

Step-by-Step REST Examples for Registrations

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About this Document

The purpose of this document is to provide examples of the web service functionality available for creating , modifying and retrieving Registrations.

A DR Hub registration is required to enable a location for participation in the PJM market. This document will review the process of building the XML used to create, retrieve and modify a Registration.

An associated collection of sample XML files is available for download on the [DR Hub](#) home page. Registrations take several forms. As such we have included samples of each for you to examine. Please

note : while the source information used to create a registration will change, the process is the same for all variants. Please use the related examples to compare the differences between each registration type.

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

A note on uploading files to DR Hub. There are numerous approaches to uploading files to our RESTful web service, however we will demonstrate using the approach found in the PJM provided CLI tool. When uploading files to DR Hub, the file must be attached to the request using a http compliant header form consistent with the multipart/form-data format. How file uploads are achieved is a function of the tools available to the user and the extent to which automation is required in the enterprise.

Release History

Release	Date	Description
1.0.0	July 14, 2016	Initial Document Created
2.0.0	November 8, 2016	November 17, 2016 Updated for Train Release.
2.1.0	March 13, 2018	Updated Create / Update Registration Examples
2.1.1	March 19, 2018	Adjusted XML Payload for Create Registration
2.1.2	June 21, 2018	Added instructions on completing WPL Updates
2.1.3	September 12, 2024	Add a New Location to an Existing Registration

Creating the Registration

This request uploads the XML based registration to DR Hub where a new registration is created. Upon completion, a response containing the new registration and its ID is returned. Using the response file you can validate what you uploaded with that which DR Hub has created.

The registration request requires a simple file upload. Below is an example of the upload format used. Please refer to the PJM CLI documentation on the [DR Hub](#) home page for more information on uploading files to DR HUB.

The New **Load Management** Registration file Upload format:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:registration xmlns:ns2="http://drhub.pjm.com/">
  <summaryInfo>
    <name>International Air LLC</name>
```

```

<program>Load Management DR Full</program>
<startDate>2018-06-01T00:00:00.000-04:00</startDate>
<endDate>2019-05-31T23:59:59.000-04:00</endDate>
<CSP>
  <name>PJMT2</name>
</CSP>
<EDC>
  <name>PPL</name>
</EDC>
<zone>PPL</zone>
<pricingPoint>PPL_RESID_AGG</pricingPoint>
<completed>false</completed>
<testRequired>>true</testRequired>
</summaryInfo>
<!-- Location Summary Info : Required Section - Include all Values -->
<locationSummaryInfo>
  <energyLossFactor>1.0268</energyLossFactor>
  <capacityLossFactor>1.0268</capacityLossFactor>
  <peakLoadContribution>10638.856</peakLoadContribution>
  <winterPeakLoad>9000</winterPeakLoad>
<maximumLoadReductionCapability>2475.014</maximumLoadReductionCapability>
</locationSummaryInfo>
<locationInfo>
  <locationID>69856</locationID>
</locationInfo>
<energyInfo>
  <strikePrice>1100</strikePrice>
  <shutdownCosts>500</shutdownCosts>
</energyInfo>
<capacityInfo>
  <!-- RPM ResourceID : Verify Number and Resource Prior to Use -->
  <RPMResourceID>3683519</RPMResourceID>
  <measurementMethod>FIRM_SERVICE_LEVEL</measurementMethod>
  <summerManagedLoad>8800</summerManagedLoad>
  <winterManagedLoad>7000</winterManagedLoad>
  <participantCount>0</participantCount>
  <product>CAPACITY_PERFORMANCE_DR</product>
  <resourceType>PRE_EMERGENCY</resourceType>
  <leadTime>Long_120</leadTime>
  <leadExceptionReason>Manufacturing damage</leadExceptionReason>
  <leadExceptionDesc>Without proper advanced notification our Aircraft
Molds would solidify. This would lead to significant downtime for repairs and
is quite costly.</leadExceptionDesc>
  <leadExceptionCertify>true</leadExceptionCertify>
</capacityInfo>
<cblMethodInfo>
  <methodName>3 Day Types with SAA (DEFAULT)</methodName>
</cblMethodInfo>
<otherInfo>
  <allowEDCtoModify>true</allowEDCtoModify>
  <allowLSEtoModify>true</allowLSEtoModify>
  <holdScheduling>false</holdScheduling>
  <holdSettlements>false</holdSettlements>
</otherInfo>
<comments/>

```

