



JUNE 23, 2022

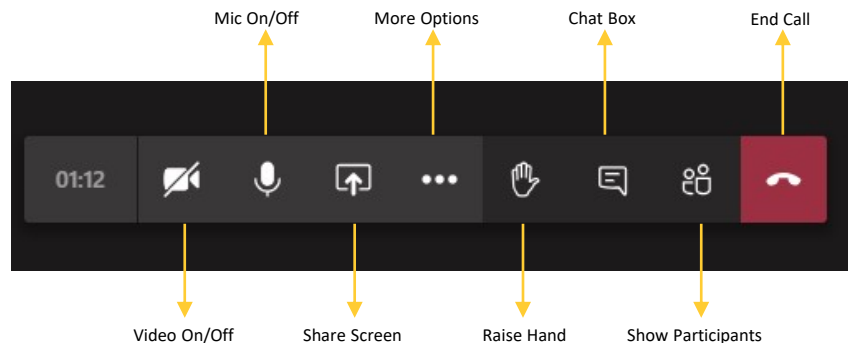
Revenue Metering Standing Committee

Meeting Essentials

Please ensure you mute your microphone during the presentation.

If you have a question or comment you may:

- Unmute your microphone; or
- Use the chat feature





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	Dec 2020	IESO to review and have a discussion internally to see how to best support MSPs with training requirements. MSPs are encouraged to provide their input via email which could result in an joint working group.	Propose to Close	<p>Jun 23/22: IESO Wholesale Metering Training Plan was submitted to RMSC members for review and comment.</p> <p>Dec 9/21: IESO conducted a survey on this topic. The survey details and next steps will be discussed as part of the Dec 2021 RMSC meeting.</p> <p>Jun 24/21: IESO intends to develop a formal MSP Training Plan document to support the MSP's training needs in the future. The IESO will reach out to the MSPs with a survey to assess the MSP training needs and develop the training plan.</p>

Administrative Items - Updates on action items

#	Date	Action	Status	Comments
2	Jun 2021	IESO to invite committee members to continue discussion relating to meter phase rotation and remedial plan.	Open	<p>Jun 23/22: Status quo – still awaiting for MC revisions</p> <p>Dec 9/21: Follow up meeting conducted on Sep 15/21. The meeting did not yield any changes to the initial remediation plan.</p> <p>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.</p> <p>Jun 24/21: The IESO will schedule a follow up meeting with the MSPs to discuss this further.</p>

Administrative Items - Updates on action items

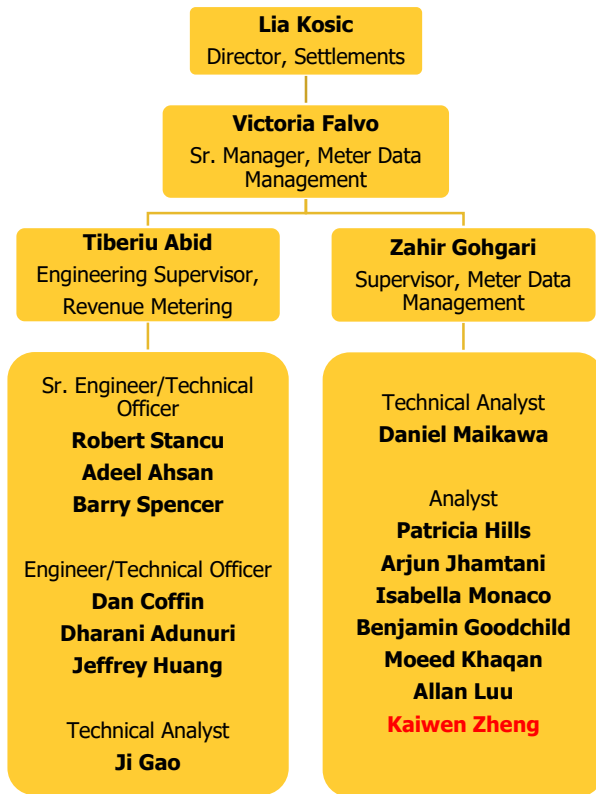
#	Date	Action	Status	Comments
3	Dec 2021	IESO to revise the appropriate rules to allow meter settings to crystal (internal) clock.	Propose to Close	Jun 23/22: Conforming Meter Frameworks have been revised to allow crystal (internal) clock as time source setting. Conforming Meter List has been updated with the latest frameworks in Workspaces.



