## Document Tracking:

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Description</th>
<th>Author(s)</th>
</tr>
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<tr>
<td>07-06-2009</td>
<td>01</td>
<td>Initial Draft</td>
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<tr>
<td>07-06-2009</td>
<td>02</td>
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<td>07-10-2009</td>
<td>04</td>
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<td>10-16-2009</td>
<td>05</td>
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<td>12-23-2010</td>
<td>06</td>
<td>Updated Get Process supported scenarios</td>
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<td>02-08-2011</td>
<td>07</td>
<td>Added web services limit and how to run WS as PJM users</td>
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<td>05-17-2011</td>
<td>08</td>
<td>Added descriptions of the create and confirm zonal test and retest events sections</td>
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<td>09-21-2011</td>
<td>09</td>
<td>Updates in meter data for emergency capacity compliances and update cross reference.</td>
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<td>4-20-2012</td>
<td>10</td>
<td>Updated for FERC-745 related WS</td>
<td></td>
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<tr>
<td>4-17-2013</td>
<td>11</td>
<td>Updated for changes due to Electronic notifications. Updates to section 7.3,7.8 and 7.9</td>
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<td>12-10-2013</td>
<td>12</td>
<td>Updates for Fall 2013 changes related to:</td>
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<tr>
<td></td>
<td></td>
<td>- Product in Registration/Event</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Duplicate Resolution process</td>
<td></td>
</tr>
<tr>
<td>01-17-2014</td>
<td>13</td>
<td>Added sections for Submit registration with ignore warnings. Deprecated IRL Full registration created</td>
<td></td>
</tr>
<tr>
<td>03-28-2014</td>
<td>14</td>
<td>Updates for Spring 2014 changes related to:- Resource Type in Registration/Event</td>
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</tr>
<tr>
<td>07-14-2014</td>
<td>15</td>
<td>Documented change to Strike Price representation of the unit of measure for Emergency type Registrations.</td>
<td></td>
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<tr>
<td>07-28-2014</td>
<td>16</td>
<td>Modified section 5.17. Option keyword changed from termination to terminate.</td>
<td></td>
</tr>
<tr>
<td>11-20-2014</td>
<td>17</td>
<td>Added exception reason, description and certification to create registration section. Added complete registration method to web service. Details under 5.18</td>
<td></td>
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</tbody>
</table>
# Table of Contents

1 Introduction ........................................................................................................................................... 5  
1.1 Abbreviations and Acronyms ............................................................................................................. 5  
1.2 References ........................................................................................................................................ 6  
1.3 Document Conventions ...................................................................................................................... 6  
1.4 LRS Web Services Overview ............................................................................................................... 6  
1.5 Error handling .................................................................................................................................. 6  

2 Get Web Services Result Limits ............................................................................................................ 7  

3 Processes .............................................................................................................................................. 7  
3.1 Get Process by ID ............................................................................................................................... 8  
3.2 Get Active Processes for Registration or Settlement ........................................................................ 10  
3.3 Get Active Processes (aka My Tasks) .............................................................................................. 10  
3.4 Get Active Processes by Date Range .............................................................................................. 10  

4 Locations ............................................................................................................................................. 11  
4.1 Get Location by ID .......................................................................................................................... 11  
4.2 Get Location by Name .................................................................................................................... 13  
4.3 Create Location ................................................................................................................................ 13  
4.4 Change Location ............................................................................................................................. 15  

5 Registrations ........................................................................................................................................ 17  
5.1 Use Cases ......................................................................................................................................... 17  
5.2 Get Registration by ID ..................................................................................................................... 18  
5.3 Get Registration by Date Range ..................................................................................................... 19  
5.4 Create Economic Registration ..................................................................................................... 20  
5.5 Create Emergency Registration – ILR Full - Deprecated ................................................................... 21  
5.6 Create Emergency Capacity ........................................................................................................ 23  
5.7 Create Emergency Registration – DR Full .................................................................................. 24  
5.8 Change Registration ..................................................................................................................... 26  
5.9 Submit Registration ...................................................................................................................... 28  
5.10 Submit Registration – Ignore warnings ..................................................................................... 29  
5.11 Confirm Registration .................................................................................................................... 29  
5.12 Complete Duplicate Resolution Task .......................................................................................... 30  
5.13 Deny Registration .......................................................................................................................... 31  
5.14 Resubmit Registration .................................................................................................................... 32  
5.15 Dispute Registration .................................................................................................................... 33  
5.16 Withdraw Registration ................................................................................................................ 34  
5.17 Change Registration Termination Date ........................................................................................ 34  
5.18 Complete Registration .................................................................................................................. 345  

6 Events .................................................................................................................................................. 365  
6.1 Get Events By Date Range .............................................................................................................. 365  
6.2 Get Event by ID ............................................................................................................................... 366  
6.3 Get Unacknowledged events .......................................................................................................... 376  
6.4 Get Events by Event type .............................................................................................................. 38  
6.5 Create Zonal Test Event ............................................................................................................. 40  
6.6 Create Zonal Re-Test Event ......................................................................................................... 41  
6.7 Confirm Zonal Test or Re-test Event ............................................................................................ 42  
6.8 Acknowledge Events without Target Amount (deprecated) ....................................................... 42  
6.9 Acknowledge Events with option to pass Target Amount ......................................................... 43  

7 Alerts .................................................................................................................................................. 45  
7.1 Get Alert by ID ............................................................................................................................... 45  

8 Meter Data ......................................................................................................................................... 46  
8.1 Get Daily Data for Location .......................................................................................................... 47  
8.2 Get Daily Data for Registration ................................................................................................... 48  
8.3 Get Interval Data for Location ...................................................................................................... 48  
8.4 Get Interval Data for Registration ............................................................................................... 50  
8.5 Submit DLC-StartStop Interval Data ............................................................................................ 50  

References ............................................................................................................................................. 6  
Abbreviations and Acronyms ................................................................................................................... 5  
Error handling .................................................................................................................................... 6  
Get Web Services Result Limits ........................................................................................................... 7  
Processes ............................................................................................................................................... 7  
Locations ............................................................................................................................................. 11  
Registrations ........................................................................................................................................ 17  
Use Cases ......................................................................................................................................... 17  
Get Registration by ID ..................................................................................................................... 18  
Get Registration by Date Range ..................................................................................................... 19  
Create Economic Registration ..................................................................................................... 20  
Create Emergency Registration – ILR Full - Deprecated ................................................................... 21  
Create Emergency Capacity ........................................................................................................ 23  
Create Emergency Registration – DR Full .................................................................................. 24  
Change Registration ..................................................................................................................... 26  
Submit Registration ...................................................................................................................... 28  
Submit Registration – Ignore warnings ..................................................................................... 29  
Confirm Registration .................................................................................................................... 29  
Complete Duplicate Resolution Task .......................................................................................... 30  
Deny Registration .......................................................................................................................... 31  
Resubmit Registration .................................................................................................................... 32  
Dispute Registration .................................................................................................................... 33  
Withdraw Registration ................................................................................................................ 34  
Change Registration Termination Date ........................................................................................ 34  
Complete Registration .................................................................................................................. 345  
Get Events By Date Range .............................................................................................................. 365  
Get Event by ID ............................................................................................................................... 366  
Get Unacknowledged events .......................................................................................................... 376  
Get Events by Event type .............................................................................................................. 38  
Create Zonal Test Event ............................................................................................................. 40  
Create Zonal Re-Test Event ......................................................................................................... 41  
Confirm Zonal Test or Re-test Event ............................................................................................ 42  
Acknowledge Events without Target Amount (deprecated) ....................................................... 42  
Acknowledge Events with option to pass Target Amount ......................................................... 43  
Get Alert by ID ............................................................................................................................... 45  
Get Daily Data for Location .......................................................................................................... 47  
Get Daily Data for Registration ................................................................................................... 48  
Get Interval Data for Location ...................................................................................................... 48  
Get Interval Data for Registration ............................................................................................... 50  
Submit DLC-StartStop Interval Data ............................................................................................ 50
8.6 Submit EmergCap-GLD Daily Data ................................................................. 51
8.7 Submit EmergCap-GLD Generation Daily Data .................................................... 52
8.8 Submit EmergCap-FSL Daily Data ................................................................. 53
8.9 Submit MinuteLoad Interval Data ........................................................................ 55
8.10 Submit Daily Data .................................................................................... 55

9 Settlements ........................................................................................................... 56
9.1 Use Cases ........................................................................................................ 56
9.2 Get Settlement by ID .................................................................................. 57
9.3 Get Settlement by Date Range ......................................................................... 59
9.4 Calculate CBL .......................................................................................... 59
9.5 Change Settlement .................................................................................. 60
9.6 Submit Settlement .................................................................................. 61
9.7 Confirm Settlement .................................................................................. 62
9.8 Deny Settlement ..................................................................................... 63
9.9 Resubmit Settlement .............................................................................. 64
9.10 Dispute Settlement ................................................................................ 65
9.11 Withdraw Settlement ............................................................................ 66
9.12 Reopen Settlement ................................................................................ 66

10 Compliance ......................................................................................................... 67
10.1 Use Case ..................................................................................................... 67
10.2 Get Compliance by Date Range ...................................................................... 67
10.3 Submit Emergency Compliance Interval Data .................................................. 68
10.4 Submit Synch Reserve Interval Data ............................................................... 69
10.5 Submit Day Ahead Scheduling Reserve Interval Data ...................................... 69
10.6 Validate Compliance ................................................................................ 69

11 CBLTest ............................................................................................................... 69
11.1 Create CBLCalculation .............................................................................. 69
11.2 Get CBLCalculation ................................................................................ 70

12 Error Codes and Messages ............................................................................... 71

Tables
Table 1: Location codes ............................................................................................ 15
Table 2: Economic Registration codes ....................................................................... 21
Table 3: Emergency Registration - ILR Full codes .................................................. 22
Table 3: Emergency Registration - DR Full codes .................................................. 26
Table 4: Confirm Registration codes ........................................................................ 30
Table 5: Deny Registration codes ............................................................................ 32
Table 6: Confirm Settlement codes ........................................................................ 63
Table 7: Deny Settlement codes .............................................................................. 64
# 1 Introduction

This document describes some common use cases and sample requests for accessing PJM’s eLRS system via web services. It is not intended to be an exhaustive list of all possible scenarios and requests, but rather to give examples of some typical usage patterns.

## 1.1 Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Term or Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBL</td>
<td>Customer Baseline Load</td>
</tr>
<tr>
<td>CSP</td>
<td>Curtailment Service Provider</td>
</tr>
<tr>
<td>CSV</td>
<td>Comma separated value format</td>
</tr>
<tr>
<td>DA</td>
<td>Day ahead market</td>
</tr>
<tr>
<td>DLC</td>
<td>Direct load control</td>
</tr>
<tr>
<td>DR</td>
<td>Demand resource. Capacity resource that actively participates in the RPM auction.</td>
</tr>
<tr>
<td>DSR</td>
<td>Demand Side Response</td>
</tr>
<tr>
<td>EDC</td>
<td>Electric Dispatch Company</td>
</tr>
<tr>
<td>EMS</td>
<td>PJM’s Energy Management System</td>
</tr>
<tr>
<td>eMkt</td>
<td>Short form of eMarket, the PJM Markets Management System</td>
</tr>
<tr>
<td>eSuite</td>
<td>PJM web-based user interface for market participants</td>
</tr>
<tr>
<td>FSL</td>
<td>Firm Services Level, a type of load reduction for Emergency Capacity registrations.</td>
</tr>
<tr>
<td>GLD</td>
<td>Guaranteed Load Drop, a type of load reduction for Emergency Capacity registrations.</td>
</tr>
<tr>
<td>HE</td>
<td>Hour ending, a value typically in the range 1-24</td>
</tr>
<tr>
<td>ILR</td>
<td>Interruptible Load for Reliability. Capacity resource (load) certified outside the RPM auction.</td>
</tr>
<tr>
<td>ISO</td>
<td>Independent System Operator</td>
</tr>
<tr>
<td>LMP</td>
<td>Locational marginal price, usually identified at a pNode</td>
</tr>
<tr>
<td>LSE</td>
<td>Load Serving Entity</td>
</tr>
<tr>
<td>Location or Site</td>
<td>A place that can be metered and registered for participation in a DR program</td>
</tr>
<tr>
<td>LRS</td>
<td>Load Response System, which will be re-implemented using DRBizNet</td>
</tr>
<tr>
<td>MSET</td>
<td>PJM Market Settlement System</td>
</tr>
<tr>
<td>PJM</td>
<td>An RTO</td>
</tr>
<tr>
<td>PNode</td>
<td>Pricing node</td>
</tr>
<tr>
<td>Program</td>
<td>Demand response program, can be defined using emergency or economic rules</td>
</tr>
<tr>
<td>Registration</td>
<td>The process by which a customer location is registered for a specific DR program</td>
</tr>
<tr>
<td>RPM</td>
<td>Reliability Pricing Model. PJM’s model for determining resource adequacy. It is also a PJM system used to manage auctions for DR resources in the load response capacity markets.</td>
</tr>
<tr>
<td>RT</td>
<td>Real-time market</td>
</tr>
<tr>
<td>SAA</td>
<td>Symmetric additive adjustment, a method for calculating CBLs</td>
</tr>
<tr>
<td>SS</td>
<td>Self Schedule</td>
</tr>
<tr>
<td>UDS</td>
<td>PJM’s Unit Dispatch System</td>
</tr>
<tr>
<td>WSA</td>
<td>Weather sensitive adjustment, a method for calculating CBLs</td>
</tr>
</tbody>
</table>
1.2 References

<table>
<thead>
<tr>
<th>Document</th>
<th>Purpose</th>
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<tr>
<td>eLRS_ExternalWS_Spec.doc</td>
<td>Web Services design specification.</td>
</tr>
<tr>
<td>eLRS User Guide v01.3.doc</td>
<td>eLRS User Guide</td>
</tr>
</tbody>
</table>

1.3 Document Conventions

Items highlighted in Red in XML elements are parameters that must be supplied in requests. Verb / Noun pairs are highlighted in Teal. Refer to the data dictionary to get the format, allowed values and purpose of the data elements.

Where relevant, mandatory code table values are defined in XML requests as “See Table”. The allowed values for each referenced element will be supplied in a table at the end or the request definition. An exact value from the table must be supplied, or an error will be generated.

1.4 eLRS Web Services Overview

There are two ways of interacting with eLRS: By processes (workflow); and by objects (data). Generally speaking process operations require the processID to be specified, whereas data operations require the object ID e.g. locationID, registrationID, eventID, settlementID. Process oriented operation will typically have a noun of <Noun>process</Noun>, while object oriented operation will have the noun of the object e.g. <Noun>settlement</Noun>

The eLRS web services interface provides a programmatic interface for performing operations in the eLRS system, including:

- Managing processes and workflow.
- Retrieving data about objects such as Locations, Registrations and Settlements.
- Updating data for objects such as Locations, Registrations and Settlements.

The interface is designed for machine to machine operation, although because it uses XML the data is also human-readable.

Interaction with eLRS is via requests and responses. A request to eLRS is issued to the appropriate end-point, and eLRS returns a response with the results of the operation. See the Web Services design specification for details of the request / response formats and operation.

When multiple tags are sent for the same create or change request, the last tag will be used and the others ignored. Example: A request is made that contains 2 <peakLoadContribution> tags with different values on a create registration. The 2nd tag’s value will be used to create the registration.

1.5 Error handling

The ReplyCode in the response message can take one of the following values:

1. “OK”: indicates that the request was successful,
2. “ERROR”: Indicates that there is a problem with the request e.g. the Registration ID specified does not exist.
3. **WARNING:** Indicates there’s a warning message with the request.
4. **“FATAL”:** indicates that an internal error occurred and LRS was unable to process the request.
5. **“SOAP Fault”:** indicates that the message could not be processed e.g. service unavailable, etc

When a code of ERROR or FATAL is returned there may be additional information about the problem in the payload.

See Section 12 for Error Codes and Messages.

## 2 Get Web Services Result Limits

The following is a list of the time limit (by days) for each type of web service:

- Get Process=100
- Get Registration=730
- Get Event=100
- Get Daily Data=100
- Get Interval Data=100
- Get Settlement=100
- Get Compliance=100

The above limits are the maximum date ranges supported for different web services:
- If a date range is supplied in a web service request and it exceeds the limit above, an error will be returned to the user.
- If a date range is not supplied in a web service request, the above limit will automatically default as the date range used in retrieving results.