```
</ns2:registration>
```

The New **PRD** Registration file Upload format:

The PRD Registration format is similar to the Load Management Registration with a few important differences. Please review the notes found below and the footnote at the bottom of this document.

1. The Product Name is Different.
2. The Start and End Dates will differ depending on the date the Registration is created.
3. The measurement method used must be Maximum Emergency Service Level (MESL).
4. A new section, "priceResponsiveDemandInfo" is required to submit the registration.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:registration xmlns:ns2="http://drhub.pjm.com/">
  <summaryInfo>
    <name>Air International LLC</name>
    <program>Price Responsive Demand</program>
<!-- Please Read the below Notes regarding PRD Registrations -->
    <startDate>2019-08-01T00:00:00.000-04:00</startDate>
    <endDate>2020-05-31T23:59:59.000-04:00</endDate>
    <CSP>
      <name>PJMT2</name>
    </CSP>
    <EDC>
      <name>BUCK</name>
    </EDC>
    <LSE>
      <name>PE</name>
    </LSE>
    <zone>ATSI</zone>
    <pricingPoint>CPP</pricingPoint>
    <completed>false</completed>
    <testRequired>true</testRequired>
  </summaryInfo>
  <locationSummaryInfo>
    <maximumLoadReductionCapability>500</maximumLoadReductionCapability>
  </locationSummaryInfo>
  <locationInfo>
    <locationID>12345</locationID>
  </locationInfo>
<!-- The priceResponsiveDemandInfo section is Required to Submit a PRD Registration-->
  <priceResponsiveDemandInfo>
    <dynamicRetailRate>true</dynamicRetailRate>
    <scadaAvailable>true</scadaAvailable>
  </priceResponsiveDemandInfo>
  <capacityInfo>
    <!-- Required: Use Maximum Emergency Service Level (MESL) -->
    <measurementMethod>MESL</measurementMethod>
    <summerManagedLoad>500</summerManagedLoad>
    <participantCount>0</participantCount>
    <summerNominatedICAP/> <!--Calculated when the Registratino is Created ->
```

```

</capacityInfo>
<cblMethodInfo>
  <methodName>3 Day Types with SAA (DEFAULT)</methodName>
</cblMethodInfo>
<otherInfo>
  <allowEDCtoModify>true</allowEDCtoModify>
  <allowLSEtoModify>true</allowLSEtoModify>
  <holdScheduling>false</holdScheduling>
  <holdSettlements>false</holdSettlements>
</otherInfo>
<comments/>
</ns2:registration>

```

With the file formatted and saved in the upload directory, create the request to upload and create the new registration. Add the below to the PJM CLI command file. Comment other actions using "REM" at the beginning of the line to avoid undesired processing.

PJM CLI Command File: Required Authentication via CLI

REM Create a Registration

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/registration/create/ -file .\upload\create_
registration.xml
```

When complete, a response will be returned in the form of a file (registration_date.xml). The file name will include the creation date.

Note: To create multiple registrations, create one file per registration and repeat the above request to upload each file.

The response file from a successful create submission will look like the original file upload with the inclusion of a start/end date for the selected program, and an id for the registration.

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:registration xmlns:ns2="http://drhub.pjm.com/">
  <id>3258052</id>
  <summaryInfo>
    <name>International Air LLC</name>
    <program>Load Management DR Full</program>
    <startDate>2018-06-01T00:00:00.000-04:00</startDate>
    <endDate>2019-05-31T23:59:59.000-04:00</endDate>
    <CSP>
      <name>PJMT2</name>
    </CSP>
    <EDC>
      <name>PPL</name>
    </EDC>
    <zone>PPL</zone>
    <pricingPoint>PPL_RESID_AGG</pricingPoint>
    <status>New</status>

