Dart Browserless User Guide

PJM Interconnection LLC
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Purpose

Please see the PJM CLI documentation here for more information about using the PJM CLI including the setEnv.cmd command which allows users to store common credentials in a single file. The Dart browserless uses the PJM-CLI to interface with the eDART application.

The purpose of this document is to provide details of the Dart Browserless interface, which uses the PJM CLI to access the eDART system. The command line interface (CLI) is a Java based interface for transferring formatted files to and from PJM participant facing applications. Because the interface is "browser-less", it can be used by an end user or a custom automation program written by the participant.

PJM provides this specification to aid PJM customers in building an external interface to PJM applications. PJM will provide assistance to customers seeking to understand or clarify details in this specification. However, due to the customizable nature of this external interface and the varied environments in which PJM customers will implement it, PJM is unable to provide application support for these customer-built external interfaces.

Differences between PJM-CLI and Filetransfer

The current filetransfer method used for eDART Browserless is being replaced with PJM-CLI. This transition offers members more consistant behavior and better state of the art security technology. It also offers easier to use technology for behind the scenes programming.

PJM-CLI vs. filetransfer

PJM-CLI Setup

- .bat files are used for filetransfer whereas .cmd files are used for PJM-CLI functionality
- PJM-CLI is executed from the command line, filetransfer is executed by double-clicking on the file in the folder
- https://www.pjm.com/~/media/etools/dr-hub/cli-user-guide.ashx
- https://www.pjm.com/markets-and-operations/etools/etools-info.ashx
- By default, PJM-CLI output file name is unique and includes download reference and time-date stamp, but the output file name can be defined by the user instead of using the default
- Default filetransfer name is result.xml (see grey parameter below), but the output file name can be defined by the user instead of using the default

3 examples of PJM-CLI (new approach) vs. filetransfer (old approach)

The parameter "-q dart=true" will be used during the parallel testing period and can be removed once eDART filetransfer is retired.

Download with no parameters - TRANSMISSION ZONES

Dart PJM-CLI	eDART filetransfer
java -jar pjm-cli.jar -d ./download/ --a rest/secure/download --httpType POST -q dart=true -q downloadtype=zones -u %USER% -p %PSWD% -s %SERVICEURL% -o "zones.xml"	java -jar filetransfer.jar app=edart action=download type=zones username=%USER% password=%PSWD% result="zones.xml"

Download with parameters - IRC BY DATE

Dart PJM-CLI	eDART filetransfer
java -jar pjm-cli.jar -d ./download/ -a rest/secure/download --httpType POST -q dart=true	java -jar filetransfer.jar app=edart action=download

-q downloadtype=ircbydate -u %USER% -p %PSWD% -s %SERVICEURL% -q start=07/01/2024 -q stop=06/01/2025	type=ircbydate username=%USER% password=%PSWD% start=07/01/2024 stop=06/01/2025

Upload - VOLTAGE SCHEDULE CREATE

Dart PJM-CLI	eDART filetransfer
java -jar pjm-cli.jar –d ./output/ -a rest/secure/upload --httpType POST -q dart=true -u %USER% -p %PSWD% -s %SERVICEURL% -f {filename.xml} –o {filename2.xml}	java -jar filetransfer.jar app=edart action=upload username=%USER% password=%PSWD% source={filename.xml} result={filename2.xml}

PJM CLI Overview

eDART User Account Migration into Account Manager (AM) Tool

With eDART refresh, eDART user accounts are migrated to Account Manager.
Management of eDART accounts are handled exclusively in Account Manager.

- New account creation
- Granting/Terminating eDART access
- Password resets and Unlocking accounts

For more information, please reffer to 20230614-presentation.ashx (pjm.com)

Account Migration Impact to Dart Browserless:

- **Browserless Architecture Changes**

Command Line Interface - Java 8+ at PJM - System Requirements or directly via https://www.pjm.com/-/media/etools/pjm-command-line-interface-java-8.ashx

- **System Accounts**

System accounts cannot be used to access the eDART Web UI. Users will need a separate individual account if UI access is desired.

- **PKI Certificate Requirement**

eDART SSO accounts that are used for eDART Browserless/CLI are required PKI Certificate (if the account does not already have one).

  - Requirement is currently in place for other PJM Tools.
  - PKI is not tool specific therefore certificates already set up for use of other PJM Tools can be applied for Dart browserless usage.
  - Same PKI certificate can be used in Production and Training 7-7

For more information, see the following in the PJM Security home page:

- PKI Certificates and PKI/Two Factor Browserless/API FAQs (PDF)
- PKI Authentication Guide (PDF)
- Exporting Public Keys Guide (PDF)

Actions Required:

- Obtain valid PKI certificates from approved Certificate Authorities

- Make sure 2-Way SSL Connections, Client Certificates, & Connection Renegotiation are enabled at Firewall & Security devices for outgoing PJM SSO traffic
- Rewrite Browserless/API authentication code OR use PJMprovided CLI

PJM CLI setenv.cmd CERTIFICATE property may need to be updated (if not already in use)

CERTIFICATE=-r "C:\filelocation\cert.pfx|ENC(encrypted password)"

e.g. CERTIFICATE=-r "C:\Personal\jre\lib\cacerts.pfx|ENC(9s+rtpL/7pkPHy)"

Mandatory Parameters

All PJM CLI examples below use parameters which are explained here.

Argument	Description	Required/Optional
-a,--action	Specifies the action to perform. Will be a partial URL that is appended to the service URL. This parameter is specific to the endpoint. Refer to specific endpoints for actual values. (-a parameter): – **Upload**: -a rest/secure/upload – **Download:** -a rest/secure/download – **Hydro upload:** -a /rest/hydro	**Required**
F-d, --directory	Specifies the directory location where results files are downloaded. Our examples generally use './' which indicates the current directory, but any path will work.	**Required**
-f, -file	File location of upload file (required if this is an upload)	**Required for uploads**
--HTTP Type	Specifies the purpose of the request POST is used for all endpoints, uploads and downloads	**Required**
-o,--output	Specifies an override filename for the output result file or downloaded file. The default filename is passed from the application, for example "company-names_2024-04-30-153057.xml".	Optional
-p, --password	Specifies the password credential to pass to the system. The–p parameter is followed by your password. Note: If your password is encrypted with the PJM CLI, the entire encrypted string, including the ENC(), must be included.	**Required**
-q, -query	Query parameters that are unique to each download, if the download has input parameters at all	Optional
-s,--serviceUrl	Specifies the services URL to access, either the Training or Production system. Train -s https://edarttrain.pjm.com/edart/ Production -s https://edart.pjm.com/edart/	**Required**

Argument	Description	Required/Optional
-sso	Indicates if PJM CLI should authenticate with the PJM Single Sign-On (SSO) system. Dart is configured to work with the PJM SSO. true for SSO	**Not Required**
-u,--username	Specifies the username credential to pass to the system. The –u parameter is followed by your username.	**Required**

Company Distributed Workflow (CDW) Parameter

CDW Member-Agent functionality allows one company (Agent) to perform eDART functions on behalf of another company (Member).

– Member is the client of the Agent.
– Agent users will need only one eDART account under Agent.
– Agent users will be able to perform transmission and generation functions in eDART.
– Agent users will be able to switch Members within a single session of eDART. (No need to logout, and login.)

cdwcompany

cdwcompany parameter is optinal and can be used by CDW Agent user to specify which CDW Member the Dart browserless call is for.

– Parameter = cdwcompany
– Value = Company/Account ID of the CDW Member (number)
– Only available to migrated accounts
– By default, Dart browserless call will be made for CDW Agent

e.g. (migrated/SSO user)

%CLIENT%
-s %APP_URL%
-a rest/secure/upload
--httpType POST
-q dart=true
-f C:/path/to/file
-q cdwcompany=123

cdwshortname

cdwshortname parameter is optinal and can be used by CDW Agent user to specify which CDW Member the Dart browserless call is for.

– Parameter = cdwshortname
– Value = short name of the CDW Member
– By default, Dart browserless call will be made for CDW Agent

‘cdwcompany’ parameter added for the same function using the Company/Account ID.

- Both cdwcompany and cdwshortname parameters can be used in same browserless call

- Error will be returned if both parameters are provided and conflict

e.g. (migrated/SSO user)

%CLIENT%
-s %APP_URL%
-a rest/secure/upload
--httpType POST
-q dart=true
-f C:/path/to/file
-q cdwshortname=PJM

Other Parameters

There are other parameters that are available as options. Please see the PJM CLI documentation for more information.

Security

All Dart endpoints are secured with BASIC authentication. If you are using the PJM CLI, this is already taken care of for you. However, if you are making REST calls through other means, be sure to include the appropriate Authorization header on your requests.

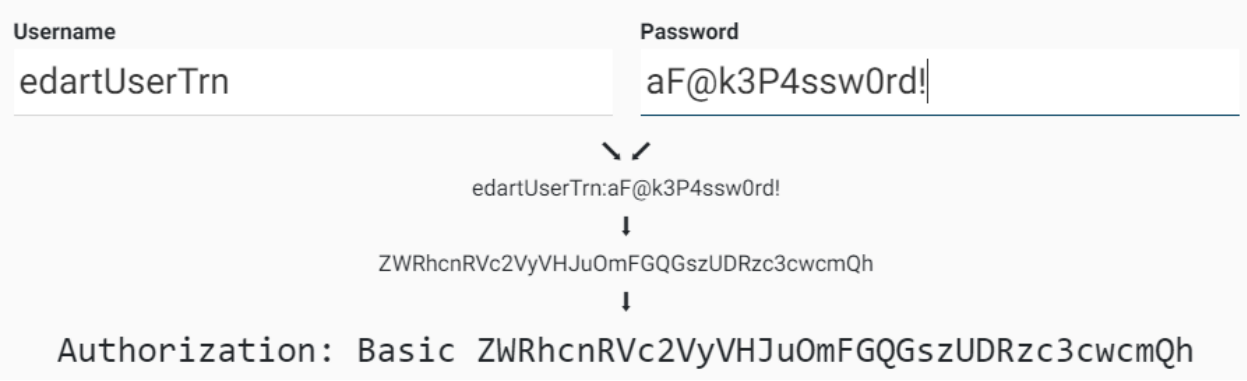
The request should contain a header field in the form of Authorization: Basic <credentials>, where credentials is the Base64 encoding of ID and password joined by a single colon (:).

Example:

Username = edartUserTrn

Password = aF@k3P4ssw0rd!

Header value: Basic ZWRhcnRVc2VyVHJuOmFGQGszUDRzc3cwcmQh



Refer to the PJM CLI documentation here for more information about using an application program interface (API) or single user multiple account (SUMA) to access the PJM CLI.

General Endpoints

These downloads are available to Generic, Generation and Transmission users regardless of your role. The main XML for the general endpoints is located here.

Company Names Download

Functional Overview

The Company Name provides a list of all active Transmission Companies. It includes the Company Long Name and Company Short Name.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=companynames
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="companynames.xsd">
  - <companyNames>
    - <company>
        <shortName>C1 </shortName>
        <longName> Company 1 </longName>
      </company>
    - <company>
        <shortName> C2 </shortName>
        <longName> Company 2 </longName>
      </company>
    - <company>
        <shortName> C3 </shortName>
        <longName> Company 3 </longName>
      </company>
```

Control Zones Download

Functional Overview

The Control Zone report provides a translation between active Control Areas and their associated active Control Zones. All users can run this report and the output is the same for all users.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=controlzones
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/controlzones/v1 controlzones.xsd">
  - <controlZoneList>
    - <controlArea name=" Area 1 ">
        <controlZone>pjmcz</controlZone>
      </controlArea>
    - <controlArea name=" Area 2 ">
        <controlZone>dlco</controlZone>
        <controlZone>ap</controlZone>
      </controlArea>
    - <controlArea name="Area 3">
        <controlZone>dom</controlZone>
      </controlArea>
    - <controlArea name=" Area 4 ">
        <controlZone>ce</controlZone>
        <controlZone>atsi</controlZone>
        <controlZone>aep</controlZone>
        <controlZone>day</controlZone>
        <controlZone>deok</controlZone>
        <controlZone>ekpc</controlZone>
      </controlArea>
  </controlZoneList>
</edart>
```


Download Types

Functional Overview

The Download Type report provides a listing of all acceptable file types that can be uploaded and attached to a ticket. This includes Transmission, Generation, TERM and Voltage Schedule tickets.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=downloadtype
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart>
  - <downloadtype>
      <file_type extension="xls" description="Spreadsheet" id="1"/>
      <file_type extension="doc" description="Word document" id="2"/>
      <file_type extension="svg" description="Single Line Diagram" id="3"/>
      <file_type extension="jpg" description="Picture" id="4"/>
      <file_type extension="pdf" description="Adobe PDF" id="5"/>
      <file_type extension="ppt" description="PowerPoint" id="6"/>
      <file_type extension="vsd" description="Visio" id="7"/>
      <file_type extension="dwg" description="Autocad" id="8"/>
      <file_type extension="txt" description="Text" id="9"/>
      <file_type extension="csv" description="Comma Delimited" id="10"/>
      <file_type extension="xml" description="XML" id="11"/>
      <file_type extension="zip" description="Zipped" id="12"/>
      <file_type extension="gif" description="Picture" id="13"/>
      <file_type extension="html" description="HTML" id="14"/>
      <file_type extension="xlsx" description="Spreadsheet" id="17"/>
      <file_type extension="pptx" description="PowerPoint" id="18"/>
      <file_type extension="docx" description="Word document" id="19"/>
      <file_type extension="msg" description="eMail" id="20"/>
    </downloadtype>
</edart>
```

Transmission Endpoints

The main schema for the transmission endpoints, transmission.xsd, is located here.

NDA Upload

Functional Overview

This upload allows Transmission users to update their Model Sharing NDA (Non-Disclosure Agreement) signoff as required to maintain access to eDART and Dart. The NDA is only required for Transmission users. Each user must sign the NDA, it is not done at the company level.

Input File

Name	CLI Argument Type	Value/Result	Required
ndaAcceptance	root		Yes
ndaAcceptance/name	String	The full name of the user accepting the NDA.	Yes
ndaAcceptance/email	String	The email address of the user accepting the NDA in a valid format (i.e. user@mycompany.com)	Yes
ndaAcceptance/accepted	Boolean	Must be set to 'true' in order to accept the NDA.	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Example Input

```
<?xml version="1.0" encoding="UTF-8"?>
- <nda:ndaAcceptance xsi:schemaLocation="http://www.pjm.com/soa/schemas/edart/nda/v1 nda.xsd"
xmlns:nda="http://www.pjm.com/soa/schemas/edart/nda/v1" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
    <name>John Doe</name>
    <email>john.doe@example.com</email>
    <accepted>true</accepted>
</nda:ndaAcceptance>
```

Example Response File

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns="http://www.pjm.com/external/schemas/edart/response">
    <response>Non-disclosure agreement accepted successfully on 2021-01-27.</response>
</edart>
```

Transmission Companies Download

Functional Overview

This download provides a list of all active Transmission Companies. It includes the Company Long Name and Company ID. The Company ID is needed when creating new transmission tickets.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transcomp
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/transcomprestplan/v1 transcomprestplan.xsd">
  - <transcomp>
      <company name="  Company Name 1        " id="1"/>
      <company name="  Company Name 2                    ;" id="2"/>
      <company name="  Company Name 3         " id="3"/>
      <company name="| Company Name 4                          |" id="4"/>
      <company name=" Company Name 5 " id="6"/>
      <company name="| Company Name 6                  " id="10"/>
```

Transmission Zones Download

Functional Overview

The Transmission Zones download provides members with transmission zones grouped by their corresponding transmission company. The list contains the company name and transmission zone

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=zones
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/zones/v1 zones.xsd">
  - <companyControlZone>
    - <company name="Company 1 ">
        <zone>APS</zone>
        <zone>APSS</zone>
      </company>
    - <company name=" Company 2 .">
        <zone>FECL</zone>
      </company>
    - <company name="Company 3 ">
        <zone>RECO</zone>
      </company>
    - <company name="Company 4 ">
        <zone>UGI</zone>
      </company>
  </companyControlZone>
</edart>
```


Transmission Causes Download

Functional Overview

This download returns transmission outage causes in the system. By default, only active transmission outage causes are returned. The list contains the Transmission Outage Cause ID, Description, Cause Name, and optionally, the retired status.

Additional Parameters

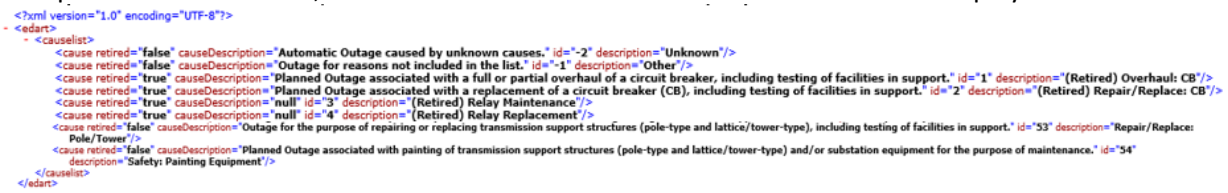
Name	CLI Argument Type	Value/Result	Required
showretiredtransmissioncausetypes	Query	**Value:** true, false **Result:** If true, includes retired causes in the result. The default value is false. Any value other than true is interpreted as false.	No

PJM CLI Example

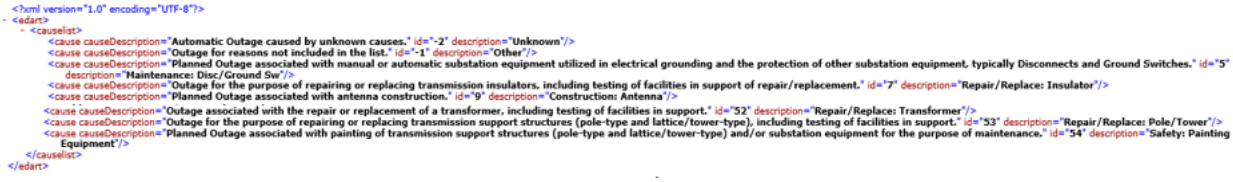
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transmissioncauses
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q showretiredtransmissioncausetypes=false

Example Output

With parameter set to true, the element “cause retired” and retired causes are displayed.



With parameter set to false, the element “cause retired” does not display.



Transmission Equipment List Download

Functional Overview

By default, this download provides a list of active transmission equipment owned by the user's company. Additional parameters may be specified to include retired equipment, or equipment for which the company has notification rights.

For generator equipment type, only generators identified as SVCs are included in the download.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
includeretired	Query	**Value:** true, false **Result:** If true, includes retired equipment in the result. The default value is false. Any value other than true is interpreted as false. terminate_date is not empty for retired equipment.	No
shownotify	Query	**Value:** true, false **Result:** If true, the owner_name element is displayed which indicates equipment that the user's company has notification rights to in the result. The default value is false. Any value other than true is interpreted as false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=equipment
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q includeretired=false
-q shownotify=false
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.pjm.com/external/schemas/equipment/v1 equipment.xsd">
    - <equipment_list>
        - <equipment>
            <ta_id>1761841</ta_id>
            <type>BRKR</type>
            <station>[redacted]</station>
            <voltage>138 KV</voltage>
            <short_name>13470</short_name>
            <long_name>[redacted]</long_name>
          </equipment>
        - <equipment>
            <ta_id>1761840</ta_id>
            <type>BRKR</type>
            <station>[redacted]</station>
            <voltage>138 KV</voltage>
            <short_name>13471</short_name>
            <long_name>[redacted]</long_name>
          </equipment>
        - <equipment>
            <ta_id>1720944</ta_id>
            <type>BRKR</type>
            <station>[redacted]</station>
            <voltage>138 KV</voltage>
            <short_name>A13472</short_name>
            <long_name>[redacted]</long_name>
          </equipment>
```

Generator List for Transmission Owners Download

Functional Overview

This download provides the transmission company information for all active generators that the transmission company is approved to see or where the generator is in their zone.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=generators4trans
-u %USER%
-p %PSWD%
-s %SERVICEURL%

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/generators/v1 generators.xsd">
  <generators>
    <generator_list>
      <gen_unit>
        <generator_id>7677</generator_id>
        <generator_name>[redacted]</generator_name>
        <generator_type>Diesel</generator_type>
        <capacity>0</capacity>
        <company_name>[redacted]</company_name>
        <mvar_ratings/>
        <meteredMVARValue>TBD</meteredMVARValue>
        <pss>true</pss>
      </gen_unit>
    </generator_list>
    <generator_list>
      <gen_unit>
        <generator_id>15134</generator_id>
        <generator_name>[redacted]</generator_name>
        <generator_type>Wind</generator_type>
        <capacity>3</capacity>
        <company_name>[redacted]</company_name>
        <mvar_ratings/>
        <meteredMVARValue>TBD</meteredMVARValue>
      </gen_unit>
    </generator_list>
```

Transmission PSSE Download

Functional Overview

The Transmission PSSE (Power System Simulator Engineering) download maps PJM equipment ids to the IDC (Interchange Distribution Calculator) model (Station A, Station B, Station ID). This includes both Active and Retired equipment owned by the Company. Not every piece of equipment will exist in the IDC model.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transmissionpsse
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

Conflict Group Scenarios Download

Functional Overview

The Transmission Conflict Group Scenario provides groups of transmission equipment, and how many of the group may be out at the same time without causing a conflict. This data is identified and set up by PJM.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Value:** integer **Result:** The conflict group identified will be reported	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=conflictgroupscenario
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/group_conflict/v1 group_conflict.xsd">
  - <group_conflicts>
    - <conflict active="true">
        <category>Thermal</category>
        <scenario_id>21</scenario_id>
        <title>Testing Group Scenario</title>
        <allowed_out>1</allowed_out>
        <comments>These are comments</comments>
        <review_comments>Review requested due to retired facility(ies) on NA Build. Here are new Review comments just added
          11/21/2019.</review_comments>
      - <equipment>
          <ta_id>1752774</ta_id>
          <ta_id>1752770</ta_id>
          <ta_id>1752765</ta_id>
          <ta_id>1753971</ta_id>
        </equipment>
      </conflict>
    - <conflict active="true">
        <category>Stability</category>
        <scenario_id>62</scenario_id>
        <title>dennis 2</title>
        <allowed_out>2</allowed_out>
        <comments/>
        <review_comments>Review requested due to retired facility(ies) on NA Build</review_comments>
      - <equipment>
          <ta_id>1752748</ta_id>
          <ta_id>1752752</ta_id>
          <ta_id>1665575</ta_id>
        </equipment>
      </conflict>
```


Conflict Primary Facilities Download

Functional Overview

The Transmission Conflict Facility report provides conflict scenarios that have been identified and set up by PJM, for primary equipment and related secondary equipment, for a company. Primary and secondary equipment being out at the same time is identified as a conflict.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Value:** integer **Result:** The conflict group identified will be reported	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
--httpType POST
-q dart=true
-q downloadtype=conflictfacilityscenario
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345

Example Output