Metering Updates

Zahir Gohgari | Supervisor – Meter Data Management

IESO Staff Updates



Changes:

- Dave Carney – Retired February 25, 2022
- Kaiwen Zheng – new Analyst, MDM – June 16, 2022

Metering Installations by the numbers

Total of 2459 metering installations registered in IESO Administered Market (IAM)

Physical Metering Installations

- 2183 physical metering installations
- 1823 registered under the Declaration of Compliance (DOC)
- 360 registered under the Alternative Metering Installation Standard (AMIS)

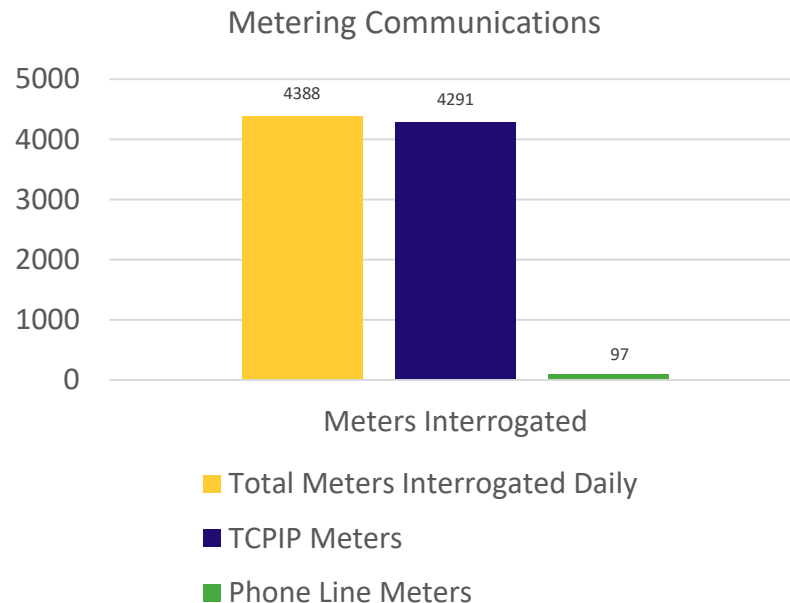
Metering Installations by the numbers

Virtual Metering Installations

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

Metering Communications

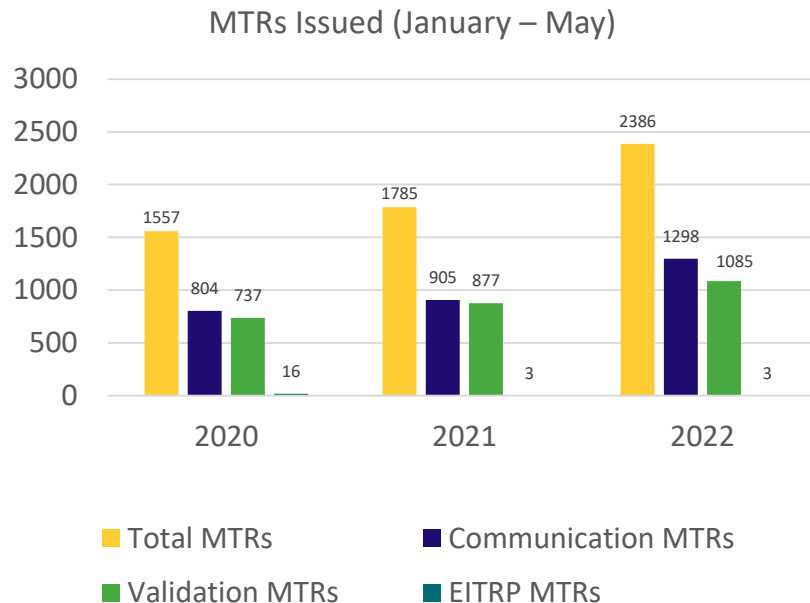
- 4388 Meters interrogated daily
- 4291 via TCPIP (98%)
- 97 via telephone lines (2%)