```

```

    <completed>false</completed>
    <testRequired>>true</testRequired>
    <lastModifiedDate>2018-03-13T16:03:51.390-04:00</lastModifiedDate>
  </summaryInfo>
  <locationSummaryInfo>
    <energyLossFactor>1.0268</energyLossFactor>
    <capacityLossFactor>1.0268</capacityLossFactor>
    <peakLoadContribution>10638.856</peakLoadContribution>
    <winterPeakLoad>9000</winterPeakLoad>
  </locationSummaryInfo>
  <maximumLoadReductionCapability>2475.014</maximumLoadReductionCapability>
</locationSummaryInfo>
<locationInfo>
  <locationID>69856</locationID>
  <locationName>Lancair International LLC IV</locationName>
  <address>
    <address1>12 Redmond Way</address1>
    <city>Norristown</city>
    <state>PA</state>
    <zipCode>19403</zipCode>
  </address>
  <accountNo>2549090017</accountNo>
  <energyLossFactor>1.0268</energyLossFactor>
  <capacityLossFactor>1.0268</capacityLossFactor>
  <loadReduction>2475.014</loadReduction>
  <peakLoadContribution>10638.856</peakLoadContribution>
  <winterPeakLoad>9000</winterPeakLoad>
  <allowEDCtoSubmitData>true</allowEDCtoSubmitData>
  <allowLSEtoSubmitData>true</allowLSEtoSubmitData>
  <meterType>EDC_METER</meterType>
  <meterStatus>PENDING</meterStatus>
  <pricingPoint>PPL_RESID_AGG</pricingPoint>
  <zone>PPL</zone>
</locationInfo>
<energyInfo>
  <strikePrice>1100</strikePrice>
  <shutdownCosts>500</shutdownCosts>
</energyInfo>
<capacityInfo>
  <measurementMethod>FIRM_SERVICE_LEVEL</measurementMethod>
  <summerManagedLoad>8800</summerManagedLoad>
  <winterManagedLoad>7000</winterManagedLoad>
  <winterWeatherAdjustmentFactor>1.014</winterWeatherAdjustmentFactor>
  <participantCount>0</participantCount>
  <summerNominatedICAP>1603.016</summerNominatedICAP>
  <winterNominatedICAP>2182.977</winterNominatedICAP>
  <annualNominatedICAP>1603.016</annualNominatedICAP>
  <product>CAPACITY_PERFORMANCE_DR</product>
  <resourceType>PRE_EMERGENCY</resourceType>
  <leadTime>Long_120</leadTime>
  <leadExceptionReason>Manufacturing damage</leadExceptionReason>
  <leadExceptionDesc>Without proper advanced notification our Aircraft
Molds would solidify. This would lead to significant downtime for repairs and
is quite costly.</leadExceptionDesc>
  <leadExceptionCertify>true</leadExceptionCertify>

```

```

</capacityInfo>
<cblMethodInfo>
  <methodName>3 Day Types with SAA (DEFAULT)</methodName>
</cblMethodInfo>
<otherInfo>
  <allowEDCtoModify>true</allowEDCtoModify>
  <allowLSEtoModify>true</allowLSEtoModify>
  <holdScheduling>false</holdScheduling>
  <holdSettlements>false</holdSettlements>
</otherInfo>
<comments/>
</ns2:registration>

```

Retrieve a Registration by Id

This request returns the registration by its Id. Let's retrieve the registration we created above.

The request format is.

PJM CLI Command File: Required Authentication is completed via the CLI

REM Download Registration by ID

REM %CLIENT% -s %APP_URL% -a /rest/secure/download/registration/1526460

The above request can also be achieved using a browser. Once you have logged into Dr Hub, open a new browser tab and paste the below into the page url. Now press return. An XML file containing the registration information will be downloaded to your browser's default download file location.

<https://drhub.pjm.com/drhub/rest/secure/download/registration/1526460>

The response should match the response you received when the registration was created. Retrieving registrations is easy and can be done at any time during the life of the registration. Registrations move through several states during approval, thus it is helpful to monitor the status of registrations through a retrieval and review process.

Retrieve Registration(s) by Date, Status, Name or Last Modified Date

The below request return registrations by one of date, status, name or last modified date. These options may be used individually or combined together to assist with filtering. When searching by Name, the search is performed using "contains" which neither requires nor accepts wildcards. Let's look at the syntax for each and a combined request. The last modified date search allows the user to search for registrations modified since the date provided.

