

## Step-by-Step REST Examples for Meter Data

### Table of Contents

<i>About this document</i> .....	1
Release History .....	2
<i>Uploading Daily Meter Data</i> .....	2
<i>Executing the Daily Data Upload</i> .....	3
<i>Uploading Interval Data</i> .....	4
<i>Executing the Interval Data Upload</i> .....	5
<i>Downloading Meter Data</i> .....	5
<i>Download Daily Meter Data by Location Id</i> .....	5
<i>Download Meter Data by Registration Id</i> .....	7
<i>Download Daily Meter Data by Location Id and Date Range</i> .....	8
<i>Download Daily Meter Data by Registration Id and Date</i> .....	9
<i>Downloading Interval Meter Data</i> .....	10
<i>Download Interval Meter Data by Location Id and Date</i> .....	10
<i>Download Interval Meter Data by Registration Id and Date</i> .....	11
<i>Expected Reduction Data</i> .....	12
<i>Uploading Expected Reduction Data</i> .....	12
<i>Executing the Expected Reduction Data Upload</i> .....	13
<i>Downloading Expected Reduction Data</i> .....	14

### *About this document*

The purpose of this document is to provide information on uploading and downloading meter data to/from the DR Hub system.

The examples provided herein will review the options available for each request and provide sample output from the responses to those requests.

To preface this activity there are three options available for retrieving meter data downloads. The user may request by location id, registration id or data range along with several combinations of each. For expected reductions, users may retrieve data by date range or zone.

Uploading meter data involves gathering the appropriate meter information from the source and then organizing it into a format recognized by DR Hub. We'll review the acceptable formats and methods for uploading.

In the last section of this document we'll review the operations available to manage expected reduction data.

The below examples are demonstrated using the PJM provided CLI tool.

A note on uploading files to DR Hub. There are numerous approaches to uploading files to our RESTful web service, however we will demonstrate using the approach found in the PJM provided CLI tool.

When uploading files to DR Hub, the file must be attached to the request using a http compliant header form consistent with the multipart/form-data format. How file uploads are achieved is a function of the tools available to the user and the extent to which automation is required in the enterprise.

Let's get started: We'll jump right into uploading meter data and then walk through the retrieval of that same information. We'll review uploading both daily and interval data formats

## Release History

Release	Date	Description
1.0.0	July 14, 2016	Initial Document Created
2.0.0	November 8, 2016	November 17, 2016 Updated for Train Release.

## Uploading Daily Meter Data

Uploading meter data is involves one of two types of meter data, daily and interval. We'll examine the daily upload first.

Formatting – to successfully upload meter data, the format must conform to DR Hub standards and the XML must be valid. Recall that XML will balk at missing tags, incorrect attributes and missing header information. Additionally, the web service expects names and labels to be spelled correctly as not to skip data or cause errors when uploading. Using the correct format implies matching a structure that DR Hub will accept for uploading the information.

CSPs, LSEs and EDCs: All CSPs with the appropriate privileges may upload/download meter data for resources under their management. It is up to the CSP to allow EDCs and LSEs to upload data on behalf of the CSP. This is accomplished by setting the allow flag on each desired location via the UI or the related change location web service.

Below is an example of a well-formed XML daily meter data structure. When downloading by location the location only the location Id is included in the response. When downloading by registration, but the location and registration id are included.

In the below XML, latest means this is the most current version of data. The version number indicates this version is the baseline version for this combination of location id, EDC account number and date. Subsequent uploads of the same information will be versioned (regardless of the version provided in the upload) according to the data and the date time uploaded.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:dailyDataList xmlns:ns2="http://drhub.pjm.com/">
  <dailyData>
    <summaryInfo>
      <locationId>61464</locationId>
      <CSPShortName>MYCSP</CSPShortName>
      <EDCAccountNumber>GL20130607</EDCAccountNumber>
    </summaryInfo>
    <measurementInfo>
      <readingDate>2016-06-08T00:00:00.000-05:00</readingDate>
      <type>Hourly_Load</type>
      <hourValueMeasurement>
        <hour>1</hour>
        <value>200.0</value>
      </hourValueMeasurement>
      <hourValueMeasurement>
        <hour>2</hour>
        <value>200.0</value>
      </hourValueMeasurement>
      <!-- the hourlyValueMeasurement structure is repeated for all 24
hours of information -->
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
      <submittedDate>2016-07-06T08:41:12.000-05:00</submittedDate>
    </measurementInfo>
  </dailyData>
</ns2:dailyDataList>
```

### *Executing the Daily Data Upload*

Once the XML has been created, it's time to upload the file to DR Hub. This step involves uploading the file via an http header as described above. This step is easily achieved using the PJM CLI. For additional

details on file uploading via the PJMCLI, please reference the CLI documentation on the [DR Hub](#) home page.

Executing the below request uploads the daily meter data for a location based on the location and EDC account number. Note the path to the file being uploaded. This is a relative path to the location of folder executing the PJMCLI.

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/meterdata/daily/ -file .\upload\dailyData.xml
```

