



DECEMBER, 2023

Revenue Metering Standing Committee



Welcome Remarks

Victoria Falvo | Sr. Manager, Meter Data Management



Administrative Items

Tiberiu Abid | Engineering Supervisor, Revenue Metering

Administrative Items

- Review current meeting agenda
- Review and approval of last meeting minutes

Administrative Items - Updates on action items

#	Date	Action	Status	Comments
1	Jun 2021	IESO to invite committee members to continue discussion relating to meter phase rotation and remedial plan.	Open	Dec 14/23: MC issued S-E-08, revision 3, on September 28, 2023. The purpose of revision 3 was to: (i) clarify the position of Measurement Canada with regards to ABC versus CBA rotation and the vector diagrams in the standard drawings, and (ii) update the document according to the latest formatting requirements, which included modifying the document numbering. However, there are no specific revisions in the body of the specification and we believe the revisions are reflected in Appendix A—Standard Drawings for Electricity Metering Installations. This appendix is available upon request due to its large size. To obtain a copy, please send an email to mcinfo-infomc@ised-isde.gc.ca. To date, we were not able to obtain a copy of Appendix A for our review. June 22/23: Status quo – still awaiting for MC revisions Dec 7/22: Status quo – still awaiting for MC revisions Jun 23/22: Status quo – still awaiting for MC revisions Dec 9/21: Follow up meeting conducted on Sep 15/21. The meeting did not yield any changes to the initial remediation plan. Based on IESO's discussions with Measurement Canada, it has been recognized the need to revise the current Measurement Canada S-E-08 to ensure clarity regarding this issue. MC plans to revise the S-E-08 by Q3-2022. Until then, IESO will pause the enforcement of the current remediation plan. Jun 24/21: The IESO will schedule a follow up meeting with the MSPs to discuss this further.

Administrative Items - Updates on action items

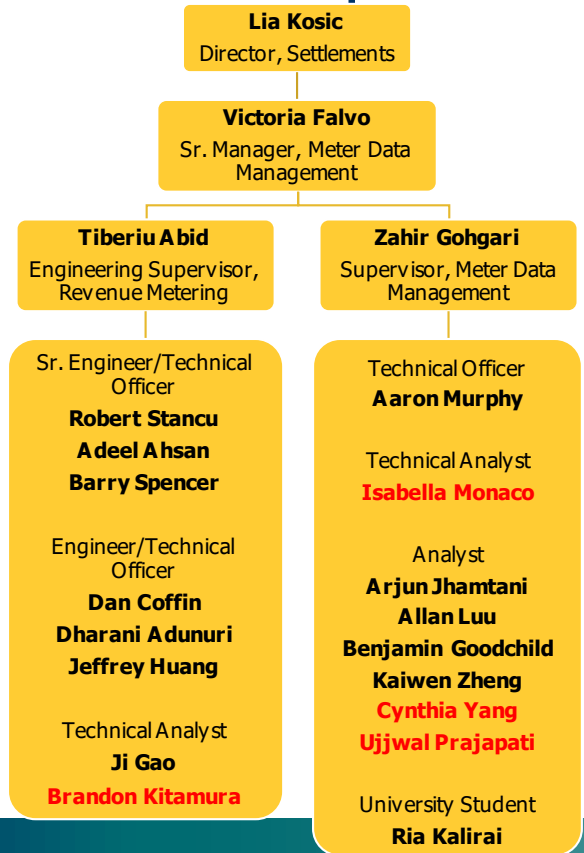
#	Date	Action	Status	Comments
2	Dec 2022	IESO to consider options for creating a working group to further discuss evaluation methodology for commissioning report submissions.	In Progress	Dec 14/23: No updates June 22/23: IESO is analyzing rejected commissioning reports to determine if there is a need to reevaluate the methodology for commissioning



IESO's Metering Updates

Zahir Gohgari | Supervisor, Meter Data Management

IESO Staff Updates



Changes:

- Cynthia Yang – Analyst, MDM – started June 26, 2023
- Ujjwal Prajapati – Analyst, MDM – started October 02, 2023
- Daniel Maikawa – Position with IESO Contract Management
- Isabella Monaco – Technical Analyst Position
- Brandon Kitamura – Technical Analyst, RM – Started December 14, 2023

