LIST

# IESO Charge Types and Equations

**Issue 6.0**

**December 3, 2025**

This document enumerates the various *charge types* and equations used in the *IESO settlements process* for *IESO-administered markets*.

## Note- Excerpts of IESO Charge Types and Equations- highlights the associated changes that will be presented at the December 16, 2025 stakeholder engagement meeting

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|---|---|---|---|---|---|---|---|---|---|---|
| 1904<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for Energy<br><br>(RT_MWP – RT_ELOC) | MR Ch.9 ss.3.5.6.2, 3.5.9, and 3.5.10 | Dispatchable Generation Resources that are not Pseudo-Units and Dispatchable Electricity Storage Resources that are Registered to Inject<br>$RT\_ELOC_{k,h}^{m,t} = \{Max[0, OP(RT\_LMP_h^{m,t}, RT\_LOC\_EOP_{k,h}^{m,t}, BE_{k,h}^{m,t})] - Max[0, OP(RT\_LMP_h^{m,t}, Max(RT\_QSI_{k,h}^{m,t}, AQEI_{k,h}^{m,t}), BE_{k,h}^{m,t})] - RT\_FROP\_LOC_{k,h}^{m,t}\}$<br><br>Where:<br>if the dispatchable generation resource is registered as a hydroelectric generation resource, $RT\_QSI_{k,h}^{m,t}$ is greater than $FR\_LL_k^{m,f}$, and $RT\_QSI_{k,h}^{m,t}$ is less than or equal to $FR\_UL_k^{m,f}$, then<br><br>$RT\_FROP\_LOC_{k,h}^{m,t} = Max[0, OP(RT\_LMP_h^{m,t}, Min(FR\_UL_{k,h}^{m,f}, RT\_LOC\_EOP_{k,h}^{m,t}), BE_{k,h}^{m,t})] - Max[0, OP(RT\_LMP_h^{m,t}, Max(RT\_QSI_{k,h}^{m,t,f}, AQEI_{k,h}^{m,t}), BE_{k,h}^{m,t})]$<br><br>Where:<br>'$FR\_UL_k^{m,f}$' = the forbidden region upper limit from forbidden region set 'f' where $RT\_QSI_{k,h}^{m} < FR\_UL_k^{m,f}$, as submitted by market participant 'k' for delivery point 'm' as daily dispatch data;<br>'$FR\_LL_k^{m,f}$' = the forbidden region lower limit from forbidden region set 'f' where $RT\_QSI_{k,h}^{m} >= FR\_LL_k^{m,f}$, as submitted by market participant 'k' for delivery point 'm' as daily dispatch data; and<br>'f' = (1…N) of the forbidden region set $\{FR\_UL_k^{m,f}, FR\_LL_k^{m,f}\}$ and N is the maximum number of forbidden regions submitted by market participant 'k' for delivery point 'm' as daily dispatch data.<br><br>Otherwise $RT\_FROP\_LOC_{k,h}^{m,t}$ shall equal zero.<br><br>Dispatchable Generation Resources that are Pseudo-Units: Combustion Turbine<br>$RT\_ELOC_{k,h}^{c,t} = \{Max[0, OP(RT\_LMP_h^{c,t}, RT\_LOC\_EOP_{k,h}^{c,t}, RT\_DIPC_{k,h}^{c,t})] - Max[0, OP(RT\_LMP_h^{c,t}, Max(RT\_QSI_{k,h}^{c,t}, AQEI_{k,h}^{c,t}), RT\_DIPC_{k,h}^{c,t})]\}/12$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Steam Turbine<br>$RT\_ELOC_{k,h}^{s,t} = \{Max[0, OP(RT\_LMP_h^{s,t0}, RT\_LOC\_EOP\_DIGQ_{k,h}^{s,t0}, RT\_DIPC_{k,h}^{s,t0})] - Max[0, OP(RT\_LMP_h^{s,t0}, Max(RT\_QSI\_DIGQ_{k,h}^{s,t0}, AQEI_{k,h}^{s,t0}), RT\_DIPC_{k,h}^{s,t0})]\}/12 + \{OP(RT\_LMP_h^{s,t1}, RT\_LOC\_EOP\_DIGQ_{k,h}^{s,t1}, RT\_DIPC_{k,h}^{s,t1}) - Max[0, OP(RT\_LMP_h^{s,t1}, RT\_QSI\_DIGQ_{k,h}^{s,t1}, RT\_DIPC_{k,h}^{s,t1})]\}/12$ | Interval | Due MP | 13 | N/A | N/A | N/A | |