The response provided by DR Hub is success or fail. If successful, the below 200 OK message will be returned. If the upload fails, a 400 or 500 error message will be returned along with information that will suggest the source of the problem.

PUT URL: <https://drhub.pjm.com/drhub/rest/secure/upload/meterdata/daily?file=dailyData.xml>

HTTP Status = 200 OK

### *Uploading Interval Data*

Good News – uploading interval meter data follows the same pattern as uploading daily meter data. The key is a well formed XML data file to begin the upload. Below is an example of a well formed XML document suitable for uploading to DR Hub.

Note : the interval data has a value for the latest flag and the version on each measurement Info section. In the case of measurementInfo changes to an interval, DR Hub will track the individual changes and maintain a version of each interval. When downloading you will receive the latest intervals available. The version number increments by one anytime the same data relative to the same resource for the same time period is uploaded. A UOM value of KW is required and is case sensitive. All CAPS please.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:intervalDataList xmlns:ns2="http://drhub.pjm.com/">
  <intervalData>
    <summaryInfo>
      <locationId>61445</locationId>
      <CSPShortName>MYCSP</CSPShortName>
      <EDCAccountNumber>GL20130607</EDCAccountNumber>
    </summaryInfo>
    <measurementInfo>
      <timestamp>2016-08-10T15:01:00.000Z</timestamp>
      <type>Minute_Load</type>
      <UOM>KW</UOM>
      <value>4001.0</value>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
      <submittedDate>2014-03-04T18:09:10.000Z</submittedDate>
    </measurementInfo>
  </intervalData>
</ns2:intervalDataList>
```

```
</measurementInfo>
  <!--As with Daily Data the measurementInfo section is repeated for all
relevant timestamp values -->
</intervalData>
</ns2:intervalDataList>
```

### *Executing the Interval Data Upload*

Executing the below request uploads the interval meter data for a location based on the location and EDC account number. Note the path to the file being uploaded. This is a relative path to the location of folder executing the PJMCLI. Note the slight change in the upload path for interval data. That is key to accessing the correct DR Hub endpoint.

PJM CLI Command File: Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/meterdata/interval/ -file .\upload\intervalData.xml
```

The response provided by DR Hub is success or fail. If successful, the below 200 OK message will be returned. If the upload fails, a 400 or 500 error message will be returned along with information that will suggest the source of the problem.

PUT URL: <https://drhub.pjm.com/drhub/rest/secure/upload/meterdata/interval?file=intervalData.xml>

HTTP Status = 200 OK

### *Downloading Meter Data*

In the next segment we'll explore downloading meter data using location ids, registration ids and date ranges as a filter. When a download request is initiated without a date range parameter, all available data for a specific location and registration up to the system defined limit of 100 days will be returned.

### *Download Daily Meter Data by Location Id*

Downloading Meter Data by location id downloads all available daily meter data for a location up to the system defined limit of 100 days.

