0.1

Meter Data Distribution User Manual

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Public

Independent Electricity System Operator

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1. Overview

The Meter Data Distribution (MDD) solution allows participants to download meter data presented in a number of reports from the IESO confidential Reports site.

Each registered market participant must have a Revenue Metering Data contact responsible for managing meter data report profiles and requesting and retrieving revenue meter data reports for their organization.

Revenue Metering Data Contacts must set up a Meter Data Report Profile in Online IESO to receive meter data reports. These profiles allow users to customize what meter data they will receive. The Meter Data Report Profiles can be configured based on an organization's market participation and only the profiles for the organization's market participation(s) will be available to configure.

All Application Programming Interface (API) accounts will use machine-to-machine interfaces to retrieve meter data reports from the IESO Reports Site as long as a Meter Data Report Profile has been set up for their organization.

Daily revenue meter data reports and ad-hoc reports will be published in EDI-867 file format only. The EDI-867 file format specification can be found in the Revenue Metering Reports IESO EDI Guide.

There will be three report versions of totalized and validated meter data for each trade date. Version one (v1) will be published two calendar days after the trade date for Totalized Meter Data (TMD), and one calendar day after the trade date for Validated Meter Data (VMD). The v1 of the Totalized Meter Data will be overwritten seven calendar days after the trade date. Version two (v2) will be published eight business days plus one calendar day after the trade date. Version three (v3) will be published eighteen business days plus one calendar day after the trade date.

Meter data for Ad-hoc requests within 90 calendar days of the trade date will be published one calendar day after the request date. Meter data for Ad-hoc requests beyond 90 calendar days of the trade date will be published by end-of-day on the Sunday after the request date.

2. Requesting and Retrieving Meter Data Reports

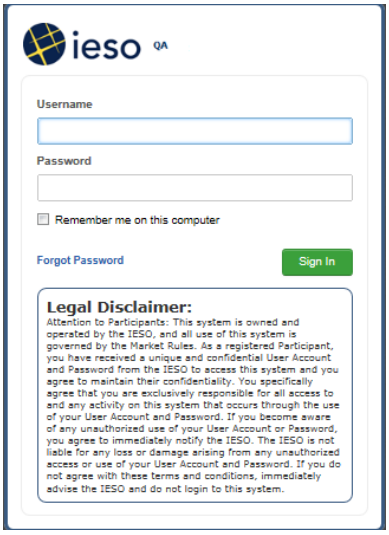
2.1 Accessing the Application

Only a Revenue Metering Data contact will be able to create or edit meter data report

profiles, request ad-hoc reports, and download meter data reports from the IESO Reports Site. All Metered Market Participants (MMP), Meter Market Participant Transmission Tariff (MMPT), Local Distribution Companies (LDC), Transmitters (TRAN), Metering Service Providers (MSP), and Meter Data Associates (MDA) who need to access revenue meter data must add a Revenue Metering Data contact. An Applicant Representative for these organizations can add Revenue Metering Data contacts following the directions in the Step-by-Step Guide to Adding a Contact Role which can be found here.

Steps:

Go to https://online.ieso.ca and enter your username and password to login.



Go to the Actions page and select "Meter Data Management".



2.2 Meter Data Report Profile(s)

Meter Data Report Profiles determine the type(s) of revenue Meter Data Reports that will be published for your organization. These reports will appear as confidential reports on the IESO Reports Site.

Meter Data Report Profiles will allow you to personalize your revenue meter data in order to retrieve revenue Meter Data Reports from the IESO reports Site. The following profiles are available for each of your eligible participations:

- Totalized Delivery Point Data (with Losses or without Losses or both)
- Totalized Summary Meter Data (with Losses or without Losses or both)
- Totalized Meter Point Data (with Losses or without Losses or both)
- Validated Meter Point Data

Meter Data Report Profiles will not be assigned by default. Each organization's Revenue Metering Data contact will need to create Meter Data Report Profiles through Online IESO in order to retrieve revenue Meter Data Reports from the IESO reports Site.

One Meter Data Report profile will be provided for all eligible participations (formerly known as roles) for each organization. Meter Data Report profiles will be available for the following participations:

Metered Market Participant (MMP)
This profile will be used to publish Meter Data Reports where your organization has the MMP role at the Delivery Point(s). The reports published based on the MMP profile will be available as confidential reports in the MMP folder(s) for your organization on the IESO reports site.

Metered Market Participant Transmission Tariff (MMPT)
This profile will be used to publish Meter Data Reports where your organization has the MMPT role at the Delivery Point(s). The reports published based on the MMPT profile will be available as confidential reports in the MMPT folder(s) for your organization on the IESO reports site.

Metering Service Provider (MSP)
This profile will be used to publish Meter Data Reports where your organization has the MSP role at the Delivery Point(s). The reports published based on the MSP profile will be available as confidential reports in the MSP folder(s) for your organization on the IESO reports site.

Transmitter (TRAN)

This profile will be used to publish Meter Data Reports where your organization has the Transmitter (TRAN) role at the Delivery Point(s). The reports published based on the Transmitter profile will be available as confidential reports in the TRAN folder(s) for your organization on the IESO reports site.

Local Distribution Company (LDC)
This profile will be used to publish Meter Data Reports where your organization has the LDC role at the Delivery Point(s). The reports published based on the LDC profile will be available as confidential reports in the LDC folder(s) for your organization on the IESO reports site.

Meter Data Associate (MDA)
This profile will be used to publish Meter Data Reports where your organization has the MDA role at the Delivery Point(s). The reports published based on the MDA profile will be available as confidential reports in the MDA folder(s) for your organization on the IESO reports site.

The "Revenue Metering Data" contact(s) for your organization will manage Meter Data Report Profiles for your organization. New or updated Meter Data Report Profiles are always effective on the next calendar day.

Appendix A - provides you details on how to create or edit one or more Meter Data Report Profiles for your organization in Online IESO in order to receive Meter Data Reports.

2.3 Request Meter Data Report(s) (Ad-Hoc Requests)

In Online IESO, the action "Request Meter Data Report" can be used to request ad-hoc revenue Meter Data Reports for your organization.