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| | | | Where:<br>t0 = metering interval 't' in settlement hour "h' when none of the combustion turbine resources associated with the steam turbine resources have a real-time schedule that is less than its respective minimum loading point; and<br>t1 = metering interval 't' in settlement hour "h' when (1) at least one combustion turbine resource associated with the steam turbine resource has a real-time schedule greater than or equal to its minimum loading point; and (2) at least one of the combustion turbine resources associated with the steam turbine resource has a real-time schedule that is less than its respective minimum loading point.<br><br>Note: For greater certainty, 't1' and 't0' metering intervals are mutually exclusive, and the calculation will be conducted using either the 't1' or 't0' variables, depending on whether the relevant metering interval meets the criteria of 't1' or 't0', respectively. | | | | | | | |
| 1904<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for Energy<br><br>(RT_MWP – RT_ELOC) | MR Ch.9 s.3.5.7 | Dispatchable Loads and Dispatchable Electricity Storage Resources that are Registered to Withdraw<br><br>$RT\_ELOC_{k,h}^{m,t} = -1 \times \{Max\,[0, OP(RT\_LMP_{h}^{m,t}, RT\_LOC\_EOP_{k,h}^{m,t}, BL_{k,h}^{m,t})] - OP(RT\_LMP_{h}^{m,t}, Max(RT\_QSW_{k,h}^{m,t}, AQEW_{k,h}^{m,t}), BL_{k,h}^{m,t})\}/12$ | Interval | Due MP | 13 | N/A | N/A | N/A | |
| 1905<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Spinning Reserve<br><br>(RT_MWP – RT_OLOC) | MR Ch.9 ss. 3.5.6, 3.5.9, and 3.5.10 | Dispatchable Generation Resources that are not Pseudo-Units and Dispatchable Electricity Storage Resources that are Registered to Inject<br>$RT\_OLOC_{k,h}^{m,t} = \{\text{Max}[0, OP(RT\_PROR_{r1,h}^{m,t}, RT\_OR\_LOC\_EOP_{r1,k,h}^{m,t}, BOR_{r1,k,h}^{m,t})] - Max[0, OP(RT\_PROR_{r1,h}^{m,t}, RT\_QSOR_{r1,k,h}^{m,t}, BOR_{r1,k,h}^{m,t})] - RT\_OR\_FROP\_LOC_{r1,k,h}^{m,t}\}/12$<br>Where:<br>if the dispatchable generation resource is registered as a hydroelectric generation resource, then;<br><br>$RT\_OR\_FROP\_LOC_{r1,k,h}^{m,t} = Max\,[0, OP(RT\_PROR_{r1,h}^{m,t}, (RT\_OR\_LOC\_EOP_{r1,k,h}^{m,t} - QTY\_ADJ_{r1,k,h}^{m,t}), BOR_{r1,k,h}^{m,t})] - Max\left(0, OP(RT\_PROR_{r1,h}^{m,t}, RT\_QSOR_{r1,k,h}^{m,t}, BOR_{r1,k,h}^{m,t})\right)$<br><br>Where:<br><br>a. $QTY\_ADJ_{r1,k,h}^{m,t} = \text{Max}(0, QTY\_DIFF_{r1,k,h}^{m,t} - FR\_QTY\_AVAIL_{r1,k,h}^{m,t})$ | Interval | Due MP | 13 | N/A | N/A | N/A | |