Meter Trouble Reports (MTRs) Overview

From January 2022 – May 2022:

- 2386 MTRs issued to date
- 1298 Communication and 1085 Validation MTRs
- 3 EITRP MTRs





MSP Performance Metrics and Registration Updates

Daniel Maikawa | Technical Analyst – Meter Data Management

Overall MSP Performance Summary

- Positive MSP performance over the last 12 months (May 2021 – April 2022)
- 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

- 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

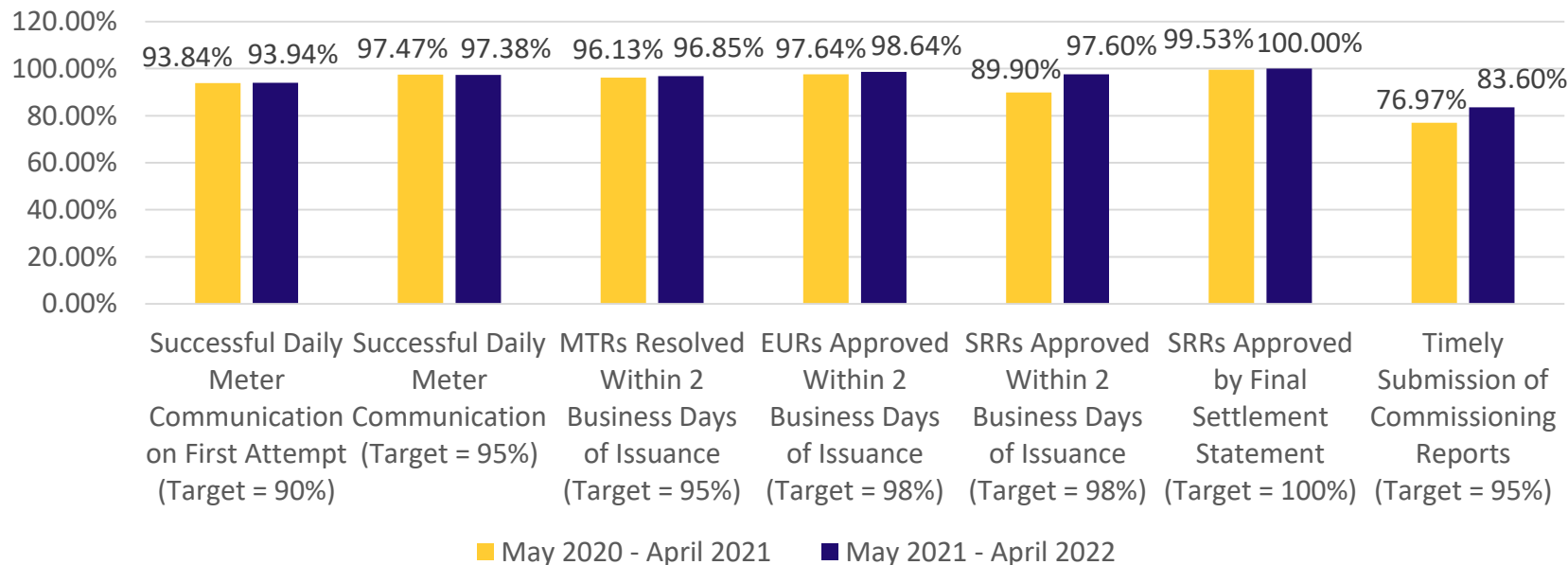
- Registration activity has shown positive results relating to:
 - EURs Approved Within 2 Business Days of Issuance (Measure 8)
 - SRRs Approved Within 2 Business Days of Issuance (Measure 9)
 - SRRs Approved By Final Settlement Statement (Measure 10)
- Registration activity has shown lower performance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