Only a Revenue Metering Data contact - can submit requests for ad-hoc revenue meter data reports.

After submitting a request for an ad-hoc revenue meter data report, a confirmation email will be sent to all market trials testers of the requesting organization, and a unique "Request Number" will be provided. This "Request Number" will also be contained in the corresponding ad-hoc revenue Meter Data Report published for the request.

Ad-hoc revenue Meter Data Reports will be published as Confidential Reports on the IESO Reports Site in folder "MD-AD-HOC" for your organization, and will be available for 45 calendar days.

Ad-hoc revenue Meter Data Reports for trade dates within the latest 90 calendar days will be published one calendar day after the request date.

Ad-hoc revenue Meter Data Reports for trade dates older than the latest 90 calendar days will be published by end-of-day next Sunday after the request date.

Appendix B - provides details on how to submit a request for your organization in Online IESO in order to receive Meter Data Reports.

2.4 Retrieve Meter Data Reports

You can use a Person or a Machine account to retrieve Meter Data Reports:

- Person Accounts can retrieve Meter Data Reports by using the Web interface provided as part of the IESO Reports Site
- Machine Accounts can retrieve Meter Data Reports by using the new API interface and Secure File Transfer Protocol (SFTP) access method to automate report download from the IESO Reports Site

Appendix C - provides you more details on how to retrieve Meter Data Reports using a Person or a Machine Account

The Meter Data Reports are provided as EDI-867 data files in a .zip format. The IESO will publish the following Meter Data Reports as Confidential Reports on the IESO Reports Site:

- Monthly AQEW AQEI
- Validated Meter Data (VMD)
- Totalized Meter Data With Losses (TMD-WL)
- Totalized Meter Data Without Losses (TMD-WOL)
- Ad-Hoc Meter Data Requests (MD-AD-HOC)

The VMD, TMD-WL and TMD-WOL reports will be made available on the IESO Reports Site based on the organization's Meter Data Profile(s) and the assigned participation(s) (i.e., MMP, MMPT, LDC, TRAN, MSP, MDA role).

Appendix D - provides more information about the Meter Data Reports

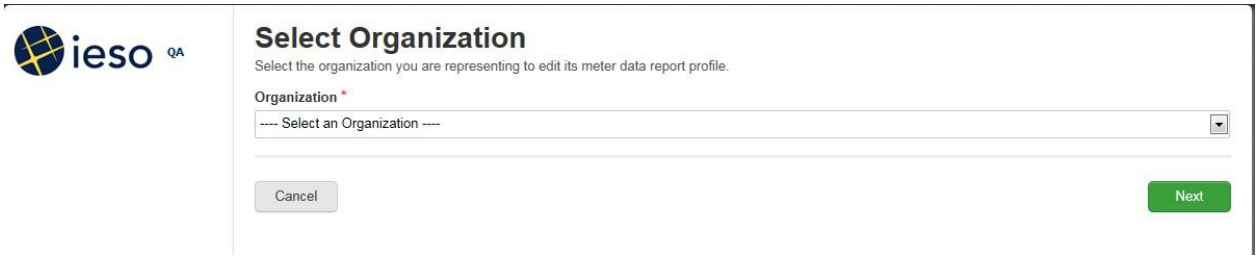
Appendix A: Creating or Editing Meter Data Report Profiles in Online IESO

Steps:

1. Login to Online IESO Production: https://online.ieso.ca
2. Go to "Actions" page and select "Manage Data Management" from the left column