```
<?xml version="1.0" encoding="UTF-8"?>
- <edart>
  - <primary_facility_conflicts>
    - <conflict active="true">
        <category>Stability</category>
        <scenario_id>241</scenario_id>
        <title>Wendy s Testing</title>
      - <primary_equipment>
          <ta_id>1756760</ta_id>
          <ta_id>1752780</ta_id>
        </primary_equipment>
        <comments/>
        <review_comments>Review requested due to retired facility(ies) on NA Build</review_comments>
      - <equipment>
          <ta_id>1752779</ta_id>
          <ta_id>1752778</ta_id>
        </equipment>
      </conflict>
    </primary_facility_conflicts>
  </edart>
```

Conflict Generator Offline Scenarios Download

Functional Overview

The Transmission Conflict Genoff (Generator Offline) Scenario provides conflict scenarios where transmission outages result in need for generators to be offline. These conflicts are created by PJM and can be viewable by TOs.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Value:** integer **Result:** The conflict group identified will be reported	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=conflictgenoffscenario
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/genoff_scenario/v1 genoff_scenario.xsd">
  - <genoff_scenarios>
    - <scenario active="false">
        <category>Stability</category>
        <scenario_id>2149</scenario_id>
        <title>[redacted]</title>
        <allowed_out>1</allowed_out>
        <comments>One or more Ids cannot be displayed. Contact PJM for more information </comments>
        <review_comments>add comments here</review_comments>
      - <equipment>
          <ta_id>1752917</ta_id>
          <ta_id>1727088</ta_id>
        </equipment>
      - <generators>
          <generator_id>1412</generator_id>
        </generators>
      </scenario>
    - <scenario active="true">
        <category>Stability</category>
        <scenario_id>2174</scenario_id>
        <title>[redacted]</title>
        <allowed_out>2</allowed_out>
        <comments>One or more Ids cannot be displayed. Contact PJM for more information [redacted] is bottled when [redacted]
          [redacted] is O.O.S</comments>
        <review_comments>Review requested due to retired facility(ies) on NA Build</review_comments>
      - <equipment>
          <ta_id>1755846</ta_id>
        </equipment>
      - <generators>
          <generator_id>53912801</generator_id>
        </generators>
      </scenario>
```

Tier Report Download

Functional Overview

The Tier download provides tier relationship between transmission equipment in the system. The report lists the main equipment, and children, and identifies tier value (1,2,3) for equipment that the company owns or has notification rights to. The Tier level corresponds to each zone of protection around a piece of equipment as defined in the PJM EMS model.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=tier
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/tier/v1 tier.xsd">
  - <tier_report>
    - <tier_link>
        <parent_ta_id>1662109</parent_ta_id>
        <tier_value>1</tier_value>
        <child_ta_id>1673284</child_ta_id>
      </tier_link>
    - <tier_link>
        <parent_ta_id>1662109</parent_ta_id>
        <tier_value>2</tier_value>
        <child_ta_id>1673284</child_ta_id>
      </tier_link>
    - <tier_link>
        <parent_ta_id>1662109</parent_ta_id>
        <tier_value>2</tier_value>
        <child_ta_id>1673279</child_ta_id>
      </tier_link>
```

Transmission Projects Download

Functional Overview

This download returns transmission project information. By default, only current records are returned. The output contains the Project ID, Name, Description, Company and Project Status and Related Ticket information.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
project_id	query	Value: project id Result: the attributes of the project id are displayed	no
include_all	query	Value: true/false Result: If true, historical and current records are returned Default value: false NOTE: This parameter is not considered if a project_id is included in the endpoint invocation.	no

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transmissionprojects
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q project_id=12345

Example Output

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2020 sp1 (x64) (http://www.altova.com)-->
<transmission:projects xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:transmission="http://www.pjm.com/soa/schemas/edart/transmissionprojects/v1"
xsi:schemaLocation="http://www.pjm.com/soa/schemas/edart/transmissionprojects/v1 transmissionprojects.xsd">
        <project id="0">
                <name>String</name>
                <description>String</description>
                <ownerCompany>String</ownerCompany>
                <active>true</active>
                <relatedTickets>
                        <ticketInfo>
                                <ticketId>0</ticketId>
                                <status>String</status>
                                <startDate>2001-12-17T09:30:47Z</startDate>
                                <endDate>2001-12-17T09:30:47Z</endDate>
                                <cutInFlag>true</cutInFlag>
                                <restPlanReview>String</restPlanReview>
                        </ticketInfo>
                </relatedTickets>
        </project>
</transmission:projects>
```

Transmission System Impacts Download

Functional Overview

This download returns a list of active and company-viewable impacts that are associated with the equipment owned by the user's company or equipment the user's company has notification rights to. System Impacts are created by PJM personnel. When querying with the impacttitle parameter, the entire title must be enclosed in “double quotes”.

If there are no system impacts found for the parameters provided, a message is returned, "No system impacts records matched the provided filters".

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
impacttitle	Query	**Value:** string; the entire string will be enclosed in “double quotes“ **Result:** If supplied, only impacts with that title will be returned	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=systemimpacts
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q impacttitle=”impact title”
```

Example Output

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2020 spl (x64) (http://www.altova.com)-->
<transmission:impacts xmlns:transmission="http://www.pjm.com/soa/schemas/edart/transmissionimpacts/v1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/soa/schemas/edart/transmissionimpacts/v1
transmissionimpacts.xsd">
<impact id="1234" title="impact title">
<comments>The comments associated with this system impact are displayed here.</comments>
<equipment id="1234567">
<type>string</type>
<station>string</station>
<voltage>999 KV</voltage>
<shortName>string</shortName>
</equipment>
<equipment id="4567890">
<type>string</type>
<station>string</station>
<voltage>999 KV</voltage>
<shortName>string</shortName>
<terminateDate>yyyy-mm-dd-hh:mm</terminateDate>
</equipment>
</impact>
</transmission:impacts>
```

NERC Load Forecast

Functional Overview

The NERC Load Forecast (NERCLFBYDATE) is generally for new transmission companies integrating in to PJM. Until they are official PJM members, PJM may ask Transmission Owners to manually provide load information to be included in the PJM load forecast. This is generally only used for a limited time such as after market interactions or other special circumstances.The NERC Load Forecast returns all load types greater than or equal to the type specified. For example, if the Load Type “Weekly” is entered, values for “Weekly” and “Monthly” will be returned, but not “Daily” nor “Hourly”.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
nerclf	Query	**Value:** text - Hourly, Daily, Weekly, Monthly **Result:** The data returned will be of that time interval and all intervals greater than it. (i.e. if Weekly is selected, Weekly and Monthly will report)	Yes
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with a forecast date on or after the entered date will be reported	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with a forecast date on or before the entered date will be reported	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=nerclfbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”
-q loadtype=Hourly

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <nerclf:LoadForecast xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:nerclf="http://www.pjm.com/external/schemas/nerclf" xsi:schemaLocation="http://www.pjm.com/external/schemas/nerclf
nerclf.xsd">
  - <Submission>
      <LoadType>Hourly</LoadType>
      <ForecastDate>2021-01-27</ForecastDate>
      <HourEnding>0</HourEnding>
      <PeakMW>10</PeakMW>
      <NetInterchange>5</NetInterchange>
      <OperatingReserve>15</OperatingReserve>
    </Submission>
  - <Submission>
      <LoadType>Hourly</LoadType>
      <ForecastDate>2021-01-27</ForecastDate>
      <HourEnding>1</HourEnding>
      <PeakMW>10</PeakMW>
      <NetInterchange>5</NetInterchange>
      <OperatingReserve>15</OperatingReserve>
    </Submission>
  - <Submission>
      <LoadType>Hourly</LoadType>
      <ForecastDate>2021-01-27</ForecastDate>
      <HourEnding>2</HourEnding>
      <PeakMW>11</PeakMW>
      <NetInterchange>7</NetInterchange>
      <OperatingReserve>20</OperatingReserve>
    </Submission>
  - <Submission>
      <LoadType>Hourly</LoadType>
      <ForecastDate>2021-01-27</ForecastDate>
      <HourEnding>3</HourEnding>
      <PeakMW>10</PeakMW>
      <NetInterchange>22</NetInterchange>
      <OperatingReserve>15</OperatingReserve>
    </Submission>
  - <Submission>
      <LoadType>Daily</LoadType>
      <ForecastDate>2021-01-27</ForecastDate>
      <PeakMW>10</PeakMW>
      <NetInterchange>5</NetInterchange>
      <OperatingReserve>15</OperatingReserve>
    </Submission>
```

NERC TADS Report Codes

Functional Overview

The NERC TADS Report Codes download provides a list of TADS (Transmission Availability Data System) report codes which map the Code ID to the Code Description, and is used when uploading to the Web TADS system.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=nerctadsreportcodes
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <TADSCodes xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/nerctadsreportcodes/v1 nerctadsreportcodes.xsd">
  - <faultType>
      <code description="N/A" id="0"/>
      <code description="No fault" id="1"/>
      <code description="P-P fault" id="2"/>
      <code description="Single P-G fault" id="3"/>
      <code description="P-P-G, 3P or 3P-G fault" id="4"/>
      <code description="Unknown fault type" id="5"/>
    </faultType>
  - <outageInitCode>
      <code description="N/A" id="0"/>
      <code description="Element-Initiated" id="1"/>
      <code description="Other Element-Initiated" id="2"/>
      <code description="AC Substation-Initiated" id="3"/>
      <code description="AC/DC Terminal-Initiated" id="4"/>
      <code description="Other Facility-Initiated" id="5"/>
      <code description="Protection System-Initiated" id="6"/>
    </outageInitCode>
  - <initCauseCode>
      <code description="N/A" id="0"/>
      <code description="Weather, excluding lightning" id="1"/>
      <code description="Lightning" id="2"/>
      <code description="Environmental" id="3"/>
      <code description="Contamination" id="4"/>
      <code description="Foreign Interference" id="5"/>
      <code description="Fire" id="6"/>
      <code description="Vandalism, Terrorism, or Malicious Acts" id="7"/>
      <code description="Failed AC Substation Equipment" id="8"/>
      <code description="Failed AC/DC Terminal Equipment" id="9"/>
      <code description="Failed Protection System Equipment" id="10"/>
      <code description="Failed AC Circuit Equipment" id="11"/>
      <code description="Failed DC Circuit Equipment" id="12"/>
      <code description="Human Error" id="13"/>
      <code description="Vegetation" id="14"/>
      <code description="Power System Condition" id="15"/>
      <code description="Unknown" id="16"/>
      <code description="Other" id="17"/>
    </initCauseCode>
```

Transmission Ticket Review, Revise Download

Functional Overview

This endpoint allows the user to download one or more transmission tickets for their equipment and equipment they have notification rights to. Either id or start and stop parameter must be provided. Multiple parameters can be used in combination. If the ***start and stop*** parameters are provided, the id parameter is ignored.

There is a maximum number of records that can be displayed. If the query returns more than the maximum number of tickets allowed, a warning message is returned in the download file, along with all the data allowed. In that case, the query should be refined, using the parameters to narrow the search window.

For both review and revise, the downloadtype is transmission. The transtype is the parameter that determines if the report will be the review version or the revise version. The review version displays more information, but the revise version can be used to upload revisions to transmission tickets and will dsplay information that can be revised.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result:** returns transmission tickets that match the provided identifiers	No
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an schedule date on or after the entered date will be reported	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an schedule date before the entered date will be reported	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No

Name	CLI Argument Type	Value/Result	Required
ticketstatus	Query	**Values:** Single or multiple status index values in a comma separated list without spaces. Valid values are: 1=Submitted, 2=Received, 3=Denied, 4=Approved, 5=Cancelled by Company, 6=PJM Admin Closure, 7=Revised, 8=Active, 9=Completed **Result:** Only tickets with the requested status will be reported. Used with start and stop parameters.	No
restplanreview	Query	**Values**: true, false **Result:** If true the output includes only tickets with restoration plan review required. Default is to ignore the restoration plan review. Used with start and stop parameters.	No
transtype	Query	**Value:** revise, review **Result:** If the intent is to update the selected record, the download type will be “Revise”. If the intent is to see all relavent information on the selected record, the download type will be “Review”. More data elements are included in the Review download. Default is Review	No
includesysimp	Query	**Values**: true, false **Result:** If true and downloadType = Review, System Impacts are displayed if they exist on the selected tickets. Default is false.	No
incdates	Query	**Values**: true, false **Result:** If true and downloadType = Review, Date Logs are displayed if they exist on the selected tickets. Default is false.	No
showtype	Query	**Values**: true, false **Result:** If true the equipment type is included on the transmission ticket. Default is false.	No

Name	CLI Argument Type	Value/Result	Required
gettransticattachments	Query	**Values**: true, false **Result:** If true and downloadType = Review, all file attachments are downloaded in both zip and hex file formats. Default is false.	No
transticattachments	Query	**Values**: true, false **Result:** If true and downloadType = Review, a list of file attachments are displayed if they exist on the selected tickets. Default is false.	No

PJM CLI Example to return a single Ticket ID

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transmission
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345
-q transtype=revise
```

PJM CLI Example to return multiple Ticket ID

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transmission
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345,23456,34567
-q transtype=revise
```

PJM CLI Example with start and stop

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype= transmission
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=01/01/2019
-q stop=12/31/2019
-q transtype=review
```

Example Output

transticreview


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/transticreview/v1 transticreview.xsd">
  - <transticreview>
      <pjm_ticket_id>212545</pjm_ticket_id>
      <company_ticket_id>test string</company_ticket_id>
      <description>NERC TADS autoreclose update</description>
      <at_risk>false</at_risk>
      <availability>Immediate</availability>
      <lock_status>free</lock_status>
    - <ticket_status>
        <status>Submitted</status>
        <submittime>2012-02-03 07:10:16</submittime>
        <submituser>DANTAJ</submituser>
        <activetime>2012-02-03 07:10:16</activetime>
        <activeuser>DANTAJ</activeuser>
        <completedtime>2012-02-03 07:10:16</completedtime>
        <completeduser>DANTAJ</completeduser>
      </ticket_status>
    - <interval_definition>
      - <interval_start>
          <date>2018-09-19</date>
          <time>00:00:00</time>
        </interval_start>
      - <interval_end>
          <date>2018-09-19</date>
          <time>00:05:00</time>
        </interval_end>
      </interval_definition>
      <outage_type>EMSTripped</outage_type>
      <ticket_type auto_reclose="true" emergency="true" info="false"/>
    - <equipment primaryEquipFlag="false" status="O">
        <ta_id>1665537</ta_id>
      - <interval_definition>
        - <interval_start>
            <date>2018-09-19</date>
            <time>00:00:00</time>
          </interval_start>
        - <interval_end>
            <date>2018-09-19</date>
            <time>00:05:00</time>
          </interval_end>
        </interval_definition>
      </equipment>
```

```
    - <switch>
      - <interval_definition>
        - <interval_start>
            <date>2018-09-19</date>
            <time>00:00:00</time>
          </interval_start>
        </interval_definition>
      </switch>
      <congestionExpected>false</congestionExpected>
      <submittedOnTime>false</submittedOnTime>
      <submitOnTimeComments>Ticket was Submitted at 09/17/2018 10:32. In order to be On-Time this ticket needs to be submitted
        by 08/01/2018 00:00.</submitOnTimeComments>
      <vegetationFlag>false</vegetationFlag>
      <cause description="Operational: Emergency">32</cause>
      <cause description="Cut-In">65</cause>
      <totalSystemImpacts>1</totalSystemImpacts>
      <unmitigatedSystemImpacts>1</unmitigatedSystemImpacts>
      <cutInFlag>true</cutInFlag>
    - <cutInInfo>
        <cutInTitle>Unreviewed</cutInTitle>
        <cutInStatus>Unreviewed</cutInStatus>
      </cutInInfo>
    - <nerctads>
      - <autoReclose>
          <faultType>1</faultType>
          <outageInitCode>1</outageInitCode>
          <initCauseCode>1</initCauseCode>
          <sustainedCauseCode>1</sustainedCauseCode>
          <outageModeCode>1</outageModeCode>
        </autoReclose>
      </nerctads>
      <rtepQueueNumber>Thistextisfiftycharacterslong</rtepQueueNumber>
      <totalConflicts>0</totalConflicts>
      <unmitigatedConflicts>0</unmitigatedConflicts>
    - <restplan>
        <restplanreview>591 - Update Required</restplanreview>
      </restplan>
    </transticreview>
  </edart>
```


transticrevise


```
  <?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.pjm.com/external/schemas/transticrevise/v1 transticrevise.xsd">
    - <transticrevise>
        <pjm_ticket_id>212545</pjm_ticket_id>
        <company_ticket_id>test string</company_ticket_id>
        <description>NERC TADS autoreclose update</description>
        <availability>Immediate</availability>
      - <interval_definition>
        - <interval_start>
            <date>2018-09-19</date>
            <time>00:00:00</time>
          </interval_start>
        - <interval_end>
            <date>2018-09-19</date>
            <time>00:05:00</time>
          </interval_end>
        </interval_definition>
        <outage_type>EMSTripped</outage_type>
        <ticket_type auto_reclose="true" emergency="true" info="false"/>
      - <equipment primaryEquipFlag="false" status="O">
          <ta_id>1665537</ta_id>
        - <interval_definition>
          - <interval_start>
              <date>2018-09-19</date>
              <time>00:00:00</time>
            </interval_start>
          - <interval_end>
              <date>2018-09-19</date>
              <time>00:05:00</time>
            </interval_end>
          </interval_definition>
        </equipment>
```

```
- <switch>
  - <interval_definition>
    - <interval_start>
        <date>2018-09-19</date>
        <time>00:00:00</time>
      </interval_start>
    </interval_definition>
  </switch>
  <vegetationFlag>false</vegetationFlag>
  <cause>32</cause>
  <cause>65</cause>
  <cutInFlag>true</cutInFlag>
- <cutInInfo>
    <cutInTitle>Unreviewed</cutInTitle>
    <cutInStatus>Unreviewed</cutInStatus>
  </cutInInfo>
- <nerctads>
  - <autoReclose>
      <faultType>1</faultType>
      <outageInitCode>1</outageInitCode>
      <initCauseCode>1</initCauseCode>
      <sustainedCauseCode>1</sustainedCauseCode>
      <outageModeCode>1</outageModeCode>
    </autoReclose>
  </nerctads>
  <rtepQueueNumber>Thistextisfiftycharacterslong</rtepQueueNumber>
</transicrevise>
</edart>
```


Transmission Ticket Review by Modify Date

Functional Overview

This endpoint allows the user to download one or more transmission tickets for their equipment and equipment they have notifications to based on the Modification Date of the ticket(s). At least one query parameter must be provided. Multiple parameters can be used in combination.

There is a maximum number of records that can be displayed, this number differs based on the environment you are in. If the query returns more than the maximum number of tickets allowed, a warning message is returned in the download file, along with all the data allowed. In that case, the query should be refined, using parameters to narrow the search window.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with a status change, submission revision, or an update to the Facility Outage Report (TOIMWG) report after the date provided.	Yes

Name	CLI Argument Type	Value/Result	Required
starttime	Query	**Values:** Time in the form hh:mm **Results**: Specify time to be used with start parameter, to return tickets modified after the starttime.	Yes

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transticchanges
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=01/01/2019
-q starttime=08:00
-q transtype=revise
```

Example Output

transticreview

Transmission Cut-In Report

Functional Overview

This endpoint allows the user to have access to see the task status for Transmission Cut-In tickets.

At least one query parameter must be provided. Multiple parameters can be used in combination. If the ***id*** query parameter is provided, it takes precedence and other parameters are ignored. If more than 1,000 tickets match the provided filters, a warning message returned in the download file, along with data for the first 1,000 matching tickets.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported Default is today's date	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date before the entered date will be reported	No
ready	Query	**Value:** true/false **Result:** Only tickets with an effective date before the entered date will be reported Default is false.	No
notready	Query	**Value:** true/false **Result:** Only tickets with an effective date before the entered date will be reported Default is true.	No
includenotify	Query	**Values:** true/false **Result:** If "true", returns tickets created by the user's company AND tickets that the user's company is notified. If "false", returns only tickets that are owned by the user's company Default value is false	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=cutinreport
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q notready=true
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <cutinreport:cutInReport xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:cutinreport="http://www.pjm.com/soa/schemas/edart/cutinreport/v1"
xsi:schemaLocation="http://www.pjm.com/soa/schemas/edart/cutinreport/v1 cutinreport.xsd">
  - <cutInInfo>
      <ticketId>188565</ticketId>
      <cutInTitle>Unreviewed</cutInTitle>
      <cutInStatus>Unreviewed</cutInStatus>
    </cutInInfo>
  - <cutInInfo>
      <ticketId>208558</ticketId>
      <cutInTitle>Unreviewed</cutInTitle>
      <cutInStatus>Unreviewed</cutInStatus>
    </cutInInfo>
  - <cutInInfo>
      <ticketId>209571</ticketId>
      <cutInTitle>Unreviewed</cutInTitle>
      <cutInStatus>Unreviewed</cutInStatus>
    </cutInInfo>
```

Transmission Ticket Upload (create, revise, cancel)

Functional Overview

This endpoint provides a mechanism for members to upload a file to create, revise or cancel a transmission outage ticket.

For new tickets, the PJM Ticket ID will not be populated but all other fields pertinent to the ticket will be populated. For revise or cancel, the PJM Ticket ID will be present.

When revising tickets, the user must specify an identifier: either PJM Ticket Id or Company Ticket Id. All other elements are optional. Any element not provided by the user will be unchanged.