Overall MSP Performance Summary

- 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
(May 2020 – April 2021 vs. May 2021 – April 2022)



MSP Performance Monthly Breakdown (May 2021 – April 2022)

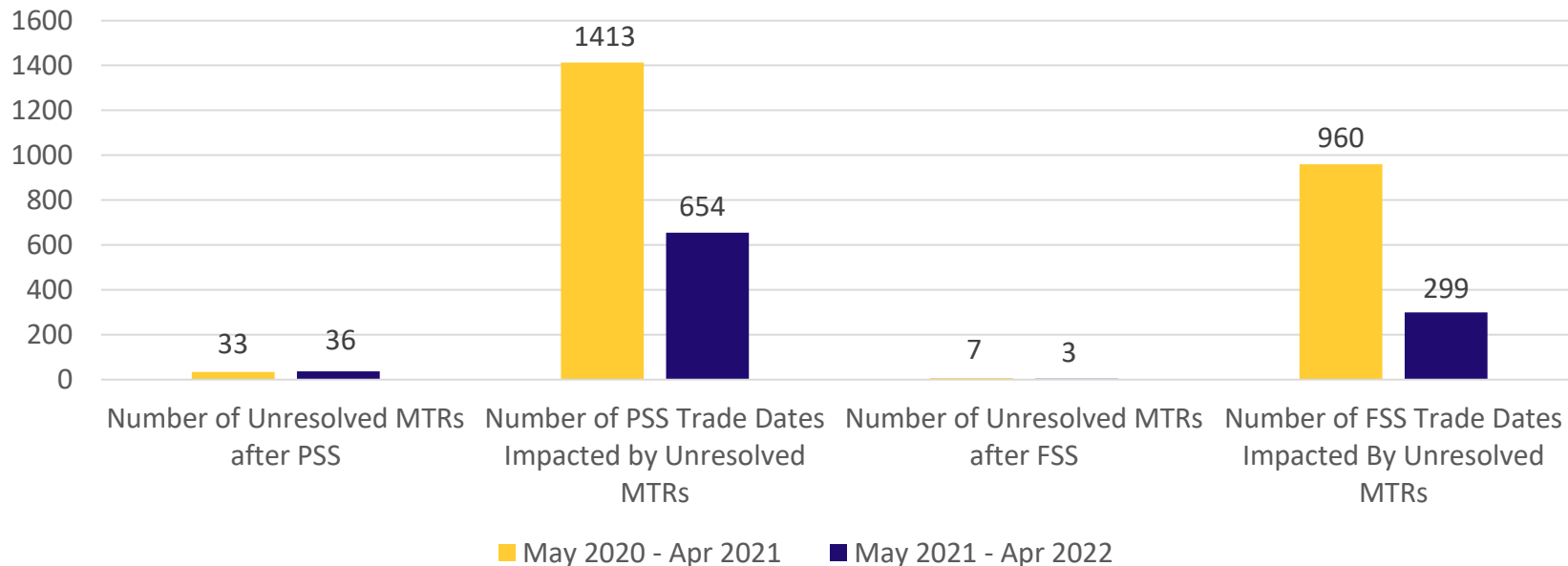
Measure	Target	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022
1 - Successful Daily Meter Communication on First Attempt	90%	93.6	93.8	94.3	93.5	92.9	93.8	93.4	94.8	94.2	94.9	94.4	94.0
2 - Successful Daily Meter Communication	95%	97.7	97.5	97.9	97.6	97.1	97.2	96.6	97.8	97.2	98.0	97.1	97.1
3 - Communication Meter Trouble Reports Issued													
- Number of Communication MTRs Issued	0	212	211	177	249	187	224	203	138	327	109	150	199
- % of Meter Installations without communication MTRs issued	100%	94.3	94.1	94.2	91.1	93.0	91.5	92.9	95.1	87.8	96.3	94.5	92.9

MSP Performance Monthly Breakdown (May 2021 – April 2022)