## 3 Processes

There are a number of different options for getting details about processes:

<table>
<thead>
<tr>
<th>#</th>
<th>Verb</th>
<th>Noun</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>get</td>
<td>process</td>
<td>ID=single process id</td>
<td>All open tasks for the specified process instance ID available for user’s organization, regardless of who owns the process. Outputs include process info, task headers (name, org, user, started, due) only.</td>
</tr>
<tr>
<td>2</td>
<td>get</td>
<td>process</td>
<td>The parameters <a href="">mes:Request</a> &lt;/mes:Request&gt; needs to exist.</td>
<td>All open tasks available for user’s organization, regardless of who owns the process. Outputs include process info, task headers and task decision details.</td>
</tr>
<tr>
<td>3</td>
<td>get</td>
<td>process</td>
<td>Match=Registration Option=process</td>
<td>All open Registration tasks available for user’s organization, regardless of who owns the process. Outputs include process info and task headers only.</td>
</tr>
<tr>
<td>4</td>
<td>get</td>
<td>process</td>
<td>AlternateID=regId Match=Registration Option=process</td>
<td>All open Registration tasks for the specified registration available for user’s organization, regardless of who owns the process. Outputs include process info and task headers only.</td>
</tr>
<tr>
<td>5</td>
<td>get</td>
<td>process</td>
<td>Match=Settlement Option=process</td>
<td>All open Settlement tasks available for user’s organization, regardless of who owns the process. Outputs include process info</td>
</tr>
<tr>
<td>#</td>
<td>Verb</td>
<td>Noun</td>
<td>Input</td>
<td>Output</td>
</tr>
<tr>
<td>----</td>
<td>------</td>
<td>--------------</td>
<td>--------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6</td>
<td>get</td>
<td>process</td>
<td>AlternateID=setlId Match=Settlement Option=process</td>
<td>All open Settlement tasks for the specified settlement available for user’s organization, regardless of who owns the process. Outputs include process info and task headers. only.</td>
</tr>
<tr>
<td>7</td>
<td>get</td>
<td>process</td>
<td>Match=Registration Option=history</td>
<td>All open or completed tasks, regardless of who is performing them, for all open or completed registration processes owned by the user’s org. Outputs include process info and task headers.</td>
</tr>
<tr>
<td>8</td>
<td>get</td>
<td>process</td>
<td>AlternateID=regId Match=Registration Option=history</td>
<td>All pending or completed registration processes and completed tasks for the specified registration owned by org</td>
</tr>
<tr>
<td>9</td>
<td>get</td>
<td>process</td>
<td>Match=Settlement Option=history</td>
<td>All pending or completed registration processes and completed tasks owned by org</td>
</tr>
<tr>
<td>10</td>
<td>get</td>
<td>process</td>
<td>AlternateID=setlId Match=Settlement Option=history</td>
<td>All pending or completed settlement processes and completed tasks for the specified settlement owned by org</td>
</tr>
<tr>
<td>11</td>
<td>get</td>
<td>task</td>
<td>Match=Registration Option=task</td>
<td>Same records as in outputs from #3 above except that the outputs here also include the task details.</td>
</tr>
<tr>
<td>12</td>
<td>get</td>
<td>task</td>
<td>AlternateID=regId Match=Registration Option=task</td>
<td>Same records as in outputs from #4 above except that the outputs here also include the task details.</td>
</tr>
<tr>
<td>13</td>
<td>get</td>
<td>task</td>
<td>Match=Settlement Option=task</td>
<td>Same records as in outputs from #5 above except that the outputs here also include the task details.</td>
</tr>
<tr>
<td>14</td>
<td>get</td>
<td>task</td>
<td>AlternateID=setlId Match=Settlement Option=task</td>
<td>Same records as in outputs from #6 above except that the outputs here also include the task details.</td>
</tr>
<tr>
<td>15</td>
<td>get</td>
<td>process</td>
<td>Match=DuplicateResolution Option=process</td>
<td>All pending processes for DuplicateResolution workflow process for the CSP who initiates this request</td>
</tr>
</tbody>
</table>

### 3.1 Get Process by ID

This request returns details of the specified active process. The result set will be restricted in accordance with the user’s permissions for the process, and an error will be returned if the process is not active or does not exist.

The Object ID for the element `<mes:AlternateID>` is the ID for the type of Object e.g. Registration, Settlement, Event etc.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
```
A Sample Response for a request to Get Process by ID

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>process</Noun>
        <Revision>1.0</Revision>
        <Source>PJM</Source>
        <MessageID>1234</MessageID>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload>
          <ns2:Process>
            <ns2:id>1234</ns2:id>
            <ns2:summaryInfo>
              <ns2:processName>RegistrationApproval</ns2:processName>
              <ns2:processOwner>PJM</ns2:processOwner>
              <ns2:startDate>2014-06-01-04:00</ns2:startDate>
              <ns2:status>Pending</ns2:status>
              <ns2:objectType>Registration</ns2:objectType>
            </ns2:summaryInfo>
            <ns2:taskInfo>
              <ns2:taskName>CSP Review Denial</ns2:taskName>
              <ns2:taskStarted>2014-06-01-04:00</ns2:taskStarted>
              <ns2:taskDue>2014-07-29-04:00</ns2:taskDue>
            </ns2:taskInfo>
          </ns2:Process>
        </ns2:Processes>
      </Payload>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>
3.2 Get Active Processes for Registration or Settlement

This request performs a similar operation to “Search Processes” in the GUI. It returns details of active tasks available to the user. The result set will be restricted in accordance with the user’s permissions for the processes.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>process</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Match>Options: Settlement or Registration</mes:Match>
        <mes:Option>process</mes:Option>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

3.3 Get Active Processes (aka My Tasks)

This request performs a similar operation to "My Tasks" in the GUI. It returns details of tasks available to the user. The result set will be restricted in accordance with the user’s permissions for the processes.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>process</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

3.4 Get Active Processes by Date Range
Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

All of the Get Processes scenarios specified in the table in section #3 above where ID or AlternateID is not supplied can support the use of date ranges simply by adding the following parameters. (It means that scenarios 2, 3, 5, 7, 9, 11, 13 all support date ranges).