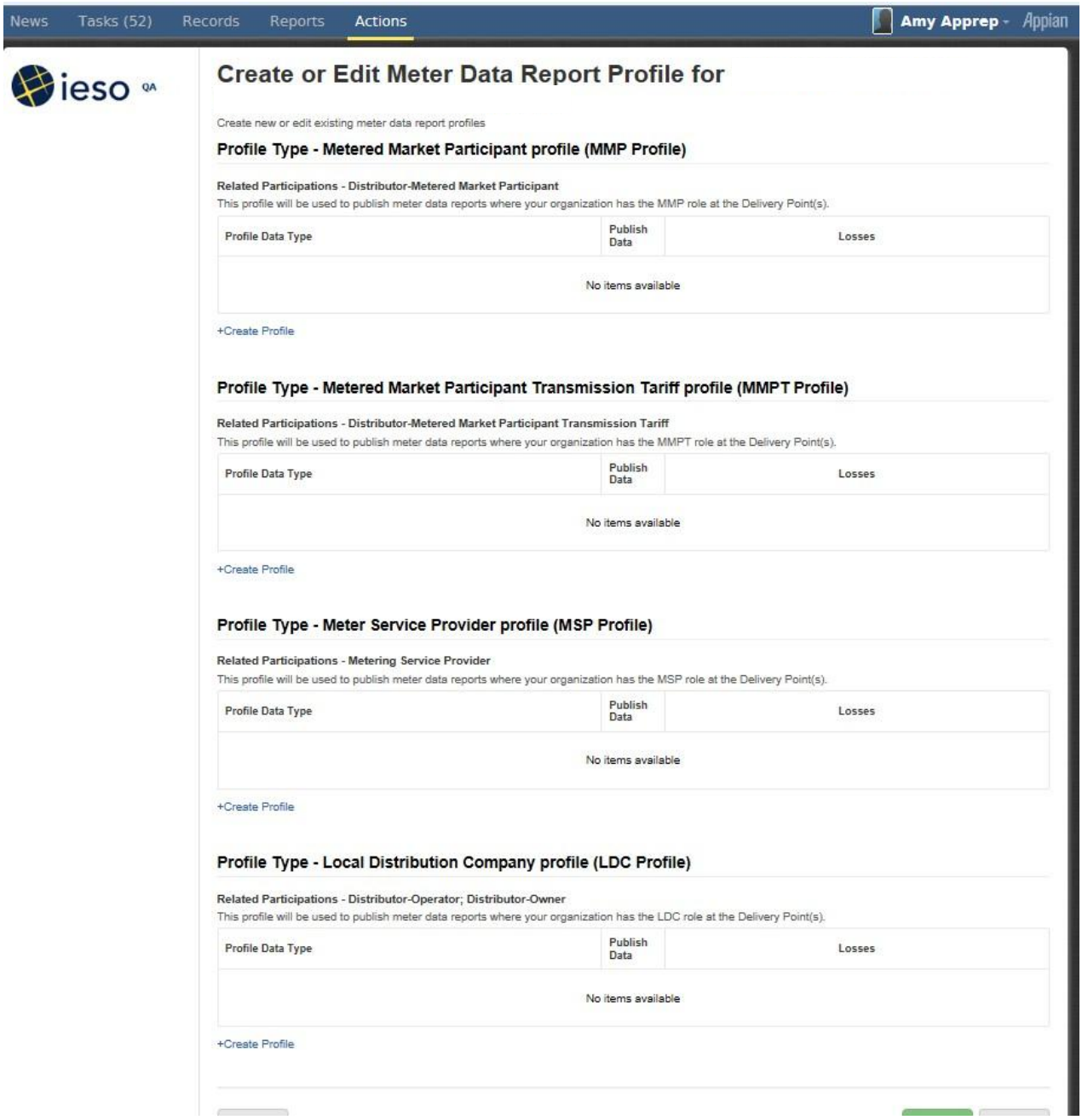


3. Select "Manage Meter Data Report Profile". From the dropdown list select your organization. You will only see the organizations for which you are the market trials tester.

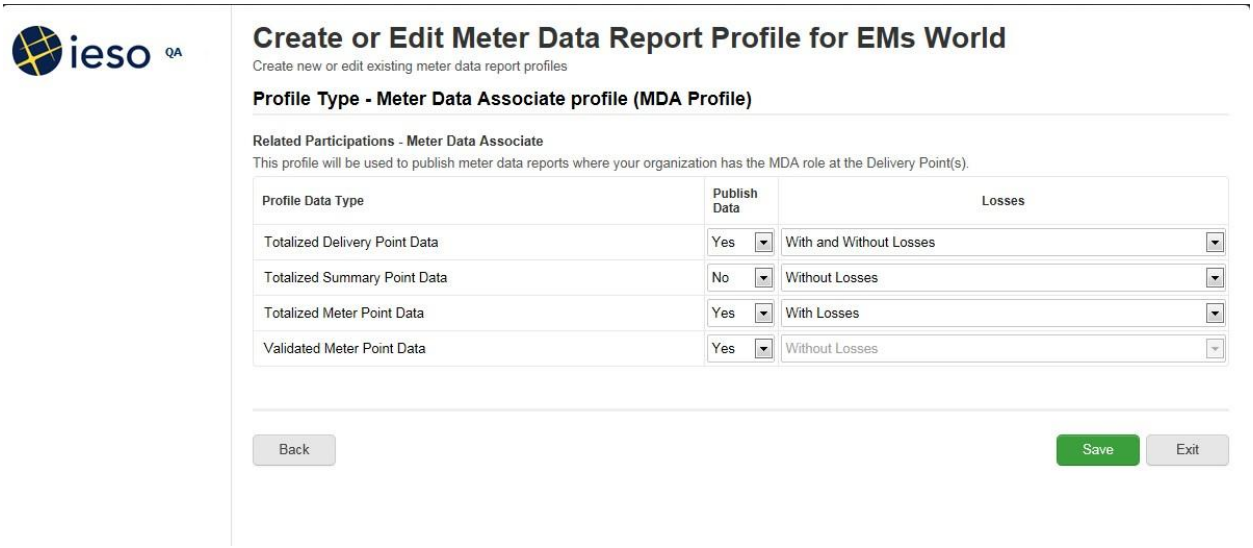


4. Follow the on-screen instructions to create or edit Meter Data Report Profiles.

   The screenshot below shows an example of an organization with multiple participations. There are no profiles created for this organization.



The screenshot below shows an example of an organization with only one participation. A profile is created already and can be edited if required.



5. Select "Save" to save for profile(s). There is no confirmation provided (e.g., pop-window) nor an email submitted to you. To verify that a new profile was created or an existing profile was revised you need to start the process again. The new or revised profile will be presented to you as part of step #4.

The table below shows which revenue Meter Data Reports will be published on the IESO Reports Site based on the options selected in the Meter Data Report Profile:

Profile Data Type	**Losses**	**Report Type**
Totalized Delivery Point Data	With Losses	TMD-WL
Totalized Delivery Point Data	Without Losses	TMD-WOL
Totalized Delivery Point Data	With and Without Losses	TMD-WL and TMD-WOL
Totalized Summary Point Data	With Losses	TMD-WL
Totalized Summary Point Data	Without Losses	TMD-WOL
Totalized Summary Point Data	With and Without Losses	TMD-WL and TMD-WOL
Totalized Meter Point Data	With Losses	TMD-WL
Totalized Meter Point Data	Without Losses	TMD-WOL
Totalized Meter Point Data	With and Without Losses	TMD-WL and TMD-WOL
Validated Meter Point Data	Without Losses	VMD

Notes on Report Types:
TMD = Totalized Meter Data Report; WL = with losses; WOL = without losses