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| | | | b. $QTY\_DIFF^{m,t}_{r1,k,h} = RT\_OR\_LOC\_EOP^{m,t}_{r1,k,h} - RT\_QSOR^{m,t}_{r1,k,h}$<br>c. $FR\_QTY\_AVAIL^{m,t}_{r1,k,h} =$<br>$Max\left[0, Max\left(DAM\_QSI^{m}_{k,h}, Min\left(RT\_QSI^{m,t}_{k,h}, AQEI^{m,t}_{k,h}\right)\right) - Max\left(FR\_LL^{m,t}_{k,h}, DAM\_QSI^{m}_{k,h}, RT\_LC\_EOP^{m,t}_{k,h}\right)\right]$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Combustion Turbine<br>$RT\_OLOC^{c,t}_{k,h} = \left[\max\left[0, OP\left(RT\_PROR^{c,t}_{r1,h}, RT\_OR\_LOC\_EOP^{c,t}_{r1,k,h}, RT\_OR\_DIPC^{c,t}_{r1,k,h}\right)\right] - Max\left[0, OP\left(RT\_PROR^{c,t}_{r1,h}, RT\_QSOR^{c,t}_{r1,k,h}, RT\_OR\_DIPC^{c,t}_{r1,k,h}\right)\right]\right]/12$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Steam Turbine<br>$RT\_OLOC^{s,t}_{k,h} = \{Max\left[0, OP\left(RT\_PROR^{s,t}_{r1,h}, RT\_OR\_LOC\_EOP^{s,t}_{r1,k,h}, RT\_OR\_DIPC^{s,t}_{r1,k,h}\right)\right] - Max\left[0, OP\left(RT\_PROR^{s,t}_{r1,h}, RT\_QSOR^{s,t}_{r1,k,h}, RT\_OR\_DIPC^{s,t}_{r1,k,h}\right)\right]\}$ | | | | | | | |
| 1905<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Spinning Reserve<br><br>(RT_MWP – RT_OLOC) | MR Ch.9 s.3.5.7 | Dispatchable Loads and Dispatchable Electricity Storage Resources that are Registered to Withdraw<br><br>$RT\_OLOC^{m,t}_{k,h} = \{\text{Max}\left[0, OP\left(RT\_PROR^{m,t}_{r1,h}, RT\_OR\_LOC\_EOP^{m,t}_{r1,k,h}, BOR^{m,t}_{r1,k,h}\right)\right] - Max\left[0, OP\left(RT\_PROR^{m,t}_{r1,h}, RT\_QSOR^{m,t}_{r1,k,h}, BOR^{m,t}_{r1,k,h}\right)\right]\}/12$ | Interval | Due MP | 13 | N/A | N/A | N/A | |
| 1906<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Non-Spinning Reserve<br><br>(RT_MWP – RT_OLOC) | MR Ch.9 ss.3.5.6, 3.5.9, and 3.5.10 | Dispatchable Generation Resources that are not Pseudo-Units and Dispatchable Electricity Storage Resources that are Registered to Inject<br><br>$RT\_OLOC^{m,t}_{k,h} = \{\text{Max}\left[0, OP\left(RT\_PROR^{m,t}_{r2,h}, RT\_OR\_LOC\_EOP^{m,t}_{r2,k,h}, BOR^{m,t}_{r2,k,h}\right)\right] - Max\left[0, OP\left(RT\_PROR^{m,t}_{r2,h}, RT\_QSOR^{m,t}_{r2,k,h}, BOR^{m,t}_{r2,k,h}\right)\right] - RT\_OR\_\text{FROP}\_LOC^{m,t}_{r2,k,h}\}/12$<br><br>Where:<br>if the dispatchable generation resource is registered as a hydroelectric generation resource, then | Interval | Due MP | 13 | N/A | N/A | N/A | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | $RT\_OR\_FROP\_LOC^{m,t}_{r2,k,h}$ $= Max[0, OP(RT\_PROR^{m,t}_{r2,h}, (RT\_OR\_LOC\_EOP^{m,t}_{r2,k,h} - QTY\_ADJ^{m,t}_{r2,k,h}), BOR^{m,t}_{r2,k,h})]$ $- Max\left(0, OP(RT\_PROR^{m,t}_{r2,h}, RT\_QSOR^{m,t}_{r2,k,h}, BOR^{m,t}_{r2,k,h})\right)$<br><br>Where:<br><br>a. $QTY\_ADJ^{m,t}_{r2,k,h} = \text{Max}(0, QTY\_DIFF^{m,t}_{r2,k,h} - FR\_QTY\_AVAIL^{m,t}_{r2,k,h})$<br>b. $QTY\_DIFF^{m,t}_{r2,k,h} = RT\_OR\_LOC\_EOP^{m,t}_{r2,k,h} - RT\_QSOR^{m,t}_{r2,k,h}$<br>c. $FR\_QTY\_AVAIL^{m,t}_{r2,k,h} = FR\_QTY\_AVAIL^{m,t}_{r1,k,h} - (RT\_OR\_LOC\_EOP^{m,t}_{r1,k,h} - QTY\_ADJ^{m,t}_{r1,k,h} - RT\_QSOR^{m,t}_{r1,k,h})$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Combustion Turbine<br>$RT\_OLOC^{c,t}_{k,h} = [Max[0, OP(RT\_PROR^{c,t}_{r2,h}, RT\_OR\_LOC\_EOP^{c,t}_{r2,k,h}, RT\_OR\_DIPC^{c,t}_{r2,k,h})]$ $- Max[0, OP(RT\_PROR^{c,t}_{r2,h}, RT\_QSOR^{c,t}_{r2,k,h}, RT\_OR\_DIPC^{c,t}_{r2,k,h})]]/12$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Steam Turbine<br>$RT\_OLOC^{s,t}_{k,h} = \{Max[0, OP(RT\_PROR^{s,t}_{r2,h}, RT\_OR\_LOC\_EOP^{s,t}_{r2,k,h}, RT\_OR\_DIPC^{s,t}_{r2,k,h})]$ $- Max[0, OP(RT\_PROR^{s,t}_{r2,h}, RT\_QSOR^{s,t}_{r2,k,h}, RT\_OR\_DIPC^{s,t}_{r2,k,h})]\}/12$ | | | | | | | |
| 1906<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Non-Spinning Reserve<br><br>(RT_MWP – RT_OLOC) | MR Ch.9 s.3.5.7 | Dispatchable Loads and Dispatchable Electricity Storage Resources that are Registered to Withdraw<br>$RT\_OLOC^{m,t}_{k,h} = \{Max[0, OP(RT\_PROR^{m,t}_{r2,h}, RT\_OR\_LOC\_EOP^{m,t}_{r2,k,h}, BOR^{m,t}_{r2,k,h})]$ $- Max[0, OP(RT\_PROR^{m,t}_{r2,h}, RT\_QSOR^{m,t}_{r2,k,h}, BOR^{m,t}_{r2,k,h})]\}/12$ | Interval | Due MP | 13 | N/A | N/A | N/A | |
| 1907<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for 30-Minute | MR Ch.9 ss.3.5.6, 3.5.9, and 3.5.10 | Dispatchable Generation Resources that are not Pseudo-Units and Dispatchable Electricity Storage that are Registered to Inject<br>$RT\_OLOC^{m,t}_{k,h} = \{Max[0, OP(RT\_PROR^{m,t}_{r3,h}, RT\_OR\_LOC\_EOP^{m,t}_{r3,k,h}, BOR^{m,t}_{r3,k,h})]$ $- Max[0, OP(RT\_PROR^{m,t}_{r3,h}, RT\_QSOR^{m,t}_{r3,k,h}, BOR^{m,t}_{r3,k,h})] - RT\_OR\_FROP\_LOC^{m,t}_{r3,k,h}\}/12$ | Interval | Due MP | 13 | N/A | N/A | N/A | |