Measure	Target	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022
4 – Validation Meter Trouble Reports Issued													
- Number of Validation MTRs issued	0	111	153	155	174	124	151	147	148	73	81	103	110
- % of Meter Installations without Validation MTRs issued	100%	96.6	95.8	94.6	93.9	95.4	94.4	94.7	94.6	97.1	97.0	96.3	95.8
5 – Meter Trouble Reports Resolved Within 2 Business Days of Issuance	95%	95.3	98.4	96.0	94.8	96.1	96.7	97.3	97.3	98.3	97.7	95.8	98.0

PSS/FSS Performance Overview

All MSPs 12-Month Performance
(May 2020 – April 2021 vs. May 2021 – April 2022)



MSP Performance Monthly Breakdown (May 2021 – April 2022)

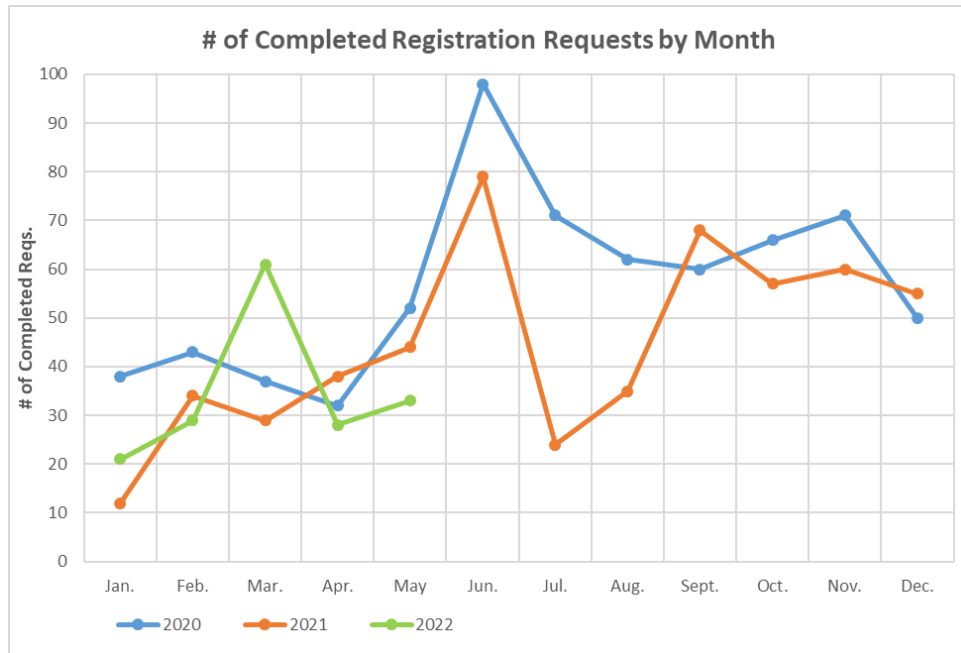
Measure	Target	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022
8 – Engineering Unit Reports Approved Within 2 Business Days of Issuance	98%	97.0	96.0	100	96.1	98.8	97.2	100	100	100	100	100	100
9 – Site Registration Reports Approved Within 2 Business of Issuance	98%	100	100	100	75.6	100	100	100	100	100	87.5	100	100
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 (May 2021 – April 2022)

Measure	Target	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022
11 – Timely Submission of Commissioning Reports	95%	91.4	85.7	76.3	65.2	69.7	91.2	88.2	94.7	100	92.9	58.3	66.7
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

- 199 completed (Jan 2022 – May 2022)
- Register Metering Installation (8)
- Update Metering Installation (53)
- Like for Like Update (133)
- Deregister Metering Installation (5)





Audits and Market Rule Changes

Daniel Coffin | Technical Officer – Revenue Metering

2022 Audit Program

- IESO has lifted pandemic travel restrictions
- Province-wide revenue metering audits resumed for 2022
- Audit planning → completed in April 2022
- Audit site visits → started in June 2022, target completion by Sept-Oct, 2022

Market Rule Changes

MR-00472-R00 –Replacement of the IESO Settlement System (RSS)