VMD = Validated Meter Data report

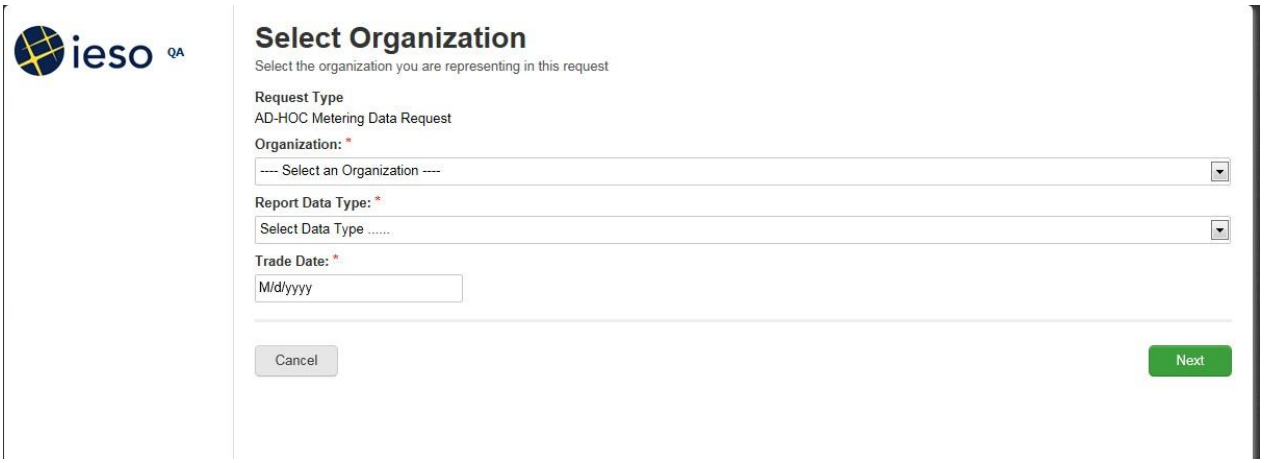
Appendix B: How to request for Meter Data Reports in Online IESO

Steps:

1. Login to Online IESO Production**:** https://online.ieso.ca
2. Go to "Actions" page and select "Manage Data Management" from the left column



3. Select "Request Meter Data Report"
4. Follow the on-screen instructions to submit a request for an ad-hoc revenue Meter Data Report
    - Select your organization. You will see only the organizations for which you are the market trials tester
    - Select desired Report Data Type: Totalized Meter Data (TMD) or Validate Meter Data (VMD)
    - Select desired Trade Date – for TMD at least 2 days back. For VMD at least one day back.



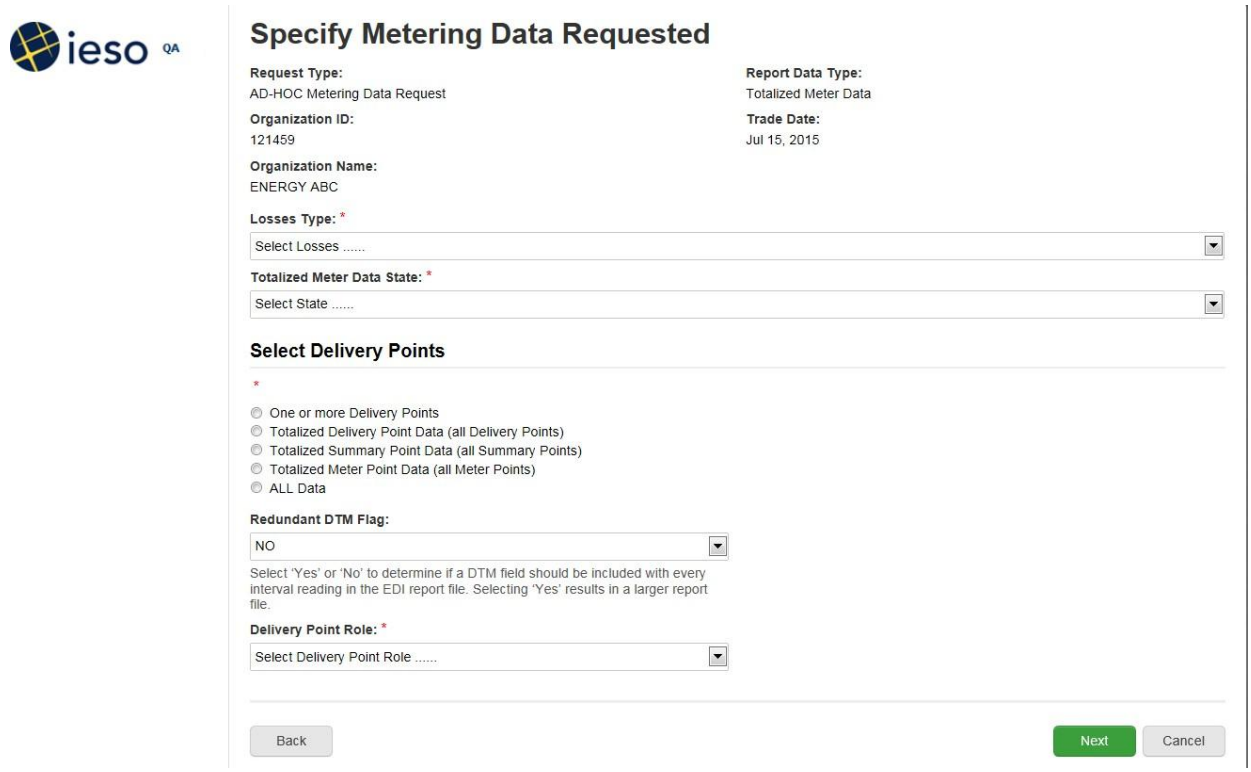
    - Select the Losses Type: With or Without Losses
    - If Totalized Meter Data was selected for the report data type, then select desired "Totalized Meter Data State".