On Searching by Status: A list of valid status values are shown below and may be found in the DR Hub XSD. Please use the below text format when searching by status. When combined, separate by a comma.

```
<xs:simpleType name="registrationStatusEnum">
  <xs:restriction base="xs:string">
    <xs:enumeration value="CONFIRMED"/>
    <xs:enumeration value="CONFIRMED_EXTENSION"/>
    <xs:enumeration value="DENIED"/>
    <xs:enumeration value="DISPUTED"/>
    <xs:enumeration value="DUPLICATE"/>
    <xs:enumeration value="NEW"/>
    <xs:enumeration value="PENDING"/>
    <xs:enumeration value="PENDING_PJM"/>
    <xs:enumeration value="TERMINATED"/>
    <xs:enumeration value="WITHDRAWN"/>
  </xs:restriction>
</xs:simpleType>
```

The request format is.

PJM CLI Command File: Required Authentication is completed via the CLI

REM Download Registrations by Date

```
REM %CLIENT% -s %APP_URL% -a /rest/secure/download/registration -q startDate=03-01-2016 -q
stopDate=05-15-2016
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/download/registration?startDate=03-01-2016&
stopDate=05-15-2016
```

REM Download Registrations by Status

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/registration -q status=CONFIRMED
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/download/registration?status=CONFIRMED
```

REM Download Registrations by Name

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/registration -q name=Factory
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/download/registration?name=Factory
```


REM Download Registrations by Last Modified Date

```
%CLIENT% -s %APP_URL% -a /rest/secure/download/registration -q lastModifiedDate=01-01-2017
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/download/registration?lastModifiedDate=01-01-2017
```

Modifying a Registration

There are times when modifications to existing registrations are needed to append or update registration information. Changes to existing registrations may be done through web services using the modify registration end point.

Changing a registration is a function of the registration status at the time of the change. As a registration moves from New to Completed, the ability to access specific fields of the registration changes from editable to locked down.

Throughout the status changes we have the opportunity to modify fields which are not yet locked down. Once a registration has reached Completed status, the ability to make changes to a registration is highly restricted.

While a registration is still in “New” status, we have a high degree of flexibility for change. Let’s look at how making a change works.

Note: A great way to determine which fields can be changed when and where in the web service is to log into DR Hub and open a registration of the same type and status to explore the fields available for editing. These will be the same fields available for editing via web services.

In the below example lets take our existing registration and submit it for modification. The good news about REST is that we no longer need to deal with the complex SOAP wrapper when making changes. We’ll simply use the original response, make our changes and upload the file to affect the change. In the below we’re making a change to the address information which will be updated on the registration’s location. We will also change the strike price and the shutdown cost for this registration.

Below is the modified Registration file upload format:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:registration xmlns:ns2="http://drhub.pjm.com/">
  <id>1526460</id>
  <summaryInfo>
    <name>International Air LLC</name>
    <program>Load Management DR Full</program>
    <startDate>2016-06-01T00:00:00.000-04:00</startDate>
```

```

    <endDate>2017-05-31T11:59:00.000-04:00</endDate>
    <CSP>
      <name>PJMT2</name>
    </CSP>
    <EDC>
      <name>MYEDC</name>
    </EDC>
    <zone>APS</zone>
    <pricingPoint>AEC</pricingPoint>
    <status>New</status>
    <dispatchGroup>N/A</dispatchGroup>
    <completed>false</completed>
  </summaryInfo>
  <locationInfo>
    <locationID>61519</locationID>
    <locationName>Lancair DR Factory II</locationName>
    <address>
      <address1>555 Mayberry Blvd</address1>
      <city>Valley Forge</city>
      <state>PA</state>
      <zipCode>19403</zipCode>
    </address>
    <accountNo>3UH66773349</accountNo>
    <energyLossFactor>1.05</energyLossFactor>
    <capacityLossFactor>1.03</capacityLossFactor>
    <!-- Load Reduction may be omitted on Registration Updates. This field calculates
    automatically -->
    <loadReduction>100</loadReduction>
    <peakLoadContribution>150</peakLoadContribution>
    <winterPeakLoad>9000</winterPeakLoad>
  </locationInfo>
  <energyInfo>
    <strikePrice>50</strikePrice>
    <shutdownCosts>10</shutdownCosts>
  </energyInfo>
  <capacityInfo>
    <measurementMethod>FIRM_SERVICE_LEVEL</measurementMethod>
    <summerManagedLoad>8800</summerManagedLoad>
    <winterManagedLoad>7000</winterManagedLoad>
    <winterWeatherAdjustmentFactor>1.014</winterWeatherAdjustmentFactor>
    <participantCount>0</participantCount>
    <summerNominatedICAP>1603.016</summerNominatedICAP>
    <winterNominatedICAP>2182.977</winterNominatedICAP>
    <product>CAPACITY_PERFORMANCE_DR</product>
    <resourceType>PRE_EMERGENCY</resourceType>
    <leadTime>Long_120</leadTime>
    <leadExceptionReason>Manufacturing damage</leadExceptionReason>
    <leadExceptionDesc>Update Description Here.</leadExceptionDesc>
    <leadExceptionCertify>true</leadExceptionCertify>
  </capacityInfo>
  <otherInfo>
    <allowEDCtoModify>true</allowEDCtoModify>
    <allowLSEtoModify>true</allowLSEtoModify>
    <holdScheduling>false</holdScheduling>
    <holdSettlements>false</holdSettlements>

```