```xml
<mes:StartTime>2011-01-01T00:00:00-05:00</mes:StartTime>
<mes:EndTime>2011-01-18T00:00:00-05:00</mes:EndTime>
```

As an example, scenario 2 in the table can be modified with the following date range:

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>process</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <!--Optional:-->
        <mes:StartTime>2011-01-01T00:00:00-05:00</mes:StartTime>
        <mes:EndTime>2011-01-18T00:00:00-05:00</mes:EndTime>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

4 Locations

4.1 Get Location by ID

This request returns details of the location with the specified Location ID. The result set will be restricted in accordance with the user’s permissions for the location.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>location</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <!--Optional:-->
        <mes:ID>Location ID – e.g. 1234</mes:ID>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
A Sample Response for a request to Get Location by ID

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>location</Noun>
        <Revision>1.0</Revision>
        <Source>PJM</Source>
        <MessageID>1234</MessageID>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload>
          <ns2:Location>
            <ns2:id>123</ns2:id>
            <ns2:summaryInfo>
              <ns2:name>Location Name</ns2:name>
              <ns2:CSP>
                <ns2:name>Location CSP</ns2:name>
              </ns2:CSP>
              <ns2:zone>Location Zone</ns2:zone>
            </ns2:summaryInfo>
            <ns2:siteInfo>
              <ns2:address>
                <ns2:state>PA</ns2:state>
              </ns2:address>
              <ns2:businessSegment>Segment</ns2:businessSegment>
            </ns2:siteInfo>
            <ns2:profileInfo>
              <ns2:energyLossFactor>1.123</ns2:energyLossFactor>
              <ns2:capacityLossFactor>1.123</ns2:capacityLossFactor>
            </ns2:profileInfo>
            <ns2:reductionInfo>
              <ns2:reductionType>HVAC</ns2:reductionType>
              <ns2:reductionValue>0.0</ns2:reductionValue>
            </ns2:reductionInfo>
            <ns2:meterInfo>
              <ns2:meterOwner>My Meter</ns2:meterOwner>
              <ns2:allowEDCtoSubmitData>false</ns2:allowEDCtoSubmitData>
              <ns2:allowLSEtoSubmitData>false</ns2:allowLSEtoSubmitData>
            </ns2:meterInfo>
          </ns2:Location>
        </ns2:Locations>
      </Payload>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>
4.2 Get Location by Name

This request returns all locations that contain the search string anywhere in the location name. LRS will return all records that contain the string in any position. So a search string of “st” will return records for “Storm sidings”, “Bleeker Street” and “Best Buy”. The character “%” can be used as a wild card.

The result set will be restricted in accordance with the user’s permissions for the location.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>location</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Match>Search String</mes:Match>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

4.3 Create Location

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>location</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
        <mes:UserID>CSP user name e.g njohnson</mes:UserID>
      </mes:Header>
      <mes:Request/>
      <mes:Payload>
          <p:Location>
            <p:summaryInfo>
              <p:name>Registration Name e.g. ECI</p:name>
            </p:summaryInfo>
          </p:Location>
        </p:Locations>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
<p:CSP>
    <p:name>CSP Short Name e.g. AEP</p:name>
</p:CSP>

<p:EDC>
    <p:name>EDC Short Name e.g. APS</p:name>
    <p:accountNo>EDC Account Number e.g. 123456</p:accountNo>
</p:EDC>

<p:zone>Zone e.g. AEP</p:zone>

<p:summaryInfo>
    <p:siteInfo>
        <p:address>
            <p:address1>Address Line 1</p:address1>
            <p:address2>Address Line 2</p:address2>
            <p:city>City</p:city>
            <p:state>Two Letter State Code e.g. MD</p:state>
            <p:zipCode>5 or 9 digit Zip Code e.g. 01002-1111</p:zipCode>
        </p:address>
        <p:businessSegment>See Table</p:businessSegment>
    </p:siteInfo>

    <p:profileInfo>
        <p:energyLossFactor>Energy Loss Factor e.g. 1.002</p:energyLossFactor>
        <p:capacityLossFactor>Capacity Loss Factor e.g. 0.996</p:capacityLossFactor>
        <p:retailRate>— Optional — Retail Rate e.g. 65.8</p:retailRate>
        <p:peakLoadContribution>PLC e.g. 500.0</p:peakLoadContribution>
        <p:loadMultiplier>Load Multiplier e.g. 1</p:loadMultiplier>
        <p:generationFuelType>See Table</p:generationFuelType>
        <p:onSiteGeneratorType>See Table</p:onSiteGeneratorType>
        <p:generatorVintage>Values from 1950 to current year</p:generatorVintage>
        <p:generatorRetrofitYear>Values from 1950 to current year OR ‘NA’</p:generatorRetrofitYear>
        <p:generatorNameCapacity>Values between 5 – 500,000</p:generatorNameCapacity>
        <p:permitStatus>See Table</p:permitStatus>
        <p:permitType>See Table</p:permitType>
    </p:profileInfo>

    // ----- Repeated section
    <p:reductionInfo>
        <p:reductionType>See Table</p:reductionType>
        <p:reductionValue>Reduction Value e.g. 74.9</p:reductionValue>
    </p:reductionInfo>

    // ----- End of Repeated section

    <p:meterInfo>
        <p:meterOwner>See table</p:meterOwner>
    </p:meterInfo>

    // ----- Repeated section
    <p:contactInfo>
        <p:interestType>See Table</p:interestType>
        <p:firstName>First Name</p:firstName>
        <p:lastName>Last Name</p:lastName>
        <p:email>Valid email address</p:email>
        <p:phone>Valid Telephone Number</p:phone>
    </p:contactInfo>

    // ----- End of Repeated section
</p:Location>

</mes:Payload>
</soapenv:Body>
Table 1: Location codes

<table>
<thead>
<tr>
<th>&lt;p:businessSegment&gt;</th>
<th>&lt;p:generatorFuelType&gt;</th>
<th>&lt;p:reductionType&gt;</th>
<th>&lt;p:interestType&gt;</th>
<th>&lt;p:meterOwner&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial / Manufacturing</td>
<td>Coal</td>
<td>Generator</td>
<td>Emergency Only</td>
<td>EDC Meter</td>
</tr>
<tr>
<td>Residential</td>
<td>Natural Gas</td>
<td>HVAC</td>
<td>Emergency and AS Dispatch</td>
<td>Customer Meter</td>
</tr>
<tr>
<td>Schools</td>
<td>Oil</td>
<td>Refrigeration</td>
<td>Any Dispatch</td>
<td></td>
</tr>
<tr>
<td>Hospitals</td>
<td>Diesel</td>
<td>Lighting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Service</td>
<td>DO NOT USE – Other</td>
<td>Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Building</td>
<td>None</td>
<td>Water Heaters</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DO NOT USE – Food Service</strong></td>
<td>Gasoline</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DO NOT USE – Warehouse</td>
<td>Kerosene</td>
<td>Batteries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DO NOT USE – Other</td>
<td>Propane</td>
<td>Plug Load</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correctional Facilities</td>
<td>Wood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>Landfill Gases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>Waste Products</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation, Communications, Electric, Gas and Sanitary Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;p:onsiteGeneratorType&gt;</th>
<th>&lt;p:permitStatus&gt;</th>
<th>&lt;p:permitTypes&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Internal Combustion Engine</td>
<td>Available</td>
<td>Emergency Only</td>
</tr>
<tr>
<td>Combustion Turbines</td>
<td>Permit Application in Progress</td>
<td>Non Emergency</td>
</tr>
<tr>
<td>Steam Engines and Cogeneration Units</td>
<td>Not Applicable</td>
<td></td>
</tr>
</tbody>
</table>

4.4 Change Location

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the LSE or EDC if they have been granted Approved As Modified status by the CSP. The EDC and LSE can only update attributes that they have update privileges for. The status of the location also affects what changes may be made – see the web services design document for details.
<soapenv:Body>
<mes:TransactionRequest>
  <mes:Header>
    <mes:Verb>change</mes:Verb>
    <mes:Noun>location</mes:Noun>
    <mes:Revision>001</mes:Revision>
    <mes:Source>123</mes:Source>
  </mes:Header>
  <mes:Request>
    <mes:Option>detail</mes:Option>
  </mes:Request>
  <mes:Payload>
      <p:Location>
        <p:id>Location ID e.g. 5720</p:id>
        <p:summaryInfo>
          <p:name>Location Name</p:name>
          <p:CSP>
            <p:name>CSP Short Name e.g. ECI</p:name>
          </p:CSP>
          <p:EDC>
            <p:name>EDC Short Name e.g. AEP</p:name>
            <p:accountNo>EDC Account Number</p:accountNo>
          </p:EDC>
          <p:zone>Zone short name e.g. AEP</p:zone>
        </p:summaryInfo>
        <p:siteInfo>
          <p:businessSegment>See “Create Location” table 1</p:businessSegment>
        </p:siteInfo>
        <p:profileInfo>
          <p:energyLossFactor>Energy Loss Factor e.g. 1.002</p:energyLossFactor>
          <p:capacityLossFactor>Capacity Loss Factor e.g. 0.996</p:capacityLossFactor>
          <p:retailRate>Retail Rate e.g. 65.8</p:retailRate>
          <p:peakLoadContribution>PLC e.g. 500.0</p:peakLoadContribution>
          <p:loadMultiplier>Load Multiplier e.g. 1</p:loadMultiplier>
          <p:generationFuelType>See Table</p:generationFuelType>
          <p:onsiteGeneratorType>See Table</p:onsiteGeneratorType>
          <p:generatorVintage>Values from 1950 to current year</p:generatorVintage>
          <p:generatorRetrofitYear>Values from 1950 to current year OR 'NA'</p:generatorRetrofitYear>
          <p:generatorNameCapacity>Values between 0.01 and 5000</p:generatorNameCapacity>
          <p:permitStatus>See “Create Location” table 1</p:permitStatus>
          <p:permitType>See “Create Location” table 1</p:permitType>
        </p:profileInfo>
        // ----- Repeated section
        <p:reductionInfo>
          <p:reductionType>See “Create Location” table 1</p:reductionType>
          <p:reductionValue>Reduction value e.g. 50.0</p:reductionValue>
        </p:reductionInfo>
        // ----- End of Repeated section
        <p:meterInfo>
          <p:meterOwner>See “Create Location” table 1</p:meterOwner>
        </p:meterInfo>
      </p:Location>
    </p:Locations>
  </mes:Payload>
</mes:TransactionRequest>
See the “Create Location” section for details of codes.

Responses to Creating or Changing a Location will look exactly like the request with the inclusion of a reply code indicating success, failure or problem with the request.


5 Registrations

5.1 Use Cases

1. The CSP Creates location(s) using the “Create Location” request. The result set returns the Location ID for each location created, which is stored for use when creating the registration.
2. The CSP Creates a new registration using the Location IDs from step 1 and the appropriate “Create Registration” request to specify the locations for the registration. The result set returns the Registration ID, which is stored for future use.
3. The CSP submits the registration for review by the EDC, LSE and optionally PJM using the “Submit Registration” request. The result set returns the Process ID for the workflow process, which is stored with the Registration ID for future use.
4. The LSE and EDC issue the “Get Active Processes” request. The result set contains a summary of all processes for the supplied userid. Iterate through all the records in the result set and retrieve the <id> (Process ID) and <objectID> (Registration ID) for every record with <processName> = "RegistrationApproval". For each record of interest execute steps 5 and 6 as required.
5. If they have been granted "Approved as modified" status by the CSP, the LSE, EDC and optionally PJM may update data they have permissions for using the “Change Registration” request. The result set returns details of the registration (for which they have permissions) which may be stored for future use.
6. The LSE, EDC and optionally PJM confirm the registration using the “Confirm Registration” request. The result set returns details of the registration (for which they have permissions) which may be stored for future use.
7. When submitting registration, if the system finds another registration with a conflict, a warning response is sent with details of the location in conflict. To bypass this warning and proceed to Duplicate Resolution, use the OPTION tag ‘submit-ignore-warnings’ instead of ‘submit’
8. When submitting registration for extension, if the system finds another registration with a conflict, a warning response is sent with details of the location in conflict. To bypass this warning and proceed to Duplicate Resolution, use the OPTION tag ‘extend-ignore-warnings’ instead of ‘extend’

Alternate Path 1: EDC or LSE denies Registration

Repeat steps 1 – 4 of the happy path scenario:

1. The EDC or LSE denies the registration using the “Deny Registration” request, supplying relevant denial reasons and a comment. The registration is routed back to the CSP for review.
2. The CSP makes corrections to the Registration, and resubmits it using the “Resubmit Registration” request.
3. The Registration returns to step 5 in the happy path scenario.

Alternate Path 2: CSP disputes Registration

Repeat steps 1 – 4 of the happy path scenario:

1. The EDC or LSE denies the registration using the “Deny Registration” request, supplying relevant denial reasons and a comment. The registration is routed back to the CSP for review.
2. The CSP disputes the Registration using the “Dispute Registration” request. The Registration is routed to PJM for review.

5.2 Get Registration by ID

This request returns details of the Registration with the specified Registration ID. The result set will be restricted in accordance with the user’s userid and permissions for the registration.

Sample response for a request to Get Registration by ID

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
    <soap:Header/>
    <soap:Body>
        <ns2:GetRegistrationByRegistrationID>
            <registrationID>Registration ID e.g. 2001</registrationID>
        </ns2:GetRegistrationByRegistrationID>
    </soap:Body>
</soap:Envelope>

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
    <soap:Header/>
    <soap:Body>
        <ns2:Reply>
            <ns2:ReplyCode>ok</ns2:ReplyCode>
        </ns2:Reply>
    </soap:Body>
</soap:Envelope>
5.3 Get Registration by Date Range

This request returns details of all registrations whose effective and termination dates fall within the specified date range. The result set will be restricted in accordance with the user’s userid and permissions for the registration.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.
5.4 Create Economic Registration

This request can only be initiated by a user with "Manage Registrations" or "Manage All" permissions for the organization specified in the <ns2:CSP> tag.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Payload>
        <ns2:Registrations xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/
          <ns2:Registration>
            <ns2:summaryInfo>
              <ns2:name>Registration Name</ns2:name>
              <ns2:program>Economic</ns2:program>
              <ns2:startDate>Requested Effective Date e.g. 2009-07-01</ns2:startDate>
              <ns2:endDate>Requested Termination Date e.g. 2010-06-30</ns2:endDate>
              <ns2:CSP>
                <ns2:name>CSP Short Name e.g. ECS</ns2:name>
              </ns2:CSP>
              <ns2:EDC>
                <ns2:name>EDC Short Name e.g. AEP</ns2:name>
              </ns2:EDC>
              <ns2:LSE>
                <ns2:name>LSE Short Name e.g. APS</ns2:name>
              </ns2:LSE>
              <ns2:zone>Zone e.g. APS</ns2:zone>
              <ns2:status>New</ns2:status>
            </ns2:summaryInfo>
            // ----- Repeated section (Multiple locations must be specified for an aggregation)
            <ns2:locationInfo>
              <ns2:locationID>Location Id e.g. 3965</ns2:locationID>
            </ns2:locationInfo>
            // ----- End of Repeated section
          </ns2:Registration>
        </ns2:Registrations>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
Note that the Pricing Point specified must belong to the specified Zone otherwise an error will be generated.

5.5 Create Emergency Registration – ILR Full - Deprecated

This request can only be initiated by a user who is a CSP with "Manage Registrations" or "Manage All" permissions. The CSP must be a PJM full member.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request/>
      <mes:Payload>
          <p:Registration>
            <p:summaryInfo>
              <p:name>Registration Name</p:name>
              <p:program>Emergency ILR Full</p:program>
            </p:summaryInfo>
          </p:Registration>
        </p:Registrations>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
<p:startDate>Requested Effective Date e.g. 2009-06-01</p:startDate>
<p:endDate>Requested Termination Date – e.g. 2010-04-30</p:endDate>
<ns2:CSP>
    <ns2:name>CSP Short Name e.g. ECS</ns2:name>
</ns2:CSP>
<ns2:EDC>
    <ns2:name>EDC Short Name e.g. AEP</ns2:name>
</ns2:EDC>
<ns2:LSE>
    <ns2:name>LSE Short Name e.g. APS</ns2:name>
</ns2:LSE>
<p:zone>Zone e.g. APS</p:zone>
<p:status>New</p:status>
</p:summaryInfo>

// ----- Repeated section
<p:locationInfo>
    <p:locationID>Location ID e.g. 3985</p:locationID>
</p:locationInfo>

// ----- End of Repeated section
<p:energyInfo>
    <p:strikePrice>Strike Price e.g. 85 Enter as ($/Mwh)</p:strikePrice>
    <p:shutdownCosts>Shutdown Costs e.g. 4500</p:shutdownCosts>
    <p:priceNode>Pricing Point e.g. APS</p:priceNode>
</p:energyInfo>
<p:capacityInfo>
    <p:longLeadTime>true or false</p:longLeadTime>
    <p:zoneArea>See Table</p:zoneArea>
    <p:measurementMethod>See Table</p:measurementMethod>
    <p:managedLoad>Managed Load e.g. 5.6</p:managedLoad>
    <p:multiplier>Multiplier e.g. 5</p:multiplier>
</p:capacityInfo>
<p:otherInfo>
    <p:allowEDCtoModify>true or false</p:allowEDCtoModify>
    <p:allowLSEtoModify>true or false</p:allowLSEtoModify>
</p:otherInfo>
</p:Registration>
</p:Registrations>
</mes:Payload>
</mes:TransactionRequest>
</soapenv:Body>
</soapenv:Envelope>

<table>
<thead>
<tr>
<th>&lt;p:measurementMethod&gt;</th>
<th>&lt;p:zoneArea&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hourly metered sites DLC</td>
<td>PJM will supply these values.</td>
</tr>
<tr>
<td>Firm Service Level</td>
<td></td>
</tr>
<tr>
<td>Guaranteed Load Drop</td>
<td></td>
</tr>
<tr>
<td>Guaranteed Load Drop via Generation</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3: Emergency Registration - ILR Full codes**
5.6 Create Load Management DR Capacity

  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Payload>
          <ns2:Registration>
            <ns2:summaryInfo>
              <ns2:name>Registration Name</ns2:name>
              <ns2:program>Load Management DR Capacity Only</ns2:program>
              <ns2:startDate>Requested Effective Date e.g. 2009-07-01</ns2:startDate>
              <ns2:endDate>Requested Termination Date e.g. 2010-06-30</ns2:endDate>
              <ns2:CSP>
                <ns2:name>CSP Short Name e.g. ECS</ns2:name>
              </ns2:CSP>
              <ns2:EDC>
                <ns2:name>EDC Short Name e.g. AEP</ns2:name>
              </ns2:EDC>
              <ns2:LSE>
                <ns2:name>LSE Short Name e.g. APS</ns2:name>
              </ns2:LSE>
              <ns2:zone>Zone</ns2:zone>
              <ns2:status>New</ns2:status>
            </ns2:summaryInfo>
            // ----- Repeated section (Multiple locations must be specified for an aggregation)
            <ns2:locationInfo>
              <ns2:locationID>Location Id e.g. 3965</ns2:locationID>
            </ns2:locationInfo>
            // ----- End of Repeated section
            <ns2:capacityInfo>
              <ns2:capacityType>DR</ns2:capacityType>
              <ns2:leadTime>See Table</ns2:leadTime>
              <ns2:zoneArea>Zone Area</ns2:zoneArea>
              <ns2:RPMResourceID>See Table</ns2:RPMResourceID>
              <ns2:measurementMethod>See Table</ns2:measurementMethod>
              <ns2:capacityLossFactor>Capacity Loss factor value</ns2:capacityLossFactor>
              <ns2:peakLoadContribution>Peak Load Contribution value</ns2:peakLoadContribution>
              <ns2:managedLoad>Managed Load e.g. 1050</ns2:managedLoad>
              <ns2:multiplier>Multplier e.g. 5</ns2:multiplier>
              <ns2:product>See Table</ns2:product>
              <ns2:resourceType>See Table</ns2:resourceType>
              <ns2:leadExceptionReason>See Table</ns2:leadExceptionReason>
              <ns2:leadExceptionDesc>Description 500 Character Limit</ns2:leadExceptionDesc>
            </ns2:capacityInfo>
          </ns2:Registration>
        </ns2:Registrations>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
5.7 Create Load Management Registration – DR Full

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions. The CSP must be a PJM full member.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request/>
      <mes:Payload>
          <p:Registration>
            <p:summaryInfo>
              <p:name>Registration Name</p:name>
            </p:summaryInfo>
          </p:Registration>
        </p:Registrations>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
<p:program> Load Management DR Full </p:program>
<p:startDate> Requested Effective Date e.g. 2009-06-01 </p:startDate>
<p:endDate> Requested Termination Date – e.g. 2010-04-30 </p:endDate>
<p:CSP>
<p:name> CSP Short Name e.g. ECS </p:name>
</p:CSP>
<p:EDC>
<p:name> EDC Short Name e.g. AEP </p:name>
</p:EDC>
<p:LSE>
<p:name> LSE Short Name e.g. APS </p:name>
</p:LSE>
<p:zone> Zone e.g. APS </p:zone>
<p:status> New </p:status>
</p:summaryInfo>

// ----- Repeated section
<p:locationInfo>
<p:locationID> Location ID e.g. 3985 </p:locationID>
</p:locationInfo>

// ----- Repeated section
<p:energyInfo>
<p:strikePrice> Strike Price e.g. 85 Enter as ($/Mwh) </p:strikePrice>
<p:shutdownCosts> Shutdown Costs e.g. 4500 </p:shutdownCosts>
<p:priceNode> Pricing Point e.g. APS </p:priceNode>
</p:energyInfo>
<p:capacityInfo>
<p:capacityType> DR </p:capacityType>
<p:leadTime> See Table </p:leadTime>
<p:zoneArea> Zone Area </p:zoneArea>
<!— If unknown, not required for initial creation —>
<p:RPMResourceID> See Table </p:RPMResourceID>
<p:measurementMethod> See Table </p:measurementMethod>
<p:capacityLossFactor> Capacity Loss factor value </p:capacityLossFactor>
<p:peakLoadContribution> Peak Load Contribution value </p:peakLoadContribution>
<p:managedLoad> Managed Load e.g. 1050 </p:managedLoad>
<p:multiplier> Multiplier e.g. 5 </p:multiplier>
<p:product> See Table </p:product>
<p:resourceType> See Table </p:resourceType>
<p:leadExceptionReason> See Table </p:leadExceptionReason>
<p:leadExceptionDesc> Description 500 Character Limit </p:leadExceptionDesc>
<!— Lead Exception Certify cannot be changed after registration is created —>
<p:leadExceptionCertify> true (default) </p:leadExceptionCertify>
</p:capacityInfo>
<p:otherInfo>
<p:allowEDCtoModify> true or false </p:allowEDCtoModify>
<p:allowLSEtoModify> true or false </p:allowLSEtoModify>
</p:otherInfo>
</p:Registration>
</p:Registrations>
</mes:Payload>
</mes:TransactionRequest>
</soapenv:Body>
</soapenv:Envelope>
**Table 4: Load Management Registration - DR Full codes**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hourly metered sites DLC</td>
<td>PJM will supply these values.</td>
<td>PJM will supply these values.</td>
<td>Limited DR</td>
</tr>
<tr>
<td>Firm Service Level</td>
<td></td>
<td>Derived from interface with PJM’s RPM system.</td>
<td>Annual DR</td>
</tr>
<tr>
<td>Guaranteed Load Drop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guaranteed Load Drop via Generation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&lt;p:leadTime&gt;</th>
<th>&lt;p:resourceType&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long_120</td>
<td>Pre-Emergency</td>
</tr>
<tr>
<td>Short_60</td>
<td>Emergency</td>
</tr>
<tr>
<td>Quick_30</td>
<td></td>
</tr>
</tbody>
</table>

**5.8 Change Registration**

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the LSE or EDC if they have been granted Approved As Modified status by the CSP. The EDC and LSE can only update attributes that they have update privileges for. The status of the registration also affects what changes may be made – see the web services design document for details. The example below is for an economic registration – appropriate payload values should be provided for emergency registrations. See the relevant “Create Registration” sections for details. This request only changes registration details; “Change Location” should be used to modify location details.

<!-- Changes may only be made to Confirmed Registrations -->

<!-- Once a Registration status is marked complete (See 5.18 for additional details on what may be modified), changes will be limited -->

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>change</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
      </mes:Header>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
<mes:Source>123</mes:Source>
</mes:Header>
<mes:Request/>
<mes:Payload>
<p:Registrations xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
<p:Registration>
<p:id>1234567</p:id>
<p:energyInfo>
<p:energyType>Emergency</p:energyType>
<p:loadReduction>5589.0</p:loadReduction>
<p:energyLossFactor>1.026</p:energyLossFactor>
<-- May be edited -->
<p:strikePrice>99.8</p:strikePrice>
<-- May be edited -->
<p:shutdownCosts>3333.0</p:shutdownCosts>
<p:priceNode>CAL</p:priceNode>
<p:CBLMethod>Hour Before (Emergency)</p:CBLMethod>
</p:energyInfo>
<p:capacityInfo>
<p:capacityType>DR</p:capacityType>
<-- May be edited -->
<p:zoneArea>ZoneName</p:zoneArea>
<p:measurementMethod>Guaranteed Load Drop</p:measurementMethod>
<p:capacityLossFactor>1.026824</p:capacityLossFactor>
<p:peakLoadContribution>3722.84</p:peakLoadContribution>
<-- May be edited -->
<p:managedLoad>1095.0</p:managedLoad>
<p:nominalICAP>2644.67</p:nominalICAP>
<-- May be edited -->
<p:product>Limited DR</p:product>
<-- May be edited -->
<p:resourceType>Emergency</p:resourceType>
<-- May be edited -->
<p:leadTime>Short_60</p:leadTime>
<p:leadExceptionReason>Manufacturing damage</p:leadExceptionReason>
<-- May be edited -->
<p:leadExceptionDesc>The injection molds cannot be cleared of hot liquid during the desired 30 minute period</p:leadExceptionDesc>
<p:leadExceptionCertify>true</p:leadExceptionCertify>
</p:capacityInfo>
</Registration>
</p:Registrations>
</mes:Payload>
</soapenv:Body>
</soapenv:Envelope>
See “Create Economic Registration” table 2 for details of codes to use in the request.

Responses to Creating or Changing a Registration will look like the request with the inclusion of a reply code indicating success, failure or problem with the request.

If you are having trouble processing changes, start by doing a “get” registration and using that to form the template for changing the registration.

   <Reply>
   <ReplyCode>ok, or failed, or detailed problem response</ReplyCode>
   </Reply>

5.9 Submit Registration

This request submits the specified Registration (identified by the Registration ID) for review by the EDC, LSE and optionally PJM. It can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
   <soapenv:Header/>
   <soapenv:Body>
   <mes:TransactionRequest>
   <mes:Header>
   <mes:Verb>action</mes:Verb>
   <mes:Noun>registration</mes:Noun>
   <mes:Revision>001</mes:Revision>
   <mes:Source>123</mes:Source>
   </mes:Header>
   <mes:Request>
   <mes:Option>submit</mes:Option>
   <mes:ID>Registration ID e.g. 3885</mes:ID>
   </mes:Request>
   </mes:TransactionRequest>
   </soapenv:Body>
</soapenv:Envelope>

The registration ID will typically be retrieved from the response message from the Create Registration operation.
5.10 Submit Registration – Ignore warnings

This request submits the specified Registration (identified by the Registration ID) for review by the EDC, LSE and optionally PJM. It can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions.
If there are any warnings which prevent the submission of registration – those will be ignored and registration will be submitted for approval. A warning could be regarding a duplicate registration in which case this registration will first need to go through ‘Duplicate Resolution’ before being submitted for approval.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>submit-ignore-warnings</mes:Option>
        <mes:ID>Registration ID e.g. 3885</mes:ID>
      </mes:Request>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>

5.11 Confirm Registration

This request can only be initiated by a user who is an EDC or LSE with “Manage Registrations” or “Manage All” permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>change</mes:Verb>
        <mes:Noun>process</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>completetask</mes:Option>
      </mes:Request>
      <mes:Payload>
          <p:Process>
            <p:id>Process ID e.g. 5507</p:id>
          </p:Process>
        </p:Processes>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
5.12 Complete Duplicate Resolution Task

This request completes the Duplicate Resolution Task. It can be initiated by CSP with 'Manage Registration' or 'Manage All' permissions.

Table 5: Confirm Registration codes

<table>
<thead>
<tr>
<th>EDC Review</th>
<th>LSE Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSE_EDC Review</td>
<td>OPR Review (PJM only)</td>
</tr>
</tbody>
</table>

5.12 Complete Duplicate Resolution Task

This request completes the Duplicate Resolution Task. It can be initiated by CSP with 'Manage Registration' or 'Manage All' permissions.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
 <soapenv:Header/>
 <soapenv:Body>
  <mes:TransactionRequest>
   <mes:Header>
    <mes:Verb>change</mes:Verb>
    <mes:Noun>process</mes:Noun>
    <mes:Revision>001</mes:Revision>
    <mes:Source>123</mes:Source>
   </mes:Header>
   <mes:Request>
    <mes:Option>completetask</mes:Option>
   </mes:Request>
   <mes:Payload>
     <p:Process>
      <p:id>Process ID e.g. 5503</p:id>
      <p:summaryInfo>
       <p:processName>DuplicateResolution</p:processName>
      </p:summaryInfo>
      <p:taskInfo>
       <p:taskName>CSP Review Duplicate</p:taskName>
       <p:comments>Comment</p:comments>
       <p:decisionInfo>
      </p:decisionInfo>
     </p:Process>
    </p:Processes>
   </mes:Payload>
  </mes:TransactionRequest>
 </soapenv:Body>
</soapenv:Envelope>
```
5.13 Deny Registration