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|---|---|---|---|---|---|---|---|---|---|---|
| | Operating Reserve<br><br>(RT_MWP – RT_OLOC) | | Where:<br>if the dispatchable generation resource is registered as a hydroelectric generation resource, then<br>$RT\_OR\_FROP\_LOC^{m,t}_{r3,k,h}$<br>$= Max[0, OP(RT\_PROR^{m,t}_{r3,h}, (RT\_OR\_LOC\_EOP^{m,t}_{r3,k,h} - QTY\_ADJ^{m,t}_{r3,k,h}), BOR^{m,t}_{r3,k,h})]$<br>$- Max\left(0, OP(RT\_PROR^{m,t}_{r3,h}, RT\_QSOR^{m,t}_{r3,k,h}, BOR^{m,t}_{r3,k,h})\right)$<br>Where:<br>a. $QTY\_ADJ^{m,t}_{r3,k,h} = \text{Max}(0, QTY\_DIFF^{m,t}_{r3,k,h} - FR\_QTY\_AVAIL^{m,t}_{r3,k,h})$<br>b. $QTY\_DIFF^{m,t}_{r3,k,h} = RT\_OR\_LOC\_EOP^{m,t}_{r3,k,h} - RT\_QSOR^{m,t}_{r3,k,h}$<br>c. $FR\_QTY\_AVAIL^{m,t}_{r3,k,h} = FR\_QTY\_AVAIL^{m,t}_{r2,k,h} - (RT\_OR\_LOC\_EOP^{m,t}_{r2,k,h} - QTY\_ADJ^{m,t}_{r2,k,h} - RT\_QSOR^{m,t}_{r2,k,h})$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Combustion Turbine<br>$RT\_OLOC^{c,t}_{k,h} = \left[Max[0, OP(RT\_PROR^{c,t}_{r3,h}, RT\_OR\_LOC\_EOP^{c,t}_{r3,k,h}, RT\_OR\_DIPC^{c,t}_{r3,k,h})] - Max[0, OP(RT\_PROR^{c,t}_{r3,h}, RT\_QSOR^{c,t}_{r3,k,h}, RT\_OR\_DIPC^{c,t}_{r3,k,h})]\right]/12$<br><br>Dispatchable Generation Resources that are Pseudo-Units: Steam Turbine<br>$RT\_OLOC^{s,t}_{k,h} = \{\max[0, OP(RT\_PROR^{s,t}_{r3,h}, RT\_OR\_LOC\_EOP^{s,t}_{r3,k,h}, RT\_OR\_DIPC^{s,t}_{r3,k,h})] - Max[0, OP(RT\_PROR^{s,t}_{r3,h}, RT\_QSOR^{s,t}_{r3,k,h}, RT\_OR\_DIPC^{s,t}_{r3,k,h})]\}/12$ | | | | | | | |
| 1907<br>MRP new | Real-Time Make-Whole Payment – Lost Opportunity Cost for 30-Minute Operating Reserve<br><br>(RT_MWP – RT_OLOC) | MR Ch.9 s.3.5.7 | Dispatchable Loads and Dispatchable Electricity Storage Resources that are Registered to Withdraw<br><br>$RT\_OLOC^{m,t}_{k,h} = \{\max[0, OP(RT\_PROR^{m,t}_{r3,h}, RT\_OR\_LOC\_EOP^{m,t}_{r3,k,h}, BOR^{m,t}_{r3,k,h})] - Max[0, OP(RT\_PROR^{m,t}_{r3,h}, RT\_QSOR^{m,t}_{r3,k,h}, BOR^{m,t}_{r3,k,h})]\}/12$ | Interval | Due MP | 13 | N/A | N/A | N/A | |