- Select "Next" to save your selection and go to the next screen

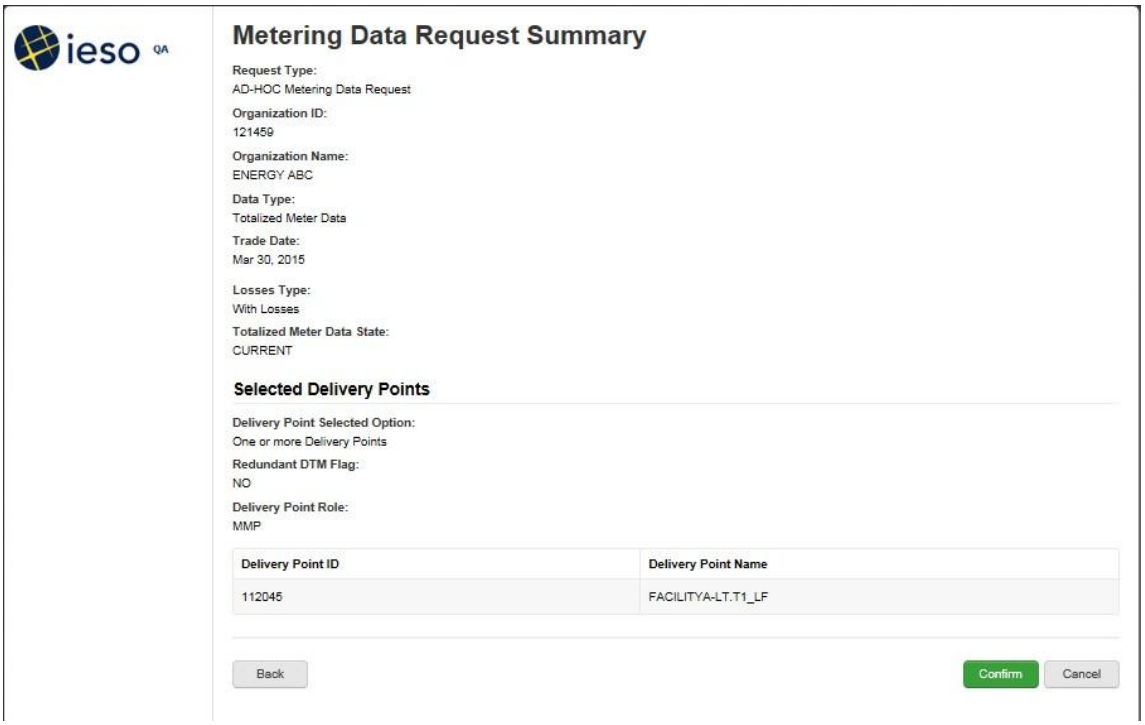
  The "Totalized Meter Data State" specifies the state (version) of totalized meter data that will be included in the report. The values that can be selected are as follows:

  - "**Current**": This is the latest available version of totalized meter data within the current settlement calendar cycle. "Current" state can only be selected for trade dates within the latest 18 business days.
  - "**Preliminary**": This is the version of totalized meter data used for the preliminary settlement statement. "Preliminary" state can only be selected for trade dates that are at least 8 business days ago.
  - "**Final**": This is the version of totalized meter data used for the final settlement statement. "Final" state can only be selected for trade dates that are at least 18 business days ago.
  - "**Post Final**": This is the version of totalized meter data used for any post-final adjustments to settlement statements, calculated after the final settlement for a trade date. "Post Final" state can only be selected for trade dates that are at least 19 business days ago. "Post Final" meter data will only exist for a trade date if there was a post-final settlement adjustment for the trade date, where totalized meter data has changed.

- Select the Delivery Points
- Select the "Redundant DTM Flag"
- Select the Delivery Point Role – e.g., MMP, TRAN, etc.
- Use the two filters to narrow your request.
- Select "Next" to save your selection and go to the next screen



- Review your meter data request summary and select "Confirm" to save your request. Once confirmed, a unique "Request Number" will be provided for future reference.



After submitting a request for an ad-hoc revenue meter data report, a confirmation email will also be sent to all "Revenue Metering Data" contacts of the requesting organization, and a unique "Request Number" will be provided. This "Request Number" will also be contained in the corresponding ad-hoc revenue meter data report published for the request.

Ad-hoc revenue meter data reports will be published as Confidential Reports on the IESO Reports Site in folder "MD-AD-HOC" for your organization, and will be available for 45 - calendar days.

Ad-hoc revenue meter data reports for trade dates within the latest 90 - calendar days will be published one calendar day after the request date. A sample email confirmation is shown below:

From: Online IESO
Sent: April 01, 2015 12:08 PM
To:
Subject: IESO Notice – Request Meter Data Report

- This is an automated message: Do not reply to this Email Address -

Dear Revenue Metering Data Contact(s)

The IESO has received your ad-hoc request for a revenue meter data report. The report will be published Apr/02/2015 as a Confidential Report on the IESO Reports Site in folder "MD-AD-HOC" for your organization, and will be available for 45 calendar days.

If you have any questions, please contact IESO Customer Relations at customer.relations@ieso.ca or 1-888-448-7777.

The following is a summary of your meter data request:

Request Number: 848
Organization Name: ENERGY ABC
Organization ID: 121459
Report Data Type: Totalized Meter Data
Trade Date: Mar/30/2015
Delivery Point Role: MMP
Delivery Point Selected Option: One or more Delivery Points
Losses Type: With Losses
Totalized Meter Data State: Current
Redundant DTM Flag: NO
Selected Delivery Point ID(s): 112049,112075

Sincerely,

IESO

Ad-hoc revenue meter data reports for trade dates older than the latest 90 - calendar days will be published by end-of-day next Sunday after the request date. A sample email confirmation is shown below:

From: Online IESO
Sent: April 01, 2015 12:08 PM
To:
Subject: IESO Notice – Request Meter Data Report

- This is an automated message: Do not reply to this Email Address -

Dear Revenue Metering Data Contact(s)

The IESO has received your ad-hoc request for a revenue meter data report. The report will be published by end-of-day next Sunday as a Confidential Report on the IESO Reports Site in folder "MD-AD-HOC" for your organization, and will be available for 45 calendar days.

If you have any questions, please contact IESO Customer Relations at customer.relations@ieso.ca or 1-888-448-7777.