This endpoint also provides a mechanism for members to upload a file to cancel existing transmission outage tickets for their company using either the PJM Ticket ID or the Company Ticket ID.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
-f, -file	File	**Value:** Fullpath filename **Result:** specifies the file that contains the XML data to create the transmission outage ticket.	Yes
-o, -output	File	**Value:** Fullpath filename **Result:** specifies the response file that details how the Transmission outage ticket was processed – success, warnings or errors	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Example Input

Create - newtranstic

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2020 sp1 (x64) (http://www.altova.com)-->
- <edart xsi:noNamespaceSchemaLocation="transcreate.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <newtranstic>
        <!--<company>4096</company>-->
      <company_ticket_id>Baltiteststep2</company_ticket_id>
        <!-- <projectName>String</projectName>-->
    - <interval_definition>
      - <interval_start>
          <date>2020-11-24</date>
          <time>22:00:00</time>
        </interval_start>
      - <interval_end>
          <date>2021-08-24</date>
          <time>22:00:00</time>
        </interval_end>
      </interval_definition>
      <outage_type>Continuous</outage_type>
        <!--<ticket_type info="false" emergency="false"/>-->
      <description>Transmission Create Upload Valid Scenario Test step2</description>
      <availability>72hr</availability>
    - <equipment status="O" primaryEquipFlag="true">
        <ta_id>1662501</ta_id>
      - <interval_definition>
        - <interval_start>
            <date>2020-11-24</date>
            <time>22:00:00</time>
          </interval_start>
        - <interval_end>
            <date>2021-08-24</date>
            <time>22:00:00</time>
          </interval_end>
        </interval_definition>
      </equipment>
    - <switch>
      - <interval_definition>
        - <interval_start>
            <date>2020-11-29</date>
            <time>22:00:00</time>
          </interval_start>
        </interval_definition>
      </switch>
        <!--<vegetationFlag>true</vegetationFlag>-->
      <cause>26</cause>
        <!--<cutInFlag>true</cutInFlag>-->
    </newtranstic>
</edart>
```

Revision Elements - transticrevise

```
<?xml version="1.0" encoding="UTF-8"?>
- <edart xsi:noNamespaceSchemaLocation="transticrevise.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <transticrevise>
      <pjm_ticket_id>214540</pjm_ticket_id>
      <company_ticket_id>Baltiteststep2</company_ticket_id>
      <projectName>TRANS TICKETS FOR DART INTERIM PROJECT TESTING</projectName>
      <description>Transmission Ticket REVISE Valid Scenario step2 to update projectName, Description, and Ticket Start and End Dates and time</description>
      <project_ids/>
      <availability/>
    - <interval_definition>
      - <interval_start>
          <date>2020-07-24</date>
          <time>19:20:00</time>
        </interval_start>
      - <interval_end>
          <date>2021-12-12</date>
          <time>10:00:00</time>
        </interval_end>
      </interval_definition>
      <outage_type>Continuous</outage_type>
      <ticket_type emergency="false" info="false"/>
    - <equipment primaryEquipFlag="true" status="O">
        <ta_id>1662501</ta_id>
      - <interval_definition>
        - <interval_start>
            <date>2020-07-24</date>
            <time>19:20:00</time>
          </interval_start>
        - <interval_end>
            <date>2021-08-24</date>
            <time>22:00:00</time>
          </interval_end>
        </interval_definition>
      </equipment>
    - <switch>
      - <interval_definition>
        - <interval_start>
            <date>2020-07-24</date>
            <time>22:00:00</time>
          </interval_start>
        </interval_definition>
      </switch>
      <vegetationFlag>false</vegetationFlag>
      <cause>26</cause>
      <cutInFlag>false</cutInFlag>
      <equipment_default/>
    </transticrevise>
</edart>
```

Cancel Elements - transticrevise

```
<?xml version="1.0" encoding="UTF-8"?>
- <edart xsi:noNamespaceSchemaLocation="transticrevise.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <transticrevise>
      <pjm_ticket_id>214534</pjm_ticket_id>
        <!--<company_ticket_id>TransticValidScenario7</company_ticket_id>-->
      <ticket_status>cancel</ticket_status>
    </transticrevise>
</edart>
```

Example Output

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2016 rel. 2 sp1 (x64) (http://www.altova.com)-->
<trans:transmissionTicketsResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:trans="http://www.pjm.com/etools/dart/schemas/transmission" xsi:schemaLocation="http://www.pjm.com/etools/dart/schemas/transmission
transmission.xsd">
        <trans:transmissionTicketResponse>
                <trans:pjmTicketId>0</trans:pjmTicketId>
                <trans:companyTicketId>String</trans:companyTicketId>
                <trans:message>String</trans:message>
                <trans:executionTimestamp>2001-12-17T09:30:47Z</trans:executionTimestamp>
        </trans:transmissionTicketResponse>
</trans:transmissionTicketsResponse>
```

Transmission Facility Outage Report (TOIMWG) Download

Functional Overview

This download provides non-market sensitive transmission outage information and is known as TOIMWG (Transmission Outage Impact Mitigation Working Group). The report contains current or historical ticket data, based on the endpoint invocation used. Current data is refreshed every 5 minutes. Historical data is generated at the end of the day.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id, ids	Query	**Values:** not case sensitive • All • Valid control zone **Result:** If All is provided, returns tickets for all control zones. If a valid zone is provided, returns tickets for that control zone.	Yes
transtype	Query	**Values:** not case sensitive • Current • Historical **Result:** the value of this parameter will determine if the output contains current or historicl data.	Yes
start	Query	**Values:** Date in form MM/DD/YYYY. Must be used with stop **Result**: If included, returns only tickets with start date greater than this date	No
stop	Query	**Values:** Date in form MM/DD/YYYY. Must be used with start **Result**: If included, returns only tickets with stop date less than this date Note: the start and stop dates cannot span more than 1 year	No

Name	CLI Argument Type	Value/Result	Required
effective_during	Query	**Values:** true, false; used with start and stop parameters **Result:** • If true, returns tickets that are active during the time span. That is, ticket start <= end date and ticket end >= start date. • If false, returns tickets that start and end within the time span. That is, ticket start >= start date and ticket end <= end date. • The default value is false. Any value other than true is interpreted as false.	No
recent	Query	**Values:** Integer value must be 365 or less **Result:** For historical data report only. If included, returns tickets that were completed this many days in the past. Takes precedence over start and stop date parameters.	No

PJM CLI Example

Historical: requires a date parameter, either recent or start and stop date

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=toimwg
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=ALL
-q transtype=Historical
-q recent=180
```

Current:

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=toimwg
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=ALL
-q transtype=Current
```

Example Output


```
<?xml version="1.0" encoding="UTF-8"?>
<toimwg xsi:noNamespaceSchemaLocation="toimwg.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ticket_info>
    <ticket>
      <pjmTicketId>208218</pjmTicketId>
      <intervalDefinition>
        <intervalStart>
          <date>2015-11-06</date>
          <time>00:00:00</time>
        </intervalStart>
        <intervalEnd>
          <date>2010-11-30</date>
          <time>07:00:00</time>
        </intervalEnd>
      </intervalDefinition>
      <status>Completed</status>
      <lastRevisedDate>06/03/2014 14:46</lastRevisedDate>
      <outageType>EMSTripped</outageType>
      <companyName>[redacted]</companyName>
      <availability>2 hr.</availability>
      <approval_risk/>
      <rtepQueueNumber/>
      <previous_status>Active</previous_status>
      <equipment status="Open">
        <type>BRKR</type>
        <b1Name>[redacted]</b1Name>
        <b2Name>500 KV</b2Name>
        <b3Text>[redacted]</b3Text>
        <zone>BC</zone>
        <intervalDefinition>
          <intervalStart>
            <date>2015-11-06</date>
            <time>00:00:00</time>
          </intervalStart>
          <intervalEnd>
            <date>2020-11-30</date>
            <time>07:00:00</time>
          </intervalEnd>
        </intervalDefinition>
      </equipment>
      <cause description="Maintenance: Disc/Ground Sw">5</cause>
      <dateLogs>
        <datelog>
          <intervalDefinition>
            <intervalStart>
              <date>2012-03-04</date>
              <time>00:00:00</time>
            </intervalStart>
            <intervalEnd>
              <date>2012-04-16</date>
              <time>00:00:00</time>
            </intervalEnd>
          </intervalDefinition>
          <timestamp>03/19/2012 13:32</timestamp>
        </datelog>
        <datelog>
          <intervalDefinition>
            <intervalStart>
              <date>2010-03-04</date>
              <time>00:00:00</time>
            </intervalStart>
            <intervalEnd>
              <date>2010-04-16</date>
              <time>00:00:00</time>
            </intervalEnd>
          </intervalDefinition>
          <timestamp>12/04/2009 09:59</timestamp>
        </datelog>
      </dateLogs>
      <statusLogs>
        <statusLog>
          <status>Completed</status>
          <statusTime>11/19/2014 12:12</statusTime>
        </statusLog>
      </statusLogs>
    </ticket>
```

EMS Outages Download

Functional Overview

The EMS Outage download provides a list of equipment currently listed as out in PJM EMS. This information should be updated every 5 minutes and should sync up with the Current Facility Outages section of https://edart.pjm.com/reports/linesout.txt.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=emsoutage
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/emsoutage/v1 emsoutage.xsd">
  - <ticket>
      <pjmTicketId>0</pjmTicketId>
      <type>CAP</type>
      <b1Name>[redacted]</b1Name>
      <b2Name>765 KV</b2Name>
      <b3Text>[redacted]</b3Text>
    </ticket>
  - <ticket>
      <pjmTicketId>0</pjmTicketId>
      <type>BRKR</type>
      <b1Name>[redacted]</b1Name>
      <b2Name>765 KV</b2Name>
      <b3Text>[redacted]</b3Text>
    </ticket>
```

EMS Tripped Ticket

Functional Overview

EMS Tripped Ticket download provides users with a listing of transmission outage tickets that are classified as EMS Tripped.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result:** returns transmission tickets that match the provided identifiers	Yes
transtype	Query	**Value:** Revise, Review **Result:** If the intent is to update the selected record, the download type will be “Revise”. If the intent is to see all relevant information on the selected record, the download type will be “Review”. More data elements are included in the Review download. Default is Review	No
includesysimp	Query	**Value:** true, false **Result:** If true and downloadtype = Review, System Impact information will be displayed if it exists on the selected tickets. Default is false.	No
incdates	Query	**Value:** true, false **Result:** If true and downloadtype = Review, Date Log information will be displayed if it exists on the selected tickets. Default is false.	No
gettransticattachments	Query	**Values**: true, false **Result:** If true and downloadType = Review, all file attachments are downloaded in both zip and hex file formats. Default is false.	No
transticattachments	Query	**Values**: true, false **Result:** If true and downloadType = Review, a list of file attachments are displayed if they exist on the selected tickets. Default is false.	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=emstripped
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345
-o “outputfile.xml”

Example Output

See transticreview

EMS Tripped Ticket by Date

Functional Overview

EMS Tripped Ticket by Date report provides transmission outage ticket information for those tickets classified as EMS Tripped. This endpoint allows the user to input a date range to return those outage tickets occurring within the date range specified.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported	Yes
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date before the entered date will be reported	Yes
transtype	Query	**Value:** revise, review **Result:** If the intent is to update the selected record, the download type will be “Revise”. If the intent is to see all relevant information on the selected record, the download type will be “Review”. More data elements are included in the Review download. Default is Review	No

Name	CLI Argument Type	Value/Result	Required
includesysimp	Query	**Value:** true, false **Result:** If true and downloadtype = Review, System Impact information will be displayed if it exists on the selected tickets. Default is false.	No
incdates	Query	**Value:** true, false **Result:** If true and downloadtype = Review, Date Log information will be displayed if it exists on the selected tickets. Default is false.	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=emstrippedbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=07/01/2019
-q end=08/31/2019
-q transtype=review
-q includehistorical=false
```

Example Output

See transticreview

Tariff Download

Functional Overview

This endpoint is a download of equipment tariff information by transmission company, effective date and termination date based on input parameters.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
company	Query	**Values:** ALL or the specific Company's name(s) **Result:** Includes tickets for all companies selected. The default value is ALL.	No
tariff_start_comp	Query	**Values:** >=, <=, =, > , < **Result**: If start is used, tarrif_start_comp, the computational operator for the equation must be used This parameter must be double quoted (i.e. ">=") Default is >=	No
start	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Result**: If included, returns only tickets based on the tariff_start_comp selected or the default setting	No
tariff_stop_comp	Query	**Values:** >=, <=, =, > , < **Result**: If end is used, tarrif_stop_comp, the computational operator for the equation must be used This parameter must be double quoted (i.e. ">=") Default is <=	No
stop	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Result**: If included, returns only tickets based on the tariff_stop_comp selected or the default setting	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=tariff
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q tariff_stop_comp="<"
-q stop=12/31/2020

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.pjm.com/external/schemas/tariff/v1 tariff.xsd">
    - <tariff>
        - <company name="[redacted]">
            - <facility>
                <tariff_type>Other</tariff_type>
                <bes_flag>false</bes_flag>
                <pjm_oat_facility_status>Yes</pjm_oat_facility_status>
                <included_in_ems_model>No</included_in_ems_model>
                <reportable_trans_facility>No</reportable_trans_facility>
                <pjm_monitored_status>Not monitored, no status</pjm_monitored_status>
                <effective_date>1999-01-01 00:00:00</effective_date>
              </facility>
            - <facility>
                <tariff_type>Line</tariff_type>
                <bes_flag>false</bes_flag>
                <pjm_oat_facility_status>Yes</pjm_oat_facility_status>
                <included_in_ems_model>No</included_in_ems_model>
                <reportable_trans_facility>No</reportable_trans_facility>
                <pjm_monitored_status>Not monitored, no status</pjm_monitored_status>
                <effective_date>1999-01-01 00:00:00</effective_date>
              </facility>
            - <facility>
                <tariff_type>Voltage Combination</tariff_type>
                <station>[redacted]</station>
                <bes_flag>false</bes_flag>
                <voltage>230 KV</voltage>
                <pjm_oat_facility_status>Yes</pjm_oat_facility_status>
                <included_in_ems_model>Yes</included_in_ems_model>
                <reportable_trans_facility>Yes</reportable_trans_facility>
                <pjm_monitored_status>Future</pjm_monitored_status>
                <effective_date>1999-01-01 00:00:00</effective_date>
              </facility>
```

Transmission Notification Report Download

Functional Overview

This download provides transmission tickets that the user's company is notified of, and has not acknowledged. This endpoint does not acknowledge the tickets in the database.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No
start	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Result**: If included, returns only tickets with start date greater than this date/time	No
stop	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Result**: If included, returns only tickets with end date less than this date/time	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transwithnotify
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q includehistorical=false
```

Example Output

```
<?xml version="1.0" encoding="UTF-8"?>
- <edart xsi:noNamespaceSchemaLocation="transticnotifyreview.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <transticnotifyreview>
      <company_name>[redacted]</company_name>
      <pjm_ticket_id>15126</pjm_ticket_id>
      <description>SERVICE AND WINTERIZE KEYSTONE-ALBURTIS TIE CB @ JUNIATA</description>
      <project_ids/>
      <at_risk>false</at_risk>
      <availability>1hr</availability>
      <lock_status>free</lock_status>
    - <ticket_status>
        <status>Completed</status>
      </ticket_status>
      <modeling_requests/>
    - <interval_definition>
      - <interval_start>
          <date>1999-10-19</date>
          <time>08:00:00</time>
        </interval_start>
      - <interval_end>
          <date>1999-10-19</date>
          <time>14:30:00</time>
        </interval_end>
      </interval_definition>
      <outage_type>DailyNoWeekends</outage_type>
      <ticket_type emergency="false" info="false"/>
    - <equipment primaryEquipFlag="true" status="O">
        <ta_id>18995</ta_id>
        <warning>Retired equipment</warning>
      - <facility_information>
          <type>BRKR</type>
          <station>[redacted]</station>
          <voltage>500 KV</voltage>
          <short_name>KEYSALBU</short_name>
          <long_name>[redacted]</long_name>
        </facility_information>
      - <interval_definition>
        - <interval_start>
            <date>1999-10-19</date>
            <time>08:00:00</time>
          </interval_start>
        - <interval_end>
            <date>1999-10-19</date>
            <time>14:30:00</time>
          </interval_end>
        </interval_definition>
      </equipment>
```

```
- <active_dates>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:10:00</time>
      </interval_start>
    - <interval_end>
        <date>1999-10-19</date>
        <time>14:58:00</time>
      </interval_end>
    </interval_definition>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:00:00</time>
      </interval_start>
    - <interval_end>
        <date>1999-10-19</date>
        <time>14:30:00</time>
      </interval_end>
    </interval_definition>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:00:00</time>
      </interval_start>
    - <interval_end>
        <date>1999-10-19</date>
        <time>14:30:00</time>
      </interval_end>
    </interval_definition>
  </active_dates>
- <switch>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:00:00</time>
      </interval_start>
    </interval_definition>
  </switch>
  <congestionExpected>false</congestionExpected>
  <submittedOnTime>false</submittedOnTime>
  <submitOnTimeComments/>
  <vegetationFlag>false</vegetationFlag>
  <cause description="Unknown">-2</cause>
  <totalSystemImpacts>0</totalSystemImpacts>
  <unmitigatedSystemImpacts>0</unmitigatedSystemImpacts>
  <cutInFlag>false</cutInFlag>
  <totalConflicts>0</totalConflicts>
  <unmitigatedConflicts>0</unmitigatedConflicts>
```

```
- <company_actuals>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:10:00</time>
      </interval_start>
    - <interval_end>
        <date>1999-10-19</date>
        <time>14:58:00</time>
      </interval_end>
    </interval_definition>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:00:00</time>
      </interval_start>
    - <interval_end>
        <date>1999-10-19</date>
        <time>14:30:00</time>
      </interval_end>
    </interval_definition>
  - <interval_definition>
    - <interval_start>
        <date>1999-10-19</date>
        <time>08:00:00</time>
      </interval_start>
    - <interval_end>
        <date>1999-10-19</date>
        <time>14:30:00</time>
      </interval_end>
    </interval_definition>
  </company_actuals>
  <equipment_default/>
  <takeout_restore/>
  <restplan/>
</transticnotifyreview>
```


Transmission Acknowledge Notifications Download

Functional Overview

This download provides transmission tickets that the user's company is notified of, and acknowledges them in the database.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No
start	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Result**: If included, returns only tickets with start date greater than this date/time	No

Name	CLI Argument Type	Value/Result	Required
stop	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Result**: If included, returns only tickets with end date less than this date/time	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=transwithnotifywithacknowledge
-u %USER%
-p %PSWD%
-s %SERVICEURL%
```

Example Output


```
<?xml version="1.0" encoding="UTF-8"?>
- <edart xsi:noNamespaceSchemaLocation="transticnotifyreview.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <transticnotifyreview>
      <company_name>[redacted]</company_name>
      <pjm_ticket_id>374325</pjm_ticket_id>
      <company_ticket_id>16680</company_ticket_id>
      <description>Deans 500kv - Installation of a new 500-kV breaker in bus section 7 creating bus section 8 and new 7-8 breaker. (3-7 breaker is really the 7-8 breaker)</description>
      <project_ids/>
      <pjm_comments>Contingency overloads on Kilmer-Sayreville l/o Smithburg-EastWindsor E-2005 230kV without Red Oak or South River generation.DF(2/2)</pjm_comments>
      <at_risk>false</at_risk>
      <availability>Duration</availability>
      <lock_status>free</lock_status>
    - <ticket_status>
        <status>Revised</status>
        <revisedtime>2010-09-27 11:14:20</revisedtime>
        <reviseduser>esocplant</reviseduser>
        <completedtime>2010-02-16 20:40:04</completedtime>
        <completeduser>MCBEEG</completeduser>
        <activetime>2010-02-03 20:48:48</activetime>
        <activeuser>LIBERJ</activeuser>
        <approvedtime>2010-02-01 11:08:57</approvedtime>
        <approveduser>HUANGN</approveduser>
        <revisedtime>2009-12-21 10:04:16</revisedtime>
        <reviseduser>djnj456t</reviseduser>
        <receivedtime>2009-05-05 07:55:52</receivedtime>
        <receiveduser>DIAZP</receiveduser>
        <submittime>2009-05-05 07:43:48</submittime>
        <submituser>cmragone</submituser>
      </ticket_status>
      <modeling_requests/>
    - <interval_definition>
      - <interval_start>
          <date>2020-07-23</date>
          <time>20:00:00</time>
        </interval_start>
      - <interval_end>
          <date>2020-07-24</date>
          <time>22:00:00</time>
        </interval_end>
      </interval_definition>
      <outage_type>Continuous</outage_type>
      <ticket_type emergency="false" info="false"/>
    - <equipment primaryEquipFlag="false" status="O">
        <ta_id>9287</ta_id>
      - <facility_information>
          <type>XFMR</type>
          <station>[redacted]</station>
          <voltage>500 KV</voltage>
          <short_name>500-3</short_name>
          <long_name>[redacted]</long_name>
        </facility_information>
```

```
    - <interval_definition>
      - <interval_start>
            <date>2020-07-23</date>
            <time>20:00:00</time>
        </interval_start>
      - <interval_end>
            <date>2020-07-24</date>
            <time>22:00:00</time>
        </interval_end>
    </interval_definition>
  </equipment>
- <equipment primaryEquipFlag="false" status="R">
    <ta_id>15791</ta_id>
  - <facility_information>
        <type>BRKR</type>
        <station>[redacted]</station>
        <voltage>230 KV</voltage>
        <short_name>SECT9-10</short_name>
        <long_name>[redacted]</long_name>
    </facility_information>
  - <interval_definition>
      - <interval_start>
            <date>2020-07-23</date>
            <time>20:00:00</time>
        </interval_start>
      - <interval_end>
            <date>2020-07-24</date>
            <time>22:00:00</time>
        </interval_end>
    </interval_definition>
  </equipment>
- <equipment primaryEquipFlag="false" status="T">
    <ta_id>15792</ta_id>
  - <facility_information>
        <type>BRKR</type>
        <station>[redacted]</station>
        <voltage>230 KV</voltage>
        <short_name>SECT2-10</short_name>
        <long_name>[redacted]</long_name>
    </facility_information>
  - <interval_definition>
      - <interval_start>
            <date>2020-07-23</date>
            <time>20:00:00</time>
        </interval_start>
      - <interval_end>
            <date>2020-07-24</date>
            <time>22:00:00</time>
        </interval_end>
    </interval_definition>
  </equipment>