- The IESO is modifying its settlements disagreement and resettlements process with the following objectives:
 - Mitigate financial risk to the market by limiting resettlement to 2 years instead of the current 7 years
 - Provide more transparency for market participants by creating a new statement for resettlements
 - Make timelines more practical for submitting settlement data, disagreement notices and for resolving settlement disagreements
 - Improve efficiency of settlements disagreement processing timelines

Market Rule Changes – cont'd

- Proposed changes to the market rules are required to:
 - Define the ultimate limitation period to initiate a dispute
 - Establish the two-year limit on resettlements
 - Align IESO metering processes to the new limitation period
 - Define the frequency and schedule process for a new recalculated settlement statement
 - Align IESO resettlements with new provincial government legislation limiting resettlement of regulated charges to 2 year

Additional information can be found on the [stakeholder engagement webpage](#).

Market Rule Changes – cont'd

MR00472 - Resolution of the Board of Directors

- June 1, 2022 - The Board accepts the vote and recommendation from the Technical Panel and approves MR-00472-R00 to come into effect on November 1, 2022

Wholesale Metering Market Rule Changes - Highlights

- **Chapter 6**

- 10.4 – Additional obligations for the market participant and the IESO with respect to identification and communication of errors with meter data

- **Chapter 6 - Appendices**

- Appendix 6.3 - 1.4, 1.5 – Adjusted testing periods to ensure that a test would fall within the new limitation period, i.e., IT checks every eighteen months (previously six years), routine testing of metering installations registered under section 4.6 of Chapter 6 once every eighteen months (previously three years)

For additional details, refer to [MR-00472-R00 –Replacement of the IESO Settlement System \(RSS\)](#)



Commissioning Template

Daniel Coffin | Technical Officer – Revenue Metering

Commissioning Template

- IESO conducted a survey in 2021 to assess general interest among MSPs in the development of a commissioning report template
- IESO has now drafted a template, which has been circulated to all MSPs, and requested feedback to be provided by end of August 2022
- Final version of the template will incorporate feedback received and will be posted to the IESO Workspaces website
- Use of the template is optional (MSPs may continue to submit their own format of commissioning reports to support metering registration)

Commissioning Template

From Market Manual 3.2: Meter Point Registration and Maintenance
(Appendix B: Requirements for Commissioning a Metering Installation)

- “The *metering installation* registration request is completed with the *metering service provider* submission and *IESO* acceptance of the commissioning reporting package.”
- “The commissioning reporting package is submitted by the *metering service provider* via Online IESO in two distinct tasks: Submit Commissioning Verification Report, and Submit Commissioning Test Report.”

Commissioning Template

The initial draft templates for each report type are as follows:

1. Verification Report (Results pertaining to: Visual Check, Test Secondary Wiring, Verify Meter Configuration, and Ratio & Polarity Tests)



Verification
Report Template.docx

2. Test Report (Results pertaining to: Instrument Transformer Spot Check, and Cross-Phase Test)



Test Report
Template.docx



10 Minute Break



IESO's Other Updates

Daniel Maikawa | Technical Analyst – Meter Data Management

ION 8650 Unlocked Modules Update

- Vulnerability in certain Schneider ION 8650-V421 meters: energy registers containing Legal Unit of Measure was not locked down – possible to modify and delete.
- Per Measurement Canada, two possible resolutions were:
 1. Use of super password to lock down meter for the current seal period
 2. Re-seal certificate to indicate meter was re-sealed

ION 8650 Unlocked Modules Update

- Based on updates provided by Schneider and our communication with impacted MSPs, issue is now resolved for all meters that were placed **in service** with the unlocked modules
- In addition, meters **in inventory** are resolved – IESO will no longer question (require proof) of any new meter installations with having this vulnerability

Commissioning Requirements Update

- June 1 2022, Market Manual 3.2 Table B-1 “Commissioning Requirements for Meter Registration Requests of Varying Scope” was revised for clarity
- The table is now re-numbered as B-3 and lists additional specific scenarios to provide foresight when planning meter update requests
- No material change in requirements or process