The below request will receive the daily meter data (where available) for location id 11245

PJM CLI Command File: Authentication via CLI

%CLIENT% -s %APP\_URL% -a /rest/secure/download/meterdata/daily -q locationId=11245

HTTP Equivalent: Requires PJM Authentication Token

<https://drhub.pjm.com/drhub/rest/secure/download/meterdata/daily?locationId=11245>

Below is an sample response returned by the download request. A complete set of daily meter data will include all twenty-four hourly value measurement segments.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:dailyDataList xmlns:ns2="http://drhub.pjm.com/">
  <dailyData>
    <summaryInfo>
      <locationId>11245</locationId>
      <CSPShortName>MYCSP</CSPShortName>
      <EDCAccountNumber>5354534534</EDCAccountNumber>
    </summaryInfo>
    <measurementInfo>
      <readingDate>2016-07-09T00:00:00.000-04:00</readingDate>
      <type>HOURLY_LOAD</type>
      <UOM>KW</UOM>
      <hourValueMeasurement>
        <hour>1</hour>
        <value>725.0</value>
      </hourValueMeasurement>
      <hourValueMeasurement>
        <hour>24</hour>
        <value>715.0</value>
      </hourValueMeasurement>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
      <submittedDate>2016-08-01T17:08:52.000-04:00</submittedDate>
    </measurementInfo>
    <measurementInfo>
      <readingDate>2016-07-07T00:00:00.000-04:00</readingDate>
      <type>HOURLY_LOAD</type>
      <UOM>KW</UOM>
      <hourValueMeasurement>
        <hour>1</hour>
        <value>726.0</value>
      </hourValueMeasurement>
      <hourValueMeasurement>
        <hour>24</hour>
        <value>755.0</value>
      </hourValueMeasurement>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>YEATO</submittedBy>
      <submittedDate>2016-08-01T17:08:52.000-04:00</submittedDate>
    </measurementInfo>
  </dailyData>
</ns2:dailyDataList>
```

```
</ns2:dailyDataList>
```

### *Download Meter Data by Registration Id*

Downloading Daily Meter Data by registration id retrieves all available daily meter data for the location associated with a registration up to the system defined limit of 100 days. If a registration has multiple locations associated with it, data relevant to all locations and date limits will be returned.

The below request will download the daily meter data (where available) for registration id 22486

PJM CLI Command File: Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/meterdata/daily -q registrationid=22486
```

HTTP Equivalent: Requires PJM Authentication Token

```
https://drhub.pjm.com/drhub/rest/secure/download/meterdata/daily?registrationid=22486
```

Below is a sample response from the download request. A complete set of daily meter data will include all twenty-four hourly value measurement segments. Note the inclusion of the registration id in the summary information when the search is keyed on registration id.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:dailyDataList xmlns:ns2="http://drhub.pjm.com/">
  <dailyData>
    <summaryInfo>
      <locationId>61443</locationId>
      <registrationId>22486</registrationId>
      <CSPShortName>MYCSP</CSPShortName>
      <EDCAccountNumber>5354534534</EDCAccountNumber>
    </summaryInfo>
    <measurementInfo>
      <readingDate>2016-07-09T00:00:00.000-04:00</readingDate>
      <type>HOURLY_LOAD</type>
      <UOM>KW</UOM>
      <hourValueMeasurement>
        <hour>1</hour>
        <value>725.0</value>
      </hourValueMeasurement>
      <hourValueMeasurement>
        <hour>24</hour>
        <value>755.0</value>
      </hourValueMeasurement>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
      <submittedDate>2016-08-01T17:08:52.000-04:00</submittedDate>
```

```

    </measurementInfo>
  </dailyData>
</ns2:dailyDataList>

```

### *Download Daily Meter Data by Location Id and Date Range*

Downloading Daily Meter Data by location id and Date downloads all available daily meter data for a location within the date parameters provided. This request is adds the date range parameter to the previous search by location id.

The below example will retrieve all information (where available) for location id 61443 with dates ranging between 07-07-2016 and 07-10-2016.

PJM CLI Command File: Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/meterdata/daily -q startDate=07-07-2016 -q stopDate=07-10-2016 -q locationId=61443
```

HTTP Equivalent: Requires PJM Authentication Token

```
https://drhub.pjm.com/drhub/rest/secure/download/meterdata/daily? ?startDate=07-07-2016&stopDate=07-10-2016&locationId=61443
```

Below is an sample response returned by the download request. A complete set of daily meter data will include all twenty-four hourly value measurement segments.

The result will mimic search by location id with a constraint on the dates returned. Note – The request information is based on the reading date not the submitted date.

Below is a sample response for a location id and date range request.