Metering Installations by the numbers - 1

Total of 2506 metering installations (2214 physical + 292 virtual) registered in IESO Administered Market (IAM)

Physical Metering Installations

- 2214 physical metering installations
- 1867 registered under the Declaration of Compliance (DOC)
- 347 registered under the Alternative Metering Installation Standard (AMIS)

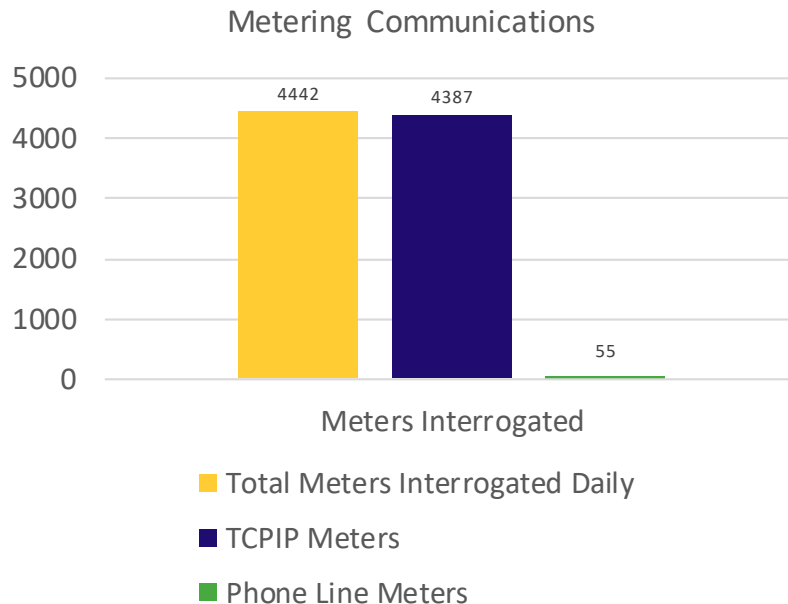
Metering Installations by the numbers - 2

Virtual Metering Installations

- 292 virtual metering installations
- 115 represent station service (unmetered or allocated between MMPs)
- 177 represent embedded generation for the purpose of transmission tariff (Form 1563)

Metering Communications

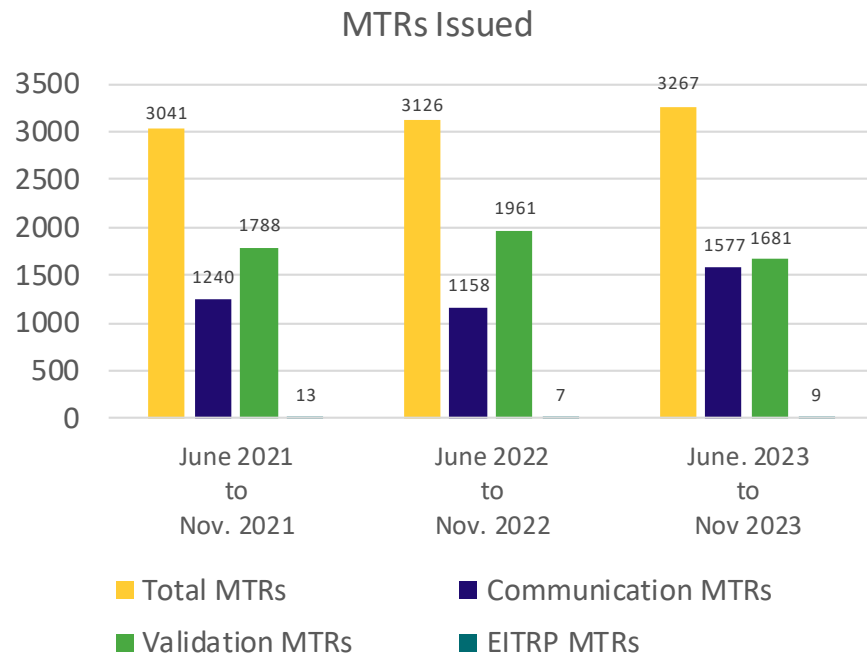
- 4442 Meters interrogated daily
- 4387 via TCPIP (99%)
- 55 via telephone lines (1%)



