

**AESO Transmission System Planning Studies
(Excludes Customer Interconnection Planning)**

Updated: November 10, 2005

No.	Region of Province	Map Code	Title	Description	Status	Study Schedule	Stakeholder Consultation	Comments
1	NW	A	Northwest Area Planning Study	Preparation of a 10-year transmission plan.	Posted revision of the Need Assessment and Alternative Screening results. Detailed evaluation is underway.	Need Assessment Revision - complete Alternative Screening Revision - complete Evaluation/Recommendation - Dec 05 Need Application - Dec 05	Broad stakeholder consultation	Need assessment and alternative screening re-evaluation resulted in no significant changes. Proceeding with the detailed evaluation.
2	NE	B	Fort McMurray Local Area Study (144kV & 72kV)	Transmission development to accommodate Fort McMurray city and nearby area load growth.	Preparation of need applications.	Need Assessment – complete Alternative Screening – complete Evaluation/Recommendation - complete Need Applications – Dec 05 to Jul 06	Limited to input from the TFO/DFO; need is driven by load growth & relatively few options to consider.	Recommendations from ATCO have been reviewed in the context of overall area development to arrive at the preferred alternative. Station capacity increases are addressed in this study. More than one need application will result.
3	NE	B'	Fort McMurray Local Oilsands Projects Requirements (240kV)	Transmission development to accommodate major oilsands projects connecting to the 240 kV system.	Preliminary regional system plan complete to 2015. Implementation pending customer interconnections.	Need Application – Timing is customer driven	Limited to customer interconnections	The development in oilsands region will be driven by individual customer connections and therefore it is not necessary to engage in a stakeholder consultation process to develop the regional plan.
4	NE	C	Northeast Intermediate Need (Existing Edmonton - Fort McMurray Corridor Enhancements)	Rapid on-site load and generation growth due to oilsands production requires transmission line capacity for both high import and export from Alberta's NE region. Analyze current system capabilities under various load scenarios and determine the system reinforcements required to meet future need.	Forecasts of on-site, plant and distribution loads completed; system modeling completed; proceeding with the need analysis.	Need Assessment - Dec 05 Alternative Screening - Dec 05 Evaluation/Recommendation – Jan 06 Need Applications – Q1 to Q3 06	Limited to input from TFO/DFO and information provided to broader industrial interests; enhancements to existing system.	Project Nos. 4, 13 & 14 will be studied and presented to stakeholders in coordination with each other. More than one need application will likely result.
5	NE	D	Northeast Area Planning Study (New Transmission Line Developments)	Onsite load and generation growth for oilsands expansions; Additional growth due to pipelines, industries and local infrastructure; long term potential for surplus generation; 20-yr outlook forecasts significant development of cogeneration.	Generation and load forecast to 2015 completed.	Stakeholder Information – Dec 05 Need Assessment – Mar 06 Alternative Screening – Apr 06 Evaluation/Recommendation – Jun 06 Need Application – Jul 06	Broad stakeholder consultation	Unique stakeholder information and education process anticipated in Jan 06 prior to release of the preliminary need assessment results.
6	EC	T	Cold Lake Area Planning Study	Reinforce transmission to eliminate need for the existing RAS schemes in the area; plan to accommodate future generation growth in the area by CNRL at Primrose.	Need Application filed on October 14, 2005.	Need Assessment - complete Alternative Screening - complete Evaluation/Recommendation - complete Need Application – filed Oct 14/05	Completed	Completed; this project will be removed from future AESO updates.
7	EC	E	Vegreville, Lloydminster, Wainwright and Provost Area Planning Study	To address low voltage and overloading issues.	Study work for 517L completed and preparing a need application to be file November 2005.	Need Assessment – complete Alternative Screening – complete Evaluation/Recommendation – complete Need Application – Nov 05	Limited to input from the TFO/DFO	