## 1.1. Rounding Conventions – by Charge Type

### 1.1.1. General Notes

- All *settlement amounts* reported by the *IESO settlements* system are expressed in dollars and are rounded to the nearest cent (e.g. to two decimal places) on *settlement statements,* although some *settlement* calculations may only yield 1 significant digit to the right of the decimal place. In these instances, the financial amount is NOT further rounded to the nearest ten cents.
- **Table 2-5** provides a description of each of the column references for rounding conventions by *charge type*.
- **Table 2-6** lists all the rounding conventions by *charge type*. This table:
  - references significant digits to the right of the decimal place. This should NOT be confused with the number of decimal places allowable in some columns on the *settlement statements* and data files as set out in Format Specifications for Settlement Statement Files and Data Files document. This document is located on the Technical Interfaces webpage under 'Commercial Reconciliation';
  - does not include the final rounding step to the nearest cent, as this is done for ALL *settlement amounts*. Rather, it describes any intermediate calculations (particularly, those involving division) that involve rounding prior to the final calculation of the *settlement amount*.

**Table 2-1: Description of Column References for Rounding Conventions – by Individual Charge Type**

**Table 2-2: Rounding Conventions – by Individual Charge Type**

| Charge Type Number | Charge Type Name | INPUT VARIABLES Least number of significant digits to the right of the decimal | INPUT VARIABLES Maximum number of significant digits to the right of the decimal | Intermediate Rounding done by Settlements? | INTERMEDIATE CALCULATION 1 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 1 | INTERMEDIATE CALCULATION 2 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 2 |
|---|---|---|---|---|---|---|---|---|
| 1904 | Real-Time Make-Whole Payment – Lost Opportunity Cost for Energy<br><br>Dispatchable Generation Resources | 1 | 3 | Yes | AQEI multiplied by 12<br>Resulting Decimals: 3 | Compare with RT_QSI. | OP(RT_LMP, RT_LOC_EOP, BE)<br>OP(RT_LMP, Max(RT_QSI, AQEI), BE)<br><br>FROP = OP(RT_LMP, Min(FR_UL, RT_LOC_EOP), BE) - OP(RT_LMP, Max(RT_QSI, AQEI), BE)<br><br>For Combustion Turbines:<br>OP(RT_LMP, RT_LOC_EOP, RT_DIPC)<br>OP(RT_LMP, Max(RT_QSI,AQEI), RT_DIPC)<br><br>For Steam Turbines:<br>OP(RT_LMP, RT_LOC_EOP_DIGQ, RT_DIPC)<br>OP(RT_LMP, Max(RT_QSI_DIGQ, AQEI), RT_DIPC)<br>OP(RT_LMP, RT_QSI_DIGQ, RT_DIPC)<br><br>Resulting Decimals: 2 | Profits are compared as applicable. |

| Charge Type Number | Charge Type Name | INPUT VARIABLES Least number of significant digits to the right of the decimal | INPUT VARIABLES Maximum number of significant digits to the right of the decimal | Intermediate Rounding done by Settlements? | INTERMEDIATE CALCULATION 1 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 1 | INTERMEDIATE CALCULATION 2 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 2 |
|---|---|---|---|---|---|---|---|---|
| 1904 | Real-Time Make-Whole Payment – Lost Opportunity Cost for Energy<br><br>Dispatchable Loads | 1 | 3 | Yes | AQEW multiplied by 12<br>Resulting Decimals: 3 | Compare with RT_QSW. | OP(RT_LMP, RT_LOC_EOP, BL)<br><br>OP(RT_LMP, Max(RT_QSW, AQEW), BL)<br><br>Resulting Decimals: 2 | Profits are compared as applicable. |
| 1905 | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Spinning Reserve<br><br>Dispatchable Generation Resources | 1 | 3 | Yes | OP(RT_PROR, RT_OR_LOC_EOP, BOR)<br><br>OP(RT_PROR, RT_QSOR, BOR)<br><br>Forbidden Region:<br>OP(RT_PROR, (RT_OR_LOC_EOP – QTY_ADJ), BOR) – Max (0, OP(RT_PROR, RT_QSOR, BOR)<br><br>For Combustion Turbines:<br>OP(RT_PROR, RT_OR_LOC_EOP, RT_OR_DIPC)<br><br>OP(RT_PROR, RT_QSOR, RT_OR_DIPC)<br><br>For Steam Turbines: | Profits are compared as applicable. | | |

| Charge Type Number | Charge Type Name | INPUT VARIABLES Least number of significant digits to the right of the decimal | INPUT VARIABLES Maximum number of significant digits to the right of the decimal | Intermediate Rounding done by Settlements? | INTERMEDIATE CALCULATION 1 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 1 | INTERMEDIATE CALCULATION 2 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 2 |
|---|---|---|---|---|---|---|---|---|
| | | | | | OP(RT_PROR, RT_OR_LOC_EOP, RT_OR_DIPC)<br><br>OP(RT_PROR, RT_QSOR, RT_OR_DIPC)<br><br>Resulting Decimals: 2 | | | |
| 1905 | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Spinning Reserve<br><br>Dispatchable Loads | 1 | 3 | Yes | OP(RT_PROR, RT_OR_LOC_EOP, BOR)<br><br>OP(RT_PROR, RT_QSOR, BOR)<br><br>Resulting Decimals: 2 | Profits are compared as applicable. | | |
| 1906 | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Non-Spinning Reserve<br><br>Dispatchable Generation Resources | 1 | 3 | Yes | OP(RT_PROR, RT_OR_LOC_EOP, BOR)<br><br>OP(RT_PROR, RT_QSOR, BOR)<br><br>Forbidden Region:<br>OP(RT_PROR, (RT_OR_LOC_EOP – QTY_ADJ), BOR) – Max (0, OP(RT_PROR, RT_QSOR, BOR)<br><br>For Combustion Turbines: | Profits are compared as applicable. | | |

