sizes would be a larger concern than cost. o 240 kV Conductor Sizing: AESO ([redacted]) let the WG know that he has reviewed the AESO regional plans. The AESO regional plans are missing key information on line length that [AESO] requires to complete the study. ACTION: AESO ([redacted]) will identify several large projects and have AESO Planners rerun the analysis, and provide [AESO] with the information required. o Phase 1, Optimized Conductor – AESO ([redacted]) let the WG know this study hasn't yet started.
6	Other Items Discussed • ACTION: AESO ([redacted]) to schedule the next 2 meetings, 3 weeks apart. The WG advised of dates they will be away that should be avoided. • AESO suggested the addition of ACSS conductors to the standard sizes and types so that they could be included in any optimization study. General consensus among committee members that ACSS conductors may show value in instances where contingency loads are much larger than normal operating loads. Maximum temperature for ACSS would not be limited to 100 deg. C. • AltaLink ([redacted]) commented that the blanket requirement to design 240kV lines for 100 deg C ground clearance does not match with efforts to optimize conductor.