

**Monthly Reference Price Calculations  
January 2020**

Gas and In-Stream Component Reference Prices

**Gas Reference Price** **\$2.06 /GJ**

Breakdown:

Nova Inventory Transfer Purchase Price-Alberta Market Price from NGX	\$2.277 /GJ
Intra-Alberta Transportation Deduction (IATD)	\$0.170 /GJ
Price Before Pipeline Factor	\$2.107 /GJ
Pipeline Fuel/Loss Factor	0.977
Price Before Amendments	\$2.058 /GJ
Special Amendments	\$0.000 /GJ
Prior Period RP Amendments	\$0.000 /GJ
Calculated RP (Price Before Rounding)	\$2.058 /GJ
Reference Price	\$2.06 /GJ
Adjusted Intra-Alberta Transportation Deduction	\$0.166 /GJ

<b>Calculated RP = (AMP from NGX - IATD) x Pipeline Fuel/Loss Factor + Prior Period RP Amendments + Special Amendments</b> <b>Calculated RP = (2.277 - 0.170) x 0.977 + 0.000 + 0.000 = 2.058</b>
--

**Methane ISC Reference Price** **\$2.06 /GJ**

Breakdown:

Nova Inventory Transfer Purchase Price-Alberta Market Price from NGX	\$2.277 /GJ
Intra-Alberta Transportation Deduction (IATD)	\$0.170 /GJ
Price Before Pipeline Factor	\$2.107 /GJ
Pipeline Fuel/Loss Factor	0.977
Price Before Amendments	\$2.058 /GJ
Special Amendments	\$0.000 /GJ
Prior Period RP Amendments	\$0.000 /GJ
Calculated RP (Price Before Rounding)	\$2.058 /GJ
Reference Price	\$2.06 /GJ
Adjusted Intra-Alberta Transportation Deduction	\$0.166 /GJ

<b>Calculated RP = (AMP from NGX - IATD) x Pipeline Fuel/Loss Factor + Prior Period RP Amendments + Special Amendments</b> <b>Calculated RP = (2.277 - 0.170) x 0.977 + 0.000 + 0.000 = 2.058</b>
--

**Methane ISC Par Price** **\$2.06 /GJ**

Note: Calculations may not agree due to rounding.

**Monthly Reference Price Calculations  
January 2020**

Gas and In-Stream Component Reference Prices

**Ethane ISC Reference Price** **\$2.06 /GJ**

Breakdown:

Nova Inventory Transfer Purchase Price-Alberta Market Price from NGX	\$2.277 /GJ
Intra-Alberta Transportation Deduction (IATD)	\$0.170 /GJ
Price Before Pipeline Factor	\$2.107 /GJ
Pipeline Fuel/Loss Factor	0.977
Price Before Amendments	\$2.058 /GJ
Special Amendments	\$0.000 /GJ
Prior Period RP Amendments	\$0.000 /GJ
Calculated RP (Price Before Rounding)	\$2.058 /GJ
Reference Price	\$2.06 /GJ
Adjusted Intra-Alberta Transportation Deduction	\$0.166 /GJ

<b>Calculated RP = (AMP from NGX - IATD) x Pipeline Fuel/Loss Factor + Prior Period RP Amendments + Special Amendments</b> <b>Calculated RP = (2.277 - 0.170) x 0.977 + 0.000 + 0.000 = 2.058</b>
--

**Propane ISC Reference Price** **\$2.06 /GJ**

Breakdown:

Nova Inventory Transfer Purchase Price-Alberta Market Price from NGX	\$2.277 /GJ
Intra-Alberta Transportation Deduction (IATD)	\$0.170 /GJ
Price Before Pipeline Factor	\$2.107 /GJ
Pipeline Fuel/Loss Factor	0.977
Price Before Amendments	\$2.058 /GJ
Special Amendments	\$0.000 /GJ
Prior Period RP Amendments	\$0.000 /GJ
Calculated RP (Price Before Rounding)	\$2.058 /GJ
Reference Price	\$2.06 /GJ
Adjusted Intra-Alberta Transportation Deduction	\$0.166 /GJ

<b>Calculated RP = (AMP from NGX - IATD) x Pipeline Fuel/Loss Factor + Prior Period RP Amendments + Special Amendments</b> <b>Calculated RP = (2.277 - 0.170) x 0.977 + 0.000 + 0.000 = 2.058</b>
--

Note: Calculations may not agree due to rounding.