Commissioning Requirements Update

- Previous version of Market Manual 3.2 Table B-1

Table B-1: Commissioning Requirements for Meter Registration Requests of Varying Scope

Commissioning Activity	Register Meter Installation(s)	Likefor Like/ Master File Update	Update Meter Installation(s)
1. Visual Check	✓		As specified by <i>IESO</i> via Online IESO.
2. Test Secondary Wiring	✓		
3. Verify <i>Meter</i> Configuration	✓	✓	
4. Ratio and Polarity Tests	✓		
5. <i>Instrument Transformer</i> Checks	✓		
6. Cross-Phase Test	✓	✓	

Commissioning Requirements Update

- New version of Market Manual 3.2 Table B-3 (formerly B-1)

Table B-3: Commissioning Requirements for Meter Registration Requests of Varying Scope

Description of Field Work	EUR Required?	Commissioning Verification	Commissioning Test	Comments
Register Meter Installation	Yes	Conduct Visual Check, Test Secondary Wiring, Verify Meter Configuration, Conduct Ratio and Polarity Tests	Conduct Cross Phase Test, Conduct IT Checks	All tests are required
Meter Replacement (like-for-like or different model)	Yes	Verify Meter Configuration	Conduct Cross Phase Test	Specified commissioning is required to be performed and results retained by the MSP, but a commissioning report package is not required to be submitted in Online IESO
Phone number or TCP/IP change	No	None	None	End to End communication test only
IT replacement or IT ratio change	Yes	Conduct Visual Check, Test Secondary Wiring, Conduct Ratio and Polarity Tests	Conduct Cross Phase Test, Conduct IT Checks	
Replace or move secondary IT wires (e.g. move meter cabinet or replace damaged secondary wires)	Yes	Conduct Visual Check, Test Secondary Wiring	Conduct Cross Phase Test, Conduct IT Checks	
Maintenance or testing of IT without removing secondary wires (e.g. IT oil sample or IT insulation resistance test)	No	None	None	

EUR Current Threshold Requirement Update

- IESO revised Market Manual 3.2 – Appendix C, Table C-1 via Baseline 47.1
- Updated minimum required Injected Load of 2.5A to 0.5A
- Provides MSPs flexibility when faced with equipment constraints in the field
- On bench alternative option still available to MSPs

Table C-1: Acceptable Methods for Engineering Unit Report

Type of Load	Secondary Current	Engineering Unit Report Test Time	Meter Programming
7.True Load	Minimum 0.10A per phase	After <i>meter</i> is installed	Programmed as per Conforming Meter Framework prior being installed
8.Injecting Load	Minimum 0.50A per phase	After <i>meter</i> is installed	Programmed as per Conforming Meter Framework prior being installed
		Up to 72 hours prior to <i>meter</i> being installed	Programmed as per Conforming Meter Framework prior to secondary load injection



IESO's Other Updates

Jeffrey Huang | Technical Officer – Revenue Metering

Conforming Meter Frameworks

- IESO has done studies showing that internal (crystal) clock source is better at maintaining meter clock accuracy and avoid time drifts
- Updating appropriate requirements for allowing internal clock is an action items from last RMSC
- IESO will allow both line frequency and internal (crystal) as clock source

Conforming Meter Frameworks

- The Conforming Meter Frameworks for the following meter types are updated to allow internal (crystal) clock:
 - Schneider ION
 - Elster ALPHA Plus
 - Elster A3 ALPHA
 - Itron Q1000
 - Itron SENTINEL
- GE KV2 meter does not support internal clock and therefore framework is not updated

IESO Workspaces

- Reminder: MSP users group portal has now been fully migrated over to IESO Workspaces (Effective: July 23,2021)

The screenshot displays the IESO Workspaces web application. On the left is a dark sidebar with navigation icons. The main header includes the IESO logo, a search bar, and user profile icons. Below the header, a breadcrumb trail shows 'Workspaces > Metering Service Providers'. A table lists workspace items, including folders like 'CT Calculator', 'High Accuracy Instrument Transformer Working Group', 'MDM Hotline', 'Metering Installation Registration Tool (MIRT)', 'MSP Physical Settlement Calendar', 'Related Documents', and 'RMSC Meeting Materials', as well as a file 'Conforming Meter List.xlsx'. On the right, a sidebar for the 'Metering Service Providers' workspace provides details: a description, permissions, creation/modification dates, folder/file counts, a copy link, and a notification toggle.