- <active_dates>
  - <interval_definition>
    - <interval_start>
          <date>2010-02-03</date>
          <time>20:48:00</time>
      </interval_start>
    - <interval_end>
          <date>2010-02-16</date>
          <time>20:23:00</time>
      </interval_end>
    </interval_definition>
  </active_dates>
- <switch>
  - <interval_definition>
    - <interval_start>
          <date>2020-07-23</date>
          <time>20:00:00</time>
      </interval_start>
    </interval_definition>
  </switch>
  <congestionExpected>true</congestionExpected>
  <submittedOnTime>false</submittedOnTime>
  <submitOnTimeComments>Ticket was Revised at 07/22/2020 10:42. In order to be On-Time changes need to be submitted by 06/01/2020 00:00.</submitOnTimeComments>
  <vegetationFlag>false</vegetationFlag>
  <cause description="Construction: New Equipment">21</cause>
  <cause description="Cut-In">65</cause>
  <totalSystemImpacts>1</totalSystemImpacts>
  <unmitigatedSystemImpacts>1</unmitigatedSystemImpacts>
  <cutInFlag>true</cutInFlag>
- <cutInInfo>
    <cutInTitle>Unreviewed</cutInTitle>
    <cutInStatus>Unreviewed</cutInStatus>
  </cutInInfo>
- <nerctads>
    <planned>Maintenance and Construction</planned>
  </nerctads>
  <totalConflicts>0</totalConflicts>
  <unmitigatedConflicts>0</unmitigatedConflicts>
- <company_actuals>
  - <interval_definition>
    - <interval_start>
          <date>2010-02-03</date>
          <time>20:48:00</time>
      </interval_start>
    - <interval_end>
          <date>2010-02-16</date>
          <time>20:23:00</time>
      </interval_end>
    </interval_definition>
  </company_actuals>
  <equipment_default/>
```

```
- <takeout_restore>
    - <equipment ta_id="15792">
        <status>T</status>
      </equipment>
    - <equipment ta_id="15791">
        <status>R</status>
      </equipment>
    - <equipment ta_id="15807">
        <status>TR</status>
      </equipment>
  </takeout_restore>
- <restplan>
    <restplanreview>1413 - Update Required</restplanreview>
  </restplan>
</transticnotifyreview>
```

Reactive Reserve Check (RRC) Endpoints

XML information for the RRC downloads are available to Transmission users regardless of your role, uploads are available only to those with Transmission Write roles. The main XML for the RRC endpoints is located here.

The Reactive Reserve Check (RRC) is a PJM Procedure that ensures accuracy of PJM information with respect to Reactive Power (MVAR) support on the system, particularly during extreme peak or light loads. PJM provides its derived reserves as determined by the PJM Energy Management System (EMS). When requested, Transmission Owners (TOs) provide their calculated and/or telemetered reactive reserves to PJM. PJM Dispatch compares the TO values with PJM values and, where discrepancies exist, PJM Dispatch works with the TOs to resolve the differences.

Equipment Type of GEN includes RRC Equipment Types of SVCs/Statcom and Units/Condensers. Equipment Type of CAP includes RRC Equipment Types of Capacitors and Reactors.

These are the download types available for RRC:

Type	Can be run when there is an open RRC in progress	Can be run when there is no open RRC
rrcselfcheck	*yes (will return last update if RRC is not opened)*	yes
rrcequipmentlist	yes	yes
rrcbydate	yes	yes
rrcfull	yes	yes
rrcrevise	yes	no

RRC Self Check Download

Functional Overview

This download provides a snapshot view of derived reserves, updated every 5 minutes, with respect to static and dynamic reactive resources as determined by the PJM Energy Management System [EMS] based upon equipment availability, status, and limitations. This download is actually independent of the reserve numbers submitted by member companies, and it can be run at any time.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=rrcselfcheck
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <rrcv2:rrcSelfCheckDownload xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:rrcv2="http://www.pjm.com/external/schemas/rrc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd">
    <last_updated_timestamp>2019-06-05T13:34:34.000-04:00</last_updated_timestamp>
    <current_timestamp>2021-01-27T14:45:41.524-05:00</current_timestamp>
  - <equipment>
    - <unit unit_id="0" ta_id="1661560">
        <edart_availability>false</edart_availability>
        <avr_auto>Y</avr_auto>
        <unit_status>Offline</unit_status>
        <avr_status>Auto</avr_status>
        <se_mw>0</se_mw>
        <se_mvar>0</se_mvar>
        <max_mvar>15</max_mvar>
        <lagging_mvar_peak>0</lagging_mvar_peak>
      </unit>
    - <unit unit_id="0" ta_id="1661561">
        <edart_availability>false</edart_availability>
        <avr_auto>Y</avr_auto>
        <unit_status>Offline</unit_status>
        <avr_status>Manual</avr_status>
        <se_mw>0</se_mw>
        <se_mvar>0</se_mvar>
        <max_mvar>0</max_mvar>
        <lagging_mvar_peak>0</lagging_mvar_peak>
      </unit>
    - <unit unit_id="0" ta_id="1661562">
        <edart_availability>false</edart_availability>
        <avr_auto>Y</avr_auto>
        <unit_status>Offline</unit_status>
        <avr_status>Auto</avr_status>
        <se_mw>0</se_mw>
        <se_mvar>0</se_mvar>
        <max_mvar>10</max_mvar>
        <lagging_mvar_peak>0</lagging_mvar_peak>
      </unit>
```


RRC Equipment List Download

Functional Overview

This download provides a list of all the equipment included in the RRC: Capacitors, Reactors, SVCs owned by the TO and Units in the TO’s zone. It provides the member company with information about each piece of equipment including TA_IDs, used in the other RRC downloads and uploads which can be translated to Station, Voltage and Equipment Name. Users can review the list and notify PJM if any equipment should be excluded from the RRC.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=rrcequipmentlist
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <rrcv2:rrcEquipmentList xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:rrcv2="http://www.pjm.com/external/schemas/rrc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd">
  - <rrcEquipment type="Capacitor">
      <ta_id>1757543</ta_id>
      <equipmentType>CAP</equipmentType>
      <station>[redacted]</station>
      <voltage>115 KV</voltage>
      <short_name>3</short_name>
      <long_name>[redacted]</long_name>
    </rrcEquipment>
  - <rrcEquipment type="Capacitor">
      <ta_id>1669312</ta_id>
      <equipmentType>CAP</equipmentType>
      <station>[redacted]</station>
      <voltage>13 KV</voltage>
      <short_name>7843 CAP</short_name>
      <long_name>[redacted]</long_name>
    </rrcEquipment>
  - <rrcEquipment type="Capacitor">
      <ta_id>1769417</ta_id>
      <equipmentType>CAP</equipmentType>
      <station>[redacted]</station>
      <voltage>34.5 KV</voltage>
      <short_name>CAP2</short_name>
      <long_name>[redacted]</long_name>
    </rrcEquipment>
```

RRC by Date

Functional Overview

This download provides the finalized information on the RRC by Date download. The RRC by Date download allows members to see a list of RRC request IDs for a date range. The RRC request IDs will then be used when downloading other RRC endpoints.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Values:** Date in form MM/DD/YYYY **Result**: Returns RRC request report Ids generated after this date, inclusive	Yes

Name	CLI Argument Type	Value/Result	Required
stop	Query	**Values:** Date in form MM/DD/YYYY **Result**: Returns RRC request report Ids generated before this date, inclusive	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=rrcbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=07/01/2019
-q stop=06/01/2020

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <rrcv2:rrcByDate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:rrcv2="http://www.pjm.com/external/schemas/rrc/v2"
xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd">
  - <rrcIds endDate="2021-01-01T00:00:00.000-05:00" startDate="2020-01-01T00:00:00.000-05:00">
      - <rrcId>
            <id>1471</id>
            <requestTimestamp>2020-07-07T16:20:17.000-04:00</requestTimestamp>
        </rrcId>
      - <rrcId>
            <id>1451</id>
            <requestTimestamp>2020-07-02T15:57:11.000-04:00</requestTimestamp>
        </rrcId>
      - <rrcId>
            <id>1431</id>
            <requestTimestamp>2020-01-13T15:55:53.000-05:00</requestTimestamp>
        </rrcId>
    </rrcIds>
</rrcv2:rrcByDate>
```


RRC Full Download

Functional Overview

This download provides the complete information about an RRC. It includes the RRC comments and a list of all equipment in the RRC with values for all their attributes. Sections for Capacitors, Reactors and SVCs/Statcoms include both the PJM number and the company submitted numbers, so that discrepancies can be easily identified. The section for units all have the PJM values as this is read only for the TOs.

When you execute a full download, the download will return the current RRC in progress if there is one, or the most recent posted RRC if there is none in progress.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
rrcid	Query	**Values:** Number **Result**: Returns RRC information associated with the RRC ID is displayed. If no ID is entered, the latest RRC is displayed.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=rrcfull
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q rrcid=1234
```

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <rrcv2:rrcFull xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:rrcv2="http://www.pjm.com/external/schemas/rrc/v2"
xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd">
    <reportRequestId>1491</reportRequestId>
    <rrcType>Peak</rrcType>
    <requestTimeStamp>2021-01-21T12:21:43.000-05:00</requestTimeStamp>
    <currentTimeStamp>2021-01-27T14:54:02.000-05:00</currentTimeStamp>
    <description>create for Dart UI upload testing RRC Data is not available or is outdated. Initiating RRC with stale data.</description>
    <to_generic_note>company note: Dart UI upload testing</to_generic_note>
  - <to_notes>
        <to_note to_name="[redacted]"/>
    </to_notes>
  - <to_responses>
        <to_response to_name="[redacted]"/>
    </to_responses>
  - <equipment>
    - <Capacitor ta_id="1769417">
        <eDART_availability>true</eDART_availability>
        <se_Status>Offline</se_Status>
        <se_Kv>34.13</se_Kv>
        <se_Mvar>0</se_Mvar>
        <rated_Mvar_PJM>5.4</rated_Mvar_PJM>
        <mVar_Reserve>5.4</mVar_Reserve>
      </Capacitor>
    - <Capacitor ta_id="1669295">
        <eDART_availability>true</eDART_availability>
        <se_Status>Offline</se_Status>
        <se_Kv>13.78</se_Kv>
        <se_Mvar>0</se_Mvar>
        <rated_Mvar_PJM>5.4</rated_Mvar_PJM>
        <mVar_Reserve>5.4</mVar_Reserve>
      </Capacitor>
```

RRC Revise Upload

Functional Overview

This upload provides a way to respond to the open RRC by either acknowledging the PJM EMS (Energy Management System) values or submitting changes to the reactive values. When responding to an open RRC, the "Acknowledge All" strings can be set as true even when values are modified. In this case, the upload is acknowledging the modified values. There are 5 fields that can be updated:

rrcRevise/note

rrcRevise/capacitor/ratedMVAR

rrcRevise/reactor/ratedMVAR

rrcRevise/svc/maxMVAR

rrcRevise/svc/minMVAR

Set it to true to acknowledge all Capacitors and update the value for ID 1234. The reserve numbers can be positive, negative or decimal values. The response from the upload is in xml format. For each equipment submitted, the status will be "OK" if the numbers were uploaded successfully, or it will give an error message if something was wrong and the MVAR value could not be updated.

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
-o {filename2.xml}
```

Example Input – To acknowledge all equipment without modification

```
<?xml version="1.0" encoding="UTF-8"?>
- <rrc:rrcRevise xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd"
  xmlns:rrc="http://www.pjm.com/external/schemas/rrc/v2" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
      <reportRequestId>1491</reportRequestId>
    - <to_responses>
          <to_response to_name="JC">UI upload test-set all acks to true</to_response>
      </to_responses>
      <acknowledgeAllCapacitors>true</acknowledgeAllCapacitors>
      <acknowledgeAllReactors>true</acknowledgeAllReactors>
      <acknowledgeAllSVC>true</acknowledgeAllSVC>
  </rrc:rrcRevise>
```

Example Input – To acknowledge all equipment with modification

```
<?xml version="1.0" encoding="UTF-8"?>
- <rrc:rrcRevise xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd"
  xmlns:rrc="http://www.pjm.com/external/schemas/rrc/v2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <reportRequestId>1471</reportRequestId>
    - <to_responses>
          <to_response to_name="PE">Submitting an RRC Upload to acknowledge an SVC</to_response>
      </to_responses>
      <acknowledgeAllCapacitors>false</acknowledgeAllCapacitors>
      <acknowledgeAllReactors>false</acknowledgeAllReactors>
      <acknowledgeAllSVC>false</acknowledgeAllSVC>
    - <svc ta_id="1660779">
          <maxMVAR>10</maxMVAR>
          <minMVAR>20</minMVAR>
      </svc>
  </rrc:rrcRevise>
```

Example Output – Response file

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <rrcv2:rrcReviseResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:rrcv2="http://www.pjm.com/external/schemas/rrc/v2"
  xsi:schemaLocation="http://www.pjm.com/external/schemas/rrc/v2 rrc.xsd">
    - <status ta_id="1668498">
          <message>OK</message>
      </status>
    - <status ta_id="1668499">
          <message>OK</message>
      </status>
    - <status ta_id="1668500">
          <message>OK</message>
      </status>
    - <status ta_id="1668501">
          <message>OK</message>
      </status>
    - <status ta_id="1668502">
          <message>OK</message>
      </status>
  </rrcv2:rrcReviseResponse>
```

Instantaneous Reserve Check (IRC) Endpoints

XML information for the IRC downloads are available to Transmission and Generation users based on your role, uploads are available only to those with Generation Write roles. The main XML for the IRC endpoints is located here.

Instantaneous Reserve Check (IRC) is used to verify that enough reserve generation is available at a given moment in time. All generator owners must report their reserve information to PJM when requested. PJM initiates IRCs and Generation Owners are expected to respond in a timely fashion. IRCs can be performed twice per day and more frequently as conditions require. The results are used to initiate some Emergency Procedures as needed.

These are the download types available for IRC:

Type	Can be run when there is an open IRC in progress	Can be run when there is no open IRC
ircbydate	yes	yes
ircselfcheck	no	yes
ircfull	yes	yes (can request a particular past IRC ID)
ircpooltotals	yes	yes
ircrevise	yes	no
ircrevisedownload	yes	no

IRC Self Check Download

Functional Overview

This download provides a snapshot view of unit reserve information from PJM's Energy Management System (EMS). The download is actually independent of the reserve numbers submitted by member companies, and it can be run at any time as long as there is no open IRC. It is updated every 5 minutes.

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=ircselfcheck
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o "outputfile.xml"
```

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircSelfCheckDownload xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
    <lastUpdatedTimestamp>2015-05-19T17:07:05.000-04:00</lastUpdatedTimestamp>
    <currentTimestamp>2021-01-27T15:02:32.558-05:00</currentTimestamp>
  - <Generator id="1409">
        <acap>642</acap>
        <generatorType>Steam/Fossil</generatorType>
        <zone>[redacted]</zone>
        <ecoMax>0</ecoMax>
        <realTimeMW>617</realTimeMW>
        <regulating>0</regulating>
        <synchronizedReserves>5</synchronizedReserves>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <beyondSecondary>0</beyondSecondary>
        <readOnly>false</readOnly>
    </Generator>
  - <Generator id="1410">
        <acap>409</acap>
        <generatorType>Steam/Fossil</generatorType>
        <zone>[redacted]</zone>
        <ecoMax>0</ecoMax>
        <realTimeMW>0</realTimeMW>
        <regulating>0</regulating>
        <synchronizedReserves>0</synchronizedReserves>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <beyondSecondary>0</beyondSecondary>
        <readOnly>true</readOnly>
    </Generator>
```


IRC Pool Totals Download

Functional Overview

This download provides information on the Pool or Reserve Area data. The data returned will be from the current IRC if there is one in progress or from the most recent IRC if none is currently open. The report displays current values by 2 Pool/Reserve Areas: RTO (Total IRC values for all companies) and MAD (IRC values for all companies in the Mid-Atlantic region only). The values are the same for all companies.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=ircpooltotals
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircPoolTotalsDownload xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
    <reportRequestId>4039</reportRequestId>
    <reportPostedTimestamp>2021-01-21T16:05:33.000-05:00</reportPostedTimestamp>
    <requestTimestamp>2021-01-21T11:51:11.000-05:00</requestTimestamp>
    <currentTimestamp>2021-01-27T15:05:14.891-05:00</currentTimestamp>
  - <ircPoolTotals>
      - <ReserveArea name="RTO">
            <totalSynchronizedReserve>2322</totalSynchronizedReserve>
            <primaryReserve>3406</primaryReserve>
            <operatingReserve>9355</operatingReserve>
            <requiredSynchronizedReserve>1350</requiredSynchronizedReserve>
            <requiredPrimaryReserve>2025</requiredPrimaryReserve>
            <largestContingency>1350</largestContingency>
        </ReserveArea>
      - <ReserveArea name="MAD">
            <totalSynchronizedReserve>1066</totalSynchronizedReserve>
            <primaryReserve>1722</primaryReserve>
            <operatingReserve>3868</operatingReserve>
            <requiredSynchronizedReserve>1282</requiredSynchronizedReserve>
            <requiredPrimaryReserve>1923</requiredPrimaryReserve>
            <largestContingency>1282</largestContingency>
        </ReserveArea>
    </ircPoolTotals>
</ircv2:ircPoolTotalsDownload>
```


IRC by Date Download

Functional Overview

This download allows members to see a list of IRC request IDs and the issue date for each for a given date range. The IRC request IDs can then be used when downloading other IRC endpoints. The values are the same for all companies.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Values:** Date in form MM/DD/YYYY **Result**: Returns IRC request report IDs with request dates after this date, inclusive	Yes
stop	Query	**Values:** Date in form MM/DD/YYYY **Result**: Returns IRC request report IDs with request dates after this date, inclusive	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=ircbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=07/01/2019
-q stop=06/01/2019

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircByDate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2"
xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
  - <ids endDate="2021-01-01-05:00" startDate="2020-01-01-05:00">
      <id>4019</id>
      <id>3999</id>
      <id>3979</id>
      <id>3959</id>
      <id>3939</id>
      <id>3919</id>
      <id>3900</id>
      <id>3899</id>
    </ids>
</ircv2:ircByDate>
```


IRC Full Download

Functional Overview

This download provides information including the IRC comments, pool totals and a list of all generators in the IRC with values for all their attributes. When you execute a full download you may specify an IRC ID or not. If no IRC ID is specified, the download will return the current IRC in progress (if there is one) or the most recent posted IRC if there is none in progress.

In the "Pool Totals" section, the RTO (Regional Transmission Owners) values reflect all companies and the MAD (Mid-Atlantic Dominion) values reflect all Mid-Atlantic companies. The values in this section are not company specific. The values in the "Generator Data" section are company specific and contain both the PJM values and the company submitted values so that discrepancies can be easily identified.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ircid	Query	**Values:** Number **Result**: Returns IRC information associated with the IRC ID entered. Default is the most recent IRC.	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=ircfull
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q ircid=1234

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircFullDownload xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
    <reportRequestId>4039</reportRequestId>
    <reportPostedTimestamp>2021-01-21T16:05:33.000-05:00</reportPostedTimestamp>
    <requestTimestamp>2021-01-21T11:51:11.000-05:00</requestTimestamp>
    <currentTimestamp>2021-01-27T15:07:33.054-05:00</currentTimestamp>
    <acknowledgeAll>false</acknowledgeAll>
  - <ircPoolTotals>
      - <ReserveArea name="RTO">
            <totalSynchronizedReserve>2322</totalSynchronizedReserve>
            <primaryReserve>3406</primaryReserve>
            <operatingReserve>9355</operatingReserve>
            <requiredSynchronizedReserve>1350</requiredSynchronizedReserve>
            <requiredPrimaryReserve>2025</requiredPrimaryReserve>
            <largestContingency>1350</largestContingency>
        </ReserveArea>
      - <ReserveArea name="MAD">
            <totalSynchronizedReserve>1066</totalSynchronizedReserve>
            <primaryReserve>1722</primaryReserve>
            <operatingReserve>3868</operatingReserve>
            <requiredSynchronizedReserve>1282</requiredSynchronizedReserve>
            <requiredPrimaryReserve>1923</requiredPrimaryReserve>
            <largestContingency>1282</largestContingency>
        </ReserveArea>
    </ircPoolTotals>
  - <GeneratorData>
      - <Generator id="1409">
            <acap>642</acap>
            <generatorType>Steam/Fossil</generatorType>
            <zone>[redacted]</zone>
            <ecoMax>0</ecoMax>
            <realTimeMW>617</realTimeMW>
            <regulating>0</regulating>
            <synchronizedReserves xsi:nil="true"/>
            <synchronizedReservesPjm>5</synchronizedReservesPjm>
            <quickStart xsi:nil="true"/>
            <quickStartPjm>0</quickStartPjm>
            <secondary xsi:nil="true"/>
            <secondaryPjm>0</secondaryPjm>
            <beyondSecondary xsi:nil="true"/>
            <beyondSecondaryPjm>0</beyondSecondaryPjm>
            <acknowledged>false</acknowledged>
            <readOnly>false</readOnly>
        </Generator>
```

IRC Revise Download

Functional Overview

This download provides members with the specific values that can be updated and acknowledged. The download data is grouped by generator id. The member can verify the information on this download, and then acknowledge and update it as needed in the upload endpoint IRC Revise (Upload). The revise download already contains only the units that can be modified with only the fields that can be modified.

Each unit has an acknowledged flag and the 4 numbers that can be modified. To modify something in a unit, it is not enough to set the numbers, you also need to set the acknowledged flag to true, a change must be acknowledged to be accepted.

The global acknowledge flag (acknowledgeAll) works in this way: if it's false, it's ignored. If it is set to true however it overrides all the unit individual ack flags. The global ack flag applies to the units present in the file, or if there are no units in the upload file to ALL company's units. You can submit just the global ack flag, with no units in the file which will acknowledge all the company's units, or acknowledge a specific unit by identifying only that specific unit.
Reserve numbers have to be positive integers, negative or fractional numbers are not accepted.

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=ircrevise
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircReviseDownload xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
    <reportRequestId>3999</reportRequestId>
    <reportPostedTimestamp xsi:nil="true"/>
    <requestTimestamp>2020-06-03T11:45:50.000-04:00</requestTimestamp>
    <currentTimestamp>2020-06-03T13:42:39.823-04:00</currentTimestamp>
    <comments/>
    <acknowledgeAll>false</acknowledgeAll>
  - <Generator id="1409">
        <acknowledged>false</acknowledged>
        <beyondSecondary>0</beyondSecondary>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <synchronizedReserves>5</synchronizedReserves>
    </Generator>
  - <Generator id="1411">
        <acknowledged>false</acknowledged>
        <beyondSecondary>0</beyondSecondary>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <synchronizedReserves>0</synchronizedReserves>
    </Generator>
  - <Generator id="1412">
        <acknowledged>false</acknowledged>
        <beyondSecondary>0</beyondSecondary>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <synchronizedReserves>0</synchronizedReserves>
    </Generator>
</ircv2:ircReviseDownload>
```

IRC Revise Upload

Functional Overview

This upload provides a method to respond to an open IRC by either acknowledging the PJM EMS (Energy Management System) values or submitting changes to the IRC values by generator id. The file generated in the IRC Revise (download) can be modified with the updated values and then uploaded. If acknowledging all PJM's EMS reserve values, generator data is not required.

