



February 15, 2008

Submitted via Digital Data Submission System

Alberta Utilities Commission
Fifth Avenue Place
4th Floor, 425 - 1 Street SW
Calgary, Alberta
T2P 3L8

Attn: Jamie Cameron, Application Officer

Dear Mr. Cameron:

Re: **Application for Amendment of the Duplication Avoidance Tariff for Imperial Oil Resources Limited Cold Lake Industrial System**

Imperial Oil Resources Limited (IOR) has requested that the AESO review the line rating of their Duplication Avoidance Tariff (DAT) facilities to enable IOR to operate at a higher demand level. This was accompanied by IOR's additional request to add the new IOR transmission line (7L105) out of the Mahihkan-837S substation to the DAT metering summation calculation.

The AESO now asks that the Alberta Utilities Commission (AUC) approve the AESO's recommendation that the IOR DAT be rated at 130 MVA in the summer and 157 MVA in the winter and that this new transmission line be included in the metering summation calculation. A blacklined copy of the proposed changes to Rider A4 of the AESO's 2008 Tariff is attached as Appendix 1 and a final copy is attached as Appendix 2.

Background

On June 21, 2001, ESBI Alberta Ltd. (EAL), the Transmission Administrator (TA) at the time, filed an application (the 2001 Application) with the EUB for approval of a DAT for IOR's Cold Lake Industrial System (ISD). The 2001 Application for the DAT requested a term of 29 years. On February 14, 2002, the EUB issued Decision 2002-019 approving the 2001 Application.

Under Decision 2002-019, the capacity of the DAT was limited to 115 MW, which was believed to be the maximum amount of load that the Duplicate Facilities would have been able to serve, based on the deemed capacity of the duplicate transmission line. If the combined Metered Demand at the Mahihkan and Leming Lake transmission stations were to exceed the 115 MW limit, the costs that would have been required to accommodate the additional load under the Duplicate Facilities alternative were to be estimated and invoiced to IOR.

In 2004, IOR indicated to the AESO that their load demand may exceed the deemed capacity (115 MW) of the Duplicate Facilities during the 2005-2006 winter period. In the course of assessing the existing capabilities of the Duplicate Facilities, which was necessary to develop the costs that would have been required to accommodate the additional load under the Duplicate Facilities alternative, the AESO concluded that the 115 MW limit was based on a summer rating of the duplicate transmission line, and determined that the winter rating of the duplicate transmission line was 138 MW.

Therefore, on August 17, 2005 (Application 1414235), the AESO made application to the EUB for the approval of an amendment to IOR's DAT. The 2005 Application requested that the EUB approve a summer transmission line rating of 115 MW and a winter transmission line rating of 138 MW. The AESO determined that the Duplicate Facilities did not require any modifications to accommodate the new line ratings and that the only increase to IOR's DAT cost would be the additional losses on loads greater than 115 MW, and less than or equal to 138 MW. On November 2, 2005, the EUB issued Order U2005-388 approving the amendment outlined in the 2005 Application.

The EUB's Industrial System Designation (ISD) Order (U2006-207) approved the expansion of IOR's Cold Lake ISD on August 25, 2006. In particular, this order approved the addition of the Mahihkan North (MahNo-909S) substation and the 144 kV transmission line (7L105) connecting the MahNo-909S Substation with the Mahihkan-837S substation (see Figure 1).

Figure 1: Updated Cold Lake Industrial Site

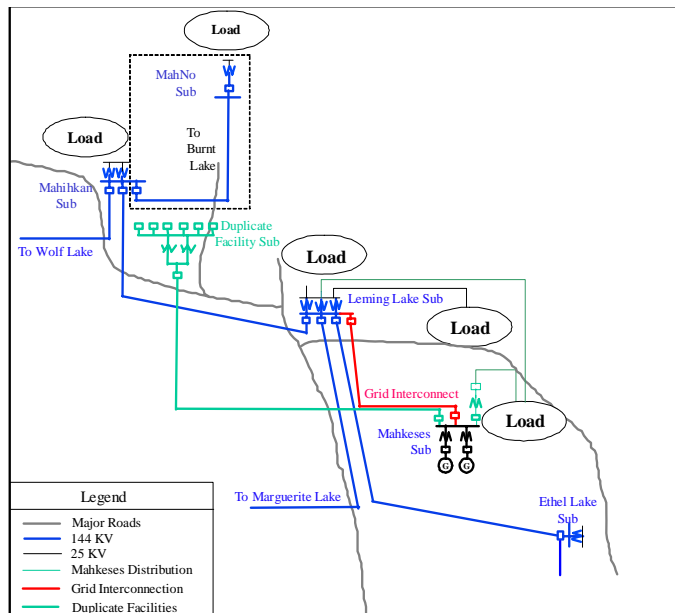


Figure 1 provides an up-dated diagram that includes the new Mahihkan North substation and transmission line. Although the DAT metering totalization will be expanded to include the new