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:dailyDataList xmlns:ns2="http://drhub.pjm.com/">
  <dailyData>
    <summaryInfo>
      <locationId>61443</locationId>
      <CSPShortName>ECONCT</CSPShortName>
      <EDCAccountNumber>5354534534</EDCAccountNumber>
    </summaryInfo>
    <measurementInfo>
      <readingDate>2016-07-09T00:00:00.000-04:00</readingDate>
      <type>HOURLY_LOAD</type>
      <UOM>KW</UOM>
      <hourValueMeasurement>
        <hour>1</hour>
      </hourValueMeasurement>
    </measurementInfo>
  </dailyData>
</ns2:dailyDataList>

```



```

        <value>725.0</value>
    </hourValueMeasurement>
    <hourValueMeasurement>
        <hour>24</hour>
        <value>715.0</value>
    </hourValueMeasurement>
    <latest>true</latest>
    <versionNumber>0</versionNumber>
    <submittedBy>DRHUBUSER</submittedBy>
    <submittedDate>2016-08-01T17:08:52.000-04:00</submittedDate>
</measurementInfo>
<measurementInfo>
    <readingDate>2016-07-08T00:00:00.000-04:00</readingDate>
    <type>HOURLY_LOAD</type>
    <UOM>KW</UOM>
    <hourValueMeasurement>
        <hour>1</hour>
        <value>788.0</value>
    </hourValueMeasurement>
    <hourValueMeasurement>
        <hour>24</hour>
        <value>730.0</value>
    </hourValueMeasurement>
    <latest>true</latest>
    <versionNumber>0</versionNumber>
    <submittedBy>DRHUBUSER</submittedBy>
    <submittedDate>2016-08-01T17:08:52.000-04:00</submittedDate>
</measurementInfo>
<measurementInfo>
    <readingDate>2016-07-10T00:00:00.000-04:00</readingDate>
    <type>HOURLY_LOAD</type>
    <UOM>KW</UOM>
    <hourValueMeasurement>
        <hour>1</hour>
        <value>726.0</value>
    </hourValueMeasurement>
    <hourValueMeasurement>
        <hour>24</hour>
        <value>755.0</value>
    </hourValueMeasurement>
    <latest>true</latest>
    <versionNumber>0</versionNumber>
    <submittedBy>DRHUBUSER</submittedBy>
    <submittedDate>2016-08-01T17:08:52.000-04:00</submittedDate>
</measurementInfo>
</dailyData>
</ns2:dailyDataList>

```

*Download Daily Meter Data by Registration Id and Date*

Downloading Daily Meter Data by registration id and date retrieves all available daily meter data for a registration within the date parameters provided. This request adds the date range parameter to the previous search by location id. If the registration has more than one location the data for all locations, constrained by date, will be returned.

The below example will retrieve all information (where available) for registration id 22486 with dates ranging between 07-07-2016 and 07-10-2016.

PJM CLI Command File: Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/meterdata/daily -q startDate=07-07-2016 -q stopDate=07-10-2016 -q registrationid=22486
```

HTTP Equivalent: Requires PJM Authentication Token

```
https://drhub.pjm.com/drhub/rest/secure/download/meterdata/daily? ?startDate=07-07-2016&stopDate=07-10-2016&registrationid=22486
```

The result will mimic search by registration id with a constraint on the dates returned. Note – The request information is based on the reading date not the submitted date.

### *Downloading Interval Meter Data*

Downloading Interval Meter Data follows the same pattern as downloading Daily Data. What you will notice is a small variation to the URL endpoint. We swap the word daily with interval. Other functionality and rules remain the same.

Requests for Interval Data by location id or registration id are exactly like requests for Daily Data with the replacement of the word interval in the URL. A sample of the Interval Data response is shown at the end of this section.

Below is a list of sample requests for Interval Data by location id, registration id and Date Range.

### *Download Interval Meter Data by Location Id and Date*

The below example will retrieve all interval meter data (where available) for location id 7652 with dates ranging between 07-07-2016 and 07-10-2016.