The following is a summary of your meter data request:

Request Number: 806
Organization Name: ENERGY ABC
Organization ID: 121459
Report Data Type: Validated Meter Data
Trade Date: Dec/18/2014
Delivery Point Role: MMP
Delivery Point Selected Option: Validated Meter Point Data (all Delivery Points)
Redundant DTM Flag: NO

Sincerely,

IESO

Appendix C: Retrieve Meter Data Reports from IESO Reports Site

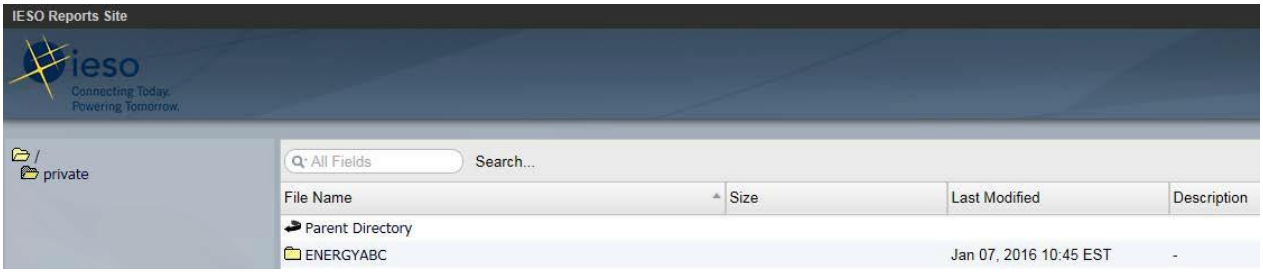
C.1 Person Accounts Using Web Interface

Complete the following steps to download the Meter Data Reports via the IESO Reports Site Web Interface: https://reports.ieso.ca/private/

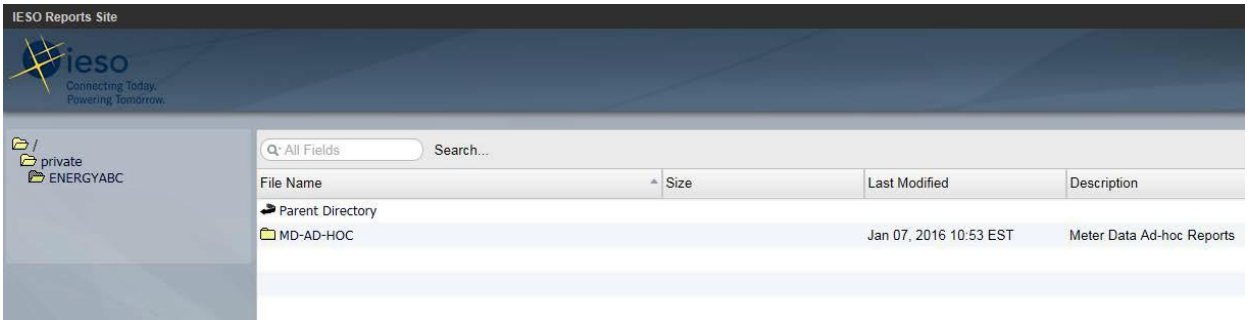
1. Type the IESO Reports Site Production URL https://reports.ieso.ca/private/ into the address line on your browser, the login screen appears:



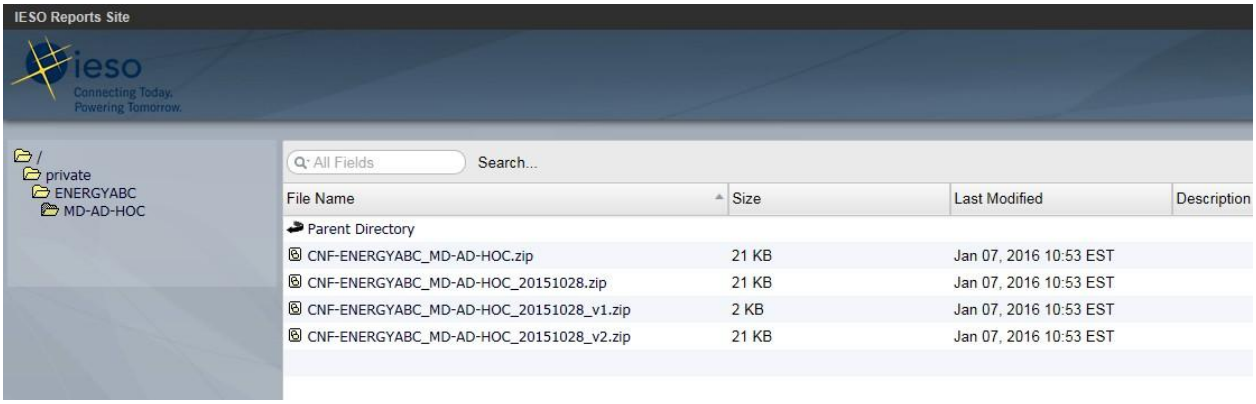
2. Enter your user name and password and click **Log In**.
3. Once you are logged in to the IESO Reports Site, choose your company by clicking on the correct short name folder under the Home menu. You will only see multiple company folders if you are the Revenue Metering Data contract for more than one participant.



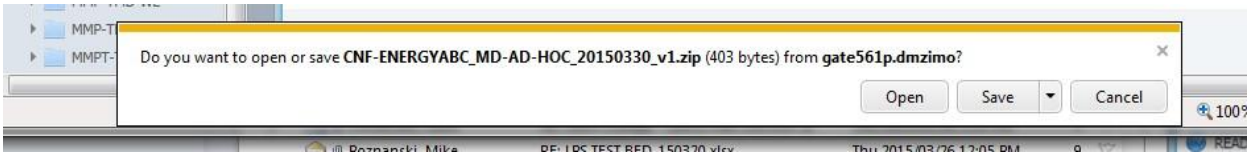
4. Click on the report folder you wish to view.



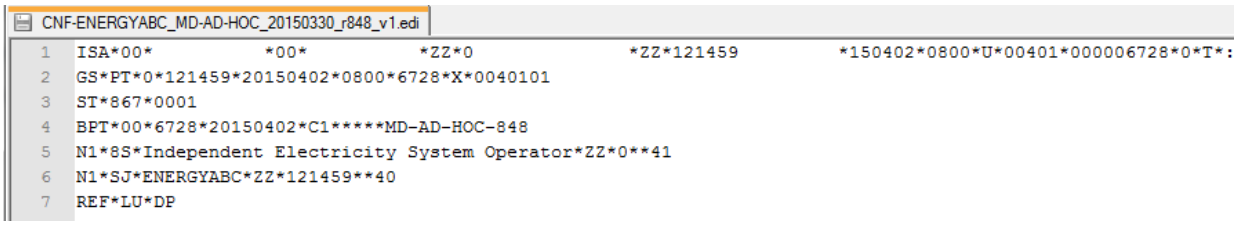
5. The list of reports available within the folder appears



6. Double-click on the report you want to download, a confirmation box appears. Click on **Open** or **Save** to see the report. **Cancel** will end the request.