Meter Trouble Reports (MTRs) Overview

From June 2023 – November 2023:

- 3267 MTRs issued
- 1577 Communication and 1681 Validation MTRs
- 9 EITRP MTRs





IESO's Metering Updates

MSP Performance Metrics and Registration Updates

Aaron Murphy | Technical Officer, Meter Data Management

Overall MSP Performance Summary

- Positive MSP performance over the last 12 months (November 2022 – October 2023)
- Approximately 93% of the Meter Installations do not experience communication MTRs on a monthly basis (Measure 3)
- Approximately 96% of Meter Installations do not experience validation MTRs on a monthly basis (Measure 4)

Overall MSP Performance Summary - 1

- MTR responses has shown positive results relating to:
 - MTRs Resolved Within 2 Business Days of Issuance (Measure 5)
 - Number of Unresolved MTRs by Preliminary Settlement Statement (Measure 6)
 - Number of Unresolved MTRs by Final Settlement Statement (Measure 7)

Overall MSP Performance Summary - 2

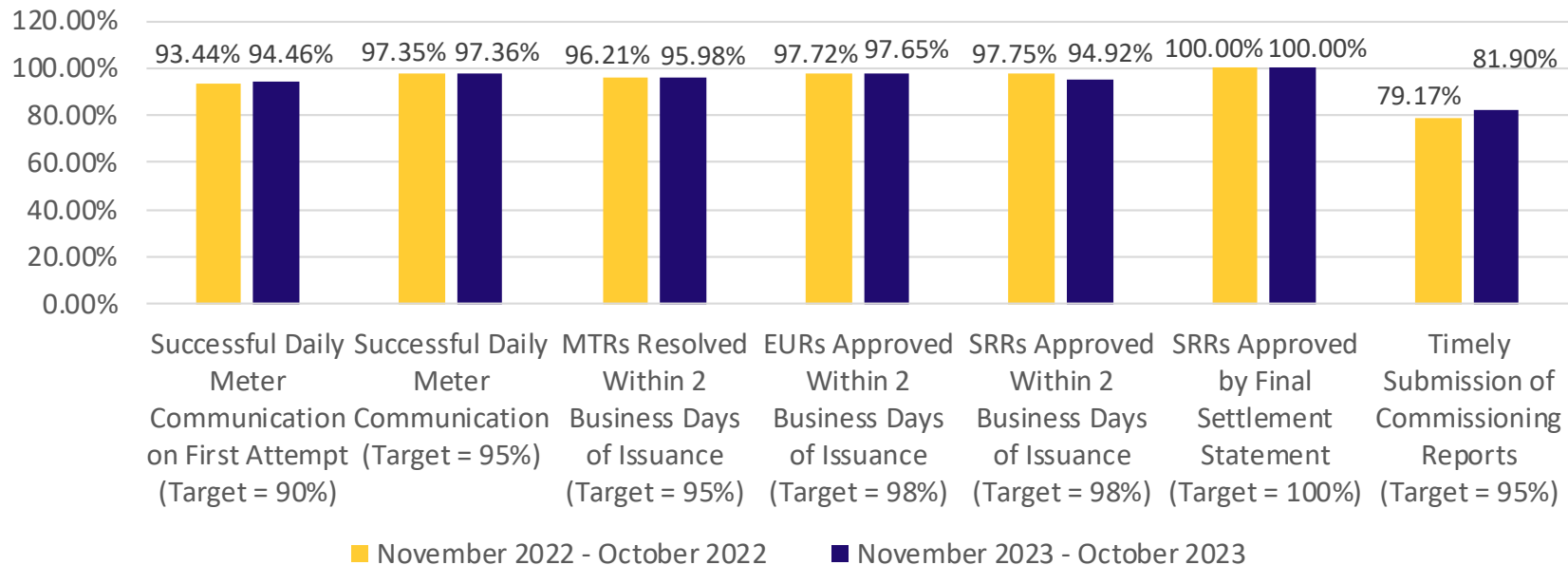
- Registration activity has shown positive results relating to:
 - EURs Approved Within 2 Business Days of Issuance (Measure 8)
 - SRRs Approved Within 2 Business Days of Issuance (Measure 9)
 - SRRs Approved By Final Settlement Statement (Measure 10)
- Registration activity has shown lower performance relating to:
 - Timely Submission of Commissioning Reports (Measure 11)