PJM CLI Command File: Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/meterdata/interval -q startDate=01-01-2014 -q stopDate=02-28-2014 -q locationId=7652
```

HTTP Equivalent: Requires PJM Authentication Token

<https://drhub.pjm.com/drhub/rest/secure/download/meterdata/interval?startDate=01-01-2014&stopDate=02-28-2014&locationId=7652>

The result mimics search by location id with a constraint on the dates returned. Note – The requested information is based on the reading date not the submitted date.

### *Download Interval Meter Data by Registration Id and Date*

This example will retrieve all interval meter data (where available) for registration id 22486 with dates ranging between 01-15-2016 and 02-10-2016.

PJM CLI Command File: Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/meterdata/interval -q startDate=01-15-2016 -q stopDate=02-10-2016 -q registrationId=22486
```

HTTP Equivalent: Requires PJM Authentication Token

<https://drhub.pjm.com/drhub/rest/secure/download/meterdata/interval?startDate=01-15-2016&stopDate=02-10-2016&registrationid=22486>

Below is an example of a response to a request for Interval Data by registration and Date Range. The result mimics search by registration id with a constraint on the dates returned. Note the inclusion of the registration id in the response.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:intervalDataList xmlns:ns2="http://drhub.pjm.com/">
  <intervalData>
    <summaryInfo>
      <locationId>7652</locationId>
      <registrationId>22486</registrationId>
      <CSPShortName>MYCSP</CSPShortName>
      <EDCAccountNumber>3339990008</EDCAccountNumber>
    </summaryInfo>
    <measurementInfo>
      <timestamp>2016-02-01T15:23:00.000Z</timestamp>
      <type>MINUTE_LOAD</type>
      <UOM>KW</UOM>
      <value>670</value>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
      <submittedDate>2016-03-12T15:05:17.000Z</submittedDate>
    </measurementInfo>
    <measurementInfo>
      <timestamp>2016-01-29T15:01:00.000Z</timestamp>
      <type>MINUTE_LOAD</type>
```

```
<UOM>KW</UOM>
<value>4001</value>
<latest>true</latest>
<versionNumber>0</versionNumber>
<submittedBy>DRHUBUSER</submittedBy>
<submittedDate>2016-03-12T15:05:57.000Z</submittedDate>
</measurementInfo>
</intervalData>
</ns2:intervalDataList>
```

### *Expected Reduction Data*

PJM Requires all CSPs with confirmed Load Management registrations to upload Expected Reduction Estimates for each month during the Demand Year. DR Hub provides a service for uploading Expected Reduction via XML. Uploading and downloading Expected Reduction Data is a CSP only activity.

In the below we'll review both uploading and downloading of Expected Reduction Data.

### *Uploading Expected Reduction Data*

Uploading expected reduction data requires a specific format and has several rules for the information being uploaded. To successfully upload expected reduction values..

- The input start date must be today or a date in the future.
- The date range for the data must not exceed the registration confirmation period.
- A limit of 3 decimal places is enforced for uploads.
- Negative values will not be uploaded.
- The end date must be equal to or after the start date.
- The UOM must be KW and upper case.
- Product, resource type and lead time must match confirmed registration(s).
- Hourly measurement values may be overridden using the override flag.
- If the override flag is set True, values exceeding 200% of ICAP will be uploaded.
- Data with missing hour information may be uploaded.

Formatting – to successfully upload expected reduction data, the format must conform to DR Hub standards and the XML must be valid. Recall that XML will balk at missing tags, incorrect attributes and missing header information. Additionally, the web service expects names and labels to be spelled correctly as not to skip data or cause errors when uploading. Using the correct format implies matching a structure that DR Hub will accept for uploading the information.

Below is a sample of an Expected Reduction file to be uploaded. Hourly information is limited for demonstration. All hours will follow the same format.