7. View your EDI file after you unzip the downloaded file.



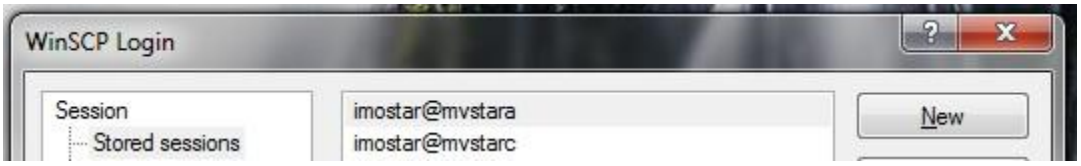
C.2 Machine Accounts Using SFTP Interface

SFTP, which stands for SSH File Transfer Protocol, or Secure File Transfer Protocol, is a network protocol that provides file transfer functionalities over Internet. To successfully download Meter Data Reports using SFTP and a machine account, you must:

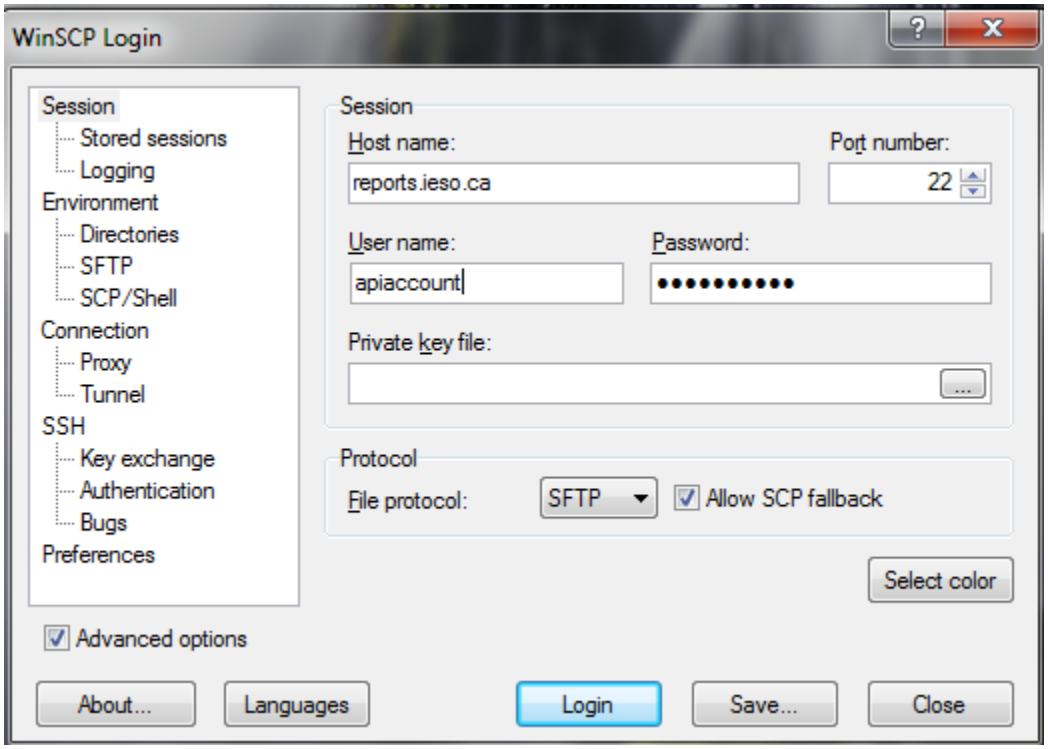
1. Have a machine account to access the new IESO Reports Site
2. Download and install the software which supports the SFTP protocol to transfer files securely to and from a computer
3. Configure firewalls
4. Test connectivity to the IESO Reports Site

To run the examples on Windows, we use WinSCP as SFTP client:

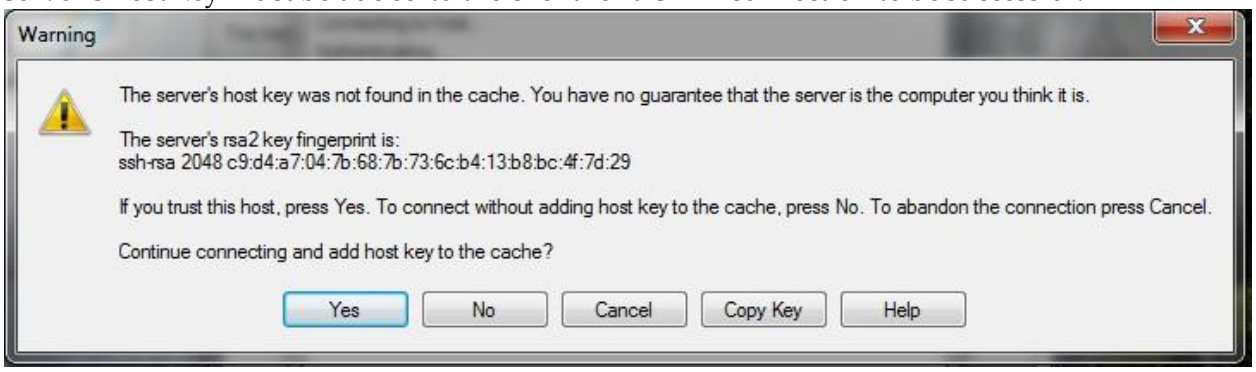
1. Start WinSCP, **Login** Dialog appears, click **New** to setup server connection