To upload reserve numbers when an IRC is open:

1. Execute a revise download. This will output an xml file labeled ircrevise.xml, which contains all the units that can be modified (some units are read-only and will not appear here)
2. Open the xml file and make the desired changes
3. Execute an upload with this xml file

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
-o {filename2.xml}

Example Request Upload Input

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircReviseDownload xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance"
xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
    <reportRequestId>3979</reportRequestId>
    <reportPostedTimestamp xsi:nil="true"/>
    <requestTimestamp>2020-05-15T10:01:22.000-04:00</requestTimestamp>
    <currentTimestamp>2020-05-15T10:18:36.210-04:00</currentTimestamp>
        <!--<comments></comments>-->
    <comments>Comment for step 15- ACK each gen</comments>
    <acknowledgeAll>false</acknowledgeAll>
  - <Generator id="1409">
        <acknowledged>true</acknowledged>
        <beyondSecondary>11</beyondSecondary>
        <quickStart>22</quickStart>
        <secondary>33</secondary>
        <synchronizedReserves>44</synchronizedReserves>
    </Generator>
  - <Generator id="1411">
        <acknowledged>true</acknowledged>
        <beyondSecondary>0</beyondSecondary>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <synchronizedReserves>0</synchronizedReserves>
    </Generator>
  - <Generator id="1412">
        <acknowledged>true</acknowledged>
        <beyondSecondary>0</beyondSecondary>
        <quickStart>0</quickStart>
        <secondary>0</secondary>
        <synchronizedReserves>0</synchronizedReserves>
    </Generator>
</ircv2:ircReviseDownload>
```

Example Response Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <ircv2:ircUploadResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ircv2="http://www.pjm.com/external/schemas/irc/v2" xsi:schemaLocation="http://www.pjm.com/external/schemas/irc/v2 irc.xsd">
  - <Generator id="1409">
        <status>GEN_ID: 1409 - OK</status>
    </Generator>
  - <Generator id="1411">
        <status>GEN_ID: 1411 - OK</status>
    </Generator>
  - <Generator id="1412">
        <status>GEN_ID: 1412 - OK</status>
    </Generator>
</ircv2:ircUploadResponse>
```

Voltage Schedule Endpoints

XML information for the Voltage Schedule downloads are available to both Generation and Transmission users based on their role, uploads are available to those with Write roles. The main XML for these endpoints is located here.

Voltage Schedule endpoints aid compliance monitoring of Voltage Schedule communication between PJM, Transmission Owners and Generation Owners. Voltage Schedule tickets can be revised until it is in the status “PJM Reviewed” or ”GO Acknowledged”, when the ticket is in those statuses, the member must create another ticket.

Voltage Schedule Upload

Functional Overview

This upload will provide a process to acknowledge the Voltage Schedule tickets they own or are notified of. Adding a comment when acknowledging the ticket is allowable but not required.

If the owner does not want to acknowledge the ticket, but instead, only add a comment without acknowledgement, this upload will also be used.

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
-o {filename2.xml}
```

Example Input – New ticket creation by Transmission Owner

```
<?xml version="1.0"?>
- <vs:voltageSchedules class=" cd-browser-extension" xsi:schemaLocation="http://www.pjm.com/external/schemas/voltageschedule/v1 voltageschedule.xsd"
xmlns:vs="http://www.pjm.com/external/schemas/voltageschedule/v1" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
      <!-- New Voltage Schedule Ticket (for TO) -->
  - <voltageSchedule>
      <unitNumber>{unit}</unitNumber>
      <scheduleType>{Voltage/PowerFactor/Reactive/TO Exempt}</scheduleType>
      <effectiveDate>yyyy-mm-ddT00:00:00.000</effectiveDate>
      <status>{Submitted/Saved}</status>
      <busName>{unit business name}</busName>
      <toComments>{TO comments}</toComments>
    - <normalValues>
        <target>integer</target>
        <pfType>{Lead/Lag/Unity}</pfType>
          <!-- use for scheduleType=PowerFactor only-->
        <lowerBound>decimal</lowerBound>
        <lowerValue>integer</lowerValue>
          <!-- use for scheduleType=PowerFactor only-->
        <lowerPfType>{Lead/Lag/Unity}</lowerPfType>
          <!-- use for scheduleType=PowerFactor only-->
        <upperBound>decimal</upperBound>
        <upperValue>integer</upperValue>
          <!-- use for scheduleType=PowerFactor only-->
        <upperPfType>{Lead/Lag/Unity}</upperPfType>
          <!-- use for scheduleType=PowerFactor only-->
      </normalValues>
    - <lightValues>
        <target>integer</target>
        <pfType>{Lead/Lag/Unity}</pfType>
          <!-- use for scheduleType=PowerFactor only-->
        <lowerBound>decimal</lowerBound>
        <lowerValue>integer</lowerValue>
          <!-- use for scheduleType=PowerFactor only-->
        <lowerPfType>{Lead/Lag/Unity}</lowerPfType>
          <!-- use for scheduleType=PowerFactor only-->
        <upperBound>decimal</upperBound>
        <upperValue>integer</upperValue>
          <!-- use for scheduleType=PowerFactor only-->
        <upperPfType>{Lead/Lag/Unity}</upperPfType>
          <!-- use for scheduleType=PowerFactor only-->
      </lightValues>
    - <heavyValues>
        <target>integer</target>
        <pfType>{Lead/Lag/Unity}</pfType>
          <!-- use for scheduleType=PowerFactor only-->
        <lowerBound>decimal</lowerBound>
        <lowerValue>integer</lowerValue>
          <!-- use for scheduleType=PowerFactor only-->
        <lowerPfType>{Lead/Lag/Unity}</lowerPfType>
          <!-- use for scheduleType=PowerFactor only-->
        <upperBound>decimal</upperBound>
        <upperValue>integer</upperValue>
          <!-- use for scheduleType=PowerFactor only-->
        <upperPfType>{Lead/Lag/Unity}</upperPfType>
          <!-- use for scheduleType=PowerFactor only-->
      </heavyValues>
    </voltageSchedule>
</vs:voltageSchedules>
```

Example Input – Ticket revision by Transmission Owner

```
<?xml version="1.0"?>
- <vs:voltageSchedules class=" cd-browser-extension" xsi:schemaLocation="http://www.pjm.com/external/schemas/voltageschedule/v1 voltageschedule.xsd"
xmlns:vs="http://www.pjm.com/external/schemas/voltageschedule/v1" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
        <!-- Revise Voltage Schedule Ticket for TO -->
  - <voltageSchedule>
        <unitNumber>{unit}</unitNumber>
        <scheduleType>{Voltage/PowerFactor/Reactive/TO Exempt}</scheduleType>
        <effectiveDate>yyyy-mm-ddT00:00:00.000</effectiveDate>
        <status>{Submitted/Saved}</status>
        <busName>{unit business name}</busName>
        <toComments>{TO comments}</toComments>
      - <normalValues>
            <target>integer</target>
            <pfType>{Lead/Lag/Unity}</pfType>
                <!--scheduleType=PowerFactor only-->
            <lowerBound>decimal</lowerBound>
            <lowerValue>integer</lowerValue>
                <!-- use for scheduleType=PowerFactor only-->
            <lowerPfType>{Lead/Lag/Unity}</lowerPfType>
                <!--scheduleType=PowerFactor only-->
            <upperBound>decimal</upperBound>
            <upperValue>integer</upperValue>
                <!-- use for scheduleType=PowerFactor only-->
            <upperPfType>{Lead/Lag/Unity}</upperPfType>
                <!--scheduleType=PowerFactor only-->
        </normalValues>
      - <lightValues>
            <target>integer</target>
            <pfType>{Lead/Lag/Unity}</pfType>
                <!--scheduleType=PowerFactor only-->
            <lowerBound>decimal</lowerBound>
            <lowerValue>integer</lowerValue>
                <!-- use for scheduleType=PowerFactor only-->
            <lowerPfType>{Lead/Lag/Unity}</lowerPfType>
                <!--scheduleType=PowerFactor only-->
            <upperBound>decimal</upperBound>
            <upperValue>integer</upperValue>
                <!--scheduleType=PowerFactor only-->
            <upperPfType>{Lead/Lag/Unity}</upperPfType>
                <!--scheduleType=PowerFactor only-->
        </lightValues>
      - <heavyValues>
            <target>integer</target>
            <pfType>{Lead/Lag/Unity}</pfType>
                <!--scheduleType=PowerFactor only-->
            <lowerBound>decimal</lowerBound>
            <lowerValue>integer</lowerValue>
                <!--scheduleType=PowerFactor only-->
            <lowerPfType>{Lead/Lag/Unity}</lowerPfType>
                <!--scheduleType=PowerFactor only-->
            <upperBound>decimal</upperBound>
            <upperValue>integer</upperValue>
                <!--scheduleType=PowerFactor only-->
            <upperPfType>{Lead/Lag/Unity}</upperPfType>
                <!--scheduleType=PowerFactor only-->
        </heavyValues>
    </voltageSchedule>
</vs:voltageSchedules>
```

Example Input – Ticket Acknowledgement by Generation Owner

```
<?xml version="1.0"?>
- <vs:voltageSchedules class=" cd-browser-extension" xsi:schemaLocation="http://www.pjm.com/external/schemas/voltageschedule/v1 voltageschedule.xsd"
xmlns:vs="http://www.pjm.com/external/schemas/voltageschedule/v1" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
        <!-- Acknowledge Voltage Schedule Ticket for GO -->
  - <voltageSchedule>
        <ticketId>{ticketid}</ticketId>
        <status>GO Acknowledged</status>
        <goComments>{GO comments}</goComments>
    </voltageSchedule>
</vs:voltageSchedules>
```

Example Output – ResponseFile

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <vs:voltageScheduleResponses xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:vs="http://www.pjm.com/external/schemas/voltageschedule/v1 voltageschedule.xsd"
  xsi:schemaLocation="http://www.pjm.com/external/schemas/voltageschedule/v1">
    - <voltageScheduleResponse>
        <uploadStatusMessage>New Ticket# 1360 created.</uploadStatusMessage>
        <ticketId>1360</ticketId>
        <ticketStatus>Saved</ticketStatus>
        <unitNumber>1466</unitNumber>
        <effectiveDate>2021-04-03T20:00:00.000-04:00</effectiveDate>
      </voltageScheduleResponse>
  </vs:voltageScheduleResponses>
```

Voltage Schedule Download

Functional Overview

This upload will provide Voltage Schedule ticket information that can be viewed or used to revise an existing Voltage Schedule ticket. One or several tickets can be viewed in the same report depending on the input parameters selected.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
includecurrent	Query	**Values:** true, false **Result:** If "true", returns tickets in the status of "Active" and "Needs Schedule". If "false", returns all tickets Default value is false	No
inprogress	Query	**Values:** true, false **Result:** If "true", returns tickets in the status of "Submitted", "Saved", "PJM Reviewed" and "TO Review". If "false", returns all tickets Default value is false	No
inqueue	Query	**Values**: true, false **Result**: If "true": **For TO** – returns tickets in the status of "Needs Schedule", "Saved", "Submitted" and "TO Review Needed". **For GO** – returns tickets in the status of "PJM Reviewed". If "false", returns all tickets Default value is true	No

Name	CLI Argument Type	Value/Result	Required
includefuture	Query	**Values**: true, false **Result**: If “true”, returns tickets with effective date in the future where the status is not the final status. Default value is false	No
includehistorical	Query	**Values**: true, false **Result**: If “true”, returns historical and current tickets. When using this parameter, both the start and stop must be populated. This applies to searcheffectivedate, toackndate and goackndate Default value is false	No
start	Query	**Values**: Date format, time is not needed **Result**: If this parameter is populated, only tickets on or after the startDate are returned	No
stop	Query	**Values**: Date format, time is not needed **Result**: If this parameter is populated, only tickets on or before the endDate are returned	No
searcheffectivedate	Query	**Values**: true, false **Result**: If “true”, the entered start and stop are compared to the searcheffectivedate to determine if the ticket is returned or not. Default value is true	No
toackndate	Query	**Values**: true, false **Result**: If “true”, the entered startDate and endDate are compared to the toAcknowledgeDate to determine if the ticket is returned or not. This date is based on the date of the yearly review of this ticket by the TO. Default value is true	No
goackndate	Query	**Values**: true, false **Result**: If “true”, the entered startDate and endDate are compared to the goAcknowledgeDate to determine if the ticket is returned or not. This date is based on the date of the yearly review of this ticket by the GO. Default value is true	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=voltageschedule
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=07/01/2019
-q stop=06/01/2019

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <vs:voltageSchedules xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:vs="http://www.pjm.com/external/schemas/voltageschedule/v1"
xsi:schemaLocation="http://www.pjm.com/external/schemas/voltageschedule/v1 voltageschedule.xsd">
  - <voltageSchedule>
      <ticketId>1121</ticketId>
      <goCompany>[redacted]</goCompany>
      <unitNumber>1253</unitNumber>
      <scheduleType>Reactive</scheduleType>
      <effectiveDate>2020-07-29T00:00:00.000-04:00</effectiveDate>
      <status>Active</status>
      <busName>Chester Bus</busName>
      <toComments>Ticket submitted</toComments>
    - <normalValues>
        <target>100</target>
        <lowerBound>67</lowerBound>
        <lowerValue>33</lowerValue>
        <upperBound>110</upperBound>
        <upperValue>210</upperValue>
      </normalValues>
    - <lightValues>
        <target>120</target>
        <lowerBound>110</lowerBound>
        <lowerValue>10</lowerValue>
        <upperBound>115</upperBound>
        <upperValue>235</upperValue>
      </lightValues>
    - <heavyValues>
        <target>125</target>
        <lowerBound>222</lowerBound>
        <lowerValue>-97</lowerValue>
        <upperBound>222</upperBound>
        <upperValue>347</upperValue>
      </heavyValues>
  </voltageSchedule>
  - <voltageSchedule>
      <goCompany>[redacted]</goCompany>
      <unitNumber>20142704</unitNumber>
      <status>Needs Schedule</status>
  </voltageSchedule>
  - <voltageSchedule>
      <ticketId>1122</ticketId>
      <goCompany>[redacted]</goCompany>
      <unitNumber>20142704</unitNumber>
      <scheduleType>TO Exempt</scheduleType>
      <effectiveDate>2020-12-29T00:00:00.000-05:00</effectiveDate>
      <status>Saved</status>
      <busName>N/A</busName>
  </voltageSchedule>
```

Generation Endpoints

XML information for the RRC uploads and downloads are available to both Generation and Transmission users regardless of your role.

XML information for the Generation downloads are available to Generation and Transmission users based on their role, uploads are available only to those with Generation Write roles. The main XML for the Generation endpoints is located here.

Generation endpoints provide a means of communication between PJM and Generation operators regarding outage requests, updates to reactive capacity curves and voltage regulator statuses among other generation and functionalities.

Generation Cause Download

Functional Overview

This download returns the generation outage cause and the generation unit type each is applicable to. This information is used to link the cause ID to the Name, Description and Unit Type.

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype= generationcause
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”
```

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/generationcause/v1 generationcause.xsd">
  - <generation>
    - <cause_list>
      - <cause_type>
          <cause_id>1</cause_id>
          <cause_text>Air Heater</cause_text>
        - <unit_type_list>
            <unit_type>Steam/Fossil</unit_type>
            <unit_type>Nug</unit_type>
            <unit_type>Combined Cycle Steam</unit_type>
            <unit_type>CC Virtual Steam</unit_type>
          </unit_type_list>
        </cause_type>
      - <cause_type>
          <cause_id>2</cause_id>
          <cause_text>Annual Inspections</cause_text>
          <cause_description>Planned Outage associated with inspection and maintenance of gen unit.</cause_description>
        - <unit_type_list>
            <unit_type>Combustion Turbine</unit_type>
            <unit_type>Steam/Fossil</unit_type>
            <unit_type>Hydro- Pumped Storage</unit_type>
            <unit_type>Nuclear</unit_type>
            <unit_type>Nug</unit_type>
            <unit_type>Hydro - Run of River</unit_type>
            <unit_type>Wind</unit_type>
            <unit_type>Geothermal</unit_type>
            <unit_type>Combined Cycle CT</unit_type>
            <unit_type>Diesel</unit_type>
            <unit_type>Battery</unit_type>
            <unit_type>Pressurized Water Reactor</unit_type>
            <unit_type>Combined Cycle Steam</unit_type>
            <unit_type>CC Virtual Steam</unit_type>
            <unit_type>CC Virtual CT</unit_type>
            <unit_type>Flywheel</unit_type>
          </unit_type_list>
        </cause_type>
      - <cause_type>
          <cause_id>3</cause_id>
          <cause_text>Annual Inspections/Refuel</cause_text>
        - <unit_type_list>
            <unit_type>Nuclear</unit_type>
            <unit_type>Pressurized Water Reactor</unit_type>
          </unit_type_list>
        </cause_type>
```


Generation Cause List by Generator Name Download

Functional Overview

This download returns the outage cause type associated with a generator type. For each generator type, only valid outage causes will be displayed.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=genbynamecause
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/genbynamecause/v1 genbynamecause.xsd">
  - <causeListByGenerator>
    - <generator id="1409" name="BRANDON SHORES 1">
        <cause id="1" name="Air Heater"/>
        <cause id="2" name="Annual Inspections"/>
        <cause id="4" name="Boiler Feed Pumps"/>
        <cause id="5" name="Boiler Work"/>
        <cause id="6" name="Breaker Problems"/>
        <cause id="7" name="Breaker Work (Maintenance)"/>
        <cause id="8" name="Chemistry Problem"/>
        <cause id="9" name="Clean Intakes"/>
        <cause id="10" name="Coal Feeder"/>
        <cause id="11" name="Condenser System"/>
        <cause id="13" name="Electrical"/>
        <cause id="14" name="Emissions"/>
        <cause id="17" name="Environmental"/>
        <cause id="18" name="Fan Problem"/>
        <cause id="19" name="Fan Work"/>
        <cause id="20" name="Feed Pump"/>
```


Generator List Download

Functional Overview

This download provides the generation company information of all active generators that are owned by the company or where the company has been granted access to view by the unit owner. The download includes generator unit data for Transmission Owners when notification rights have been given.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=generators
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pjm.com/external/schemas/generators/v1 generators.xsd">
  - <generators>
    - <generator_list>
      - <gen_unit>
          <generator_id>7677</generator_id>
          <generator_name>[redacted]</generator_name>
          <generator_type>Diesel</generator_type>
          <capacity>0</capacity>
          <company_name>[redacted]</company_name>
          <mvar_ratings/>
          <meteredMVARValue>TBD</meteredMVARValue>
          <pss>true</pss>
        </gen_unit>
    </generator_list>
    - <generator_list>
      - <gen_unit>
          <generator_id>15134</generator_id>
          <generator_name>[redacted]</generator_name>
          <generator_type>Wind</generator_type>
          <capacity>3</capacity>
          <company_name>[redacted]</company_name>
          <mvar_ratings/>
          <meteredMVARValue>TBD</meteredMVARValue>
        </gen_unit>
    </generator_list>
    - <generator_list>
      - <gen_unit>
          <generator_id>4567895</generator_id>
          <generator_name>[redacted]</generator_name>
          <generator_type>Combustion Turbine</generator_type>
          <capacity>1000</capacity>
          <company_name>[redacted]</company_name>
          <mvar_ratings/>
          <meteredMVARValue>TBD</meteredMVARValue>
        </gen_unit>
    </generator_list>
```


Generator PSSE Download

Functional Overview

This download displays the PSSE (Power System Simulator Engineering) model mapping for generation equipment owned by a specific member. This information helps members to map their equipment to the same equipment in OATI (Open Access Technology International, Inc.).

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=generatorpsse
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8"?>
- <edart xsi:noNamespaceSchemaLocation="genpsse.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <generator_psse>
    - <generator>
        <generator_id>6215</generator_id>
        <station_a>[redacted]</station_a>
        <station_id>1</station_id>
      </generator>
    - <generator>
        <generator_id>6214</generator_id>
        <station_a>[redacted]</station_a>
        <station_id>2</station_id>
      </generator>
    - <generator>
        <generator_id>6213</generator_id>
        <station_a>[redacted]</station_a>
        <station_id>3</station_id>
      </generator>
    - <generator>
        <generator_id>6216</generator_id>
        <station_a>[redacted]</station_a>
        <station_id>4</station_id>
      </generator>
```


Generation Ticket Upload

Functional Overview

This endpoint allows the user to create, revise and cancel generation outage tickets. The same upload endpoint will be used for all types of generation equipment, the required and revisable elements will vary depending on the equipment type.

When creating a generation ticket, the PJM Ticket ID will not be part of the file. When revising or canceling the ticket, it will be.

NewCompanyTicketId is used to revise the User’s company ticket Id currently associated with the ticket. This field is only available when revising an existing generation ticket.