This request denies the specified Registration (identified by the Process ID) and routes it back to the CSP for review.

It can only be initiated by a user who is an EDC or LSE with “Manage Registrations” or “Manage All” permissions.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>change</mes:Verb>
        <mes:Noun>process</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>completetask</mes:Option>
      </mes:Request>
      <mes:Payload>
          <p:Process>
            <p:id>Process ID e.g. 5503</p:id>
            <p:summaryInfo>
              <p:processName>RegistrationApproval</p:processName>
            </p:summaryInfo>
            <p:taskInfo>
              <p:taskName>See Table</p:taskName>
              <p:comments>Denial Comment</p:comments>
              <p:decisionInfo>
                <p:decisionName>Deny</p:decisionName>
                <p:decisionReasons>See Table</p:decisionReasons>
              </p:decisionInfo>
            </p:taskInfo>
          </p:Process>
        </p:Processes>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
5.14 Resubmit Registration

This request resubmits the specified denied Registration (identified by the Process ID) and routes it back to the LSE, EDC and optionally PJM for review.

It can only be initiated by a CSP for the Registration who has "Manage Registrations" or "Manage All" permissions.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    <soapenv:Header/>
    <soapenv:Body>
        <mes:TransactionRequest>
            <mes:Header>
                <mes:Verb>change</mes:Verb>
                <mes:Noun>process</mes:Noun>
                <mes:Revision>001</mes:Revision>
                <mes:Source>123</mes:Source>
            </mes:Header>
            <mes:Request>
                <mes:Option>completetask</mes:Option>
            </mes:Request>
            <mes:Payload>
                    <p:Process>
                        <p:id>Process ID e.g. 5503</p:id>
                        <p:summaryInfo>
                            <p:processName>RegistrationApproval</p:processName>
                        </p:summaryInfo>
                        <p:taskInfo>
                            <p:taskName>CSP Review Denial</p:taskName>
                            <p:decisionInfo>
                                <p:decisionName>Resubmit</p:decisionName>
                            </p:decisionInfo>
                        </p:taskInfo>
                    </p:Process>
                </p:Processes>
            </mes:Payload>
        </mes:TransactionRequest>
    </soapenv:Body>
</soapenv:Envelope>
```

Table 6: Deny Registration codes

<table>
<thead>
<tr>
<th>EDC Review</th>
<th>LSE Denial Reasons</th>
<th>LSE Denial Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>WrongEDCAccount</td>
<td>ContractualObligation</td>
<td>WrongLSE</td>
</tr>
<tr>
<td>WrongLineLosses</td>
<td>WrongEDC</td>
<td>IncorrectMeter</td>
</tr>
</tbody>
</table>

Table 6: Deny Registration codes
5.15 Dispute Registration

This request disputes the specified Registration (identified by the Process ID) and routes it to PJM for review and a final decision on the status.

This request can only be initiated by a CSP for the Registration who has "Manage Registrations" or "Manage All" permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
<soapenv:Header/>
<soapenv:Body>
<mes:TransactionRequest>
<mes:Header>
<mes:Verb>change</mes:Verb>
<mes:Noun>process</mes:Noun>
<mes:Revision>001</mes:Revision>
<mes:Source>123</mes:Source>
</mes:Header>
<mes:Request>
<mes:Option>completetask</mes:Option>
</mes:Request>
<mes:Payload>
<p:Process>
<p:id>Process ID e.g. 5503</p:id>
<p:summaryInfo>
<p:processName>RegistrationApproval</p:processName>
</p:summaryInfo>
<p:taskInfo>
<p:taskName>CSP Review Denial</p:taskName>
<p:comments>Dispute Comment</p:comments>
<p:decisionInfo>
<p:decisionName>Dispute</p:decisionName>
</p:decisionInfo>
</p:taskInfo>
</p:Process>
</p:Processes>
</mes:Payload>
</mes:TransactionRequest>
</soapenv:Body>
</soapenv:Envelope>
5.16 Withdraw Registration

This request withdraws the specified Registration (identified by the Registration ID). This request can only be initiated by a CSP for the Registration who has “Manage Registrations” or “Manage All” permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>withdraw</mes:Option>
        <mes:ID>Registration ID e.g. 4369</mes:ID>
      </mes:Request>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>

5.17 Change Registration Termination Date

This request changes the termination date of the specified Registration. To execute this request the CSP for the Registration must have “Manage Registrations” or “Manage All” permissions in eLRS. If the requested termination date is earlier than the current termination date, the change is made immediately. If the requested date is later than the current date a process is initiated for the EDC, LSE and optionally PJM to review the request, and the process ID of the newly generated process is returned in the response message. The requested date will not become effective until all parties have confirmed.

Known Issues:

Economic cancellations via the web service interface are not currently available. (6/13/2014)

Emergency cancellations are available via the web service interface.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>registration</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
5.18 Complete Registration

Notes concerning the completion of Registrations:

- Once the registration is marked as completed the CSP cannot edit the completed option.
- ONLY PJM will be able to un-check a completed registration.
- An error will be thrown if CSP tries to mark a registration as completed which is not in confirmed status.
- A CSP may not terminate a registration
- A CSP may not edit the Product, RPM Resource, Capacity Loss Factor and Managed Load (which affects ICAP) fields.
- A CSP may edit Lead Time, Lead Time Exception Description, Resource Type, Strike Price and Shutdown Costs up to the start of the delivery year.
- PJM may terminate the registration.

A Reply code of OK with the appropriate registration number will be returned.
Multiple IDs may be submitted at once but stacking the <mes:ID></mes:ID> entries.
6 Events

6.1 Get Events By Date Range

This request returns all events for specified date range restricted in accordance with the user's permissions for the events.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>event</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:StartTime>Start Date e.g. 2008-06-10T00:00:00</mes:StartTime>
        <mes:EndTime>End Date e.g. 2009-06-30T23:59:59</mes:EndTime>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>

See section 6.4 to view a sample response for Get Events

6.2 Get Event by ID

This request returns a specific event subject to the user’s permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>event</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:ID>Event ID e.g. 4030</mes:ID>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
6.3 Get Unacknowledged Events

As part of the FERC 745 Phase III functionality, this request returns unacknowledged events for the particular CSP.

The get unacknowledged events web service will pull all unacknowledged events of the following types [RT, SR, LM and EE] for the CSP organization

- All the Scheduled or Active events of supported event types (EE/LM/RT/SR) are available for acknowledgement, whose end time hasn’t passed or passed within last 62 min (configurable). This configurable property is same for all the event types.
- Only CSP and OPR (as CSP role) is authorized to this request.
- CSP must have one of the following permissions in order to query for unacknowledged events (Similar to existing getEvent WS functionality)
  
  View/Manage location and registration
  View/Manage event and settlement
  View/Manage all data
  Manage All

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>event</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>PJM</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>unack</mes:Option>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

A Sample Response for a request to Get Unacknowledged Event
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>event</Noun>
        <Revision>1.0</Revision>
        <Source>PJM</Source>
        <MessageID>1234</MessageID>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload>
          <ns2:Event>
            <ns2:id>1234</ns2:id>
            <ns2:summaryInfo>
              <ns2:eventDate>2014-06-20-04:00</ns2:eventDate>
              <ns2:eventType>Load Management</ns2:eventType>
              <ns2:status>Scheduled</ns2:status>
              <ns2:regProduct>Limited DR</ns2:regProduct>
              <ns2:regResource>Pre-Emergency</ns2:regResource>
              <ns2:regLeadTime>Long_120</ns2:regLeadTime>
            </ns2:summaryInfo>
            <ns2:registrationInfo>
              <ns2:registrationId>1234</ns2:registrationId>
              <ns2:reference>R1234</ns2:reference>
              <ns2:name>Registration Name</ns2:name>
              <ns2:type>Emergency</ns2:type>
              <ns2:program>Load Management DR Full</ns2:program>
              <ns2:CSP>
                <ns2:name>CSP</ns2:name>
              </ns2:CSP>
              <ns2:EDC>
                <ns2:name>EDC</ns2:name>
              </ns2:EDC>
              <ns2:zone>Zone</ns2:zone>
            </ns2:registrationInfo>
          </ns2:Event>
        </ns2:Events>
      </Payload>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>

6.4 Get Events by Event type

Request to get only RealTime Dispatch event types between specified date range for CSP including both acknowledged and unacknowledged events
A Sample Response to Get Events by Event type

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
      <Header>
         <Verb>reply</Verb>
         <Revision>1.0</Revision>
         <Source>PJM</Source>
         <UserID>user_name</UserID>
         <MessageID>1234</MessageID>
      </Header>
      <Payload>
         <ns2:Events>
            <ns2:Event id="1234">
               <ns2:summaryInfo>
                  <ns2:eventDate>2014-06-18-04:00</ns2:eventDate>
                  <ns2:eventType>Load Management</ns2:eventType>
               </ns2:summaryInfo>
               <ns2:registrationInfo>
                  <ns2:registrationId>1548333</ns2:registrationId>
                  <ns2:program>Load Management DR Full</ns2:program>
                  <ns2:CSP>
                     <ns2:name>My CSP</ns2:name>
                  </ns2:CSP>
               </ns2:registrationInfo>
            </ns2:Event>
         </ns2:Events>
      </Payload>
   </ResponseMessage>
</soap:Envelope>
6.5 **Create Zonal Test Event**

This request creates a zonal test event by a CSP user. Note: shortLead and longLead are no longer in this request.

```
<p:shortLead>true</p:shortLead>
<p:longLead>true</p:longLead>
```

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>event</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request/>
      <mes:Payload>
          <p:Event>
            <p:summaryInfo>
              <p:eventDate>Event Date, e.g. 2011-05-29-04:00</p:eventDate>
              <p:eventType>Zonal Test</p:eventType>
              <p:startTime>Zonal test start date time, e.g. 2011-05-29T11:00:00.000-04:00</p:startTime>
              <p:endTime>1 hour after start time, e.g. 2011-05-29T12:00:00.000-04:00</p:endTime>
              <p:description>OPTIONAL description</p:description>
              <p:status>Scheduled</p:status>
            </p:summaryInfo>
            <p:zoneInfo>
              <p:zone>Zone name, e.g. AEP</p:zone>
            </p:zoneInfo>
            <p:productInfo>
              <p:product>See Table</p:product>
            </p:productInfo>
          </p:Event>
        </p:Events>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

<table>
<thead>
<tr>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual DR</td>
</tr>
<tr>
<td>Limited DR</td>
</tr>
<tr>
<td>Extended Summer DR</td>
</tr>
</tbody>
</table>
6.6 Create Zonal Re-Test Event

This request creates a zonal re-test event by a CSP user. Note: shortLead and longLead are no longer in this request. <p:shortLead>true</p:shortLead> <p:longLead>true</p:longLead>

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
<soapenv:Header/>
<soapenv:Body>
<mes:TransactionRequest>
<mes:Header>
<mes:Verb>create</mes:Verb>
<mes:Noun>event</mes:Noun>
<mes:Revision>001</mes:Revision>
<mes:Source>123</mes:Source>
</mes:Header>
<mes:Request/>
<mes:Payload>
<p:Event>
<p:summaryInfo>
<p:eventDate>Event Date, e.g. 2011-05-29-04:00</p:eventDate>
<p:eventType>Zonal Retest</p:eventType>
<p:startTime>Zonal retest start date time, e.g. 2011-05-29T11:00:00.000-04:00</p:startTime>
<p:endTime>1 hour after start time, e.g. 2011-05-29T12:00:00.000-04:00</p:endTime>
<p:description>OPTIONAL description</p:description>
<p:status>Scheduled</p:status>
</p:summaryInfo>
<p:zoneInfo>
<p:zone>Zone name, e.g. AEP</p:zone>
</p:zoneInfo>
<p:registrationInfo>
// -- List the registrations to be included in a retest in the following, examples below
<p:registrationId>2000</p:registrationId>
<p:registrationId>2001</p:registrationId>
<p:registrationId>2002</p:registrationId>
</p:registrationInfo>
<p:productInfo>
<p:product>See Table</p:product>
</p:productInfo>
</p:Event>
</p:Events>
</mes:Payload>
</mes:TransactionRequest>
</soapenv:Body>
</soapenv:Envelope>
```

<table>
<thead>
<tr>
<th>&lt;p:product&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual DR</td>
</tr>
<tr>
<td>Limited DR</td>
</tr>
<tr>
<td>Extended Summer DR</td>
</tr>
</tbody>
</table>
6.7 Confirm Zonal Test or Re-test Event

This request changes a zonal test or zonal retest event’s status from Scheduled to Confirmed. It can only be issued by a CSP who owns the event being confirmed and only during the valid test / retest event confirmation period (October 1 to November 14).

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    <soapenv:Header/>
    <soapenv:Body>
        <mes:TransactionRequest>
            <mes:Header>
                <mes:Verb>change</mes:Verb>
                <mes:Noun>event</mes:Noun>
                <mes:Revision>001</mes:Revision>
                <mes:Source>123</mes:Source>
            </mes:Header>
            <mes:Request/>
            <mes:Payload>
                    <p:Event>
                        <p:id>Event ID, e.g. 2619</p:id>
                        <p:summaryInfo>
                            <p:status>Confirmed</p:status>
                        </p:summaryInfo>
                    </p:Event>
                </p:Events>
            </mes:Payload>
        </mes:TransactionRequest>
    </soapenv:Body>
</soapenv:Envelope>

6.8 Acknowledge Events without Target Amount (deprecated – do not use)

The Web Services schema for Acknowledgement Web Service that was delivered as part of FERC-745 enhancement has been deprecated but has been enhanced to support SR, EE and LM event types in addition to RT events. This version of the web service will continue to work and will be maintained for backward compatibility purposes and users are advised to switch over to the new version of schema as described in section 6.1.1. The Standalone Client is provided with the new schema (section 6.2.1) and not this deprecated one.