Overall MSP Performance Summary - 3

- Measure 12, “Metering Registry Errors” have been 0 over the last couple of years
- Measure 13, “Non-conformance incidents” resulting from R&P audits will continue to be reported (seeing positive impact from R&P audits conducted to date)

MSP Performance Breakdown

All MSPs 12 Month Performance
(November 2021 – October 2022 vs. November 2022 – Oct 2023)



MSP Performance Monthly Breakdown (November 2022 – October 2023)

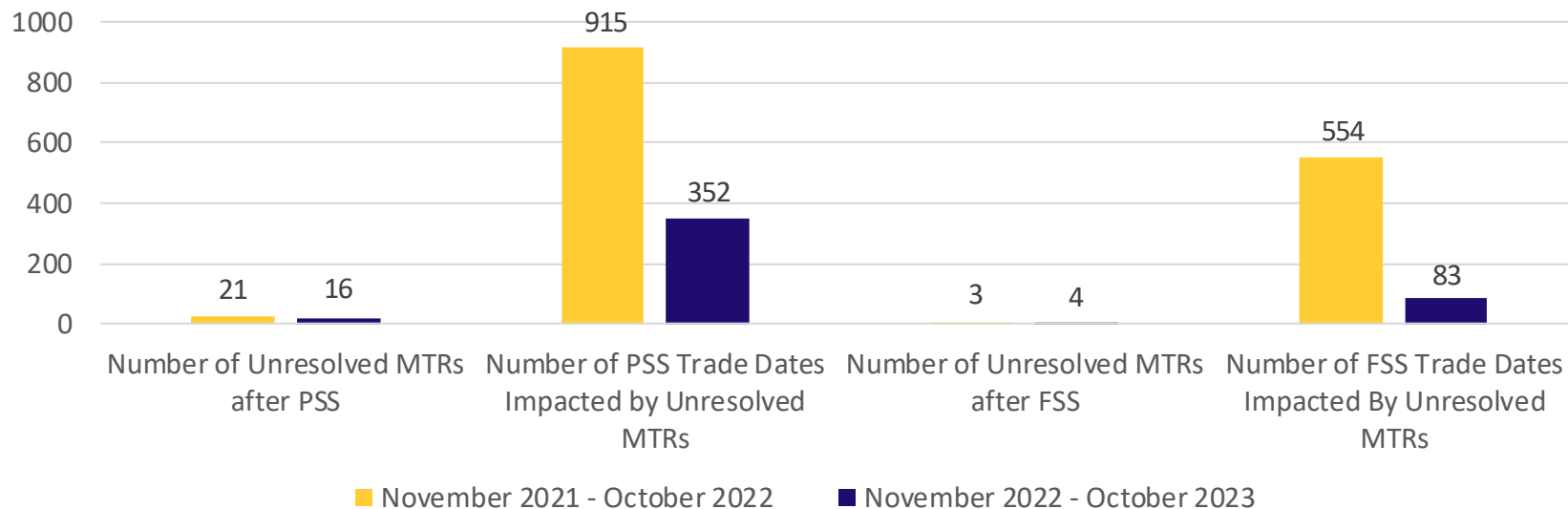
Measure	Target	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sept 2023	Oct 2023
1 - Successful Daily Meter Communication on First Attempt	90%	93.6	94.5	94.5	91.9	94.3	94.2	94.9	94.7	94.1	95.0	94.7	94.1
2 - Successful Daily Meter Communication	95%	96.4	97.4	98.2	97.7	97.2	96.9	97.6	97.6	96.7	97.9	97.7	97.1
3 - Communication Meter Trouble Reports Issued													
- Number of Communication MTRs Issued	0	236	191	128	153	180	200	186	173	566	199	198	241
- % of Meter Installations without communication MTRs issued	100%	91.9	93.4	95.7	94.5	93.9	92.6	93.6	94.5	79.2	92.8	93.4	91.9