**Monthly Reference Price Calculations  
January 2020**

Gas and In-Stream Component Reference Prices

**Butanes ISC Reference Price** **\$2.06 /GJ**

Breakdown:

Nova Inventory Transfer Purchase Price-Alberta Market Price from NGX	\$2.277 /GJ
Intra-Alberta Transportation Deduction (IATD)	\$0.170 /GJ
Price Before Pipeline Factor	\$2.107 /GJ
Pipeline Fuel/Loss Factor	0.977
Price Before Amendments	\$2.058 /GJ
Special Amendments	\$0.000 /GJ
Prior Period RP Amendments	\$0.000 /GJ
Calculated RP (Price Before Rounding)	\$2.058 /GJ
Reference Price	\$2.06 /GJ
Adjusted Intra-Alberta Transportation Deduction	\$0.166 /GJ

<b>Calculated RP = (AMP from NGX - IATD) x Pipeline Fuel/Loss Factor + Prior Period RP Amendments + Special Amendments</b> <b>Calculated RP = (2.277 - 0.170) x 0.977 + 0.000 + 0.000 = 2.058</b>
--

**Pentanes ISC Reference Price** **\$2.06 /GJ**

Breakdown:

Nova Inventory Transfer Purchase Price-Alberta Market Price from NGX	\$2.277 /GJ
Intra-Alberta Transportation Deduction (IATD)	\$0.170 /GJ
Price Before Pipeline Factor	\$2.107 /GJ
Pipeline Fuel/Loss Factor	0.977
Price Before Amendments	\$2.058 /GJ
Special Amendments	\$0.000 /GJ
Prior Period RP Amendments	\$0.000 /GJ
Calculated RP (Price Before Rounding)	\$2.058 /GJ
Reference Price	\$2.06 /GJ
Adjusted Intra-Alberta Transportation Deduction	\$0.166 /GJ

<b>Calculated RP = (AMP from NGX - IATD) x Pipeline Fuel/Loss Factor + Prior Period RP Amendments + Special Amendments</b> <b>Calculated RP = (2.277 - 0.170) x 0.977 + 0.000 + 0.000 = 2.058</b>
--

Note: Calculations may not agree due to rounding.

## Monthly Reference Price Calculations January 2020

### Gas and In-Stream Component Reference Prices

#### **Intra-Alberta Transportation Deduction (IATD) Calculation**

Average Firm Service Receipt Rate on NOVA Gas Transmission Limited (NGTL)	\$207.86	/1000m <sup>3</sup>
Average Number of Days in a Month	30.417	days
Average Heat Content on all NGTL Receipt Meter Stations	40.30	/GJ/1000m <sup>3</sup>
Intra-Alberta Transportation Deduction (IATD)	\$0.170	/GJ

#### **Pipeline Fuel/Loss Factor Calculation**

Alberta Fuel Usage and Measurement Variance on NGTL	2.33	%
Pipeline Fuel/Loss Factor	0.977	

#### **Adjusted Intra-Alberta Transportation Deduction (AIATD) Calculation**

Intra-Alberta Transportation Deduction (IATD)	\$0.170	/GJ
Pipeline Fuel/Loss Factor	0.977	
Adjusted Intra-Alberta Transportation Deduction (AIATD)	\$0.166	/GJ

## Monthly Reference Price Calculations January 2020

### Gas and NGL Reference Prices

#### Natural Gas Liquids Reference Prices and Par Prices

Ethane Reference Price	\$2.06 /GJ
Ethane Par Price	\$2.06 /GJ
Propane Spec Reference Price	\$91.40 /m <sup>3</sup>
Propane Mix Reference Price	\$16.81 /m <sup>3</sup>
Butanes Spec Reference Price	\$153.21 /m <sup>3</sup>
Butanes Mix Reference Price	\$46.64 /m <sup>3</sup>
Pentanes Plus Spec Reference Price	\$479.15 /m <sup>3</sup>
Pentanes Plus Mix Reference Price	\$475.41 /m <sup>3</sup>
Pentanes Plus Par Price	\$479.15 /m <sup>3</sup>

Sulphur Default Price	\$2.06 /tonne
-----------------------	---------------

Note: Calculations may not agree due to rounding.