- There is no option to provide AckAmount value. The AckAmount is saved as NULL in the database.
- The event acknowledgeDate will be set to system time when the acknowledgement is received. The acknowledgeDate and ackAmount values are displayed in the output Event detail.
- Multiple events can be acknowledged in the same request by adding more <mes:ID> tags with an Event ID.

Following sample acknowledges all events that were sent in a previous response.
6.9 Acknowledge Events with option to pass Target Amount

- The OPTION tag value is ‘ack’
- Only CSP and OPR (as CSP role) is authorized to this request.
- The change:event WS needs one of the following user permissions:
  - Manage location and registration
  - Manage all data
- Inputs: Event Id and ack amount. Multiple events can be acknowledged in the same request in separate event tag blocks.
- Output: Event detail for input Event Id(s)

<table>
<thead>
<tr>
<th>Verb</th>
<th>Noun</th>
<th>Input Field</th>
<th>Input Value</th>
<th>Description</th>
<th>Input Type</th>
<th>Reqd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change</td>
<td>Event</td>
<td>Id</td>
<td>&lt;eventId&gt;</td>
<td>Multiple Event ids provided in the request</td>
<td>Number</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AckAmount</td>
<td>&lt;amount in kWh&gt;</td>
<td>The acknowledge amount</td>
<td>Number</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Option</td>
<td>ack</td>
<td>Acknowledge</td>
<td>String</td>
<td>Y</td>
</tr>
</tbody>
</table>

- The AckAmount value is optional.
  - If provided, the Ack Amount must be greater than or equal to 0.
  - If the Ack Amount is not provided the <ackAmount> tag should not be present in the request. The ackAmount will be set to 0 on the event in eLRS. The <summaryInfo> tag must still be present.
  - CSP can provide Ack Amount of 0.

- The event acknowledgeDate will be set to system time when the acknowledgement is received but will not be returned in the response. The <id> tag is the only tag returned in the response.

- Only event ids that have been acknowledged are returned in the response. Any events not acknowledged will not be returned.
• Events can be acknowledged for a specified (configurable) period of time even after the event has completed. By default, this grace period will be set to 62 minutes and is applicable across all event types.

• Events can be acknowledged by CSP or OPR via the UI on the registration level event detail page. CSP can enter an acknowledge amount and mark the event as acknowledged.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>change</mes:Verb>
        <mes:Noun>event</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>1234</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>ack</mes:Option>
      </mes:Request>
      <mes:Payload>
          <p:Event>
            <p:id>Event Id e.g. 2068</p:id>
            <p:summaryInfo>
              <p:ackAmount>Acknowledge amount e.g. 340</p:ackAmount>
            </p:summaryInfo>
          </p:Event>
          <p:Event>
            <p:id>Event Id e.g. 2071</p:id>
            <p:summaryInfo>
              <p:ackAmount>Acknowledge amount e.g. 20</p:ackAmount>
            </p:summaryInfo>
          </p:Event>
          <p:Event>
            <p:id>Event Id e.g. 2072</p:id>
            <p:summaryInfo>
              <p:ackAmount>Acknowledge amount e.g. 0</p:ackAmount>
            </p:summaryInfo>
          </p:Event>
          <p:Event>
            <p:id>Event Id e.g. 2073</p:id>
          </p:Event>
        </p:Events>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>

A Sample Response to an Event Acknowledgment

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"/>
7 Alerts

7.1 Get Alert by ID

This request returns a specific alert subject to the user’s permissions.

A Sample Response to Get Alert by ID
8 Meter Data

Two formats are supported for submission of meter data: Daily and Interval. Currently, the Daily data format is used exclusively for Settlements, and the Interval data format is used exclusively for Compliance. Data submitted for Settlements is not used for Compliance, or vice-versa, because of differences in validation rules and the storage mechanism.

Daily data must always have 24 HE values (except on the long day when it must have 25 HE values – see below). Interval data must have sufficient data for the compliance period, and can take various forms including hourly interval, minute interval, or start and stop times. For a registration that contains more than one location (aggregate), one set of entries should be provided for each location.

The rules for submitting daily meter data on the long and short days are as follows:

- On the short day the CSP must submit 24 values, the third value for HE3 will be ignored.
- On the long day the CSP must submit 25 values, the third and fourth values will be averaged and assigned to HE3.

Note that when the corresponding settlement is examined in the UI, the details tab will contain either 23 or 25 HE entries for the short / long day respectively. These will be normalized to 24 HE values on the CBL calculation tab once the calculate CBL action has been successfully completed.
8.1 Get Daily Data for Location

This request returns all daily meter data readings for the specified location and date range. The result set will be restricted in accordance with the user's permissions for the location.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>dailydata</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:StartTime>Start date e.g. 2009-05-01T00:00:00</mes:StartTime>
        <mes:EndTime>End date 2009-06-30T00:00:00</mes:EndTime>
        <mes:ID>Location ID e.g. 2005</mes:ID>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

A Sample Response to Get Daily Data for Location

```xml
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>dailydata</Noun>
        <Revision>1.0</Revision>
        <Source>PJM</Source>
        <UserID>user_name</UserID>
        <MessageID>1234</MessageID>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload>
          <ns2:DailyData>
            <ns2:summaryInfo>
              <ns2:locationId>1234</ns2:locationId>
              <ns2:EDC>
                <ns2:name>PJM</ns2:name>
              </ns2:EDC>
              <ns2:accountNo>1234</ns2:accountNo>
            </ns2:summaryInfo>
          </ns2:DailyData>
        </ns2:DailysData>
      </Payload>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>
```
8.2 Get Daily Data for Registration

This request returns all daily meter data readings for the specified registration and date range. If the registration is an aggregate, meter data for each location associated with the registration will be returned.

The result set will be restricted in accordance with the user's permissions for the registration.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

8.3 Get Interval Data for Location
This request returns all interval meter data readings for the specified location and date range. The result set will be restricted in accordance with the user’s permissions for the location.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

A Sample Response to Get Interval Data for a Location

A Sample Response to Get Interval Data for a Location
8.4 Get Interval Data for Registration

This request returns all interval meter data readings for the specified registration and date range. If the registration is an aggregate, meter data for each location associated with the registration will be returned. The result set will be restricted in accordance with the user’s permissions for the registration.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

8.5 Submit DLC-StartStop Interval Data

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the EDC or LSE if the CSP has granted permission for them to submit meter data. Two sets of values must be provided in the measurement info for the start and end time of each measurement. Measurements must not span midnight.
8.6 Submit EmergCap-GLD Daily Data

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the EDC or LSE if the CSP has granted permission for them to submit meter data. Two sets of values must be provided in the measurement info for the start and end time of each measurement. Measurements must not span midnight.
8.7 Submit EmergCap-GLD Generation Daily Data

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the EDC or LSE if the CSP has granted permission for them to submit meter data. Two sets of values must be provided in the measurement info for the start and end time of each measurement. Measurements must not span midnight.
<soapenv:Header/>
<soapenv:Body>
<mes:TransactionRequest>
<mes:Header>
<mes:Verb>create</mes:Verb>
<mes:Noun>dailydata</mes:Noun>
<mes:Revision>001</mes:Revision>
<mes:Source>123</mes:Source>
</mes:Header>
<mes:Payload>
<p:DailyData>
<p:summaryInfo>
<p:locationId>Location ID e.g. 2001</p:locationId>
</p:summaryInfo>
<p:measurementInfo>
<p:dateStamp>Event Date e.g. 2009-06-02</p:dateStamp>
<p:type>HourlyLoad</p:type>
<p:UOM>KW</p:UOM>
<p:values>24 comma separated HE values e.g. 5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5</p:values>
</p:measurementInfo>
<p:measurementInfo>
<p:dateStamp>Event Date e.g. 2009-06-02</p:dateStamp>
<p:type>GLD-Generation</p:type>
<p:UOM>KW</p:UOM>
<p:values>24 comma separated HE values e.g. 8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8</p:values>
</p:measurementInfo>
// ----- Repeated section
<p:measurementInfo>
<p:dateStamp>Event Date e.g. 2009-06-03</p:dateStamp>
<p:type>HourlyLoad</p:type>
<p:UOM>KW</p:UOM>
<p:values>24 comma separated HE values e.g. 5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5</p:values>
</p:measurementInfo>
<p:measurementInfo>
<p:dateStamp>Event Date e.g. 2009-06-03</p:dateStamp>
<p:type>GLD-Generation</p:type>
<p:UOM>KW</p:UOM>
<p:values>24 comma separated HE values e.g. 8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8</p:values>
</p:measurementInfo>
// ----- End of Repeated section
</p:DailyData>
</mes:Payload>
</mes:TransactionRequest>
</soapenv:Body>
</soapenv:Envelope>

8.8 Submit EmergCap-FSL Daily Data
This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the EDC or LSE if the CSP has granted permission for them to submit meter data. One sets of values must be provided in the measurement info for the start and end time of each measurement. Measurements must not span midnight.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>dailydata</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Payload>
          <p:DailyData>
            <p:summaryInfo>
              <p:locationId>Location ID e.g. 2001</p:locationId>
            </p:summaryInfo>
            <p:measurementInfo>
              <p:dateStamp>Event Date e.g. 2009-06-02</p:dateStamp>
              <p:type>HourlyLoad</p:type>
              <p:UOM>KW</p:UOM>
              <p:values>24 comma separated HE values e.g 5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5</p:values>
            </p:measurementInfo>
            // ----- Repeated section
            <p:measurementInfo>
              <p:dateStamp>Event Date e.g. 2009-06-03</p:dateStamp>
              <p:type>HourlyLoad</p:type>
              <p:UOM>KW</p:UOM>
              <p:values>24 comma separated HE values e.g 5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5</p:values>
            </p:measurementInfo>
            // ----- End of Repeated section
          </p:DailyData>
        </p:DailysData>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
8.9 Submit MinuteLoad Interval Data

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the EDC or LSE if the CSP has granted permission for them to submit meter data. For Synchronized Reserve compliance, Measurement Info must be submitted for each minute of the Synchronized Reserve event, plus 10 minutes before the event and 10 minutes after the event. Measurements must not span midnight.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>intervaldata</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Payload>
          <p:IntervalData>
            <p:summaryInfo>
              <p:locationId>Location ID e.g. 2005</p:locationId>
            </p:summaryInfo>
            // ----- Repeated section
            <p:measurementInfo>
              <p:timestamp>Interval datestamp e.g. 2009-06-01T05:02:00</p:timestamp>
              <p:type>MinuteLoad</p:type>
              <p:UOM>KW</p:UOM>
              <p:value>Interval meter reading e.g. 201.000</p:value>
            </p:measurementInfo>
            // ----- End of Repeated section
          </p:IntervalData>
        </p:IntervalsData>
      </mes:Payload>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>

8.10 Submit Daily Data

This request can only be initiated by a user who is a CSP with “Manage Registrations” or “Manage All” permissions, or by the EDC or LSE if the CSP has granted permission for them to submit meter data. 24 Hour Ending interval values must be provided as a comma delimited string in the measurement info for the start and end time of each measurement. Measurements must not span midnight.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
      </mes:Header>
  </soapenv:Body>
</soapenv:Envelope>
9 Settlements

9.1 Use Cases

1. At the end of the Operating Day LRS creates a settlement record for each valid registration / event combination of the operating day.
2. The CSP issues the “Get Active Processes” request. The result set contains a summary of all processes available for the supplied userid. Iterate through all the records in the result and retrieve the <id> (Process ID) and <objectID> (Settlement ID) for every record with <processName> = “SettlementApproval”. For each record execute the following steps as required.
   a. Update the Settlement details using the “Change Settlement” request. The result set returns details of the Settlement which may be stored for future use.
   b. Submit meter data using the appropriate “Submit Interval / Daily Data” request for the Settlement Registration.
   c. Execute the “Calculate CBL” request to calculate the CBL and reduction for the Settlement. The result set contains details of the calculation and status which may be stored for future use.
   d. The CSP submits the settlement for review by the EDC, LSE and optionally PJM using the “Submit Settlement” request. The result set returns the Process ID for the workflow process, which may be stored with the Settlement ID for future use.
3. The LSE and EDC issue the “Get Active Processes” request. The result set contains a summary of all processes for the supplied userid. Iterate through all the records in the result and retrieve
the <id> (Process ID) and <objectID> (Settlement ID) for every record with <processName> = “SettlementApproval”. For each record of interest execute the following steps as required:

a. If they have been granted “Approved as modified” status by the CSP, the LSE and EDC may update data they have permissions for using the “Change Settlement” request. The result set returns details of the Settlement (for which they have permissions) which may be stored for future use.

b. The LSE, EDC and optionally PJM confirm the Settlement using the “Confirm Settlement” request. The result set returns details of the Settlement (for which they have permissions) which may be stored for future use.

**Alternate Path 1: EDC or LSE denies Settlement**

Repeat steps 1 and 2 of the happy path scenario:

1. The EDC or LSE denies the Settlement using the “Deny Settlement” request, supplying relevant denial reasons and a comment. The Settlement is routed back to the CSP for review.
2. The CSP makes corrections to the Settlement, and resubmits it using the “Resubmit Settlement” request.
3. The Registration returns to step 5 in the happy path scenario.

**Alternate Path 2: CSP disputes Settlement**

Repeat steps 1 and 2 of the happy path scenario:

1. The EDC or LSE denies the Settlement using the “Deny Settlement” request, supplying relevant denial reasons and a comment. The Settlement is routed back to the CSP for review.
2. The CSP disputes the Settlement using the “Dispute Settlement” request. The Settlement is routed to PJM for review.

**9.2 Get Settlement by ID**

This request returns details of the Settlement with the specified Settlement ID. The result set will be restricted in accordance with the user's userid and permissions for the settlement.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:ID>Settlement ID e.g. 4401</mes:ID>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
A Sample response for a request to Get Settlement by ID

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>settlement</Noun>
        <MessageID>1234</MessageID>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload>
          <ns2:Settlement>
            <ns2:id>1234</ns2:id>
            <ns2:summaryInfo>
              <ns2:eventDate>2014-06-02-04:00</ns2:eventDate>
              <ns2:settlementType>Emergency Energy</ns2:settlementType>
              <ns2:status>Incomplete</ns2:status>
            </ns2:summaryInfo>
            <ns2:registrationInfo>
              <ns2:registrationId>1549372</ns2:registrationId>
              <ns2:priceNode>PJM</ns2:priceNode>
              <ns2:reference>R1234</ns2:reference>
              <ns2:name>Resource Name</ns2:name>
              <ns2:type>Emergency</ns2:type>
              <ns2:program>Load Management DR Full</ns2:program>
              <ns2:CSP>
                <ns2:name>ENOBGE</ns2:name>
              </ns2:CSP>
            </ns2:registrationInfo>
            <ns2:settlementInfo>
              <ns2:eventHour>11</ns2:eventHour>
              <ns2:GMTHour>2014-06-02T14:00:00.000-04:00</ns2:GMTHour>
              <ns2:reductionHour>true</ns2:reductionHour>
              <ns2:marketType>EE</ns2:marketType>
            </ns2:settlementInfo>
            <ns2:totalInfo>
              <ns2:totalReduction>0.0</ns2:totalReduction>
              <ns2:averageRate>0.0</ns2:averageRate>
              <ns2:averageLoss>0.0</ns2:averageLoss>
            </ns2:totalInfo>
            <ns2:otherInfo>
              <ns2:allowEDCtoModify>true</ns2:allowEDCtoModify>
              <ns2:allowLSEtoModify>true</ns2:allowLSEtoModify>
            </ns2:otherInfo>
          </ns2:Settlement>
        </ns2:Settlements>
      </Payload>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>
9.3 Get Settlement by Date Range

This request returns details of all Settlement within the specified date range. The result set will be restricted in accordance with the user’s userid and permissions for the settlement.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:StartTime>Start date e.g. 2009-06-02T00:00:00</mes:StartTime>
        <mes:EndTime>End date e.g. 2009-06-02T00:00:00</mes:EndTime>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

See section 9.2 to view a sample response for Get Settlements

9.4 Calculate CBL

This request calculates the CBL and reduction for the specified Settlement, and returns the status and results of the CBL calculation. The CBL calculation is only valid for one hour.