MSP Performance Monthly Breakdown (November 2022 – October 2023)

Measure	Target	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sept 2023	Oct 2023
4 – Validation Meter Trouble Reports Issued													
- Number of Validation MTRs issued	0	129	95	116	82	125	115	114	125	134	103	119	107
- % of Meter Installations without Validation MTRs issued	100%	95.2	96.5	95.9	96.9	95.5	95.9	95.8	95.4	95.5	96.1	95.8	96.0
5 – Meter Trouble Reports Resolved Within 2 Business Days of Issuance	95%	96.2	96.6	95.5	97.5	98.4	98.2	98.3	95.3	95.9	94.1	91.1	96.7

PSS/FSS Performance Overview

All MSPs 12-Month Performance
(November 2021 – October 2022 vs. November 2022 – October 2023)



MSP Performance Monthly Breakdown - 1 (November 2022 – October 2023)

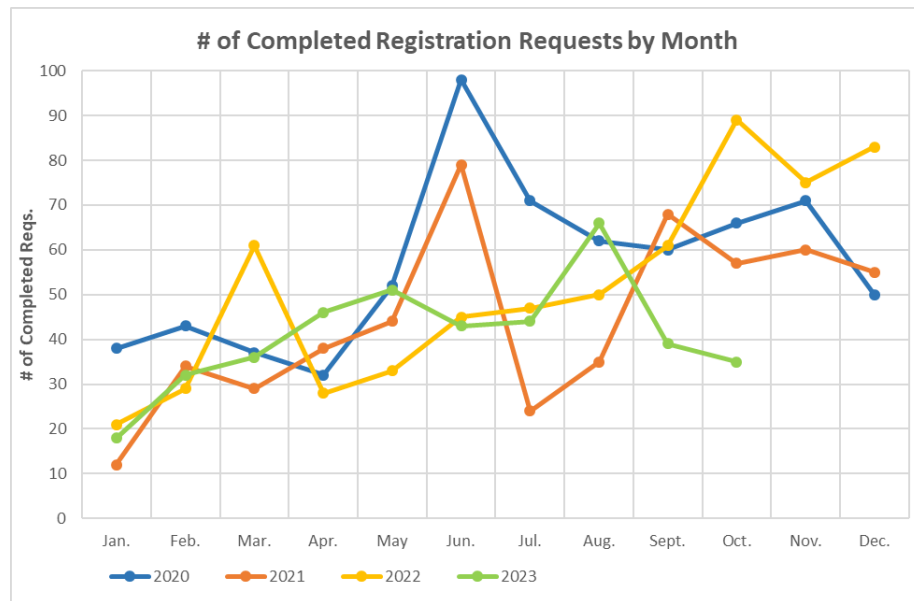
Measure	Target	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023
8 – Engineering Unit Reports Approved Within 2 Business Days of Issuance	98%	94.0	100	100	100	100	100	100	100	100	96.8	86.9	100
9 – Site Registration Reports Approved Within 2 Business Days of Issuance	98%	78.7	100	97.6	91.9	100	100	100	100	100	100	91.4	80
10 – Site Registration Reports Approved by Final Settlement Statement	100%	100	100	100	100	100	100	100	100	100	100	100	100

MSP Performance Monthly Breakdown - 2 (November 2022 – October 2023)

Measure	Target	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023
11 – Timely Submission of Commissioning Reports	95%	86.1	80.6	83.9	100	66.7	50	95.5	89.3	78.3	61.8	91.4	86.4
12 - # of Metering Registry Errors	0	0	0	0	0	0	0	0	0	0	0	0	0
13 - # of Non Conformance Incident	0	0	0	0	0	0	0	0	0	0	0	0	0

Meter Registration Hotline Activities

- 661 completed (Jan 2023 – Dec 2023)
- Register Metering Installation (47)
- Update Metering Installation (221)
- Like for Like Update (378)
- Deregister Metering Installation (15)



