

ISO Tariff – Rider A4

Transmission Duplication Avoidance Adjustment

Imperial Oil Resources Limited – Cold Lake Industrial System



Applicability

1 Rider A4 applies to **system access service** provided to Imperial Oil Resources Limited (Imperial Oil) at the Leming Lake-715S transmission station **point of delivery** and **point of supply** and the Mahihkan-837S transmission station **point of delivery** at Imperial Oil's Cold Lake industrial system, as designated by Alberta Energy and Utilities Board Order No. HE 9901 and expanded by Order No. U2006-207, plus any expansions to this industrial system as may be approved by the **Commission**.

Rate

2(1) For each metering time interval, the **metered demand** and **metered energy** for the **points of delivery** and **point of supply**, at the 715S and 837S transmission stations, will be totalized for the purpose of settlement under Rate DTS of the **ISO tariff**, *Demand Transmission Service*, and Rate STS of the **ISO tariff**, *Supply Transmission Service*, as described in subsections 4 and 5 below.

2(2) Imperial Oil shall make the following payments to the **ISO**:

- (a) Capital Charge: A lump-sum payment of \$5,968,800 collected upon implementation of this rider;
- (b) Incremental Losses Charge: For each **settlement period**, commencing on the effective date of this rider, a payment equal to the totalized **metered energy** multiplied by the applicable **loss factor** and multiplied by the **pool price**, calculated on an hourly basis. The applicable **loss factor** for each hour will be the **loss factor** in subsection 6 below that corresponds with the totalized **metered energy** for the hour; and
- (c) Other Expenses Charge: For each **settlement period**, commencing on the effective date of this rider, an amount equal to the "Monthly Payment" in subsection 7 below for the applicable year.

Terms

3 All terms in the **ISO's** June 22, 2001 Application for a Duplication Avoidance Tariff for Imperial Oil Resources Limited Cold Lake Site and in the **ISO's** 2008 Application for Amendment will be applicable.

Metering and Totalizing

4(1) If Imperial Oil were to build the duplicate facilities, the Leming Lake transmission station would be a **point of supply** when the Cold Lake site power generation exceeds the load requirements, and a **point of delivery** when the generation does not meet the load requirements. The duplication avoidance tariff will simulate these conditions by deeming the **points of delivery** at the Mahihkan and Leming Lake transmission stations, and the **point of supply** at the Leming Lake transmission station, to be a single **point of delivery** and **point of supply** for the purpose of totalizing **metered demand** and **metered energy** in applying Rate DTS and Rate STS.

4(2) During operation of the duplication avoidance tariff, the **ISO** will totalize the metered data for Imperial Oil's load and generation served from the Mahihkan and Leming Lake transmission stations. This will ensure that payments by Imperial Oil to the **ISO** under Rate DTS and Rate STS are equivalent to the costs Imperial Oil would have incurred for the duplicate facilities.

4(3) Charges under Rate DTS and Rate STS will be calculated using the totalized **metered demand** and the totalized **metered energy** for Imperial Oil at the Mahihkan-837S transmission station and the Leming Lake-715S transmission station. The meters to be totalized at Mahihkan-837S are 5L408, 5L409,

5L410 and 7L105. The meters to be totalized at Leming Lake-715S are 5L335, 5L408, 5L575, 5L395, 5L242 and 7L95. These **meter** points may change from time to time.

4(4) The amount of load included in the totalizing calculation will be limited to 157 MVA from November through April and 130 MVA from May through October, which is the maximum amount of load that the duplicate facilities would be able to serve, based on the deemed winter and summer capacities, respectively, of the duplicate transmission line in Imperial Oil’s design. If the combined **metered demand** at the Mahihkan and Leming Lake transmission stations for the load facilities exceeds the 157 MVA winter or 130 MVA summer limit, the costs that would have been required to service the additional load under the duplicate facilities alternative will be estimated and invoiced to Imperial Oil.

Example of Totalizing

5(1) The following is an example of the totalizing calculation for **metered demand** and **metered energy** for two different metering time intervals.