This request can only be initiated by a user who is the CSP for the Settlement and has “Manage Settlements” or “Manage All” permissions

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
```

59 of 82
A Sample response for a request to Calculate CBL

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>settlement</Noun>
        <Revision>1.0</Revision>
        <Source>PJM</Source>
        <UserID>user_name</UserID>
        <MessageID>1234</MessageID>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload/>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>

9.5 Change Settlement

This request can only be initiated by a user who is a CSP with "Manage Registrations" or "Manage All" permissions, or by the LSE or EDC if they have been granted Approved As Modified status by the CSP. The EDC and LSE can only update attributes that they have update privileges for.

If the <p:reductionHour> tag is used to select or deselect hours from a settlement, the business rules must be adhered to e.g. all Self Scheduled hours must be submitted or none. An error will be generated if an attempt is made to deselect some SS hours, but not others.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>change</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Payload>
Responses to Creating or Changing a Settlement will look exactly like the request with the inclusion of a reply code indicating success, failure or problem with the request.

```xml
<Reply>
  <ReplyCode>ok, or failed, or detailed problem response</ReplyCode>
</Reply>
```

### 9.6 Submit Settlement

This request submits the specified Settlement (identified by the process ID) for review by PJM, the EDC and LSE. The CBL calculation is only valid for one hour, so the “Calculate CBL” request must be issued less than one hour before issuing this request.

This request can only be initiated by a user who is the CSP for the Settlement and has “Manage Settlements” or “Manage All” permissions.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Verb>change</mes:Verb>
      <mes:Noun>process</mes:Noun>
      <mes:Revision>001</mes:Revision>
      <mes:Source>123</mes:Source>
    </mes:Header>
    <mes:Request>
      <mes:Option>completetask</mes:Option>
    </mes:Request>
    <mes:Payload>
```
A Sample response for a request to submit a Settlement

This response will simply reply with an ok for accepted or provide an error code with a description

9.7 Confirm Settlement

This request submits the specified Settlement (identified by the Process ID) for review by PJM, the EDC and LSE. The CBL calculation is only valid for one hour, so the “Calculate CBL” request must be issued less than one hour before issuing this request. This request can only be initiated by a user who is a valid user for the settlement and type of organization specified in the “<Task Name>” tag, and who has “Manage Settlements” or “Manage All” permissions
This request denies the specified Settlement (identified by the Process ID) and routes it back to the CSP for review.

It can only be initiated by a user who is a valid user for the settlement and type of organization specified in the "<Task Name>" tag, and who has “Manage Settlements” or “Manage All” permissions.

<table>
<thead>
<tr>
<th>Task Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDC Review</td>
</tr>
<tr>
<td>LSE Review</td>
</tr>
<tr>
<td>LSE_EDC Review</td>
</tr>
<tr>
<td>OPR Review (PJM only)</td>
</tr>
</tbody>
</table>

Table 7: Confirm Settlement codes

9.8 Deny Settlement

This request denies the specified Settlement (identified by the Process ID) and routes it back to the CSP for review.

It can only be initiated by a user who is a valid user for the settlement and type of organization specified in the "<Task Name>" tag, and who has “Manage Settlements” or “Manage All” permissions.
9.9 Resubmit Settlement

This request resubmits the specified denied Settlement (identified by the Process ID) and routes it back to the LSE, EDC and PJM for review. It can only be initiated by a CSP for the Settlement who has “Manage Settlements” or “Manage All” permissions.

Table 8: Deny Settlement codes

<table>
<thead>
<tr>
<th>Task</th>
<th>EDC Denial Reasons</th>
<th>LSE Denial Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDC Review</td>
<td>WrongMeteredLoad</td>
<td>WrongMeteredLoad</td>
</tr>
<tr>
<td>LSE Review</td>
<td>WrongLosses</td>
<td>WrongLosses</td>
</tr>
<tr>
<td>LSE_EDC Review</td>
<td>PlantOutage</td>
<td>WrongRetailRate</td>
</tr>
<tr>
<td>OPR Review (PJM only)</td>
<td></td>
<td>CBLIncorrect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PlantOutage</td>
</tr>
</tbody>
</table>

This request resubmits the specified denied Settlement (identified by the Process ID) and routes it back to the LSE, EDC and PJM for review. It can only be initiated by a CSP for the Settlement who has “Manage Settlements” or “Manage All” permissions.
9.10 Dispute Settlement

This request disputes the specified Settlement (identified by the Process ID) and routes it to PJM for review and a final decision on the status. This request can only be initiated by a CSP for the Settlement who has "Manage Settlements" or "Manage All" permissions.
9.11 Withdraw Settlement

This request withdraws the specified Settlement (identified by the Settlement ID). It can only be initiated by a CSP for the Settlement who has "Manage Settlements" or "Manage All" permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>withdraw</mes:Option>
        <mes:ID>Settlement ID e.g. 4021</mes:ID>
      </mes:Request>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>

9.12 Reopen Settlement

This request re-opens a withdrawn Settlement (identified by the Settlement ID). It can only be initiated by a CSP for the Settlement who has "Manage Settlements" or "Manage All" permissions.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
        <mes:UserID>ISOUser</mes:UserID>
      </mes:Header>
      <mes:Request>
        <mes:Option>reopen</mes:Option>
        <mes:ID>Settlement ID e.g. 4021</mes:ID>
      </mes:Request>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
10 Compliance

Compliance data is a subset of Settlement, using the same basic get and action verbs with the 'settlement' noun. However, there are currently no workflow processes associated with compliance, so the CSP will retrieve compliance objects and perform validation (using the “Calculate CBL” request) using just the settlement id. There is no need to submit the compliance for confirmation, withdraw, deny, etc.

10.1 Use Case

1. At the end of the Operating Day LRS creates a compliance record for each valid registration / event combination of the operating day.
2. The CSP issues the “Get Compliance by Date Range” request. The result set contains a list of all the settlement and compliance records for the userid. Iterate through all the records in the result set and retrieve every record with <settlementType> = “Emergency Capacity”, “Synch Reserve” or “DA Sched Reserve”. For each record execute the following steps as required.
   a. Update the Compliance details using the “Change Settlement” request. The result set returns details of the Compliance which may be stored for future use.
   b. Submit meter data using the appropriate “Submit Daily Data” request for the Compliance record.
   c. Execute the “Validate Compliance” request to validate the Compliance data. The result set contains details of the calculation and status which may be stored for future use.

10.2 Get Compliance by Date Range

This request returns details of all Compliance records within the specified date range. The result set will be restricted in accordance with the user’s userid and permissions for the compliance.

Please see section #2 above for the limit on the maximum date range that you can use to retrieve results. A date range specified beyond the limit will result in an error in your web service response.

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:InformationRequest>
      <mes:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:StartTime>Start date e.g. 2009-06-02T00:00:00</mes:StartTime>
        <mes:EndTime>End date e.g. 2009-06-02T00:00:00</mes:EndTime>
        <mes:Match>compliance</mes:Match>
      </mes:Request>
    </mes:InformationRequest>
  </soapenv:Body>
A Sample Response for a request to Get Compliance by Date Range

```xml
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
      <Header>
        <Verb>reply</Verb>
        <Noun>settlement</Noun>
      </Header>
      <Reply>
        <ReplyCode>ok</ReplyCode>
      </Reply>
      <Payload>
          <ns2:Settlement>
            <ns2:id>1234</ns2:id>
            <ns2:summaryInfo>
              <ns2:settlementType>Emergency Capacity</ns2:settlementType>
              <ns2:complianceOnly>true</ns2:complianceOnly>
              <ns2:start_time>2014-01-21T05:00:00.000-05:00</ns2:start_time>
              <ns2:end_time>2014-01-21T09:30:00.000-05:00</ns2:end_time>
            </ns2:summaryInfo>
            <ns2:registrationInfo>
              <ns2:registrationId>1544755</ns2:registrationId>
              <ns2:priceNode>PJM</ns2:priceNode>
              <ns2:reference>r1234</ns2:reference>
              <ns2:name>Registration Name</ns2:name>
              <ns2:type>Emergency</ns2:type>
              <ns2:program>Load Management DR Full</ns2:program>
              <ns2:CSP>
                <ns2:name>ECS</ns2:name>
              </ns2:CSP>
            </ns2:registrationInfo>
            <ns2:totalInfo/>
            <ns2:otherInfo>
              <ns2:allowEDCtoModify>true</ns2:allowEDCtoModify>
              <ns2:allowLSEtoModify>true</ns2:allowLSEtoModify>
            </ns2:otherInfo>
          </ns2:Settlement>
        </ns2:Settlements>
      </Payload>
    </ResponseMessage>
  </soap:Body>
</soap:Envelope>
```

10.3 Submit Emergency Compliance Interval Data

See sections 8.5 through 8.8 for details.
10.4 Submit Synch Reserve Interval Data

See section 8.9 Submit MinuteLoad Interval Data for details.

10.5 Submit Day Ahead Scheduling Reserve Interval Data

See section 8.9 Submit MinuteLoad Interval Data for details.

10.6 Validate Compliance

This request validates the specified Compliance record. This request can only be initiated by a user who is the CSP for the Compliance record and who has "Manage Settlements" or "Manage All" permissions.

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>action</mes:Verb>
        <mes:Noun>settlement</mes:Noun>
        <mes:Revision>001</mes:Revision>
        <mes:Source>123</mes:Source>
      </mes:Header>
      <mes:Request>
        <mes:Option>validate</mes:Option>
        <mes:ID>Compliance ID e.g. 4401</mes:ID>
      </mes:Request>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

11 CBLTest

As part of FERC 745 Phase II functionality, users can Create or Get CBLCalculations for a registration.