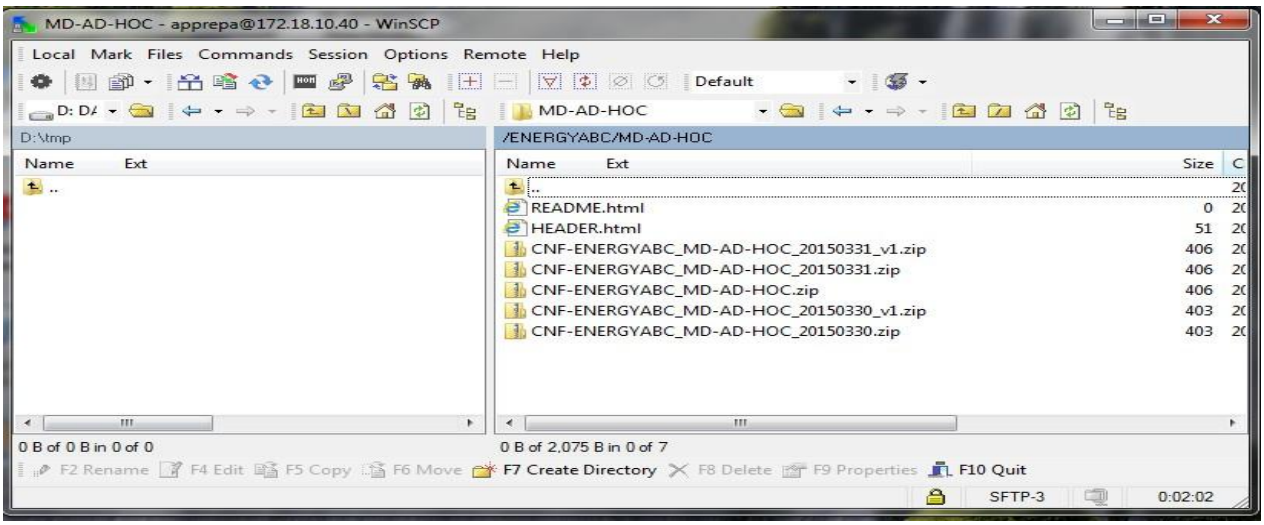
2. Enter **reports.ieso.ca** as Host Name, **22** as Port Number, select **SFTP** as File Protocol, your machine API account as User name and password of your machine API account. Click **Save** to save your settings or **Login** to connect to SFTP server



3. A confirmation box appears, click **Yes** to add server's host key to your computer. The server's host key must be added to the client for a SFTP connection to be successful.



4. The list of reports available within the company and report folder appears



Click on the report(s) you want to download, click on F5 Copy to download the report(s) you selected.

Appendix D: Meter Data Reports

D.1 Monthly AQEW AQEI Report

The monthly AQEW AQEI report will provide LDCs and load type Metered Market Participants (MMP) with DP meter data for use in their monthly embedded generation data submissions using the CURRENT version with losses.

Report Details:

- Document Identifier (also the folder name on the IESO Reports Site): Monthly-AQEW-AQEI
- Format: XML
- Naming: *CNF-MP SHORT NAME_Monthly-AQEW-AQEI_YYYYMM_v#.xml*
- Versioning and Publishing Frequency: two versions per month; 1st version published on the 2nd calendar day of the month, for the previous month; 2nd version published once all Trade Dates are final for previous month
- Retention Period: 90 calendar days

Note: This report is not meant to replace the information currently found through the market participant settlement statements and invoices. In the event of any disagreement between this report and the established settlements process, the settlements process results will prevail.

D.2 Validated Meter Data Report

Validated meter interval data will be made available based on the Meter Data Report Profiles selected by participants.

Report Details:

- Document Identifier (also the folder name on the IESO Reports Site): Meter Data Profile Type - VMD
- Format: ZIP file containing EDI-867 file
- Naming: CNF-MP SHORT NAME_ Meter Data Profile Type - VMD_YYYYMMDD_v#.zip
- Versioning: Three versions per Trade Date. V1: Published at TD+1CD, V2: Published at TD+8BD+1CD (Prelim), V3: Published at TD+18BD+1CD (Final)
- Publishing Frequency: Daily containing data for yesterday's Trade Date
- Retention Period: 45 calendar days

D.3 Totalized Meter Data With Losses Report

Totalized meter interval data with losses will be made available based on the Meter Data Report Profiles selected by participants.

Report Details:

- Document Identifier (also the folder name on the IESO Reports Site): Meter Data Profile Type-TMD-WL
- Format: ZIP file containing EDI-867 file
- Naming: CNF-MP SHORT NAME_ Meter Data Profile Type-TMD-WL _YYYYMMDD_v#.zip
- Versioning: Three versions per Trade Date. V1: Published at TD+2CD and Re-published at TD+7CD, V2: Published at TD+8BD+1CD (Prelim), V3: Published at TD+18BD+1CD (Final)
- Publishing Frequency: Daily containing data for Trade Date two calendar days ago until the Final settlement for the Trade Date
- Retention Period: 45 calendar days

D.4 Totalized Meter Data Without Losses Report

The totalized meter interval data without losses will be made available based on the Meter Data Report Profiles selected by participants.

Report Details:

- Document Identifier (also the folder name on the IESO Reports Site): Meter Data Profile Type-TMD-WOL
- Format: ZIP file containing EDI-867 file
- Naming: CNF-MP SHORT NAME_ Meter Data Profile Type-TMD-WOL _YYYYMMDD_v#.zip
- Versioning: Three versions per Trade Date. V1: Published at TD+2CD and Re-published at TD+7CD, V2: Published at TD+8BD+1CD (Prelim), V3: Published at TD+18BD+1CD (Final)
- Publishing Frequency: Daily containing data for Trade Date two calendar days ago until the Final settlement for the Trade Date
- Retention Period: 45 calendar days

D.5 Ad-Hoc Meter Data Report

Report Details:

- Document Identifier (also the folder name on the IESO Reports Site): MD-AD-HOC

- Format: ZIP file containing one or more EDI-867 file(s) for one Trade Date; one EDI file per Ad-hoc meter data request
- Naming: CNF-MP SHORT NAME_ MD-AD-HOC _YYYYMMDD_v#.zip
- Retention Period: 45 calendar days