```

    </otherInfo>
    <comments/>
</ns2:registration>

```

Below is the request to modify an existing registration.

PJM CLI Command File: Required Authentication via CLI

REM Modify a Registration (Where 1526460 is the Registration id)

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/registration/1526460/ -file .\upload\modify_
registration.xml
```

When complete, a response will be returned in the form of a file (registrations_date.xml). The file name will include the creation date. Inside you'll find the desired modifications. Inspect the file for accuracy and completeness.

Calculating the WPL value for a Registration-Location

Prior to Completing a registration for the Capacity Performance DR product, the WPL value may be calculated via web services using the correct endpoint and payload. The WPL value may be calculated anytime prior to the registration being marked completed. Prior to doing so, the appropriate 5 Winter Coincidence Peak day meter data must be uploaded into the DR Hub system.

Base Registrations: The WPL value for base registrations is not required to be completed prior to marking registrations complete.

Details concerning the specific Winter 5 CP Days and Calculation may be found [here](#).

This calculation will set the WPL value for a registration based on the 5 WCP days using the appropriate meter data from each impacted Location. When completed, the newly updated registration download will look similar in format to the below example. **Note:** PJM has a daily process in place for calculating the WPL value for registrations which have the correct meter data in place, but have not yet been calculated via web services or the DR Hub UI.

```

<locationSummaryInfo>
  <energyLossFactor>1.0315</energyLossFactor>
  <capacityLossFactor>1.0315</capacityLossFactor>
  <peakLoadContribution>5698.93</peakLoadContribution>
  <winterPeakLoad>2373</winterPeakLoad>
  <maximumLoadReductionCapability>1944</maximumLoadReductionCapability>
</locationSummaryInfo>
<locationInfo>
  <locationID>5112</locationID>

```

```

<locationName>PJM Lab</locationName>
<address>
  <address1>2800 Main Street</address1>
  <city>Philadelphia</city>
  <state>PA</state>
  <zipCode>18901</zipCode>
</address>
<accountNo>12345678</accountNo>
<energyLossFactor>1.0268</energyLossFactor>
<capacityLossFactor>1.0268</capacityLossFactor>
<loadReduction>1630</loadReduction>
<peakLoadContribution>4639.84</peakLoadContribution>
<peakLoadContributionStatus>APPROVED</peakLoadContributionStatus>
<winterPeakLoad>2373</winterPeakLoad>
<dy>2</dy>
<allowEDCtoSubmitData>>false</allowEDCtoSubmitData>
<allowLSEtoSubmitData>>false</allowLSEtoSubmitData>
<meterType>CSP_METER</meterType>
<pricingPoint>PEPCO MD</pricingPoint>
<zone>PEPCO</zone>
</locationInfo>

```

Below is the request to calculate the WPL for an existing location(s)/registration.

PJM CLI Command File: Required Authentication via CLI

REM Caclulate WPL for the Attached Registration List. [See the assocaited Step-By-Step Registration Examples to view the XML format for the uploaded filed.](#)

```

%CLIENT% -s %APP_URL% -a /rest/secure/upload/registration/calculatewpl -file
.\myUploadFolderPath\CalculateWPLForRegistrations.xml

```

Submit a Registration

Once a registration is created, it needs to be submitted for approval. To start the approval process, we “submit” the registration.

Before Submitting

- Economic Registrations require the appropriate meter data attached to each location.
- A successful RRMSE CBL test with a score of 20% or less must be completed against the registration prior to submitting. Applies to “3 Day Types with SAA (DEFAULT)”.
- Please refer to the [CBL Documentation](#) for details on calculating CBLs.