11.1 Create CBLCalculation

```xml
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/
  <soapenv:Header/>
  <soapenv:Body>
    <mes:TransactionRequest>
      <mes:Header>
        <mes:Verb>create</mes:Verb>
      </mes:Header>
    </mes:TransactionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```
<mes:Noun>cblcalculation</mes:Noun>
<mes:Revision>001</mes:Revision>
<mes:Source>PJM</mes:Source>
</mes:Header>
<mes:Request/>
<mes:Payload>
<p:CBLCalculation>
<p:registrationId>2007</p:registrationId>
<p:reportType>RRMSE</p:reportType>
<p:cblMethod>3 day types</p:cblMethod>
<p:endDate>2012-01-03-08:00</p:endDate>
</p:CBLCalculation>
</p:CBLCalculations>
</mes:Payload>
</soapenv:Body>
</soapenv:Envelope>

11.2 Get CBLCalculation

Sample request to get CBLCalculation requests within date range and CBL Detail report type with status Pending:
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
<soapenv:Header/>
<soapenv:Body>
<mes:InformationRequest>
<mes:Header>
<mes:Verb>get</mes:Verb>
<mes:Noun>cblcalculation</mes:Noun>
<mes:Revision>001</mes:Revision>
<mes:Source>PJM</mes:Source>
</mes:Header>
<mes:Request>
<mes:StartTime>2012-01-05T00:00:00Z</mes:StartTime>
<mes:EndTime>2012-01-06T00:00:00Z</mes:EndTime>
<mes:Option>RRMSE</mes:Option>
<mes:Match>Pending</mes:Match>
</mes:Request>
</mes:InformationRequest>
</soapenv:Body>
</soapenv:Envelope>

A Sample Response to Get CBL Calculation

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
<soap:Body>
<Header>
<Verb>reply</Verb>
<Noun>cblcalculation</Noun>
<Revision>1.0</Revision>
</soap:Body>
</soap:Envelope>
12 Error Codes and Messages

<table>
<thead>
<tr>
<th>Properties</th>
<th>Error Codes and Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>contact.firstName</td>
<td>3001 - Please enter a valid First Name for {0}.</td>
</tr>
<tr>
<td>contact.lastName</td>
<td>3002 - Please enter a valid Last Name for {0}.</td>
</tr>
<tr>
<td>contact.phoneNumber</td>
<td>3003 - Please enter a valid Phone Number for {0}.</td>
</tr>
<tr>
<td>contact.emailAddress</td>
<td>3004 - Please enter a valid Email Address.</td>
</tr>
<tr>
<td>contact.invalid.phonenumber</td>
<td>3005 - Phone Number {0} is not valid. Please enter a valid Phone Number for {1}.</td>
</tr>
<tr>
<td>contact.phonenumber.or.email</td>
<td>3006 - Please enter a valid Phone Number or Email for {0}.</td>
</tr>
<tr>
<td>contact.firstname.required</td>
<td>3007 - First Name is required; please enter a valid value for {0}.</td>
</tr>
<tr>
<td>contact.lastname.required</td>
<td>3008 - Last Name is required; please enter a valid value for {0}.</td>
</tr>
<tr>
<td>contact.firstName.min.max</td>
<td>3009 - First name should contain between 1 and {0} characters for {1}.</td>
</tr>
<tr>
<td>contact.lastName.min.max</td>
<td>3010 - Last name should contain between 1 and {0} characters for {1}.</td>
</tr>
<tr>
<td>contact.emailAddress.min.max</td>
<td>3011 - Email address should contain between 1 and {0} characters for {1}.</td>
</tr>
<tr>
<td>locationprofile.loadReduction</td>
<td>3020 - Load Reduction should be greater than 0.</td>
</tr>
<tr>
<td>locationprofile.peakLoad</td>
<td>3021 - Peak Load Contribution should be greater than 0.</td>
</tr>
<tr>
<td>locationProfile.energyLossFactor</td>
<td>3022 - Energy Loss Factor should be greater than 0 and less than 2.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>locationProfile.capacityLossFactor</td>
<td>3023 - Capacity Loss Factor should be greater than 0 and less than 2.</td>
</tr>
<tr>
<td>locationProfile.energyLossFactor</td>
<td>3024 - Energy Loss Factor is required, please enter a valid value.</td>
</tr>
<tr>
<td>locationProfile.capacityLossFactor</td>
<td>3025 - Capacity Loss Factor is required, please enter a valid value.</td>
</tr>
<tr>
<td>locationProfile.retailRate</td>
<td>3026 - Retail Rate is required, please enter a valid value.</td>
</tr>
<tr>
<td>locationProfile.peakLoad</td>
<td>3027 - Peak Load Contribution is required, please enter a valid value.</td>
</tr>
<tr>
<td>locationProfile.retailRate</td>
<td>3028 - Retail Rate should be greater than 0.</td>
</tr>
<tr>
<td>locationProfile.genfueltype.oid</td>
<td>3029 - Fuel Type is required, Please select a value.</td>
</tr>
<tr>
<td>location.locationName.min.max</td>
<td>3030 - Location Name should contain between 1 and {0} characters.</td>
</tr>
<tr>
<td>location.edcAccountNumber.min.max</td>
<td>3031 - EDC Account Number should contain between 1 and {0} characters.</td>
</tr>
<tr>
<td>location.locationName</td>
<td>3032 - Location Name should not contain special characters</td>
</tr>
<tr>
<td>location.edcAccountNumber</td>
<td>3033 - EDC Account Number is required, please enter a valid value.</td>
</tr>
<tr>
<td>location.status</td>
<td>3034 - Status is required, please enter a valid value.</td>
</tr>
<tr>
<td>location.loadreduction.message</td>
<td>3035 - Load Reduction value {0} kW should be greater than {1} kW and less than {2} kW</td>
</tr>
<tr>
<td>location.csp.organization.required</td>
<td>3036 - CSP organization is required, please select a value.</td>
</tr>
<tr>
<td>location.edc.organization.required</td>
<td>3037 - EDC organization is required, please select a value.</td>
</tr>
<tr>
<td>location.zone.not.belongs.edc</td>
<td>3038 - Zone {0} is not belongs to {1} organization.</td>
</tr>
<tr>
<td>location.zone.required</td>
<td>3038 - Zone is required, please select a value.</td>
</tr>
<tr>
<td>location.state.not.belongs.edc</td>
<td>3039 - State {0} not belongs to selected EDC organization.</td>
</tr>
<tr>
<td>location.state.required</td>
<td>3039 - State is required, please select a value.</td>
</tr>
<tr>
<td>location.locationName.required</td>
<td>3040 - Location name is required.</td>
</tr>
<tr>
<td>location.meterowner.required</td>
<td>3041 - Meter owner name is required, please select a value.</td>
</tr>
<tr>
<td>location.business.segment.required</td>
<td>3042 - Business segment is required, please select a value.</td>
</tr>
<tr>
<td>location.contact.interest.required</td>
<td>3043 - Contact interest is required; please select a value for {0}.</td>
</tr>
<tr>
<td>location.contact.email.invalid</td>
<td>3044 - Email {0} has invalid domain, Please enter valid email address for {1}.</td>
</tr>
<tr>
<td>location.reductionprofile.contribution.message</td>
<td>3045 - Reduction per site for method {0}, value {1} should be between {2} and {3}</td>
</tr>
<tr>
<td>location.csp.same.organization</td>
<td>3046 - User Organization {0} must be the same as the CSP or EDC Organization.</td>
</tr>
<tr>
<td>location.permission.lse.organization</td>
<td>3047 - LSE organization has no permissions to edit Location.</td>
</tr>
<tr>
<td>location.edcaccountno.min.length</td>
<td>3048 - Number of characters in EDC Account Number is {0}, minimum length should be {1}.</td>
</tr>
<tr>
<td>location.edcaccountno.max.length</td>
<td>3049 - Number of characters in EDC Account Number is {0}, maximum length should be {1}.</td>
</tr>
<tr>
<td>location.edcaccountno.pattern</td>
<td>3050 - EDC Account Number {0} must follow pattern {1}.</td>
</tr>
<tr>
<td>location.edcaccountno.only.numeric</td>
<td>3051 - EDC Account Number {0} is invalid; only numeric digits are allowed.</td>
</tr>
<tr>
<td>Location</td>
<td>Error Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>location.edcaccountno.no.spaces.sy&lt;br&gt;mbols</td>
<td>3052 - EDC Account Number (0) is invalid; spaces and symbols are not allowed (1).</td>
</tr>
<tr>
<td>location.edcaccountno.in.use</td>
<td>3053 - EDC Account Number (0) is in use for the Location (1).</td>
</tr>
<tr>
<td>address.zipCode</td>
<td>3054 - Please Enter a valid Zip-code (E.g. 12345 or 12345-6789 or 12345 6789).</td>
</tr>
<tr>
<td>address.addressLine1.min.max</td>
<td>3055 - Address Line 1 should contain between 1 and (0) characters.</td>
</tr>
<tr>
<td>address.addressLine2.min.max</td>
<td>3056 - Address Line 2 should contain between 1 and (0) characters.</td>
</tr>
<tr>
<td>address.city.min.max</td>
<td>3057 - City should contain between 1 and (0) characters.</td>
</tr>
<tr>
<td>address.zipCode</td>
<td>3058 - Zip Code is required, Please enter a valid value.</td>
</tr>
<tr>
<td>address.addressLine1</td>
<td>3060 - Address Line 1 is required, Please enter a valid value.</td>
</tr>
<tr>
<td>address.city</td>
<td>3062 - City name is invalid. Please enter a valid city.</td>
</tr>
<tr>
<td>location.address.city</td>
<td>3063 - City is required, Please enter a valid city.</td>
</tr>
<tr>
<td>address.zipCode.notvalid</td>
<td>3064 - ZipCode (0) is not valid; Please enter a valid zip code with 5 or 9 digits.</td>
</tr>
<tr>
<td>location.no.reductionprofile</td>
<td>3065 - Location reduction profile should not be null.</td>
</tr>
<tr>
<td>location.locprofile.no.loadreduction</td>
<td>3066 - Load reduction should not be null.</td>
</tr>
<tr>
<td>location.locprofile.multiplier.is.not.integer</td>
<td>3067 - Multiplier should be whole number.</td>
</tr>
<tr>
<td>location.locprofile.no.multiplier</td>
<td>3068 - Multiplier should not be null.</td>
</tr>
<tr>
<td>location.locprofile.no.contribution</td>
<td>3069 - Reduction per site should not be null for method {0}.</td>
</tr>
<tr>
<td>address.busPNode</td>
<td>3069 - Bus PNode (0) not found in zone (1).</td>
</tr>
<tr>
<td>address.busPNode.null.id</td>
<td>3069 - BusPnode (0) Id should be defined.</td>
</tr>
<tr>
<td>address.details.less.than.minsize</td>
<td>3070 - Address Details is less than (0) bytes</td>
</tr>
<tr>
<td>address.details.greater.than.maxsize</td>
<td>3071 - Address Details is greater than allowed (0) bytes</td>
</tr>
<tr>
<td>address.details.invalid.filetype</td>
<td>3072 - Address Details File type is not allowed.</td>
</tr>
<tr>
<td>registration.customerName.required</td>
<td>3101 - Registration name is required.</td>
</tr>
<tr>
<td>registration.customerName</td>
<td>3101 - Registration name should not contain special characters.</td>
</tr>
<tr>
<td>registration.customerName.min.max</td>
<td>3102 - Registration name should contain between 1 and (0) characters.</td>
</tr>
<tr>
<td>registration.RegistrationLocations</td>
<td>3103 - The Registration must contain at least one Location.</td>
</tr>
<tr>
<td>regCapacity.nominatedLoad</td>
<td>3104 - Nominated ICAP for Registration Capacity must be greater than 100.</td>
</tr>
<tr>
<td>regCapacity.multiplier</td>
<td>3105 - Minimum value for multiplier is 1.</td>
</tr>
<tr>
<td>registration.capacity.managedload.invalid</td>
<td>3106 - Minimum value for Managed Load is (0).</td>
</tr>
<tr>
<td>regCapacity.managedLoad</td>
<td>3106 - Minimum value for Managed Load is (0).</td>
</tr>
<tr>
<td>regenergy.total.loadReduction</td>
<td>3108 - Total Load Reduction (0) should be greater than (1).</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>regEnergy.energyLossFactor</td>
<td>Energy Loss Factor should be greater than 0 and less than 2.</td>
</tr>
<tr>
<td>regEnergy.strikePrice</td>
<td>Strike Price should be greater than 0. Enter as ($/Mwh).</td>
</tr>
<tr>
<td>regEnergy.shutdownCost</td>
<td>Shut down cost should be greater than 0.</td>
</tr>
<tr>
<td>regEnergy.retailRate</td>
<td>Retail rate should be greater than 0.</td>
</tr>
<tr>
<td>registration.alterregcbl.weatherstation</td>
<td>Weather Station is required, Please select a value.</td>
</tr>
<tr>
<td>registration.alterregcbl.cblmethod</td>
<td>CBL Method is required, Please select a value.</td>
</tr>
<tr>
<td>regcblparameter.setPoint</td>
<td>CBL Set Point is required. Please enter a value.</td>
</tr>
<tr>
<td>regcblparameter.factor</td>
<td>CBL Factor is required. Please enter a value.</td>
</tr>
<tr>
<td>object.validation.failed.user</td>
<td>Cannot Validate the Object of class {0} for the unknown User.</td>
</tr>
<tr>
<td>registration.location.id</td>
<td>A Registration must have at least one Location Please select a Location.</td>
</tr>
<tr>
<td>registration.location.different</td>
<td>The CSP, EDC or Zone in this registration are different than the ones in location</td>
</tr>
<tr>
<td>registration.location.profile</td>
<td>Registration Location Profile cannot be NULL.</td>
</tr>
<tr>
<td>registration.location.inactive</td>
<td>Status of Registration Location is Inactive.</td>
</tr>
<tr>
<td>registration.location.duplicate</td>
<td>Location has already been added to the Registration.</td>
</tr>
<tr>
<td>registration.location.zone</td>
<td>Zone is required, Please select a value.</td>
</tr>
<tr>
<td>registration.location.csp</td>
<td>CSP is required, Please select a value.</td>
</tr>
<tr>
<td>registration.location.edc</td>
<td>EDC is required, Please select a value.</td>
</tr>
<tr>
<td>registration.location.userorganization</td>
<td>User does not belong to the same Organization as the CSP.</td>
</tr>
<tr>
<td>registration.program.startdate.after</td>
<td>Effective date cannot be later than the program end date.</td>
</tr>
<tr>
<td>registration.program.startdate.earlier</td>
<td>Effective date cannot be earlier than the program start date.</td>
</tr>
<tr>
<td>registration.program.enddate.before</td>
<td>Termination date cannot be earlier than the program start date.</td>
</tr>
<tr>
<td>registration.program.enddate.after</td>
<td>Termination date cannot be later than program end date.</td>
</tr>
<tr>
<td>registration.program.enddate.earlier</td>
<td>Termination date cannot be earlier than the program start date.</td>
</tr>
<tr>
<td>registration.regEnergy.cblMethod</td>
<td>Unknown Weather Station for CBLMethod.</td>
</tr>
<tr>
<td>registration.regEnergy.cblMethod.sensitive</td>
<td>Weather Station is required, please select a value.</td>
</tr>
<tr>
<td>registration.regEnergy.weatherstation</td>
<td>Selected Weather Station does not belong to the Registration zone.</td>
</tr>
<tr>
<td>registration.regEnergy.no.cblmethod</td>
<td>Unknown CBL Method.</td>
</tr>
<tr>
<td>registration.regEnergy.cblmethod.approvalRequired</td>
<td>CBL Method requires Approval.</td>
</tr>
<tr>
<td>registration.no.program</td>
<td>Program is required. Please select a value.</td>
</tr>
<tr>
<td>registration.unknown.program</td>
<td>The selected Program is not valid.</td>
</tr>
<tr>
<td>registration.regEnergy.shutdownCost</td>
<td>Shutdown Cost is required. Please enter a value.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>registration.regEnergy.strikePrice</td>
<td>3140 - Strike Price is required. Please enter a value. Enter as ($/Mwh).</td>
</tr>
<tr>
<td>registration.startDate</td>
<td>3141 - Effective date is required. Please select a value</td>
</tr>
<tr>
<td>registration.endDate</td>
<td>3142 - Termination date is required. Please select a value</td>
</tr>
<tr>
<td>registration.cblmethod.required</td>
<td>3143 - Undefined or Unspecified CblMethod, CBLMethod required.</td>
</tr>
<tr>
<td>registration.unknown.weatherstation.cblmethod</td>
<td>3144 - Unknown Weather Station for selected CBLMethod.</td>
</tr>
<tr>
<td>registration.capacity.cblmethod.not.resolved</td>
<td>3145 - CBLMethod selected for registration capacity is not resolved.</td>
</tr>
<tr>
<td>registration.capacity.cblmethod.required</td>
<td>3146 - Undefined or Unspecified CBLMethod for registration capacity, CBLMethod required for</td>
</tr>
<tr>
<td>registration.capacity.zonearea.required</td>
<td>3147 - Undefined or Unspecified zone area, Zone area required.</td>
</tr>
<tr>
<td>registrationcapacityresource.not.found</td>
<td>3148 - Resource ID {0} not found.</td>
</tr>
<tr>
<td>registration.capacity.resource.incorrect</td>
<td>3148 - Selected resource {0} is not valid for this registration.</td>
</tr>
<tr>
<td>registration.capacity.resource.required</td>
<td>3148 - Undefined or Unspecified Resource, Resource required.</td>
</tr>
<tr>
<td>registration.program.required</td>
<td>3149 - Undefined or Unspecified Program, Program required.</td>
</tr>
<tr>
<td>registration.pricingpoint.required</td>
<td>3150 - Undefined or Unspecified Pricing Point, Pricing Point required.</td>
</tr>
<tr>
<td>registration.contracttype.required</td>
<td>3151 - Undefined or Unspecified contract Type, contract Type required.</td>
</tr>
<tr>
<td>registration.energy.weatherstation.required</td>
<td>3152 - Undefined or Unspecified Weather station, Weather station required.</td>
</tr>
<tr>
<td>registration.lse.organization.required</td>
<td>3153 - Undefined or Unspecified LSE organization, LSE organization required.</td>
</tr>
<tr>
<td>organization.organizationShortName</td>
<td>3154 - Short name is required. Please enter a value</td>
</tr>
<tr>
<td>organization.accountlength.min</td>
<td>3155 - Account number minimum length should be greater than 1.</td>
</tr>
<tr>
<td>organization.accountlength.max</td>
<td>3156 - Account number maximum length should be greater than 1.</td>
</tr>
<tr>
<td>organization.invalid.accountlengths</td>
<td>3157 - Account number maximum length ((0)) should be greater than minimum Length ((1)).</td>
</tr>
<tr>
<td>organization.contact.email.invalid</td>
<td>3158 - Email {0} is not valid, Please enter valid email address.</td>
</tr>
<tr>
<td>organization.contact.interesttype.required</td>
<td>3159 - Undefined or Unspecified contact interest type, Contact interest type required.</td>
</tr>
<tr>
<td>registration.capacity.zonearea.notvalid</td>
<td>3160 - Zone area {0} not belongs to zone {1} .</td>
</tr>
<tr>
<td>registrationprogram.not.available</td>
<td>3161 - Program {0} is not available.</td>
</tr>
<tr>
<td>registration.capacity.managedload.required</td>
<td>3162 - Managed Load is required. Please enter a value.</td>
</tr>
<tr>
<td>registration.capacity.multiplier.required</td>
<td>3163 - Sites Multiplier is required. Please enter a value.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>ired</td>
<td>Demand resource (0) has Load resource (1) different than registration Load resource (2)</td>
</tr>
<tr>
<td>registration.resource.name.load.name.diff</td>
<td>3164 - Load resource was not found for Demand Resource (0).</td>
</tr>
<tr>
<td>registration.resource.name.parent.notfound</td>
<td>3164 - Please select a valid Resource</td>
</tr>
<tr>