When creating a generation ticket, the top container is named “newgentic” and will also include the ticket_type where the element values are 1-MW, 2-Volt. Reg., 3-MVAR, 4-Governor, 5-MVAR Test, 6-PSS

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
-o {filename2.xml}

Example Input - Create MW ticket

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  <newgentic>
    <!-- MW Type -->
    <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
    <unitnumber>9999</unitnumber>
    <ticket_type>1</ticket_type>
    <!-- Designates ticket is of MW type -->
    <interval_definition>
      <interval_start>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_start>
      <interval_end>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_end>
    </interval_definition>
    <unknown_end>false</unknown_end>
    <description>Description less than 4000 characters</description>
    <!-- cause, reduction, outage type are used for MW Ticket -->
    <cause>xx</cause>
    <reduction>xx</reduction>
    <outage_type>forecasted planned</outage_type>
    <!--valid values: forecasted planned, maintenance, unplanned-->
    <ramp_down_time>
      <interval_definition>
        <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
      </interval_definition>
    </ramp_down_time>
    <switch>
      <interval_definition>
        <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
        <interval_end>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_end>
      </interval_definition>
    </switch>
    <info_flag>false</info_flag>
    <est_early_return_time>yyyy-mm-ddThh:mm:ss</est_early_return_time>
    <!--valid for outage_type=forecasted planned-->
  </newgentic>
</edart>
```

Example Input – Create Voltage Regulator ticket

```
<?xml version="1.0" encoding="UTF-8"?>
- <edart xsi:noNamespaceSchemaLocation="genticcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  - <newgentic>
        <!-- Voltage Regulator Type -->
      <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
      <unitnumber>9999</unitnumber>
      <ticket_type>2</ticket_type>
        <!-- Designates ticket is of Voltage Regulator type -->
    - <interval_definition>
      - <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
          <!--<interval_end> <date>yyyy-mm-dd</date> <time>hh:mm:ss</time> </interval_end>-->
      </interval_definition>
      <unknown_end>true</unknown_end>
      <description>Description less than 4000 characters</description>
        <!-- service_out, emergency are used for Voltage Regulator Ticket -->
      <service_out>true</service_out>
      <emergency>false</emergency>
    </newgentic>
</edart>
```

Example Input – Create MVAR ticket

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  <newgentic>
    <!-- MVAR Type -->
    <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
    <unitnumber>9999</unitnumber>
    <ticket_type>3</ticket_type>
    <!-- Designates ticket is of MVAR type -->
    <interval_definition>
      <interval_start>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_start>
      <!--<interval_end> <date>yyyy-mm-dd</date> <time>22:00:00</time> </interval_end>-->
    </interval_definition>
    <unknown_end>true</unknown_end>
    <!--interval_end not used if unknown_end is true-->
    <description>Description less than 4000 characters</description>
    <!-- emergency, new default are used for MVAR Ticket -->
    <emergency>true</emergency>
    <new_default>false</new_default>
    <mvar_adjustments>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>100</mw_point>
        <mvar_min>-2551</mvar_min>
        <mvar_max>4501</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>300</mw_point>
        <mvar_min>-201</mvar_min>
        <mvar_max>201</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>400</mw_point>
        <mvar_min>-101</mvar_min>
        <mvar_max>301</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>50</mw_point>
        <mvar_min>-251</mvar_min>
        <mvar_max>451</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>500</mw_point>
        <mvar_min>-151</mvar_min>
        <mvar_max>351</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>575</mw_point>
        <mvar_min>-101</mvar_min>
        <mvar_max>301</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>680</mw_point>
        <mvar_min>-51</mvar_min>
        <mvar_max>251</mvar_max>
      </adj_rating>
      <adj_rating>
        <ta_id>191919</ta_id>
        <mw_point>700</mw_point>
        <mvar_min>-21</mvar_min>
        <mvar_max>201</mvar_max>
      </adj_rating>
    </mvar_adjustments>
  </newgentic>
</edart>
```

Example Input – Create Governor ticket

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  <newgentic>
    <!-- Governor Type -->
    <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
    <unitnumber>9999</unitnumber>
    <ticket_type>4</ticket_type>
    <!-- Designates ticket is of Governor type -->
    <interval_definition>
      <interval_start>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_start>
      <interval_end>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_end>
    </interval_definition>
    <unknown_end>false</unknown_end>
    <description>Description less than 4000 characters</description>
    <!-- service_out, emergency are used for Governor Ticket -->
    <service_out>false</service_out>
    <emergency>false</emergency>
  </newgentic>
</edart>
```

Example Input – Create MVAR Test ticket

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  <newgentic>
    <!-- MVAR Test Type -->
    <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
    <unitnumber>9999</unitnumber>
    <ticket_type>5</ticket_type>
    <!-- Designates ticket is of MVAR Test type -->
    <operational_data>true</operational_data>
    <interval_definition>
      <interval_start>
        <!-- if operational_data=false, interval_start must be > today -->
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_start>
      <interval_end>
        <!-- interval_end always required for MVAR Test-->
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_end>
    </interval_definition>
    <description>Description less than 4000 characters</description>
  </newgentic>
</edart>
```

Example Input – Create PSS ticket

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  <newgentic>
      <!-- PSS Type -->
    <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
    <unitnumber>9999</unitnumber>
      <!-- unit with PSS=true, ICAP>0-->
    <ticket_type>6</ticket_type>
      <!-- Designates ticket is of PSS type -->
    <interval_definition>
      <interval_start>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_start>
      <interval_end>
        <date>yyyy-mm-dd</date>
        <time>hh:mm:ss</time>
      </interval_end>
    </interval_definition>
    <unknown_end>false</unknown_end>
    <description>Description less than 4000 characters</description>
      <!-- service_out, emergency are used for PSS Ticket -->
    <service_out>true</service_out>
    <emergency>true</emergency>
  </newgentic>
</edart>
```

Example Input – Revise Generation ticket

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticrevise.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  <genticrevise>
    <pjm_ticket_id>xxxxxx</pjm_ticket_id>
    <company_ticket_id>string</company_ticket_id>
    <description_revision append="true">string less than 4000 characters</description_revision>
    <revisiondate>
      <interval_definition>
        <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
        <interval_end>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_end>
      </interval_definition>
    </revisiondate>
    <mw_revision>
        <!-- MW type only -->
      <reduction>xx</reduction>
      <effective_date>yyyy-mm-dd hh:mm:ss</effective_date>
    </mw_revision>
    -->
    <ramp_down_time>
        <!-- MW type only -->
      <interval_definition>
        <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
      </interval_definition>
    </ramp_down_time>
    <switch>
        <!-- MW type only -->
      <interval_definition>
        <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
        <interval_end>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_end>
      </interval_definition>
    </switch>
    <est_early_return_time>yyyy-mm-ddThh:mm:ss</est_early_return_time>
        <!-- MW type only -->
  </genticrevise>
</edart>
```

Example Response

```
<?xml version="1.0" encoding="UTF-8"?>
<edartreply>
  <ticket_info>
    <pjm_ticket_id>797850</pjm_ticket_id>
    <company_ticket_id>SMOKE 14DEC2020-GOV</company_ticket_id>
    <message>Generator ticket upload</message>
    <message>success</message>
    <executionTimestamp>2020-12-14 10:20:29</executionTimestamp>
  </ticket_info>
</edartreply>
```

Generation Ticket Download

Functional Overview

This download serves to provide members a method to receive information on a specified generation ticket, or a group of generation tickets based on the provided parameters.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result**: Returns the specific ticket(s) requested	No, If ID or companyTicketId is entered, no other parameters will be evaluated
showhistory	Query	**Values:** true, false **Results:** If true, the history logs for the ticket are included. The default value is false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=generation
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=123456
```

Example Output

genticreview


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/genticreview/v1 genticreview.xsd">
  - <genticreview>
      <pjm_ticket_id>31675</pjm_ticket_id>
      <company_ticket_id>JP Gen Up Test 315013</company_ticket_id>
      <unitnumber>1961</unitnumber>
      <ticket_type>1</ticket_type>
      <ticket_type_description>MW</ticket_type_description>
    - <interval_definition>
        - <interval_start>
            <date>2013-03-15</date>
            <time>00:01:00</time>
          </interval_start>
        - <interval_end>
            <date>2013-03-15</date>
            <time>11:59:00</time>
          </interval_end>
      </interval_definition>
      <description>Testing MW Ticket upload</description>
      <cause>1</cause>
      <reduction>2</reduction>
      <outage_type>Unplanned</outage_type>
      <status>Approved</status>
      <timestamp>2013-03-15 12:59:53</timestamp>
    - <switch>
        - <interval_definition>
            - <interval_start>
                <date>2013-03-15</date>
                <time>00:01:00</time>
              </interval_start>
          </interval_definition>
      </switch>
      <infoFlag>false</infoFlag>
  </genticreview>
  - <genticreview>
      <pjm_ticket_id>37029</pjm_ticket_id>
      <company_ticket_id>[redacted]</company_ticket_id>
      <unitnumber>1507</unitnumber>
      <ticket_type>2</ticket_type>
      <ticket_type_description>Volt. Reg.</ticket_type_description>
    - <interval_definition>
        - <interval_start>
            <date>2017-08-10</date>
            <time>11:52:00</time>
          </interval_start>
      </interval_definition>
      <description>Sending switch end</description>
      <service_out>false</service_out>
      <emergency>true</emergency>
      <status>Active</status>
      <timestamp>2017-08-10 11:52:10</timestamp>
      <pjm_timestamp>2017-08-10 15:57:28</pjm_timestamp>
    - <actual_dates>
        - <interval_definition>
            - <interval_start>
                <date>2017-08-10</date>
                <time>15:40:00</time>
              </interval_start>
              <interval_end/>
          </interval_definition>
      </actual_dates>
      <infoFlag>false</infoFlag>
  </genticreview>
```

```
- <genticreview>
    <pjm_ticket_id>41335</pjm_ticket_id>
    <company_ticket_id>newticket1</company_ticket_id>
    <unitnumber>1464</unitnumber>
    <ticket_type>3</ticket_type>
    <ticket_type_description>MVAR</ticket_type_description>
  - <interval_definition>
    - <interval_start>
        <date>2019-12-12</date>
        <time>09:30:00</time>
      </interval_start>
    - <interval_end>
        <date>2019-12-17</date>
        <time>09:30:00</time>
      </interval_end>
    </interval_definition>
    <description>Creating MVAR ticket for Refactoring verification</description>
    <new_default>false</new_default>
  - <mvar_default>
    - <default_rating>
        <ta_id>1662283</ta_id>
        <ems_equip_name>[redacted]</ems_equip_name>
        <mw_point>75</mw_point>
        <mvar_min>-25</mvar_min>
        <mvar_max>40</mvar_max>
      </default_rating>
    - <default_rating>
        <ta_id>1662283</ta_id>
        <ems_equip_name>[redacted]</ems_equip_name>
        <mw_point>140</mw_point>
        <mvar_min>-25</mvar_min>
        <mvar_max>40</mvar_max>
      </default_rating>
    - <default_rating>
        <ta_id>1662283</ta_id>
        <ems_equip_name>[redacted]</ems_equip_name>
        <mw_point>141</mw_point>
        <mvar_min>-25</mvar_min>
        <mvar_max>40</mvar_max>
      </default_rating>
    - <default_rating>
        <ta_id>1662283</ta_id>
        <ems_equip_name>[redacted]</ems_equip_name>
        <mw_point>142</mw_point>
        <mvar_min>-25</mvar_min>
        <mvar_max>40</mvar_max>
      </default_rating>
    - <default_rating>
        <ta_id>1662283</ta_id>
        <ems_equip_name>[redacted]</ems_equip_name>
        <mw_point>143</mw_point>
        <mvar_min>-25</mvar_min>
        <mvar_max>40</mvar_max>
      </default_rating>
    - <default_rating>
        <ta_id>1662283</ta_id>
        <ems_equip_name>[redacted]</ems_equip_name>
        <mw_point>144</mw_point>
        <mvar_min>-25</mvar_min>
        <mvar_max>40</mvar_max>
      </default_rating>
```

```
- <default_rating>
    <ta_id>1662283</ta_id>
    <ems_equip_name>[redacted]</ems_equip_name>
    <mw_point>145</mw_point>
    <mvar_min>-25</mvar_min>
    <mvar_max>40</mvar_max>
  </default_rating>
- <default_rating>
    <ta_id>1662283</ta_id>
    <ems_equip_name>[redacted]</ems_equip_name>
    <mw_point>146</mw_point>
    <mvar_min>-25</mvar_min>
    <mvar_max>40</mvar_max>
  </default_rating>
</mvar_default>
- <mvar_adjustments>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
  - <adj_rating>
      <ta_id>1662283</ta_id>
      <ems_equip_name>[redacted]</ems_equip_name>
      <mw_point>5</mw_point>
      <mvar_min>2</mvar_min>
      <mvar_max>6</mvar_max>
    </adj_rating>
```

```
        - <adj_rating>
            <ta_id>1662283</ta_id>
            <ems_equip_name>[redacted]</ems_equip_name>
            <mw_point>5</mw_point>
            <mvar_min>2</mvar_min>
            <mvar_max>6</mvar_max>
          </adj_rating>
      </mvar_adjustments>
      <status>Submitted</status>
      <timestamp>2019-10-18 15:53:50</timestamp>
      <infoFlag>false</infoFlag>
  </genticreview>
- <genticreview>
      <pjm_ticket_id>42827</pjm_ticket_id>
      <company_ticket_id>UItest20Jan2021-GOV</company_ticket_id>
      <unitnumber>1973</unitnumber>
      <ticket_type>4</ticket_type>
      <ticket_type_description>Governor</ticket_type_description>
    - <interval_definition>
        - <interval_start>
            <date>2020-12-29</date>
            <time>20:00:00</time>
          </interval_start>
        - <interval_end>
            <date>2020-12-31</date>
            <time>22:00:00</time>
          </interval_end>
      </interval_definition>
      <description>REVISE: UI upload testing: Gov ticket; change dates</description>
      <service_out>true</service_out>
      <emergency>true</emergency>
      <status>Submitted</status>
      <timestamp>2021-01-20 10:34:00</timestamp>
    - <revision>
        <revision_id>35894</revision_id>
        <status>Submitted</status>
        <timestamp>2021-01-20 10:50:41</timestamp>
      - <revised_date>
          - <interval_definition>
              - <interval_start>
                  <date>2021-02-11</date>
                  <time>22:22:22</time>
                </interval_start>
              - <interval_end>
                  <date>2021-02-12</date>
                  <time>11:11:11</time>
                </interval_end>
            </interval_definition>
        </revised_date>
      </revision>
      <infoFlag>false</infoFlag>
  </genticreview>
- <genticreview>
      <pjm_ticket_id>30631</pjm_ticket_id>
      <company_ticket_id>Vasil Test 7</company_ticket_id>
      <unitnumber>1471</unitnumber>
      <ticket_type>5</ticket_type>
      <operational_data>false</operational_data>
      <ticket_type_description>MVAR Test</ticket_type_description>
    - <interval_definition>
        - <interval_start>
            <date>2014-03-30</date>
            <time>00:00:00</time>
          </interval_start>
        - <interval_end>
            <date>2014-03-31</date>
            <time>00:00:00</time>
          </interval_end>
      </interval_definition>
      <description>test test test</description>
      <status>Submitted</status>
      <timestamp>2012-08-29 08:38:46</timestamp>
    - <revision>
        <revision_id>31743</revision_id>
        <status>Received</status>
        <timestamp>2014-03-25 11:15:05</timestamp>
      - <revised_date>
          - <interval_definition>
              - <interval_start>
                  <date>2014-03-30</date>
                  <time>00:00:00</time>
                </interval_start>
              - <interval_end>
                  <date>2014-03-31</date>
                  <time>00:00:00</time>
                </interval_end>
            </interval_definition>
        </revised_date>
      </revision>
    - <revision>
        <revision_id>31742</revision_id>
        <status>Canceled by Company</status>
        <timestamp>2014-03-25 09:06:38</timestamp>
      - <revised_date>
          - <interval_definition>
              - <interval_start>
                  <date>2012-10-10</date>
                  <time>12:12:00</time>
                </interval_start>
              - <interval_end>
                  <date>2012-12-12</date>
                  <time>12:12:00</time>
                </interval_end>
            </interval_definition>
        </revised_date>
      </revision>
```

```
    - <revision>
        <revision_id>31741</revision_id>
        <status>Submitted</status>
        <timestamp>2014-03-25 11:14:32</timestamp>
      - <revised_date>
        - <interval_definition>
          - <interval_start>
              <date>2014-03-27</date>
              <time>00:00:00</time>
            </interval_start>
          - <interval_end>
              <date>2014-03-31</date>
              <time>00:00:00</time>
            </interval_end>
          </interval_definition>
        </revised_date>
      </revision>
      <infoFlag>false</infoFlag>
    </genticreview>
  - <genticreview>
      <pjm_ticket_id>37028</pjm_ticket_id>
      <unitnumber>-34</unitnumber>
      <ticket_type>6</ticket_type>
      <ticket_type_description>PSS</ticket_type_description>
    - <interval_definition>
      - <interval_start>
          <date>2017-08-10</date>
          <time>11:50:00</time>
        </interval_start>
      </interval_definition>
      <description>Sending switch end</description>
      <service_out>false</service_out>
      <emergency>true</emergency>
      <status>Active</status>
      <timestamp>2017-08-10 11:51:03</timestamp>
      <pjm_timestamp>2017-08-10 15:57:00</pjm_timestamp>
    - <actual_dates>
      - <interval_definition>
        - <interval_start>
            <date>2017-08-10</date>
            <time>15:40:00</time>
          </interval_start>
          <interval_end/>
        </interval_definition>
      </actual_dates>
      <infoFlag>false</infoFlag>
    </genticreview>
</edart>
```


Generation Ticket Recalled Download

Functional Overview

This download serves to display generation outage tickets that have been recalled by PJM and now have a Recalled Date on them.

Outage tickets that are not completed prior to the recall date will be treated as unplanned outages and marked with a "Forced Date". Recalled generation tickets apply only to Megawatt (MW) ticket types that have an outage type of "Maintenance" with a status of "Approved" or "Active".

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=genrecalled
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <genrecalled:tickets xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:genrecalled="http://www.pjm.com/soa/schemas/edart/genrecalled/v1"
xsi:schemaLocation="http://www.pjm.com/soa/schemas/edart/genrecalled/v1 genrecalled.xsd">
  - <ticket>
      <pjm_ticket_id>39188</pjm_ticket_id>
      <recall_time>2019-04-25T00:00:00</recall_time>
      <forced_date>2019-04-25T00:03:36</forced_date>
    </ticket>
</genrecalled:tickets>
```

Generation Ticket for Transmission Owners by Date Download

Functional Overview

This download serves to provide the Transmission Owners with a history of generation tickets including all revisions made to the primary ticket. It can be run by date and/or generation type. The process is the same for all generation tickets types (MW, Volt Reg, MVAR, Governor, MVAR Test, PSS).

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Values:** Date in form MM/DD/YYYY **Results:** Returns Generation Tickets for the date greater than or equal to the entered date that exists in the system	No
stop	Query	**Values:** Date in form MM/DD/YYYY **Results:** Returns Generation Tickets for the date less than the entered date that exists in the system	No
ticketstatus	Query	**Values:** Single or multiple status index values in a comma separated list without spaces. Valid values are: 1=Submitted, 2=Denied, 4=Approved, 5=Canceled by Company, 6=Canceled by PJM, 7=Active, 8=Complete, 9=Received, 10=Revised, 11=Pending Evaluation **Results:** Only tickets with the requested status will be reported. Default is all status values.	No

Name	CLI Argument Type	Value/Result	Required
gen-mw gen-volt gen-mvar gen-gov gen-pss gen-mvartest	Query	**Values:** Specify ticket types to include for Generator ticket download. For example: *-q gen-mw=y* **Results:** Tickets with the selected ticket type are returned Default is all ticket types.	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No
gen-critical-load	Query	**Values:** 0=exclude, 1=only **Results:** If exclude, tickets for units designated as Critical Load are not displayed. If only, only units designated as Critical Load are displayed. The default value is to not include this parameter which displays all units regardless of their Critical Load designation.	No
gen-blackstart	Query	**Values:** exclude, only **Result:** If exclude, tickets for units designated as Black Start are not displayed. If only, only units designated as Black Start are displayed. The default value is to not include this parameter which displays all units regardless of their Critical Load designation.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=gentix4transbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q ticketstatus=1,4
```

Example Output

see genticreview

Generation Ticket by Date Download

Functional Overview

This download serves to select generation tickets by ticket date and/or generation type. Tickets that are owned by the user's company or where the user has notification rights to can be reported .The process is the same for all generation tickets types (MW, Volt Reg, MVAR, Governor, MVAR Test, PSS).