Submitting a new registration is a simple one step process using a valid registration id and a simple URL.

Override option: The submission request includes an optional override flag to allow a submission to be processed when the registration is in duplicate with an existing location.

Using the override option will require the CSP to resolve the conflict prior to receiving confirmation. If the override duplicate option is not used, an error will occur and the submission will be rejected.

Below is an example request to submit a registration with and without the override option.

REM Submit a Registration for approval (Where 1526460 is the Registration id)

```
%CLIENT% -s %APP_URL% -a /rest/secure/registration/1526460/submit
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/registration/1526460/submit
```

REM Submit a Registration for approval with override

```
%CLIENT% -s %APP_URL% -a /rest/secure/registration/1526460/submit -q override=true
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/registration/1526460/submit?override=true
```

Withdraw a Registration

Once a registration is created, it is queued approval. A CSP can withdraw a registration while the registration is still in pending status.

Withdrawing a registration is a simple one step process using a valid registration id and a simple URL.

Below is an example request to withdraw a registration.

REM Withdraw a Registration

```
%CLIENT% -s %APP_URL% -a /rest/secure/registration/1526460/withdraw
```

Via a Browser (Requires active DR Hub Session)

```
https://drhub.pjm.com/drhub/rest/secure/registration/1526460/withdraw
```

Dispute a Registration

Once a registration is created, it is queued approval. If a registration is denied a CSP can dispute a registration while the registration is in the Denied status. A disputed registration is routed back to PJM for review.

Disputing a registration is a simple one step process using a valid registration id and a simple URL. Disputing a registration requires a comment to be included in the request.

Below is an example request to dispute a registration.

REM Disputed a Registration

```
%CLIENT% -s %APP_URL% -a /rest/secure/registration/1526460/dispute -q comment="this is a comment"
```

Via a Browser (Requires active DR Hub Session)

<https://drhub.pjm.com/drhub/rest/secure/registration/1526460/dispute?comment=mycomment>
(spaces in a comment will require html encoding)

Extend a Registration

Where permitted (Economic, Emergency Energy Only) DR Hub provides the ability to extend the termination date of the registration. Registration extensions require approval and may not exceed 400 days from the existing termination date.

Below is an example request to extend a registration.

REM Extend a Registration

```
%CLIENT% -s %APP_URL% -a /rest/secure/registration/12345/extend -q terminateDate=10-12-2017
```

Via a Browser (Requires active DR Hub Session)

<https://drhub.pjm.com/drhub/rest/secure/registration/12345/extend?terminateDate=10-12-2017>

Add a New Location to an Existing Registration

This endpoint allows the user to add a New Location to an existing Registration without the need to re-create the Registration.

Note: The XML payload can have <addLocation> only, <removeLocation> only, or have both. <addLocation> must be before <removeLocation>.

The following is an example of how to add a New Location to a registration.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:registration xmlns:ns2="http://drhub.pjm.com/">
  <id>1234</id>
  <addLocation>
    <locationID>100001</locationID>
  </addLocation>
  <addLocation>
    <locationID>100002</locationID>
  </addLocation>
  <addLocation>
    <locationID>100003</locationID>
  </addLocation>
  <removeLocation>
    <locationID>100000</locationID>
  </removeLocation>
</ns2:registration>
```

Use the below API Call to Execute the Addition of the New Location(s)

REM REGISTRATION ADD OR REMOVE LOCATIONS

```
REM %CLIENT% -s %APP_URL% -a /rest/secure/upload/registration/1234/location -file
.\upload\update_registration_location.xml
```

Terminate a Registration

DR Hub provides the ability to terminate a registration. Rules surrounding terminations include

- The corresponding Registration must be confirmed.
- Terminations must include parameters for a Registration Id and Terminate or End Date. .
- The Termination Date must be at least 2 days from the current day and not greater than the original terminate date.
- Once terminated, the registration will become read only.

Below is an example request to terminate a registration.

REM Terminate a Registration