| Charge Type Number | Charge Type Name | INPUT VARIABLES Least number of significant digits to the right of the decimal | INPUT VARIABLES Maximum number of significant digits to the right of the decimal | Intermediate Rounding done by Settlements? | INTERMEDIATE CALCULATION 1 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 1 | INTERMEDIATE CALCULATION 2 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 2 |
|---|---|---|---|---|---|---|---|---|
| | | | | | OP(RT_PROR, RT_OR_LOC_EOP, RT_OR_DIPC)<br><br>OP(RT_PROR, RT_QSOR, RT_OR_DIPC)<br><br>For Steam Turbines:<br>OP(RT_PROR, RT_OR_LOC_EOP, RT_OR_DIPC)<br><br>OP(RT_PROR, RT_QSOR, RT_OR_DIPC)<br><br>Resulting Decimals: 2 | | | |
| 1906 | Real-Time Make-Whole Payment – Lost Opportunity Cost for 10-Minute Non-Spinning Reserve<br><br>Dispatchable Loads | 1 | 3 | Yes | OP(RT_PROR, RT_OR_LOC_EOP, BOR)<br><br>OP(RT_PROR, RT_QSOR, BOR)<br><br>Resulting Decimals: 2 | Profits are compared as applicable. | | |
| 1907 | Real-Time Make-Whole Payment – Lost Opportunity Cost for 30-Minute Operating Reserve<br><br>Dispatchable Generation Resources | 1 | 3 | Yes | OP(RT_PROR, RT_OR_LOC_EOP, BOR)<br><br>OP(RT_PROR, RT_QSOR, BOR)<br>Forbidden Region:<br>OP(RT_PROR, (RT_OR_LOC_EOP – QTY_ADJ), BOR) – | Profits are compared as applicable. | | |

| Charge Type Number | Charge Type Name | INPUT VARIABLES Least number of significant digits to the right of the decimal | INPUT VARIABLES Maximum number of significant digits to the right of the decimal | Intermediate Rounding done by Settlements? | INTERMEDIATE CALCULATION 1 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 1 | INTERMEDIATE CALCULATION 2 (where intermediate rounding occurs) | DISPOSITION OF INTERMEDIATE CALCULATION 2 |
|---|---|---|---|---|---|---|---|---|
| | | | | | Max (0, OP(RT_PROR, RT_QSOR, BOR)<br><br>For Combustion Turbines:<br>OP(RT_PROR, RT_OR_LOC_EOP, RT_OR_DIPC)<br><br>OP(RT_PROR, RT_QSOR, RT_OR_DIPC)<br><br>For Steam Turbines:<br>OP(RT_PROR, RT_OR_LOC_EOP, RT_OR_DIPC)<br><br>OP(RT_PROR, RT_QSOR, RT_OR_DIPC)<br><br>Resulting Decimals: 2 | | | |
| 1907 | Real-Time Make-Whole Payment – Lost Opportunity Cost for 30-Minute Operating Reserve<br><br>Dispatchable Loads | 1 | 3 | Yes | OP(RT_PROR, RT_OR_LOC_EOP, BOR)<br><br>OP(RT_PROR, RT_QSOR, BOR)<br><br>Resulting Decimals: 2 | Profits are compared as applicable. | | |

# References

| Document Name | Doc ID |
|---|---|
| Market Rules for the Ontario Electricity Market | RUL-6 to RUL-24 |
| Market Manual 1: Connecting to Ontario's Power System, Part 1.5: Market Registration Procedures | MAN-108 |
| Market Manual 5: Settlements, Part 5.10: Settlement Disagreements | MAN-120 |
| Format Specifications for Settlement Statement Files and Data Files | IMP_SPEC_0005 |
| ***Ontario Energy Board Act, 1998*** | |
| Regulation 436/02 | |
| Regulation 330/09 | |
| Regulation 98/05 | |
| Regulation 314/15 | |
| Regulation 442/01 | |
| ***Electricity Act, 1998*** | |
| Regulation 429/04 | |
| Regulation 493/01 | |
| Regulation 494/01 | |
| ***Ontario Rebate for Electricity Consumers Act, 2016*** | |
| Regulation 363/16 | |
| Regulation 364/16 | |
| ***Electricity Restructuring Act, 2004*** | |
| ***Bill 4, Ontario Energy Board Amendment Act (Electricity pricing), 2003*** | Bill 4 |

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