	Time Interval 1	Time Interval 2
Point of delivery (A) (Mahikan)	+45 MW	+45 MW
Point of supply and point of delivery (B) (Leming Lake)	-100 MW	+60 MW
Totalized metered demand and metered energy (C)	-55 MW	+105 MW

5(2) In time interval 1, under the duplication avoidance tariff, Imperial Oil’s **demand** requirement is 45 MW at each of the Mahihkan and Leming Lake transmission stations. At the same time, Imperial Oil’s cogeneration facility is producing 160 MW of power, of which 15 MW is used to directly serve other load requirements. The net delivery to the **interconnected electric system** is 145 MW at the Leming Lake transmission station. If Imperial Oil built the duplicate facilities, the **metered energy** delivered by the **interconnected electric system** to Imperial Oil’s load requirement at the Mahihkan transmission station would be zero, and the **metered energy** received by the **interconnected electric system** from the generator output at the Leming Lake transmission station would be 55 MW (160 MW of generation minus 105 MW of load). This energy balance is simulated by the proposed totalizing procedure. Combining the **point of delivery (A)** and **point of supply (B)** produces an adjusted **metered demand** of -55 MW, where the negative sign signifies a net energy receipt by the **interconnected electric system**.

5(3) In time interval 2, the cogeneration facility is not operating and Imperial Oil’s load remains at 105 MW (45 MW at the Mahihkan station, and 45 MW plus 15 MW at Leming Lake station). The result is a net load of +105 MW for that time interval, where the positive sign signifies a net energy delivery from the **interconnected electric system**.

Schedule 1 — Incremental Loss Factors

6	Metered Demand of Load Facilities (MW)	Loss Factor (% of metered demand of load facilities)
	> 0 ≤ 10	1.88%
	> 10 ≤ 20	1.31%

Metered Demand of Load Facilities (MW)	Loss Factor (% of metered demand of load facilities)
> 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%
> 145	2.66%

Schedule 2 — Other Expenses Charge

7	12-Month Period	Monthly Payment
	Jan. 1, 2003 – Dec. 31, 2003	\$ 4,223
	Jan. 1, 2004 – Dec. 31, 2004	\$ 6,323
	Jan. 1, 2005 – Dec. 31, 2005	\$ 4,286
	Jan. 1, 2006 – Dec. 31, 2006	\$ 4,225
	12-Month Period	Monthly Payment
	Jan. 1, 2007 – Dec. 31, 2007	\$ 5,791
	Jan. 1, 2008 – Dec. 31, 2008	\$ 7,651
	Jan. 1, 2009 – Dec. 31, 2009	\$ 5,189

Jan. 1, 2010 – Dec. 31, 2010	\$ 6,835
Jan. 1, 2011 – Dec. 31, 2011	\$ 4,500
Jan. 1, 2012 – Dec. 31, 2012	\$ 8,367
Jan. 1, 2013 – Dec. 31, 2013	\$ 4,457
Jan. 1, 2014 – Dec. 31, 2014	\$ 10,648
Jan. 1, 2015 – Dec. 31, 2015	\$ 5,059
Jan. 1, 2016 – Dec. 31, 2016	\$ 5,430
Jan. 1, 2017 – Dec. 31, 2017	\$ 19,466
Jan. 1, 2018 – Dec. 31, 2018	\$ 10,660
Jan. 1, 2019 – Dec. 31, 2019	\$ 4,765
Jan. 1, 2020 – Dec. 31, 2020	\$ 10,594
Jan. 1, 2021 – Dec. 31, 2021	\$ 5,565
Jan. 1, 2022 – Dec. 31, 2022	\$ 29,055
Jan. 1, 2023 – Dec. 31, 2023	\$ 5,799
Jan. 1, 2024 – Dec. 31, 2024	\$ 5,905
Jan. 1, 2025 – Dec. 31, 2025	\$ 5,366
Jan. 1, 2026 – Dec. 31, 2026	\$ 19,095
Jan. 1, 2027 – Dec. 31, 2027	\$ 6,492
Jan. 1, 2028 – Dec. 31, 2028	\$ 5,695
Jan. 1, 2029 – Dec. 31, 2029	\$ 5,962
Jan. 1, 2030 – Dec. 31, 2030	\$ 7,811
Jan. 1, 2031 – Dec. 31, 2031	\$ 6,043

Revision History

Effective	Description
2011-07-01	Revised and reformatted all subsections, as approved in Commission Decision 2011-275 issued on June 24, 2011.