	Name	Workspace info	Permissions
Metering Service Providers			
Description:		The MSP Users Group works with MSP's to discuss and solve technical and procedural issues which will ensure suitable revenue metering for the IESO-administered market.	
In this workspace I can:		View files, manage roles and permissions, track file activity, create folders, delete all files, update files, upload files	
Created:		Jun 23 2021 11:22	
Modified:		Aug 23 2021 07:44	
Folders:		7	
Files:		265	
Copy link:		<input type="text"/> Copy	
Notifications:		<input checked="" type="checkbox"/>	

IESO Workspaces

Updated frameworks can be downloaded directly from the Conforming Meter List Excel document:

Workspaces > Metering Service Providers

- ☐
- ☐ CT Calculator
- ☐ High Accuracy Instrument Transformer Working Group
- ☐ MDM Hotline
- ☐ Metering Installation Registration Tool (MIRT)
- ☐ MSP Physical Settlement Calendar
- ☐ Related Documents
- ☐ RMSC Meeting Materials
- ☒ **Conforming Meter List.xlsx**
Jul 19 2021 14:40 | dharani.adunuri@ieso.ca | 6.7 MB

Meter Company	Details	MV90 TIM Assignment	ITRON DLL TIM Reference	IESO TIM CONFIG File Reference	IESO Meter Framework
Elster Metering	Make	(1) ALPHA Plus			
	Model	(1) A1RLQ+ and A1RL+			
	Firmware Version	(1) 2.3 (2) 2.4 (3) 2.7			
	Market Category	Alternate			
	Date Listed	(1) March 20, 2000 (2) February 9, 2004 (3) August 3, 2006			
	Conditions of Acceptance	None. 2 wire accepted for 1-phase service.			
Elster Metering	Make	A3 ALPHA			
	Model	(1) A3RAL, A3RALN, A3RALNQ and A3RALQ			
	Firmware Version	(1) 3.03 (2) 3.06 (3) 4.02			
	Market Category	Alternate			
	Date Listed	(1) January 20, 2011 (2) May 30, 2011			
	Conditions of Acceptance	None			
GE Canada Inc.	Make	ION			
	Model	(1) 8300 (2) 8400 (3) 8500			
	Firmware Version	(1) 8300V232 (2) 8400V232 (3) 8500V232			
	Market Category	Main and Alternate			
	Date Listed	06-Aug-03			
	Conditions of Acceptance	None. 2.5 element accepted for missing V2h. Note: Identical to PML Models 8300, 8400 and 8500 with same firmware.			
GE Canada Inc.	Make	GE			
	Model	(1) KV2 (2) KV2c			
	Firmware Version	(1) 1.2 (2) 1.3			
	Market Category	Alternate			
	Date Listed	July 7, 2004			
	Conditions of Acceptance	None			
GE Canada Inc.	Make	ION			
	Model	(1) 7650			
	Firmware Version	(1) 7650V400			
	Market Category	Main and Alternate			



Metering Training Program

Jeffrey Huang | Technical Officer – Revenue Metering

Training Program

- IESO understands the need from MSPs to have training material on IESO metering related tools and processes
- Survey was conducted in 2021 to assess MSP interests and priority on topics
- Based on survey results, IESO has drafted a training plan and shared with MSPs.

Training Program Next Steps

- IESO will finalize the training plan based on MSP feedback
- Development of training material will start later this year
- IESO will inform MSP when first batch of training material is available on Workspaces (MSP Portal) for MSP review and comment



Draft Training
Plan

Roundtable Discussion



Thank You

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