

October 10, 2017

Project No. 1787

ENMAX Power Corporation
141 - 50 Avenue SE
Calgary, AB, T2G 4S7

Attention: Matthew Dimoff – Manager, Transmission and Distribution System Planning

Dear Mr. Dimoff,

RE: Approval by the Independent System Operator, operating as the Alberta Electric System Operator (the “AESO”) under Section 501.3 of the ISO Rules *Abbreviated Needs Approval Process* (the “ANAP Rule”) for ENMAX SS-7 Substation 138/25kV Transformer Upgrade – Project No. 1787

On April 15, 2016, ENMAX Power Corporation (“EPC”) submitted a system access service request (“SASR”) to the AESO to reliably serve growing demand for electricity in the City of Calgary (AESO Planning Area 6, Calgary).

For the reasons set out below, the AESO has decided to approve the transmission development required to respond to the SASR under the AESO’s abbreviated needs approval process (“ANAP”).

BACKGROUND

As described in the Statement of Need that accompanied EPC’s SASR, EPC identified existing system deficiencies that result from limited transformation capacity in west Calgary. EPC’s system analysis determined that currently during feeder contingencies, two of the four 25 kV feeders connected to the SS-7 substation could have unsupplied load. The amount of unsupplied load is forecast to continue to increase throughout the forecast period. EPC has requested system access service from the AESO to address this reliability concern in west Calgary.

The SASR includes a Rate DTS, *Demand Transmission Service*, contract capacity increase of approximately 5 MW at the SS-7 substation¹.

¹ The SS-7 substation is also referred to as the No. 7 Substation.

As described in greater detail below, the AESO has collaborated with EPC, in its capacity as both the legal owner of the electric distribution system (“DFO”) and transmission facilities (“TFO”) in the area, to determine that the SASR can be addressed through upgrades to the existing SS-7 substation, comprised of the following elements:

- (a) replacing the two existing 138/25 kV transformers with two 138/25 kV transformers of higher capacity;
- (b) adding one 138 kV circuit breaker; and
- (c) modify, alter, add or remove equipment, including switchgear, and any operational protections, control and telecommunication devices required to undertake the work as planned and ensure proper integration with the transmission system,

(collectively, the “**Transmission Development**”).

Pursuant to Section 39 of the *Electric Utilities Act*, the AESO directed EPC as the TFO in the area:

- (a) to prepare a cost estimate for the Transmission Development (“Cost Estimate”). In the Cost Estimate, EPC estimated the in-service cost of the Transmission Development to be approximately \$7 million;²
- (b) to notify stakeholders of the need to respond to the SASR (“AESO Notification”), as part of the participant involvement program (“PIP”) carried out by EPC. EPC was also directed to provide the AESO with a report: (i) listing all of the stakeholders that received the AESO Notification, together with the date of such notification, and (ii) summarizing the PIP that was carried out by EPC. In EPC’s PIP report, EPC confirmed that the AESO Notification was sent to stakeholders within the first row of development surrounding the SS-7 substation and other interested parties identified by EPC. EPC confirmed that no concerns or objections were raised by any stakeholders about the need for the Transmission Development or the AESO’s preferred option to respond to EPC’s SASR; and
- (c) subject to the issuance by the AESO of this approval letter, to proceed to obtain all approval(s) required from the Alberta Utilities Commission to construct and operate the transmission facilities required for the Transmission Development.

² The TFO’s cost estimate is in nominal dollars using a base year of 2017 with escalation considered. Further details of this cost estimate, which has an accuracy level of +20%/-10%, can be found in the TFO Project Cost Estimate Sheet, which will be made available on the AESO website.

Further, in considering whether to approve the Transmission Development under the ANAP, and in accordance with Section 3 of the ANAP Rule, the AESO:

- (a) reviewed the last five-year recorded and 10-year forecast peak substation load for the points of delivery identified in the *Statement of Need No. 7 Substation 138/25 kV Transformer Upgrade* submitted to the AESO by EPC;
- (b) performed a comparison, in collaboration with the EPC, in its capacity as the DFO and TFO, of the reasonable and viable alternatives examined to respond to the SASR, and determined that the Transmission Development is the preferred alternative;³
- (c) assessed transmission system performance prior to connection, and has assessed transmission system performance impact following connection, by way of connection studies or other studies to determine the adequacy of the system including power flow studies and stability studies, in accordance with the AESO's planning criteria; and
- (d) notified stakeholders of the need to respond to the SASR, as part of the PIP carried out by the AESO.

ELIGIBILITY AND APPROVAL

In accordance with Section 2 of the ANAP Rule, the AESO has determined that the Transmission Development is eligible for approval under the ANAP.

The AESO has further determined that:

- (a) EPC has made all appropriate applications to the AESO to obtain the system access service requested in the SASR;
- (b) the Transmission Development will provide EPC with a reasonable opportunity to exchange electricity and ancillary services; and
- (c) the Transmission Development will properly respond to EPC's SASR.

Accordingly, and pursuant to Section 4(a) of the ANAP Rule, the AESO approves the Transmission Development under the ANAP ("Approval").

³ The alternatives examined by the AESO are discussed in Section 5 and Section 8 of the *Connection Engineering Study Report for AUC Application, SS-7 Substation Upgrade*, which will be made available on the AESO website.

The AESO may cancel or amend this approval if the Transmission Development is not in service by June 15, 2019, which is six months following the scheduled in-service date of December 15, 2018.

SUPPORTING DOCUMENTATION

The AESO prepared or reviewed the following documents in support of the Approval which will be made available at <https://www.aeso.ca/grid/projects/ss-7-substation-upgrade/>:

- (a) Statement of Need *No. 7 Substation 138/25 kV Transformer Upgrade*, submitted by EPC;
- (b) AESO *Connection Engineering Study Report for AUC Application SS-7 Substation Upgrade*, prepared by the AESO
- (c) Project Cost Estimate, submitted by EPC;
- (d) A summary of the PIP carried out by EPC and the AESO, prepared by the AESO;
- (e) Confirmation of EPC's assessment of land use and environmental aspects, submitted by EPC; and
- (f) AESO Functional Specification — *ENMAX No. 7 Substation 138/25 kV Transformer Upgrade Functional Specification*, prepared by the AESO.

Should you have any questions regarding this approval letter, please contact Brenda Hill, Regulatory Coordinator, at 403-539-2850 or brenda.hill@aeso.ca.

Sincerely,

Jerry Mossing
Vice-President, Transmission

Cc: Richard Behl, Project Manager, Integrated Projects, EPC, in its capacity as TFO