```
%CLIENT% -s %APP_URL% -a /rest/secure/registration/12345/terminate
```

Via a Browser (Requires active DR Hub Session)

<https://drhub.pjm.com/drhub/rest/secure/registration/12345/terminate>

Complete a Registration

After a registration is created, updated and confirmed, a CSP can complete the registration. Once a registration is completed, it will be closed for major edits and forwarded to RPM where it then becomes an auction resource.

Completing a registration involves uploading the XML file with a list of the registration ids to be completed. One or more registration ids may be included in the file. Attach the Completed XML to the request in the same manner used with other PUT requests.

The Completed flag will be set for the registrations listed in the XML.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:registrations xmlns:ns2="http://drhub.pjm.com/">
  <registration>
    <id>12345</id>
  </registration>
  <!--
  <registration>
    <id>123</id>
  </registration>
    <registration>
      <id>456</id>
    </registration>
      <registration>
        <id>789</id>
      </registration>
  -->
</ns2:registrations>
```

Below is a sample CLI request to complete a registration. Update the path and file name for the registration XML prior to executing.

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/registration/complete/ -file .\completed_registrations.xml
```

Upload Documentation for a Registration

When changes to a registration require supporting documentation, the associated documents may be uploaded using the below request format and endpoint.

Note: RegistrationDocumentType and Description are required. A file cannot be larger than 10 MB. Supported file types include CSV, XLS, XLSX, PPT, DOC, DOCX, PDF, and ZIP.

Valid values for the document type are shown below. Use only one document type per request.

SYNCH_RESERVE, REGULATION_PLAN, ONE_LINE_DIAGRAM, or DA_SCHEDULING_RESERVE .

In this section we upload a Microsoft Word document using the document endpoint. Don't forget to include the correct target registration id.

REM UPLOAD REGISTRATION DOCUMENTS

```
%CLIENT% -s %APP_URL% -a /rest/secure/upload/registration/123456/document -m "application/octet-stream" -q
registrationDocumentType=SYNCH_RESERVE -q description="Test WS UPLOADS." -file
.\overview\UploadRegistrationDocument.docx
```

When the upload is complete, you will receive a response in the form of a file named output.txt.

This file will contain the name of the file uploaded.

If an error occurs during the upload, you will receive an error in the PJM CLI window and a response file named error.

PRD Registration Notes

Start and End Dates

Before the start of the Delivery Year, the Start Date and End Date will be the same as the published program dates for the delivery year.

After the start of the Delivery Year, the Start Date must be at least 10 days in future from current date and the End date must be same as the program year End Date.

If a Registratino is denied and it was created after the start of the Delivery Year, the Start Date must be at least 10 days in future from date it was denied and the End date must be same as the program year End Date.

Registrations may be submitted at any time during the delivery year for the current delivery year.

Registrations may be created at any time during the delivery year for the next delivery year.

Adding MOPR information to a Registration

If you wish to include MOPR related information to the creation of a registration, there are several caveats to the information which is updateable.

1. The competitiveExemption element is not updateable when creating a registration. The answer to this question is unknown at creation time.
2. The competitiveExemption question is only needed/displayed if the Summer Nominated ICAP exceeds the Historical Exempt. The answer to the Investment question determines where the “extra” KWs go into the New or Exempt bucket.
3. The DR Hub UI doesn’t display the MOPR fields until the registration status is Confirmed.
4. If the Completed checkbox is marked before the investment question is answered (when needed), validation is in place to ensure it’s answered.

```

<capacityInfo>
  <RPMResourceID>12345678</RPMResourceID>
  <measurementMethod>FIRM_SERVICE_LEVEL</measurementMethod>
  <summerManagedLoad>136.365</summerManagedLoad>
  <summerNominatedICAP>749.999506</summerNominatedICAP>
  <product>CAPACITY_PERFORMANCE_DR</product>
  <resourceType>PRE_EMERGENCY</resourceType>
  <leadTime>Quick_30</leadTime>
  <leadExceptionCertify>false</leadExceptionCertify>
  <summerOnly>false</summerOnly>
  <stateSubsidy>NO</stateSubsidy>
  <!-- Not updateable via Web Services upon Creation -->
  <!-- <competitiveExemption>NO</competitiveExemption> -->
  <DRGen>359.999763</DRGen>
  <DRGenExempt>0</DRGenExempt>
  <DRGenNew>359.999763</DRGenNew>
  <DRGenExisting>0</DRGenExisting>
  <DRLoad>389.999743</DRLoad>
  <DRLoadExempt>0</DRLoadExempt>
  <DRLoadNew>389.999743</DRLoadNew>
  <DRLoadExisting>0</DRLoadExisting>
</capacityInfo>

```

[End of Document](#)