<td>registration.resource.notfound</td>
<td>3164 - Please select a valid PDR</td>
</tr>
<tr>
<td>registration.pdr.notfound</td>
<td>3164 - Please select a valid PDR or Resource</td>
</tr>
<tr>
<td>registration.resource.name.notfound.d.as.demand</td>
<td>3164 - Resource name (0) was not found in Demand resources</td>
</tr>
<tr>
<td>registration.lrs.notfound</td>
<td>3165 - Please select a valid DLA</td>
</tr>
<tr>
<td>registration.agency.required</td>
<td>3166 - Agency is required for the Registration</td>
</tr>
<tr>
<td>settlement.averageLoss</td>
<td>3201 - Average Loss Factor should be greater than 0 and less than 2.</td>
</tr>
<tr>
<td>locationprofile.genfueltype.backup.gen.nonzero</td>
<td>3201 - Backup gen load reduction must contain a value &gt; 0 if backup gen fuel type is selected.</td>
</tr>
<tr>
<td>locationprofile.genfueltype.backup.gen.zero</td>
<td>3202 - Backup gen fuel type must contain a valid value if backup gen load reduction &gt; 0.</td>
</tr>
<tr>
<td>settlementHour.eventHour</td>
<td>3202 - Event Hour should be between 1 and 24.</td>
</tr>
<tr>
<td>settlementHour.lossFactor</td>
<td>3203 - Loss Factor should be greater than 0 and less than 2.</td>
</tr>
<tr>
<td>settlementHour.rate</td>
<td>3204 - Retail rate should be greater than 0.</td>
</tr>
<tr>
<td>cblSummaryData.nocbl</td>
<td>3205 - No CBL data. Please calculate CBL.</td>
</tr>
<tr>
<td>cblSummaryData.invalidcbl</td>
<td>3206 - CBL calculation status is invalid.</td>
</tr>
<tr>
<td>cblSummaryData.obsoletecbl</td>
<td>3207 - CBL results have expired. Please recalculate CBL.</td>
</tr>
<tr>
<td>cblSummaryData.recomputecbl</td>
<td>3208 - Please recalculate CBL.</td>
</tr>
<tr>
<td>cblSummaryData.nocompliance</td>
<td>3209 - No compliance data. Please upload meter data.</td>
</tr>
<tr>
<td>cblSummaryData.invalidcompliance</td>
<td>3210 - Compliance data validation failed.</td>
</tr>
<tr>
<td>cblSummaryData.loadmeterdata</td>
<td>3211 - Please reload meter data.</td>
</tr>
<tr>
<td>cblSummaryData.obsoletecompliance</td>
<td>3212 - Compliance validation has expired. Please revalidate.</td>
</tr>
<tr>
<td>event.zones</td>
<td>3301 - Please select at least one Zone</td>
</tr>
<tr>
<td>event.Confirmed.endtime</td>
<td>3302 - Confirmed zonal event should have end time.</td>
</tr>
<tr>
<td>event.eventtype.required</td>
<td>3302 - Event Type is required. Please select a value.</td>
</tr>
<tr>
<td>event.Completed.endtime</td>
<td>3303 - Completed zonal event should have end time.</td>
</tr>
<tr>
<td>event.Confirmed.hours.minutes</td>
<td>3304 - Confirmed zonal event should have hours and minutes.</td>
</tr>
<tr>
<td>event.leadtime.required</td>
<td>3305 - Lead Time is required.</td>
</tr>
<tr>
<td>event.enddate.before.presentdate</td>
<td>3306 - End Date cannot be before Present Date (0).</td>
</tr>
<tr>
<td>event.enddate.before.startdate</td>
<td>3307 - End Date cannot be before Start Date (0).</td>
</tr>
<tr>
<td>event.startdate.before.presentdate</td>
<td>3308 - Start Date cannot be before Present Date (0).</td>
</tr>
<tr>
<td>event.startdate.after.enddate</td>
<td>3309 - Start Date cannot be after End Date (0).</td>
</tr>
<tr>
<td>event.starttime.grater.currenttime</td>
<td>3310 - Event start time (0) should be greater than current time (1).</td>
</tr>
<tr>
<td>event.starttime.less.endtime</td>
<td>3311 - Event start time (0) should be less than end time (1).</td>
</tr>
<tr>
<td>Event Type</td>
<td>Message</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>event.eventdate.after.today</td>
<td>Event date should be after the Today {0}.</td>
</tr>
<tr>
<td>event.zonal.warning</td>
<td>A zonal event exists for date {0} with start Time {1} with End Time {2}.</td>
</tr>
<tr>
<td>event.outage.warning</td>
<td>An out-age event exists for date {0} with start Time {1} with End Time {2}.</td>
</tr>
<tr>
<td>event.day.startday.endday.notsame</td>
<td>Event date {0} is not same as start hour day {1} and end hour day {2}.</td>
</tr>
<tr>
<td>readingsvalidation.user.invalid</td>
<td>Unknown user name {0}, or user {1} not valid</td>
</tr>
<tr>
<td>readingsvalidation.input.invalidcontent</td>
<td>Cannot read file. Please check spreadsheet.</td>
</tr>
<tr>
<td>readingsvalidation.input.sheetnotfound</td>
<td>Cannot find the first worksheet. Please check spreadsheet.</td>
</tr>
<tr>
<td>readingsvalidation.input.invalidcolumns</td>
<td>Uploaded file should contain 29 columns.</td>
</tr>
<tr>
<td>readingsvalidation.input.invalidnoofrows</td>
<td>Uploaded file should contain at least 2 rows.</td>
</tr>
<tr>
<td>readingsvalidation.user.notfound</td>
<td>Unknown user {0}, user {1} not found</td>
</tr>
<tr>
<td>readingsvalidation.submission.invalidreadingtype</td>
<td>Reading type {0} is invalid for this submission.</td>
</tr>
<tr>
<td>readingsvalidation.dailyreading.number.invalid</td>
<td>{0} readings were expected. {1} readings were found.</td>
</tr>
<tr>
<td>readingsvalidation.dailyreading.hours.has.nulss</td>
<td>Hours {0} should not be null.</td>
</tr>
<tr>
<td>readingsvalidation.intervalreading.number.invalid</td>
<td>Interval Minutes should be more than 5 and less than 60.</td>
</tr>
<tr>
<td>readingsvalidation.hourlyreadings.intervalminutes.no.support</td>
<td>Interval Minutes should not be null.</td>
</tr>
<tr>
<td>readingsvalidation.hourlyreadings.no.intervalminutes</td>
<td>24 daily readings were expected, No readings were found, Please check the file.</td>
</tr>
<tr>
<td>readingsvalidation.hourlyreadings.has.extrareadings</td>
<td>hourly data has {0} readings, {1} readings expected.</td>
</tr>
<tr>
<td>readingsvalidation.no.hourlyreadings.readings</td>
<td>No hourly readings were found, Please check the file.</td>
</tr>
<tr>
<td>readingsvalidation.no.intervalreadings.readings</td>
<td>No interval readings were found, Please check the file.</td>
</tr>
<tr>
<td>submission.hourlyreading.reading.missing</td>
<td>This Reading is missing or incomplete to complete the day</td>
</tr>
<tr>
<td>submission.no.hourlyreadings.readings</td>
<td>Uploaded file is missing some hourly readings. Please check the file.</td>
</tr>
<tr>
<td>submission.no.intervalreadings.readings</td>
<td>Uploaded file is missing some interval readings. Please check the file.</td>
</tr>
<tr>
<td>submission.no.dailyreading.reading</td>
<td>Uploaded file is missing some daily readings. Please check the file.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3414</td>
<td>Submission type is not supported. Please check the file.</td>
</tr>
<tr>
<td>3415</td>
<td>The Date format is not supported. Please use mm/dd/yyyy.</td>
</tr>
<tr>
<td>3416</td>
<td>Dates for uploaded meter data must be between {0} and {1}.</td>
</tr>
<tr>
<td>3417</td>
<td>Date for reading has not been specified. Please check the file.</td>
</tr>
<tr>
<td>3417</td>
<td>Reading hour {0} is not valid.</td>
</tr>
<tr>
<td>3417</td>
<td>Reading hour should not be null.</td>
</tr>
<tr>
<td>3418</td>
<td>Meter data submitted is not for registration {0}.</td>
</tr>
<tr>
<td>3419</td>
<td>Meter data is invalid. Please check the file.</td>
</tr>
<tr>
<td>3420</td>
<td>The Location {0} cannot be found.</td>
</tr>
<tr>
<td>3420</td>
<td>The Location with EDC Account Number {0} and Registration {1} cannot be found.</td>
</tr>
<tr>
<td>3421</td>
<td>Account Number is required. Please enter a value.</td>
</tr>
<tr>
<td>3422</td>
<td>Registration object has no reference, Please check.</td>
</tr>
<tr>
<td>3423</td>
<td>User {1} is not authorized to submit meter data for Location {0}.</td>
</tr>
<tr>
<td>3424</td>
<td>User {1} is not authorized to submit meter data for Registration {0}.</td>
</tr>
<tr>
<td>3425</td>
<td>This reading is duplicate.</td>
</tr>
<tr>
<td>3426</td>
<td>User {0} is not authorized to down load meter data for location with location ID {1}.</td>
</tr>
<tr>
<td>3427</td>
<td>Location not found with location ID {0}.</td>
</tr>
<tr>
<td>3428</td>
<td>Hourly readings have errors or warnings. Please check.</td>
</tr>
<tr>
<td>3428</td>
<td>Interval readings have errors or warnings. Please check.</td>
</tr>
<tr>
<td>3429</td>
<td>Interval readings have unauthorized location(s). Please check.</td>
</tr>
<tr>
<td>3429</td>
<td>Interval readings have unauthorized registration(s). Please check.</td>
</tr>
<tr>
<td>3430</td>
<td>Daily readings have errors or warnings. Please check.</td>
</tr>
<tr>
<td>3431</td>
<td>Daily readings have unauthorized location(s). Please check.</td>
</tr>
<tr>
<td>3432</td>
<td>Start Date for Meter Data is required. Please select a value.</td>
</tr>
<tr>
<td>3433</td>
<td>End Date for Meter Data is required. Please select a value.</td>
</tr>
<tr>
<td>3434</td>
<td>No Locations were found for the given Registration.</td>
</tr>
<tr>
<td>3435</td>
<td>The given Registration cannot be found. Please check.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>meterdata.no.edcaccount.found</td>
<td>3436 - EDC account number (0) not found for the given registration</td>
</tr>
<tr>
<td>meterdata.no.permissions</td>
<td>3437 - User (0) does not have permission to download meter data for registration (1).</td>
</tr>
<tr>
<td>meterdata.no.registrationref</td>
<td>3438 - Registration (0) not found.</td>
</tr>
<tr>
<td>meterdata.enddate.earlier.startdate</td>
<td>3439 - Start date (0) should be earlier than end date (1).</td>
</tr>
<tr>
<td>meterdata.download.registrations.limit.exceeded</td>
<td>3440 - Download meter data for more than (0) registrations not supported.</td>
</tr>
<tr>
<td>settlement.settlementhour.settleflag.invalid</td>
<td>3451 - Values for settle flags are different for settlement hour. Value should be same for all self schedule market type.</td>
</tr>
<tr>
<td>readingsvalidation.dailyreading.values.invalid.decimal</td>
<td>3452 - Daily readings have invalid decimal values for input (0). Allowed decimal places is (1). Please check.</td>
</tr>
<tr>
<td>readingsvalidation.intervalreadings.values.invalid.decimal</td>
<td>3453 - Interval readings have invalid decimal values for input (0). Allowed decimal places is (1). Please check.</td>
</tr>
<tr>
<td>readingsvalidation.cbl.ongoing</td>
<td>3454 - CBL process is running for this date. Please try again later.</td>
</tr>
<tr>
<td>webservice.messages.common.unableToProcess</td>
<td>4001 - Unable to process your request</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.user</td>
<td>4002 - Invalid or undefined user</td>
</tr>
<tr>
<td>webservice.messages.common.missing.verb</td>
<td>4003 - Verb missing or unknown.</td>
</tr>
<tr>
<td>webservice.messages.common.notfound.id</td>
<td>4004 - ID requested is not found.</td>
</tr>
<tr>
<td>webservice.messages.common.nodata.search</td>
<td>4005 - Unable to fetch data or Search returns no data.</td>
</tr>
<tr>
<td>webservice.messages.common.missing.noun</td>
<td>4006 - Missing Noun or unknown.</td>
</tr>
<tr>
<td>address.busnode.required</td>
<td>4006 - BusPnode is required for (0).</td>
</tr>
<tr>
<td>webservice.messages.common.missing.payload</td>
<td>4007 - Missing Payload or unknown.</td>
</tr>
<tr>
<td>webservice.messages.common.unauthorized</td>
<td>4008 - User is not authorized</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.id</td>
<td>4009 - Invalid id</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.alternateId</td>
<td>4010 - Invalid alternate Id</td>
</tr>
<tr>
<td>webservice.messages.common.error.validation</td>
<td>4011 - Validation error</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.userOrg</td>
<td>4012 - Invalid User Organization</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.cspOrg</td>
<td>4013 - Invalid CSP Organization</td>
</tr>
<tr>
<td>webservice.messages.common.notfound.request</td>
<td>4014 - Request not found.</td>
</tr>
<tr>
<td>webservice.messages.common.missing</td>
<td>4015 - Request Type is unknown or missing.</td>
</tr>
<tr>
<td>Enum</td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>ing.requestType</td>
<td>webservice.messages.common.requestId</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.dateRange</td>
<td>4017 - Invalid Date Range: Start date should be before end date</td>
</tr>
<tr>
<td>webservice.messages.common.invalid.option</td>
<td>4018 - Invalid option</td>
</tr>
<tr>
<td>webservice.messages.common.notAvailable.feature</td>
<td>4019 - Feature is not available</td>
</tr>
<tr>
<td>webservice.messages.common.notFound.match</td>
<td>4020 - Match not found</td>
</tr>
<tr>
<td>webservice.messages.common.organization.source.notSpecified</td>
<td>4021 - Please specify a Organization you would like represent in Source tag</td>
</tr>
<tr>
<td>webservice.messages.common.organization.source.invalid</td>
<td>4022 - Organization specified in Source tag is not valid or User does not belong to that Organization.</td>
</tr>
<tr>
<td>webservice.messages.common.error</td>
<td>4023 - Error:</td>
</tr>
<tr>
<td>webservice.messages.location.duplicate.reduction.types</td>
<td>4024 Duplicate load reduction type - TYPENAME - in Location - LOCATIONNAME</td>
</tr>
<tr>
<td>webservice.messages.alert.required.dateRange</td>
<td>4100 - Invalid Date Range: startTime and endTime are required</td>
</tr>
<tr>
<td>webservice.messages.alert.transactionNotSupported</td>
<td>4101 - Alert Transactions currently not supported.</td>
</tr>
<tr>
<td>webservice.messages.process.required.processName</td>
<td>4200 - Process name is required.</td>
</tr>
<tr>
<td>webservice.messages.process.required.processId</td>
<td>4201 - Process Id is required.</td>
</tr>
<tr>
<td>webservice.messages.process.required.decisionReason</td>
<td>4202 - Decision Reason required.</td>
</tr>
<tr>
<td>webservice.messages.process.invalid.decisionReason</td>
<td>4203 - Invalid Decision Reason:</td>
</tr>
<tr>
<td>webservice.messages.process.invalid.decisionName</td>
<td>4204 - Invalid Decision Name.</td>
</tr>
<tr>
<td>webservice.messages.process.invalid.processName</td>
<td>4205 - Invalid Process Name.</td>
</tr>
<tr>
<td>webservice.messages.process.invalid.taskName</td>
<td>4206 - Invalid Task Name.</td>
</tr>
<tr>
<td>webservice.messages.process.invalid.objectType</td>
<td>4207 - Invalid Object Type.</td>
</tr>
<tr>
<td>webservice.messages.process.invalid.object</td>
<td>4208 - Invalid object</td>
</tr>
<tr>
<td>webservice.messages.process.notFound</td>
<td>4209 - No such process</td>
</tr>
<tr>
<td>webservice.messages.process.notEnough.ordinances</td>
<td>4210 - Not Enough RERRA Evidences Provided</td>
</tr>
<tr>
<td>webservice.messages.process.notFound.objectType</td>
<td>4211 - Object Type Not Found.</td>
</tr>
<tr>
<td>Message Type</td>
<td>Error Code</td>
</tr>
<tr>
<td>------------------------------------</td>
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</tr>
<tr>
<td><code>webservice.messages.registration.invalid.id</code></td>
<td>4300</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.required.date</code></td>
<td>4301</td>
</tr>
<tr>
<td><code>webservice.messages.registration.update.invalid.id</code></td>
<td>4301</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.invalid.date</code></td>
<td>4302</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.shouldbenu.id</code></td>
<td>4302</td>
</tr>
<tr>
<td><code>webservice.messages.registration.invalid.ordinance</code></td>
<td>4303</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.notPermitted</code></td>
<td>4303</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.beforeMin</code></td>
<td>4304</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.afterMax</code></td>
<td>4305</td>
</tr>
<tr>
<td><code>webservice.messages.registration.extension.inProgress</code></td>
<td>4306</td>
</tr>
<tr>
<td><code>webservice.messages.settlement.invalid.id</code></td>
<td>4400</td>
</tr>
<tr>
<td><code>webservice.messages.settlement.update.invalid.id</code></td>
<td>4401</td>
</tr>
<tr>
<td><code>webservice.messages.settlement.adjustment.invalid.id</code></td>
<td>4402</td>
</tr>
<tr>
<td><code>webservice.messages.settlement.valid.cbl</code></td>
<td>4403</td>
</tr>
<tr>
<td><code>webservice.messages.settlement.valid.settlementHour</code></td>
<td>4404</td>
</tr>
<tr>
<td><code>webservice.messages.settlement.inconsistent.selfSchedule</code></td>
<td>4405</td>
</tr>
<tr>
<td><code>webservice.messages.event.invalid.id</code></td>
<td>4500</td>
</tr>
<tr>
<td><code>webservice.messages.event.notsupported.transaction</code></td>
<td>4501</td>
</tr>
<tr>
<td><code>webservice.messages.location.shouldbenu.id</code></td>
<td>4600</td>
</tr>
<tr>
<td><code>webservice.aggregatorresource.notsupported.transaction</code></td>
<td>4700</td>
</tr>
<tr>
<td><code>webservice.aggregatorresource.required.match.or.alternateid</code></td>
<td>4701</td>
</tr>
<tr>
<td><code>webservice.aggregatorresource.onlyone.match.or.alternateid</code></td>
<td>4702</td>
</tr>
<tr>
<td><code>webservice.maximum.days.get.dailydata.errormessage</code></td>
<td>4800</td>
</tr>
<tr>
<td><code>webservice.maximum.days.get.integer</code></td>
<td>4801</td>
</tr>
<tr>
<td>Error Code</td>
<td>Error Message</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>rvaldata.errormessage</td>
<td>4802 - The date range must be less than</td>
</tr>
<tr>
<td>webservice.maximum.days.get.process.errormessage</td>
<td>4803 - The date range must be less than</td>
</tr>
<tr>
<td>webservice.maximum.days.get.registration.errormessage</td>
<td>4804 - The date range must be less than</td>
</tr>
<tr>
<td>webservice.maximum.days.get.event.errormessage</td>
<td>4805 - The date range must be less than</td>
</tr>
<tr>
<td>webservice.maximum.days.get.settlement.errormessage</td>
<td>4806 - The date range must be less than</td>
</tr>
<tr>
<td>readingsvalidation.header.missing</td>
<td>6001 - First Row can not be blank.</td>
</tr>
<tr>
<td>readingsvalidation.header.numcolumns</td>
<td>6002 - Number of Columns {0} provided is less than minimum number of columns {1} for this reading type.</td>
</tr>
<tr>
<td>readingsvalidation.header.columnorder</td>
<td>6003 - Incorrect column order - Expected {0} instead of {1} at column position {2}.</td>
</tr>
</tbody>
</table>