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Values:** Date in form MM/DD/YYYY **Results:** Returns Generation Tickets for the date greater than or equal to the entered date that exists in the system	No
stop	Query	**Values:** Date in form MM/DD/YYYY **Results:** Returns Generation Tickets for the date less than the entered date that exists in the system	No
ticketstatus	Query	**Values:** Single or multiple status index values in a comma separated list without spaces. Valid values are: 1=Submitted, 2=Denied, 4=Approved, 5=Canceled by Company, 6=Canceled by PJM, 7=Active, 8=Complete, 9=Received, 10=Revised, 11=Pending Evaluation **Results:** Only tickets with the requested status will be reported. Default is all status values.	No
gen-mw gen-volt gen-mvar gen-gov gen-pss gen-mvartest	Query	**Values:** Specify ticket types to include for Generator ticket download. For example: *-q gen-mw=y* **Results:** Tickets with the selected ticket type are returned Default is all ticket types.	No

Name	CLI Argument Type	Value/Result	Required
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No
effective_during	Query	**Values:** true, false **Result:** If true, includes historical tickets. The default value is false. Any value other than true is interpreted as false.	No
shownotification	Query	**Values:** true, false **Result:** If true, includes tickets you have notification rights to. The default value is false. Any value other than true is interpreted as false.	No
showhistory	Query	**Values:** true, false **Result:** If true, includes historical tickets. The default value is false. Any value other than true is interpreted as false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=generationbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q ticketstatus=1,4
```

Example Output

see genticreview

Generation Ticket by Modify Date Download

Functional Overview

This download serves to select generation tickets by ticket modification start date and generation type. The process is the same for all generation tickets types (MW, Volt Reg, MVAR, Governor, MVAR Test, PSS).

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Values:** Date in form MM/DD/YYYY **Results:** Returns Generation Tickets for the modify date greater than or equal to the entered date that exists in the system	Yes
starttime	Query	**Values:** Date in form hh:mi **Results:** Returns Generation Tickets for the modify time greater than or equal to the entered time that exists in the system	No
gen-mw gen-volt gen-mvar gen-gov gen-pss gen-mvartest	Query	**Values:** Specify ticket types to include for Generator ticket download. For example: *-q gen-mw=y* **Results:** Tickets with the selected ticket type are returned Default is all ticket types.	No
showhistory	Query	**Values:** true, false **Result:** If true, includes historical tickets. The default value is false. Any value other than true is interpreted as false.	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=genticchanges
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q showhistory=true
```

Example Output

see genticreview

Generation Ticket Notify Download

Functional Overview

This endpoint downloads all generation tickets the user's company is notified of and has not acknowledged. The download will only display a list of unacknowledged Generation Tickets where the company has notification rights; this endpoint will not acknowledge them, it will only display the tickets to be acknowledged. If there are no tickets to be acknowledged, no tickets will be displayed.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ids	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result**: Returns the specific ticket(s) requested	No, If ID or companyTicketId is entered, no other parameters will be evaluated
start	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Results:** Returns Generation Tickets for the date greater than or equal to the entered date that exists in the system	No

Name	CLI Argument Type	Value/Result	Required
stop	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Results:** Returns Generation Tickets for the date less than the entered date that exists in the system	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=genwithnotify
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q includehistorical=true
```

Example Output

genticnotifyreview


```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="genticnotifyreview.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <genticnotifyreview>
    <company_name>GenOn Energy Management, LLC (METMA)</company_name>
    <pjm_ticket_id>14005</pjm_ticket_id>
    <company_ticket_id/>
    <unitnumber>1567</unitnumber>
    <facility_information>
      <commercial_name>PANDA</commercial_name>
      <type>Nug</type>
      <capacity>230</capacity>
    </facility_information>
    <ticket_type>1</ticket_type>
    <ticket_type_description>MW</ticket_type_description>
    <interval_definition>
      <interval_start>
        <date>2002-06-05</date>
        <time>12:42:00</time>
      </interval_start>
      <interval_end>
        <date>2002-07-18</date>
        <time>06:00:00</time>
      </interval_end>
    </interval_definition>
    <description>#1 CT, cracked coupling.</description>
    <cause>47</cause>
    <reduction>115</reduction>
    <outage_type>Unplanned</outage_type>
    <status>Received</status>
    <timestamp>2002-07-15 11:37:40</timestamp>
    <pjm_timestamp>2002-07-15 11:37:40</pjm_timestamp>
    <pjm_comments/>
    <actual_dates>
      <interval_definition>
        <interval_start>
          <date>2002-06-05</date>
          <time>12:42:00</time>
        </interval_start>
        <interval_end>
          <date>2005-08-03</date>
          <time>15:57:40</time>
        </interval_end>
      </interval_definition>
    </actual_dates>
    <revision>
      <revision_id>20759</revision_id>
      <status>Canceled by Company</status>
      <timestamp>2002-07-15 11:37:40</timestamp>
      <revised_date>
        <interval_definition>
          <interval_end>
            <date>2002-07-16</date>
            <time>15:00:00</time>
          </interval_end>
        </interval_definition>
      </revised_date>
    </revision>
```


Generation Ticket Notify and Acknowledge

Functional Overview

This endpoint downloads all generation tickets the user's company is notified of and has not acknowledged. The download will only display a list of unacknowledged Generation Tickets where the company has notification rights. The act of downloading this endpoint will update the acknowledgement information, no additional upload is required. If there are no tickets to be acknowledged, no tickets will be displayed.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ids	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result**: Returns the specific ticket(s) requested	No, If ID or companyTicketId is entered, no other parameters will be evaluated
start	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Results:** Returns Generation Tickets for the date greater than or equal to the entered date that exists in the system	No
stop	Query	**Values:** Date in form MM/DD/YYYY HH:MI:SS **Results:** Returns Generation Tickets for the date less than the entered date that exists in the system	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=genwithnotifywithacknowledge
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q includehistorical=true
```

Example Output

see genticnotifyreview

Gen Checkout Endpoints

Gen Checkout endpoints provide information on the generator status in Dart compared to information in Markets Gateway.

Gen Checkout Download

Functional Overview

This download returns the gen checkout status as it currently exists on the system, and compares the unit schedule availability in Dart to the generator bid data in the Markets Gateway.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
reportdate	Query	**Values:** Date in form MM/DD/YYYY **Result**: Returns the gen checkout report for the date if it exists in the system	Yes
control_areas	Query	**Values:** Number that represents the Control Area ID of the Gen Checkout Control Area **Result**: Returns the gen checkout report for the Control Area selected. Default Control Area ID is 1	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=gencheckout
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q reportdate=07/01/2019
```

Example Output


```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="gencheckout.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <generatorCheckoutReport controlArea="Mid-Atlantic" date="02/06/20" id="34264">
    <periodTimes null="null" Day="12:00" Mid="07:00"/>
    <checkoutInfo companyAckUser=" " companyAckDate=" " ackEnd="02/20/19 13:41" ackStart="02/19/19 15:17" emergencyMax="No" lastSyncDate="02/19/19 11:02"/>
    <genLevels>
      <generator type="Combustion Turbine">
        <warnLevel>10</warnLevel>
        <ackLevel>15</ackLevel>
      </generator>
      <generator type="Steam/Fossil">
        <warnLevel>15</warnLevel>
        <ackLevel>20</ackLevel>
      </generator>
      <generator type="Hydro- Pumped Storage">
        <warnLevel>99</warnLevel>
        <ackLevel>200</ackLevel>
      </generator>
      <generator type="Nuclear">
        <warnLevel>5</warnLevel>
        <ackLevel>10</ackLevel>
      </generator>
      <generator type="Wind">
        <warnLevel>99</warnLevel>
        <ackLevel>200</ackLevel>
      </generator>
      <generator type="Diesel">
        <warnLevel>20</warnLevel>
        <ackLevel>50</ackLevel>
      </generator>
      <generator type="Behind the Meter">
        <warnLevel>99</warnLevel>
        <ackLevel>200</ackLevel>
      </generator>
    </genLevels>
    <unit type="Combustion Turbine" sales="0" capFactor="4" icap="4" name="[redacted]">
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Mid"/>
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Day"/>
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Eve"/>
    </unit>
    <unit type="Combustion Turbine" sales="0" capFactor="4" icap="4" name="[redacted]">
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Mid"/>
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Day"/>
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Eve"/>
    </unit>
    <unit type="Combustion Turbine" sales="0" capFactor="4" icap="4" name="[redacted]">
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Mid"/>
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Day"/>
      <data diffPercent="-1625" adjCap="4" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Eve"/>
    </unit>
    <unit type="Combustion Turbine" sales="0" capFactor="6" icap="6" name="[redacted]">
      <data diffPercent="-1050" adjCap="6" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Mid"/>
      <data diffPercent="-1050" adjCap="6" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Day"/>
      <data diffPercent="-1050" adjCap="6" emergMax="69" emktEconMax="69" ambAdj="0" eDARTReduction="0" period="Eve"/>
    </unit>
```


Gen Checkout Regions Download

Functional Overview

This download returns the generator control area information for generators owned by the user's company. This information is used to link the generator control area name to the generator control area id. The report does not include retired and future units, and excludes units that are specifically marked as excluded from gen checkout.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=gencheckoutcontrolareas
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q reportdate=07/01/2019

Example Output

```
<?xml version="1.0" encoding="UTF-8"?>
- <edart>
  - <generationCheckoutControlAreas>
      <controlArea id="1" name="Mid-Atlantic"/>
      <controlArea id="2" name="Western"/>
    </generationCheckoutControlAreas>
</edart>
```

TERM Endpoints

XML information for the TERM downloads are available to Transmission users regardless of your role, uploads are available only to those with Transmission Write roles. The main XML for the TERM endpoints is located here.

TERM (Transmission Equipment Ratings Monitor) endpoints provide information on TERM tickets including Impedance R, Impedance X and Charging B values, Ratings, Reasons and Limitations.

TERM Limitations Report Download

Functional Overview

The TERM Limitations report returns a list of limitation IDs and their meanings. This information is used when creating or revising TERM Tickets.

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=terml
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/termlimitation/v1 termlimitation.xsd">
  - <limitation_list>
    - <limitation_type>
        <limitation_id>1</limitation_id>
        <limitation_text>T and D Cable or Wire</limitation_text>
      </limitation_type>
    - <limitation_type>
        <limitation_id>2</limitation_id>
        <limitation_text>Transformer</limitation_text>
      </limitation_type>
    - <limitation_type>
        <limitation_id>3</limitation_id>
        <limitation_text>Regulators</limitation_text>
      </limitation_type>
    - <limitation_type>
        <limitation_id>4</limitation_id>
        <limitation_text>Circuit Breaker</limitation_text>
      </limitation_type>
    - <limitation_type>
        <limitation_id>5</limitation_id>
        <limitation_text>Reactors</limitation_text>
      </limitation_type>
```

TERM Reason Report Download

Functional Overview

The TERM Reason report returns a list of Reason Codes and its meanings. This information is used as the “Reason for Change” when creating or revising TERM Tickets.

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=termr
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-o “outputfile.xml”

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/termreason/v1 termreason.xsd">
  - <reason_list>
    - <reason_type>
        <reason_id>5</reason_id>
        <reason_text>New equipment under Congestion Management</reason_text>
      </reason_type>
    - <reason_type>
        <reason_id>6</reason_id>
        <reason_text>Special parallel line ratings</reason_text>
      </reason_type>
    - <reason_type>
        <reason_id>7</reason_id>
        <reason_text>Reconductoring</reason_text>
      </reason_type>
    - <reason_type>
        <reason_id>8</reason_id>
        <reason_text>Rebuild equipment</reason_text>
      </reason_type>
```


TERM Equipment Report Download

Functional Overview

The TERM Equipment Report download serves to provide members a list of equipment and its ratings where the company is responsible for reporting rating adjustments including current impedance and congestion management data for equipment for reporting rating adjustments. Impedance R and X values will always be displayed for all equipment types, but the charging B value will only display if the equipment type id Line.

This endpoint includes when the member is the owner of the equipment as well as if they have notification rights to it based on parameter settings.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
showinfo	Query	**Values:** true, false **Result:** If "true", equipment information - Station, Voltage, Equipment, Equipment Name – will display Default value is true	No
shownotify	Query	**Values:** true, false **Result:** If "true", returns tickets created by the user's company AND tickets that the user's company is notified. If "false", returns only tickets that are owned by the user's company Default value is false	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No
DLR	Query	**Values:** 1 (DLR) 2 (non-DLR) 3 (Both) **Result:** If 1, DLR equipment is reported; If 2, non-DLR equipment is reported; If 3, all equipment is reported. Default is Both	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=terme
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q shownotify=true
```

Example Output

TERM Facilities Download

Functional Overview

The TERM Facilities download serves to provide members a list of equipment and its information where the company is responsible for or has notification rights to the equipment. The output of this report is large and is written to a file by default.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
shownotify	Query	**Values:** true, false **Result:** If "true", returns tickets created by the user's company AND tickets that the user's company is notified. If "false", returns only tickets that are owned by the user's company Default value is false	No

Name	CLI Argument Type	Value/Result	Required
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=termequipment
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q shownotify=true
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <termequipment:equipments xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:termequipment="http://www.pjm.com/external/schemas/termequipment/v1"
xsi:schemaLocation="http://www.pjm.com/external/schemas/termequipment/v1 termequipment.xsd">
  - <equipment>
      <equipment_id>71178</equipment_id>
      <station>[redacted]</station>
      <voltage>115 KV</voltage>
      <equipment_name>[redacted]</equipment_name>
      <end>HIGH</end>
    </equipment>
  - <equipment>
      <equipment_id>71179</equipment_id>
      <station>[redacted]</station>
      <voltage>115 KV</voltage>
      <equipment_name>[redacted]</equipment_name>
      <end>LOW</end>
    </equipment>
  - <equipment>
      <equipment_id>71180</equipment_id>
      <station>[redacted]</station>
      <voltage>115 KV</voltage>
      <equipment_name>[redacted]</equipment_name>
      <end>HIGH</end>
    </equipment>
  - <equipment>
      <equipment_id>71181</equipment_id>
      <station>[redacted]</station>
      <voltage>115 KV</voltage>
      <equipment_name>[redacted]</equipment_name>
      <end>LOW</end>
    </equipment>
```

TERM Equipment Information Download

Functional Overview

The TERM Equipment Information download contains equipment information including rating information by temperature for equipment your company owns or has notification rights to. If the equipment is owned by another company, the company name will display when the notification_type is “Notification”.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
shownotify	Query	Values: true, false Result: If “true”, returns tickets created by the user’s company AND tickets that the user’s company is notified. If “false”, returns only tickets that are owned by the user’s company Default value is false	No
showinfo	Query	Values: true, false Result: If “true”, equipment information - Station, Voltage, Equipment, Equipment Name – will display Default value is true	No
includehistorical	Optional	Values: Boolean - true/false Result: If true, it will query all the equipment ratings that are in current AND historical partition. default is false	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=termi
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q shownotify=true
```

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/termequipmentinformation/v1 termequipmentinformation.xsd">
  - <term_equipment_list>
    - <term_equipment_info>
        <equipment_id>71178</equipment_id>
        <ta_id>1662501</ta_id>
        <type>XFMR</type>
        <end_id>HIGH</end_id>
        <notification_type>OWNER</notification_type>
      - <equipment_information>
          <b1_name>[redacted]</b1_name>
          <b2_name>115 KV</b2_name>
          <b3_name>110-1</b3_name>
          <b3_text>[redacted]</b3_text>
        </equipment_information>
      - <rating_list>
          <temperature>95</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>86</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>77</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>68</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>59</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>50</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>41</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
      - <rating_list>
          <temperature>32</temperature>
          <normal_day>0</normal_day>
          <normal_night>0</normal_night>
          <long_term_day>0</long_term_day>
          <long_term_night>0</long_term_night>
          <short_term_day>0</short_term_day>
          <short_term_night>0</short_term_night>
          <load_dump_day>0</load_dump_day>
          <load_dump_night>0</load_dump_night>
        </rating_list>
    </term_equipment_info>
```

```
- <term_equipment_info>
    <equipment_id>71236</equipment_id>
    <ta_id>1659489</ta_id>
    <company_name>[redacted]</company_name>
    <type>XFMR</type>
    <end_id>HIGH</end_id>
    <notification_type>NOTIFICATION</notification_type>
  - <equipment_information>
      <b1_name>[redacted]</b1_name>
      <b2_name>138 KV</b2_name>
      <b3_name>SHER #2</b3_name>
      <b3_text>[redacted]</b3_text>
    </equipment_information>
  - <rating_list>
      <temperature>95</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>86</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>77</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>68</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>59</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>50</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>41</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
  - <rating_list>
      <temperature>32</temperature>
      <normal_day>0</normal_day>
      <normal_night>0</normal_night>
      <long_term_day>0</long_term_day>
      <long_term_night>0</long_term_night>
      <short_term_day>0</short_term_day>
      <short_term_night>0</short_term_night>
      <load_dump_day>0</load_dump_day>
      <load_dump_night>0</load_dump_night>
    </rating_list>
</term_equipment_info>
```


TERM Dynamic Ratings Upload

Functional Overview

This upload allows dynamic line rating information to be entered for TERM equipment. The standard response file will be returned to the user to show if the upload has been a success or if errors exist.

Input File

Name	CLI Argument Type	Value/Result	Required
dynamicRecord	root		Yes
dynamicRecord/hourEndGmt	date	format:mm/dd/yyyy	Yes
dynamicRecord/equipmentId	number		Yes
dynamicRecord/normal	number		Yes
dynamicRecord/longTerm	number		Yes
dynamicRecord/shortTerm	number		Yes
dynamicRecord/loadDump	number		Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Example Input

```
<?xml version="1.0" encoding="UTF-8"?>
<dynamicRatings xsi:noNamespaceSchemaLocation="dynamicratings.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<dynamicRecord>
        <hourEndGmt>mm/dd/yyyy hr</hourEndGmt>
        <equipmentId>1234</equipmentId>
        <normal>999</normal>
        <longTerm>999</longTerm>
        <shortTerm>999</shortTerm>
        <loadDump>999</loadDump>
</dynamicRecord>
```

Example Response File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<edart xsi:schemaLocation="http://www.pjm.com/external/schemas/edart/response response.xsd" xmlns="http://www.pjm.com/external/
schemas/edart/response" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <response>Successfully uploaded dynamic ratings</response>
</edart>
```

TERM Dynamic Ratings Download

Functional Overview

This download allows members to see dynamic line ratings information by hour and equipment ID. Only accepted values are returned. If nothing is returned on the download file, there is no information for that date range, no additional message will be sent to the user. The entered start date is required to return data, the stop date is optional.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Value:** mm/dd/yyyy **Result:** Records with this date or later will be reported	Yes
stop	Query	**Value:** mm/dd/yyyy **Result:** Records with this date or earlier will be reported	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=dynamicratings
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=11/18/2021
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dynamicRatings xsi:schemaLocation="http://www.pjm.com/external/schemas/dynamicratings/v1 dynamicratings.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <dynamicRecord>
        <hourEndGmt>mm/dd/yyyy hr</hourEndGmt>
        <equipmentId>12345</equipmentId>
        <normal>999</normal>
        <longTerm>999</longTerm>
        <shortTerm>999</shortTerm>
        <loadDump>999</loadDump>
    </dynamicRecord>
</dynamicRatings>
```

TERM Ticket Review

TERM Ticket by Date

Functional Overview

The TERM Ticket Review and TERM Ticket by Date downloads show the user TERM Ticket information for all ticket ids selected.

If the desire is to download specific tickets, the endpoint name is term (-q downloadtype=term).
If the desire is to download a date range of tickets, the endpoint name is termbydate (-q downloadtype=termbydate).

If the parameter transtype “review” is selected, more data elements are displayed but the format is not correct for uploading a change to an existing ticket. If the parameter transtype “revise” is selected, than the TERM Ticket Revise is selected, less data elements are displayed, but the file is in the correct format to amend and upload as needed.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ids	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result:** returns TERM tickets that match the provided identifiers	No
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported Default is today’s date	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date before the entered date will be reported	No
transtype	Query	**Values:** review, revise **Result:** If “review”, returns the tickets in the review format. If “revise”, returns the ticket in a revision format. Default is review	No

Name	CLI Argument Type	Value/Result	Required
shownotify	Query	**Values:** true, false **Result:** If "true", returns tickets created by the user's company AND tickets that the user's company is notified. If "false", returns only tickets that are owned by the user's company Default is false	No
includehistorical	Query	**Values:** Boolean - true/false **Result:** If true, it will query all the equipment ratings that are current AND were completed or canceled more than 40 days ago. Default is false	No
gettermattachments	Query	**Values**: true, false **Result:** If true, all file attachments are downloaded in both zip and hex file formats. Default is false.	No
termattachments	Query	**Values**: true, false **Result:** If true, all file attachments names and dates are included in the response file. The actual attachments are not downloaded. Default is false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=term
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=12345,23456,34567
-q transtype=review
```

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=termbydate
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=12/01/2019
-q stop=12/31/2019
-q transtype=review
```

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/termreview/v1 termreview.xsd">
  - <reviewtermtic>
      <pjm_ticket_id>175950</pjm_ticket_id>
      <ticket_status>Submitted</ticket_status>
      <ticket_type implementation="planned" type="permanent"/>
      <reason_id>13</reason_id>
      <reason>Equipment failure</reason>
    - <estimated_dates>
      - <interval_definition>
        - <interval_start>
            <date>2013-02-07</date>
            <time>00:00:00</time>
          </interval_start>
        </interval_definition>
      </estimated_dates>
      <comment>This is a TEST</comment>
      <equipment_id>0</equipment_id>
      <impedance_r>0.0006</impedance_r>
      <impedance_x>0.008</impedance_x>
      <congestion_status>Reliability &amp;amp; Markets</congestion_status>
      <charging_b>0.0022</charging_b>
      <dynamic_flag>false</dynamic_flag>
      <internal_tie>false</internal_tie>
      <external_tie>false</external_tie>
    - <adjustment_list>
      - <adjustment>
          <temperature>95</temperature>
          <category>normal</category>
          <day_night_flag>day</day_night_flag>
          <current_value>105</current_value>
          <default_value>0</default_value>
        </adjustment>
      - <adjustment>
          <temperature>95</temperature>
          <category>normal</category>
          <day_night_flag>night</day_night_flag>
          <current_value>105</current_value>
          <default_value>0</default_value>
        </adjustment>
      - <adjustment>
          <temperature>95</temperature>
          <category>longterm</category>
          <day_night_flag>day</day_night_flag>
          <current_value>105</current_value>
          <default_value>0</default_value>
        </adjustment>
      </adjustment_list>
    - <limitations>
      - <limit>
          <limitation_id>35</limitation_id>
          <temperature>95</temperature>
          <category>normal</category>
          <day_night_flag>day</day_night_flag>
        </limit>
      </limitations>
    </reviewtermtic>
</edart>
```

TERM Ticket Upload

Functional Overview

The TERM Ticket Upload is used to create a new ticket or to revise an existing ticket. When creating a new ticket, the TERM Ticket ID will not be included on the upload file. When revising an existing ticket, the TERM Ticket ID will be included on the upload file.

When creating a new ticket, all required elements and at least 1 limitation must be included. When modifying an existing ticket, only those fields that are changing need to be included, but the full ticket can be included.