transmission line out of the Mahihkan substation, that is scheduled to be connected on May 31, 2008, there are no new Duplication Facilities.

Current Application

IOR requested that the AESO re-examine the summer and winter line ratings approved by Order U2005-019. The AESO examined this request and is of the opinion that IOR’s Duplication Avoidance facilities should be rated using parameters that are consistent with industry standards, and in MVA rather than in MW.

Using the House and Tuttle model for transmission line rating and the parameters outlined in Table 1, the resulting transmission line ratings are 130 MVA in the summer and 157 MVA in the winter. The summer period, as outline in Rider A4 of the AESO’s current (2006) Tariff, is from April to October and the winter period is from November to March.

The AESO's opinion is that these transmission line ratings are reasonable and consistent with industry practice.

Table 1: Inputs into the House and Tuttle model for transmission line capacities

perpendicular wind speed	2 ft/s
ambient temperature	30 C summer and 0 C winter
maximum conductor temperature	100 C
emissivity	0.6
solar absorptivity	0.8
elevation	2200 ft
latitude	53 degrees
nominal voltage	144 kV
sun time	12 pm to 2 pm
conductor	266.8 MCM Partridge

Additional loss factors have been calculated based on the increase in the transmission line ratings. Table 2 provides the incremental loss factors from Rider A4 (up to 138 MW) and those proposed to be applied above 138 MW.

Table 2: Incremental Loss Factors

Range (MW)	Loss Factors (%)
0 – 10	1.88
10 – 20	1.31
20 – 30	0.64
30 – 40	0.54
40 – 50	0.60
50 – 60	0.73
60 – 70	0.90
70 – 80	1.09
80 – 90	1.29

90 - 100	1.51
100 – 110	1.72
110 – 115	1.91
115 – 120	1.99
120 – 125	2.08
125 – 130	2.16
130 – 135	2.25
135 – 140	2.33
140 – 145	2.48
Above 145	2.66

To summarize, there are several key points that must be noted with respect to revising the capacity limits of IOR’s Duplication Facilities:

1. The substance of the IOR DAT changes are that the maximum demand capacity allowed is increased to 130/157 MVA summer/winter and that an additional metering point will be included in the DAT totalization.
2. No additional facilities under the DAT will have to be constructed to allow for the increase in capacity.
3. There is no additional contribution required from IOR under the Duplication Avoidance Tariff, as the lump sum contribution of \$5,968,800 previously paid, plus the monthly payment over the 29-year term represents the cost of the duplicate facilities (as outlined in Rider A4).
4. The net benefits to AESO customers remain the same as there is no required change to the duplicate facilities to increase the line rating.
5. This Application provides additional incremental loss factors above 138 MW of metered demand. IOR is responsible to pay for any increases in losses.
6. The new transmission line (7L105) and substation (MahNo-909S) will be part the Cold Lake ISD as per EUB ISD Order U2006-207 (P&L - line: U2006-192, and R&L - substation: U2006-193). These facilities will be constructed, owned and operated by IOR.
7. IOR has made a contribution to cover the full cost for the interconnection of the IOR facilities to the AIES at the Mahihkan-837S substation through a separate AESO Customer Contribution Decision that is not part of this DAT application.

The AESO therefore requests approval from the EUB to increase the capacity of IOR’s Duplicate Facilities to 130 MVA in the summer and 157 MVA in the winter. Additionally, the new IOR transmission line (7L105) out of the Mahihkan-837S substation is to be included in the DAT metering summation calculation. A redlined copy of Rider A4 is attached as Appendix 1.

With the narrow scope of this application, the AESO requests an expedited written proceeding.

Yours truly,

“original signed by”

Kevin J. Gibson
Manager, Economics & Forecasting

attachments

cc: Richard Gallant, IOR
Andy Kneubler, AESO
Pung Toy, AESO
Doyle Sullivan, AESO