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8	EC	F	Hanna and Sheerness Area Planning Study	To identify any voltage or overloading issues.	Proceeding with need analysis in Q2 2006.	Need Assessment – Q2 06 Alternative Screening – Q3 06 Evaluation/Recommendation – Q4 06 Need Application – Q4 06	Limited to input from the TFO/DFO	
9	South and Calgary	G & Q	South Area Planning Study (including Calgary South and East Transfer Study)	To prepare a combined South Area transmission planning study, which incorporates the most recent developments in the SW and the SE Areas; with up to 2000 MW of wind farms proposed, bulk system reinforcement is likely required.	Scope of study under development.	Target to begin Jan 06; complete schedule to be determined based on scope of study.	Broad stakeholder consultation	
10	SE	H	Southeast Area Planning Study	The southeast area plan will identify the transmission development in the region that is required to support load growth, generation development and restoration of the Alberta-Saskatchewan intertie capacity. The Need Application will cover the components of the Area Plan that are required immediately.	Completed Need Assessment consultation and proceeding with the Alternative Screening stage.	Need Assessment - complete Need Assessment Revision – Jan 06 Alternative Screening – Jan 06 Evaluation/Recommendation – Apr 06 Need Application – Q2 06	Broad stakeholder consultation	The previous SE schedule has been revised to accommodate the large number of interconnection requests that have been received as a result of implementing the AESO's new tariff effective Jan 1/06.
11	Edmonton	I	Edmonton Region Planning Study	Potential equipment thermal loading issues (240 kV and 138 kV) have been identified in the Wabamun and Edmonton areas.	Developed various worst case study scenarios for the Edmonton and NE areas. Study models under preparation in cooperation with Bulk System Planning.	Need Assessment – Feb 06 Alternative Screening – Mar 06 Evaluation/Recommendation – May 06 Need Application – Jul 06	Broad stakeholder consultation	
12	Edmonton	J	Downtown Edmonton 240 kV Supply - Need Application	Need Application for an underground cable from Castle Downs to Victoria substation.	Application approved by AEUB.	Direct Assignment to EPCOR – 2005	Completed	Completed; this project will be removed from future AESO updates.
13	Edmonton	K	Edmonton Area Reactive Power Supply Reinforcement Study	Voltage stability concerns in the area; Wabamun generators reactive power output concerns.	Proceeding with need analysis.	Need Assessment – Dec 05 Alternative Screening – Dec 05 Evaluation/Recommendation – Feb 06 Need Applications – Q1 06	Limited to working with the TFO/DFO and information provided to broader stakeholder audience in Jan 06.	Notice to stakeholders delayed in order to include Sundance-Wabamun and Ellerslie-Cloverbar upgrades in the process. Project Nos. 4, 13 & 14 will be studied in coordination with each other; more than one need application will result.
14	Edmonton	L	Sundance-Wabamun 240 kV Reconnection Study	240 kV line overload between Sundance and Wabamun.	Preparing base cases and dynamic files.	Need Assessment – Dec 05 Alternative Screening – Dec 05 Evaluation/Recommendation – Feb 06 Need Application – Q2 06	Limited to working with the TFO/DFO and information provided to broader stakeholder audience in Jan 06.	Project Nos. 4, 13 & 14 will be studied in coordination with each other.
15	Edmonton	M	KEG RAS	Remedial action scheme to cover category C3 events as much as practically possible for 1202L, 1203L and 1209L. Double line outages (C5) may also be covered as practically possible.	Initial work performed by Operations Planning to define the need. A consultant will be engaged to perform the detailed study to plan for facilities.	Complete schedule to be determined once a consultant has been engaged to perform the study.	Limited to working with the TFO/DFO and specific generators.	

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16	Calgary	O	Calgary Area Study	Transmission development to accommodate the City of Calgary and nearby area load growth and increased bulk transfer demand. Difficulties taking maintenance outages of circuits in south Calgary.	<p><u>Regional:</u> Draft Need Assessment document being prepared for Regional portion of study.</p> <p><u>Bulk:</u> Draft Need Assessment document being prepared for Bulk portion of study.</p>	<p><u>Regional:</u> Need Assessment – Dec 05 Alternative Screening – Feb 06 Evaluation/Recommendation – Jun 06 Need Application – Aug 06</p> <p><u>Bulk:</u> Need Assessment – Dec 05 Alternative Screening – Jan 06 Evaluation/Recommendation – Mar 06 Need Application – May 06</p>	Limited to working with the TFO/DFO, load customers, and specific generators.	
17	Calgary	P	Calgary Area Reactive Power Supply Reinforcement	Addition of 520 MVAR of switched capacitors mostly at Sarcee and Janet 240 kV substations	Application approved by AEUB June 8, 2005.	Direct assignment to AltaLink; in-service date May 06.	Completed	Completed; this project will be removed from future AESO updates.
18	Entire System	N/A	NERC C and D Contingencies	<p>Conduct studies to become compliant with NERC standard I.A.S3.M3 and I.A.S4.M4.</p> <p>Conduct dynamic studies to observe how the system reacts to major disturbances in the C & D categories.</p> <p>Develop mitigation plans as required.</p>	Loadflow and dynamic studies underway.	<p><u>Category C:</u> Need Assessment – Dec 05 Alternative Screening – Dec 05 Evaluation/Recommendation – Apr 06 Need Application – Jun 06</p> <p><u>Category D:</u> Need Assessment – Feb 06 Alternative Screening – Feb 06 Evaluation/Recommendation – Apr 06 Need Application – Jul 06</p>	Information will be provided to a broad stakeholder audience in Jan 06.	
19	Inter-tie	S	Montana Alberta Tie Line Study	Merchant project; 240kV tie between Lethbridge AB and Great Falls, Montana.	<p>Feasibility study completed by ABB</p> <p>1st open season completed by MATL</p> <p>Technical Studies Need Application under development</p> <p>Detailed studies being completed by ABB.</p>	<p>Need application for interconnection facilities Nov 05, as per customer.</p> <p>Detailed studies being conducted by the developers' consultant; schedule dependent on the timing of those results.</p>	Stakeholder meeting anticipated in Nov 05; driven by developer with support from the AESO.	MATL in process of obtaining WECC path rating.