```
<?xml version="1.0" encoding="UTF-8"?>
<ns2:expectedReductionDataList xmlns:ns2="http://drhub.pjm.com/">
  <expectedReductionData>
    <summaryInfo>
      <CSPShortName>MYCSP</CSPShortName>
      <zone>PECO</zone>
      <product>Annual DR</product>
      <resourceType>Pre-Emergency</resourceType>
      <leadTime>Quick_30</leadTime>
    </summaryInfo>
    <measurementInfo>
      <inputStartDate>2016-09-14T00:00:00.000-04:00</inputStartDate>
      <inputEndDate>2016-09-25T00:00:00.000-04:00</inputEndDate>
      <type>Expected Reduction</type>
      <UOM>KW</UOM>
      <hourValueMeasurement>
        <hour>1</hour>
        <value>1.44488</value>
      </hourValueMeasurement>
      <hourValueMeasurement>
        <hour>24</hour>
        <value>1.292</value>
      </hourValueMeasurement>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
      <submittedDate>2016-10-28T11:13:40.00-04:00</submittedDate>
    </measurementInfo>
  </expectedReductionData>
  <overrideValidationWarnings>false</overrideValidationWarnings>
</ns2:expectedReductionDataList>
```

### *Executing the Expected Reduction Data Upload*

Executing the below request uploads the expected reduction data for registrations based on the product resource type, lead time and zone of the registration group. Note the path to the file being uploaded. This is a relative path to the location of the folder executing the PJMCLI. Note the slight change in the URL path for expected reduction data. That is key to accessing the correct DR Hub endpoint.

PJM CLI : Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/meterdata/expected-reduction/ -file
.\upload\expectedReductionData.xml
```

The response provided by DR Hub is success or fail. If successful, the below 200 OK message will be returned. If the upload fails, a 400 or 500 error message will be returned along with information that will

suggest the source of the problem. When using the PJM CLI, you will receive a zero byte file named output.txt if the upload was successful.

### *Downloading Expected Reduction Data*

In the below we'll download expected reduction data using zone and date range as a filter. When a download request is initiated without a data range parameter a maximum of 35 days of expected reduction for all available data for a specific zone or date range (if no zone is provided). The absence of a zone parameter will download all available expected reduction data for the date range.

The request parameters shown below retrieve the expected reduction data for the zone equal to BGE and the data range provided will be downloaded.

PJM CLI : Authentication via CLI

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/meterdata/expected-reduction -q startDate=08-01-2016 -q stopDate=08-30-2016 -q zones=BGE
```

HTTP Equivalent: Requires PJM Authentication Token

```
https://drhub.pjm.com/drhub/rest/secure/download/expected-reduction?startDate=08-01-2016&stopDate=08-30-2016&zones=BGE
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:expectedReductionDataList xmlns:ns2="http://drhub.pjm.com/">
  <expectedReductionData>
    <summaryInfo>
      <CSPShortName>MYCSP</CSPShortName>
      <zone>BGE</zone>
      <product>Limited DR</product>
      <resourceType>Pre-Emergency</resourceType>
      <leadTime>Quick_30</leadTime>
    </summaryInfo>
    <measurementInfo>
      <readingDate>2016-08-27T01:00:00.000-04:00</readingDate>
      <type>Expected Reduction</type>
      <UOM>KW</UOM>
      <hourValueMeasurement>
        <hour>1</hour>
        <value>4.444</value>
      </hourValueMeasurement>
      <hourValueMeasurement>
        <hour>24</hour>
        <value>344.292</value>
      </hourValueMeasurement>
      <latest>true</latest>
      <versionNumber>0</versionNumber>
      <submittedBy>DRHUBUSER</submittedBy>
    </measurementInfo>
  </expectedReductionData>
</ns2:expectedReductionDataList>
```

```
<submittedDate>2016-08-11T16:32:03.000-04:00</submittedDate>
</measurementInfo>
<measurementInfo>
  <readingDate>2016-08-28T01:00:00.000-04:00</readingDate>
  <type>Expected Reduction</type>
  <UOM>KW</UOM>
  <hourValueMeasurement>
    <hour>1</hour>
    <value>4.444</value>
  </hourValueMeasurement>
  <hourValueMeasurement>
    <hour>24</hour>
    <value>344.292</value>
  </hourValueMeasurement>
  <latest>true</latest>
  <versionNumber>0</versionNumber>
  <submittedBy>DRHUBUSER</submittedBy>
  <submittedDate>2016-08-11T16:32:03.000-04:00</submittedDate>
</measurementInfo>
</expectedReductionData>
<overrideValidationWarnings>false</overrideValidationWarnings>
</ns2:expectedReductionDataList>
```

XML Samples that accompany this document may be examined by downloading the associated Meter Data zip file found on the [DR Hub](#) home page.

For complete information on the endpoint URLs used in these examples please reference the CLI documentation on the [DR Hub](#) home page.

[End of Document](#)