Note: Graph does not include update metering installation requests



Registration Approval Notification (RAN) Overview

Daniel Coffin, Technical Officer, Revenue Metering

Objectives

- Review the concept of the RAN and how it supports IESO's Facility Connection Process
- Explain the impact of meter registration activities relating to the RAN
- Identify recommendations to avoid unnecessary connection delays

IESO's Facility Connection Process

The process to connect a new facility or to modify an existing facility involves up to six sequential stages as shown below :



New or modified connections to a transmitter's system are generally subject to all six stages, while new or modified connections to a distributor's system may only be subject to the first three.

Registration Approval Notification (RAN)

The information collected in this stage is necessary to ensure there is no impact on the reliability of the IESO-controlled grid (ICG) and the resource will be properly settled in the IESO-administered markets.

A RAN may be conditional if there are restrictions, pending registration requirements or future work that affect the operation of the equipment specified on the RAN.

A facility can only connect to ICG upon issuance of a valid conditional or final RAN.

Registration Approval Notification (RAN)



Registering a new or modified facility requires detailed and lengthy tasks to be executed by both, the market participants and the IESO.

Registration milestones are documented via a Registration Approval Notification (RAN). This indicates that the market participant has met the requirements, and that the IESO has completed the relevant tasks, to allow the specified equipment on the RAN to connect to ICG.

Requirements for Metering Installations

Prior to authorization to cause or permit electricity to be conveyed into, through or out of the IESO-controlled grid, the IESO must be satisfied of the following conditions with respect to revenue metering:

- An agreement must be in place between the metered market participant and a metering service provider (or the MMP is an MSP)
- A registered metering installation is in place respective to a connection point (or embedded connection point)

Reference: Chapter 6, Section 2 of the Market Rules

Requirements for Metering Installations

The preceding conditions are normally considered to be satisfied upon MSP approval of the Engineering Unit Report (EUR), which is a critical milestone during meter registration.

The EUR effectively confirms completion of applicable prerequisite meter installation registration tasks such as IESO approval of meter point documentation (SLD, MEC, SSLA, EITRP, and associated Totalization Tables), as well as acceptance of meter master files, and successful completion of an end-to-end test of communication to the meter.

Temporary Withdrawal of Electricity Without a Registered Wholesale Meter (RWM)

Market Rules do permit temporary connection without a registered meter installation, however only under the following specified conditions:

1. The temporary connection of equipment will be strictly for commissioning purposes and not for load (e.g. soaking a power transformer for the purpose of commissioning); and
2. A meter installation will be registered within 48 hours of facility connection.

Temporary Withdrawal of Electricity Without a RWM

The request shall come from the metered market participant when an unforeseeable or unavoidable situation prevents them from registering the wholesale meters prior to the connection date.

The approval for such a request is at the sole discretion of the IESO.

This process does not qualify for poor planning or changing a commissioning sequence.

Reference: Market Manual 3.2, Section 1.4.14

Recommendations to avoid connection delays

Registration supporting documentation should be submitted to IESO well in advance of the planned connection date of new or modified facilities.

MSPs are required to complete EURs for new or modified connections prior to IESO issuing RAN conditional/final approval.

References

<https://www.ieso.ca/en/Sector-Participants/Connection-Process/Overview>

<https://www.ieso.ca/-/media/Files/IESO/Document-Library/Market-Rules-and-Manuals-Library/market-rules/mr-marketrules.ashx>

<https://www.ieso.ca/-/media/Files/IESO/Document-Library/Market-Rules-and-Manuals-Library/market-manuals/connecting/market-registration.ashx>

<https://www.ieso.ca/-/media/Files/IESO/Document-Library/Market-Rules-and-Manuals-Library/market-manuals/metering/mtr-MeterPointRegMaint.ashx>



Hydro One Communication Upgrades – BGAN Solution

Nikola Tripic, Hydro One MSP

Roundtable





Closing Remarks

Victoria Falvo | Sr. Manager, Meter Data Management

Thank You

ieso.ca

1.888.448.7777

customer.relations@ieso.ca

engagement@ieso.ca



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