Input Elements

Name	Type	Value/Result	Required
edart	root	1	
edart/newtermtic	container	1..*	
edart/newtermtic/company_ticket_id	String	1	
edart/newtermtic/ticket_status	String	1	
edart/newtermtic/ticket_type	element		
edart/newtermtic/ticket_type@implementation	attribute	planned, immediate Default is “planned”.	
edart/newtermtic/ticket_type@type	attribute	permanent, temporary Default is “permanent”	
edart/newtermtic/reason_id	number	1	
edart/newtermtic/reason	String	1	
edart/newtermtic/comment	string	1	
edart/newtermtic/pjm_comment	string	1	
edart/newtermtic/equipment_id	number	1	
edart/newtermtic/impedance_r	number	1	
edart/newtermtic/impedance_x	number	1	
edart/newtermtic/congestion_status	string	1	
edart/newtermtic/charging_b	number	This value will only be populated if the equipment type is Line.	
edart/newtermtic/dynamic_flag	boolean	1	
edart/newtermtic/external_tie	boolean		
edart/newtermtic/internal_tie	boolean		

Name	Type	Value/Result	Required
edart/newtermtic/adjustment_list	container element	1..*	
edart/newtermtic/adjustment	container	1	
edart/newtermtic/temperature	number	1	
edart/newtermtic/category	string	1	
edart/newtermtic/day_night_flag	boolean	1	
edart/newtermtic/current_value	number	1	
edart/newtermtic/default_value	number	1	
edart/newtermtic/fileList	container element	1	
edart/newtermtic/fileList/file		1..*	
edart/newtermtic/fileList/file/fileName	string	1	
edart/newtermtic/fileList/file/fileTimestamp	datetime	1	

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}
```

Example Input File - Create Ticket

```
<?xml version="1.0"?>
- <edart xsi:noNamespaceSchemaLocation="termcreate.xsd" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance">
  - <newtermtic>
      <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
      <ticket_type implementation="planned" type="permanent"/>
        <!--<ticket_type implementation="immediate" type="temporary"/>-->
      <reason_id>xx</reason_id>
    - <interval_definition>
      - <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
      - <interval_end>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_end>
      </interval_definition>
      <comment>comment text, less than 4000 characters</comment>
      <equipment_id>999999</equipment_id>
    - <adjustment_list>
      - <adjustment>
          <temperature>xx</temperature>
          <category>loaddump</category>
            <!--valid values: normal, longterm, shortterm, loaddump-->
          <day_night_flag>night</day_night_flag>
            <!--valid values: day, night-->
          <adjustment_value>xxx</adjustment_value>
        </adjustment>
      </adjustment_list>
    + <limitations>
    </newtermtic>
</edart>
```

Example Input File - Revise Ticket

```
<?xml version="1.0"?>
- <edart xsi:noNamespaceSchemaLocation="termrevise.xsd" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
  - <revisetermtic>
      <pjm_ticket_id>xxxxxx</pjm_ticket_id>
      <company_ticket_id>unique comp ticket id, LE 50 char</company_ticket_id>
        <!-- use status cancel to cancel ticket and follow with </revisetermtic></edart> ONLY. -->
      <ticket_status>cancel</ticket_status>
      <ticket_type implementation="planned" type="permanent"/>
        <!--<ticket_type implementation="immediate" type="temporary"/>-->
      <reason_id>xx</reason_id>
    - <interval_definition>
      - <interval_start>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_start>
      - <interval_end>
          <date>yyyy-mm-dd</date>
          <time>hh:mm:ss</time>
        </interval_end>
      </interval_definition>
      <comment>{comment text}</comment>
    - <adjustment_list>
      - <adjustment>
          <temperature>xx</temperature>
          <category>loaddump</category>
            <!--valid values: normal, longterm, shortterm, loaddump-->
          <day_night_flag>night</day_night_flag>
            <!--valid values: day, night-->
          <adjustment_value>xxx</adjustment_value>
        </adjustment>
      </adjustment_list>
    - <limitations>
      - <limit>
          <limitation_id>xx</limitation_id>
          <temperature>xx</temperature>
          <category>loaddump</category>
            <!--valid values: normal, longterm, shortterm, loaddump-->
          <day_night_flag>night</day_night_flag>
            <!--valid values: day, night-->
        </limit>
      </limitations>
    </revisetermtic>
</edart>
```

TERM File Attachment Retrieval

Functional Overview

The TERM Ticket File Attachment Retrieval download provides the user with the actual attachments on the given TERM Ticket. The attachments are returned in both zip and hex file formats when downloaded.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ids	Query	**Values:** integer, comma separated list of values **Result:** Returns the file attachments on the ticket id(s)	Yes

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=gettermattachments
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q ids=12345
```

RXB Adjustment Download

Functional Overview

The RXB Adjustment Download provides the user with impedance and charging values for Transmission TERM equipment.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported Default is today's date	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date before the entered date will be reported	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=termrxb
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q start=07/01/2019
-q stop=08/31/2019

Example Output


```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.pjm.com/external/schemas/termrxb/v1 termrxb.xsd">
  <facility>
    <company>[redacted]</company>
    <type>LINE</type>
    <station>[redacted]</station>
    <voltage>230 KV</voltage>
    <equipment>[redacted]</equipment>
    <adjustment>
      <r>
        <initial>0.00047</initial>
        <adjusted>0.00068</adjusted>
        <percentDifference>44.0</percentDifference>
      </r>
      <x>
        <initial>0.0051</initial>
        <adjusted>0.0072</adjusted>
        <percentDifference>41.0</percentDifference>
      </x>
      <b>
        <initial>0.0108</initial>
        <adjusted>0.0125</adjusted>
        <percentDifference>15.0</percentDifference>
      </b>
      <comment>comments on new rxb adjustment request Ticket replaced by RXB Ticket# 171</comment>
      <status>Cancelled by Company</status>
      <lastUpdated>2019-11-27 13:01:46</lastUpdated>
    </adjustment>
  </facility>
</edart>
```

RXB Adjustment Upload

Functional Overview

The RXB Adjustment Report allows members a process to create, revise, review and cancel RXB Adjustment Tickets, to adjust impedance and charging values. RXB Values are initially added through the Model Build process.

Input Elements

Name	Type	Value/Result	Required
dart	root	1	Yes
edart/facility	facility container	0...	No
edart/facility/company	string	owning company	Yes
edart/facility/type	string		Yes
edart/facility/station	string		Yes
edart/facility/voltage	string		Yes
edart/facility/equipment	string		Yes
edart/facility/adjustment	adjustment container		Yes
edart/facility/adjustment/r	r container		Yes
edart/facility/adjustment/r/initial	decimal		Yes
edart/facility/adjustment/r/adjusted	decimal		Yes
edart/facility/adjustment/r/percentDifference	decimal		Yes
edart/facility/adjustment/x	x container		Yes
edart/facility/adjustment/x/initial	decimal		Yes
edart/facility/adjustment/x/adjusted	decimal		Yes
edart/facility/adjustment/x/percentDifference	decimal		Yes
edart/facility/adjustment/b	b container	This will only appear for the equipment type of lines.	No
edart/facility/adjustment/b/initial	decimal		Yes
edart/facility/adjustment/b/adjusted	decimal		Yes
edart/facility/adjustment/b/percentDifference	decimal		Yes
edart/facility/adjustment/comment	string		Yes
edart/facility/adjustment/status	string		Yes
edart/facility/adjustment/lastUpdated	datetime		Yes

Name	Type	Value/Result	Required
edart/facility/adjustmentHistory	adjustment history container		No
edart/facility/adjustmentHistory/history	history container	There can be muptiple history containers	Yes, if there is an Adjustment History container
edart/facility/adjustmentHistory/history/status	string		Yes, if there is a History container
edart/facility/adjustmentHistory/history/userId	string		Yes, if there is a History container
edart/facility/adjustmentHistory/timestamp	datetime		Yes, if there is a History container

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}
```

Example Input - Create

```
<?xml version="1.0" encoding="UTF-8"?>
<edart xsi:noNamespaceSchemaLocation="newtermrxb.xsd" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
  <newtermrxbtic>
    <ta_id>9999999</ta_id>
    <adjust_r>3.14159</adjust_r>
    <adjust_x>3.14159</adjust_x>
    <adjust_b>3.14159</adjust_b>
    <comment>comment text, up to 500 characters</comment>
  </newtermrxbtic>
</edart>
```

Example Input – Revise

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<edart xsi:noNamespaceSchemaLocation="revisetermrxb.xsd" xmlns:xsi="http://www.w3.org/2001/10/XMLSchema-instance">
  <revisetermrxbtic>
    <ta_id>9999999</ta_id>
    <adjust_r>3.14159</adjust_r>
    <adjust_x>3.14159</adjust_x>
    <adjust_b>3.14159</adjust_b>
    <adjust_comment>comment text, up to 500 characters</adjust_comment>
    <cancel/>
      <!-- IF CANCEL IS SUPPLIED, DO NOT INCLUDE adjust_comment tags -->
  </revisetermrxbtic>
</edart>
```

Example Input – Cancel

https://dart.**xxxx**.pjm.com/dart/rest/secure/term/tickets/rxb/**999**/cancel

where
xxxx is the environment name
999 is the ticket ID to be canceled

Example Output – Response File

```
<?xml version="1.0" encoding="UTF-8"?>
<edartreply>
  <ticket>
    <message>success</message>
    <message>Success saving new TERM rxb ticket where ta_id=1664154 and adjusted r,x,b=0.0095,0.02777,N/A</message>
  </ticket>
</edartreply>
```

Dynamic Facilities (DLR) Endpoints

XML information for the Dynamic Facilities downloads are available to Transmission users regardless of your role, uploads are available for Transmission write roles only. The main XML for Dynamic Facilities endpoints is located here.

Dynamic Facilities endpoints provide information on DLR tickets include ratings, reasons and limitations. Dynamic Facilities deployments will involve the installation of a data collection sensor on or near an existing transmission line assets to collect real-time conductor temperature information. The ratings can then be calculated in real-time since the variables in the conductor heat balance equation are known.

DLR Equipment Download

Functional Overview

The DLR Equipment Report download serves to provide members a list of equipment used for DLR where the company owns the equipment or has notification rights to that information, This report includes Ticket ID, equipment ID, Effective Date, Company Name, Status and Last Update.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
equipmentIds	Query	**Values:** A single or multiple comma separated equipment id(s) **Result:** returns equipment information that match the provided identifier(s)	No
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or before the entered date will be reported	No

Name	CLI Argument Type	Value/Result	Required
status	Query	**Values:** Single or multiple status index values in a comma separated list without spaces. Valid values are: 1=Submitted, 2=Received, 3=Denied, 4=Approved, 6=Cancelled by Company, 7=Cancelled by PJM, 12=Completed, -1=Retired, 13=Additional Info Needed **Result:** Only tickets with the requested status will be reported. Used with start and stop parameters.	No
lastUpdate	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with a last update date on or before the entered date will be reported	No
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No
includenotify	Query	**Values:** true/false **Result:** If “true”, returns tickets created by the user’s company AND tickets that the user’s company is notified. If “false”, returns only tickets that are owned by the user’s company Default value is false	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype= dlrequipmentreport
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q equipmentIds=1234,3456,5678
-q status=1,4
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrEquipmentReport xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrequipmentreport/v1 dlrequipmentreport.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <dlrEquipmentTicket>
        <ticketId>2205427</ticketId>
        <equipmentId>2224697</equipmentId>
        <effectiveDate>2022-07-04</effectiveDate>
        <companyName>[redacted]</companyName>
        <status>Retired</status>
        <lastUpdate>2022-06-03</lastUpdate>
    </dlrEquipmentTicket>
    <dlrEquipmentTicket>
        <ticketId>2205428</ticketId>
        <equipmentId>1678</equipmentId>
        <effectiveDate>2022-07-31</effectiveDate>
        <companyName>[redacted]</companyName>
        <status>Retired</status>
        <lastUpdate>2022-06-03</lastUpdate>
    </dlrEquipmentTicket>
    <dlrEquipmentTicket>
        <ticketId>22061059</ticketId>
        <equipmentId>51646</equipmentId>
        <effectiveDate>2022-06-30</effectiveDate>
        <companyName>[redacted]</companyName>
        <status>Submitted</status>
        <lastUpdate>2022-06-13</lastUpdate>
    </dlrEquipmentTicket>
</dlrEquipmentReport>
```

DLR Equipment Revise Download

The Revise Change DLR Equipment download serves to provide members information regarding the equipment listed on the specified ticket. This information includes Ticket ID, if the equipment is enabled for DLR, TERM ID, Proposed Effective Date, ICCP name, Status and Comments.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ticketId	Query	**Values:** A single or multiple comma separated equipment id(s) **Result:** returns equipment information that match the provided identifier(s)	Yes

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=dlrequipmentrevise
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q ticketId=1234,5678
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrEquipmentRevise xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrequipmentrevise/v1 dlrequipmentrevise.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <ticketId>22061055</ticketId>
    <status>cancelled by company</status>
    <dlrFlag>true</dlrFlag>
    <proposedEffectiveDate>2022-06-30</proposedEffectiveDate>
    <iccpName>NORM:TEST123,EMER:TEST234,SHED:TEST456,STE:TEST6789</iccpName>
</dlrEquipmentRevise>
```

DLR Equipment Create Upload

Functional Overview

This upload creates DLR Equipment InformationTicket. The standard response file will be returned to the user to show if the upload has been a success or if errors exist.

Input File

Name	CLI Argument Type	Value/Result	Required
dlrEquipmentCreate	root		Yes
dlrEquipmentCreate/equipmentId	number		Yes
dlrEquipmentCreate/dlrFlag	string	true/false	Yes
dlrEquipmentCreate/proposedEffectiveDate	date	yyyy-mm-dd	Yes
dlrEquipmentCreate/iccpName	string		Yes
dlrEquipmentCreate/comments	string		Yes

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}
```

Example Input

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2020 sp1 (x64) (http://www.altova.com)-->
<dlrEquipmentCreate xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="dlrequipmentcreate.xsd">
    <equipmentId>0</equipmentId>
    <dlrFlag>true</dlrFlag>
    <proposedEffectiveDate>1957-08-13</proposedEffectiveDate>
    <iccpName>String</iccpName>
    <comments>String</comments>
</dlrEquipmentCreate>
```

Example Response File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<edart xsi:schemaLocation="http://www.pjm.com/external/schemas/edart/response response.xsd" xmlns="http://www.pjm.com/external/
schemas/edart/response" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <response>Successfully uploaded dynamic ratings</response>
</edart>
```

DLR Equipment Revise Upload

Functional Overview

This upload revises DLR Equipment Information. The standard response file will be returned to the user to show if the upload has been a success or if errors exist.

The format for iccpName is NORM:PRD1,EMER:PRD2,SHED:PRD3,STE:PRD4 where the PRDx fields will be replaced with the user's value. All four values must be provided.

Input File

Name	CLI Argument Type	Value/Result	Required
dlrEquipmentRevise	root		Yes
dlrEquipmentRevise/ticketId	number		Yes
dlrEquipmentRevise/status	string		Yes
dlrEquipmentRevise/dlrFlag	string	true,false	Yes
dlrEquipmentRevise/proposedEffectiveDate	date	yyyy-mm-dd	Yes
dlrEquipmentRevise/iccpName	string		Yes
dlrEquipmentRevise/comments	string		Yes

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}
```

Example Input

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrEquipmentRevise xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrequipmentrevise/v1 dlrequipmentrevise.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <ticketId>1234567</ticketId>
    <status>denied</status>
    <dlrFlag>true</dlrFlag>
    <proposedEffectiveDate>2022-06-30</proposedEffectiveDate>
    <iccpName>NORM:PRD1,EMER:PRD2,SHED:PRD3,STE:PRD4</iccpName>
    <comments>PRD P2 test -please ignore</comments>
</dlrEquipmentRevise>
```

Example Response File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<edart xsi:schemaLocation="http://www.pjm.com/external/schemas/edart/response response.xsd" xmlns="http://www.pjm.com/external/
schemas/edart/response" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <response>Successfully uploaded dynamic ratings</response>
</edart>
```

DLR Forecast Value Download

Functional Overview

The DLR Forecast Values download serves to provide members a list of equipment and its ratings for Normal, Long Term, Short Term and Load Dump by hour.

This endpoint includes when the member is the owner of the equipment as well as if they have notification rights to it based on parameter settings.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
equipmentId	Query	**Values:** A single or multiple comma separated equipment id(s) **Result:** returns equipment information that match the provided identifier(s)	No
companyId	Query	**Values:** A single company id **Result:** returns effective rating information that match the provided company identifier	No
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported Default is to the next 48 hours	No

Name	CLI Argument Type	Value/Result	Required
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or before the entered date will be reported Default is to the next 48 hours	No
notificationType	Query	**Values:** Single or multiple status index values in a comma separated list without spaces. Valid values are: 0=All Facilities, 1=Own Only, 2=Notifications Only, 3=Own and Notifications Only **Result:** Only tickets with the requested status will be reported. Default is 0	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=forecastvalue
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q companyId=123

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrForecastValues xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrforecastvalue/v1 dlrforecastvalue.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <dlrForecastValue>
        <equipmentId>3072</equipmentId>
        <hourEndGmt>05/27/2022 20</hourEndGmt>
        <normal>56</normal>
        <longTerm>56</longTerm>
        <shortTerm>56</shortTerm>
        <loadDump>56</loadDump>
    </dlrForecastValue>
    <dlrForecastValue>
        <equipmentId>3072</equipmentId>
        <hourEndGmt>05/27/2022 21</hourEndGmt>
        <normal>55</normal>
        <longTerm>75</longTerm>
        <shortTerm>67</shortTerm>
        <loadDump>5</loadDump>
    </dlrForecastValue>
    <dlrForecastValue>
        <equipmentId>3072</equipmentId>
        <hourEndGmt>05/30/2022 09</hourEndGmt>
        <normal>78</normal>
        <longTerm>78</longTerm>
        <shortTerm>787</shortTerm>
        <loadDump>8</loadDump>
    </dlrForecastValue>
</dlrForecastValues>
```

DLR Forecast Report Download

Functional Overview

The DLR Forecast Report download serves to provide members a list of equipment and its ratings where the company is responsible for reporting rating adjustments.

This endpoint includes when the member is the owner of the equipment as well as if they have notification rights to it based on parameter settings.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ticketId	Query	**Values:** A single ticket id **Result:** returns equipment information that match the provided identifier	No
start	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or after the entered date will be reported Default is to the next 48 hours	No
stop	Query	**Value:** date in the format mm/dd/yyyy **Result:** Only tickets with an effective date on or before the entered date will be reported Default is to the next 48 hours	No
effectiveduring	Query	**Value:** true, false **Result:** If “true”, the effective timestamp will be used to determine what tickets to be returns. If “false”, the submitted timestamp will be used.	No
includecompleted	Query	**Values:** true, false **Result:** If “true”, returns tickets with the status of “Completed” Default value is false	No
includenotify	Query	**Values:** true, false **Result:** If “true”, returns tickets created by the user’s company AND tickets that the user’s company is notified. If “false”, returns only tickets that are owned by the user’s company Default value is false	No

Name	CLI Argument Type	Value/Result	Required
includehistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false. Used with start and stop parameters.	No

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype= dlrforecastreport
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q includenotify=true

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrForecastTicketsReport xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrforecastreport/v1 dlrforecastreport.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <dlrForecastTicket>
        <ticketId>2206112</ticketId>
        <equipmentId>2119311</equipmentId>
        <startDateGmt>06/02/2022 23</startDateGmt>
        <endDateGmt>06/05/2022 09</endDateGmt>
        <companyName>[redacted]</companyName>
        <status>Retired</status>
        <submittedTimestamp>06/02/2022 21:01</submittedTimestamp>
    </dlrForecastTicket>
    <dlrForecastTicket>
        <ticketId>2206142</ticketId>
        <equipmentId>48644</equipmentId>
        <startDateGmt>06/03/2022 18</startDateGmt>
        <endDateGmt>06/06/2022 04</endDateGmt>
        <companyName>[redacted]</companyName>
        <status>Retired</status>
        <submittedTimestamp>06/03/2022 16:52</submittedTimestamp>
    </dlrForecastTicket>
    <dlrForecastTicket>
        <ticketId>22061044</ticketId>
        <equipmentId>3072</equipmentId>
        <startDateGmt>06/09/2022 22</startDateGmt>
        <endDateGmt>06/11/2022 21</endDateGmt>
        <companyName>[redacted]</companyName>
        <status>Completed</status>
        <submittedTimestamp>06/09/2022 20:49</submittedTimestamp>
    </dlrForecastTicket>
</dlrForecastTicketsReport>
```

DLR Forecast Download

Functional Overview

The DLR Forecast download serves to provide members information about a specific Forecast Ticket including Ticket ID, Equipment ID and hourly data for Normal, Short Term, Long Term and Load Dump. Comments and Status are also included on the report.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
ticketId	Query	**Values:** A single equipment id **Result:** returns equipment information that match the provided identifier	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=dlrforecastticket
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q ticketId=12345

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrForecastTicket xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrforecast/v1 dlrforecast.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <ticketId>2205207</ticketId>
    <equipmentId>2088</equipmentId>
    <hourlyValues>
        <hourlyValue>
            <hourEndGmt>05/24/2022 21</hourEndGmt>
            <normal>23</normal>
            <longTerm>76</longTerm>
            <shortTerm>7</shortTerm>
            <loadDump>7</loadDump>
        </hourlyValue>
        <hourlyValue>
            <hourEndGmt>05/24/2022 22</hourEndGmt>
            <normal>87</normal>
            <longTerm>87</longTerm>
            <shortTerm>87</shortTerm>
            <loadDump>87</loadDump>
        </hourlyValue>
        <hourlyValue>
            <hourEndGmt>05/24/2022 23</hourEndGmt>
            <normal>878</normal>
            <longTerm>78</longTerm>
            <shortTerm>78</shortTerm>
            <loadDump>78</loadDump>
        </hourlyValue>
    </hourlyValues>
    <pjmComments>PJm comments 1</pjmComments>
    <comments>test 1234- create forecast ticket via CLI</comments>
    <status>Approved</status>
</dlrForecastTicket>
```

DLR Forecast Ticket Create Upload

Functional Overview

This upload creates DLR Forecast Tickets. The standard response file will be returned to the user to show if the upload has been a success or if errors exist.

Input File

Name	CLI Argument Type	Value/Result	Required
dlrForecastTicket	root		Yes
dlrForecastTicket/ticketId	number		Yes
dlrForecastTicket/equipmentId	number		Yes
dlrForecastTicket/hourlyValues	container		Yes
dlrForecastTicket/hourlyValues/hourlyValue	container		Yes
dlrForecastTicket/hourlyValues/hourlyValue/hourEndGmt	string		Yes
dlrForecastTicket/hourlyValues/hourlyValue/normal	number		Yes
dlrForecastTicket/hourlyValues/hourlyValue/longTerm	number		Yes
dlrForecastTicket/hourlyValues/hourlyValue/shortTerm	number		Yes
dlrForecastTicket/hourlyValues/hourlyValue/loadDump	number		Yes
dlrForecastTicket/pjmComments	string		No
dlrForecastTicket/comments	string		No
dlrForecastTicket/status	string		Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Example Input

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2020 sp1 (x64) (http://www.altova.com)-->
<dlrForecastTicket xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="dlrforecastticket.xsd">
    <ticketId>0</ticketId>
    <equipmentId>0</equipmentId>
    <hourlyValues>
        <hourlyValue>
            <hourEndGmt>String</hourEndGmt>
            <normal>0</normal>
            <longTerm>0</longTerm>
            <shortTerm>0</shortTerm>
            <loadDump>0</loadDump>
        </hourlyValue>
    </hourlyValues>
    <pjmComments>String</pjmComments>
    <comments>String</comments>
    <status>String</status>
</dlrForecastTicket>
```

Example Response File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<edart xsi:schemaLocation="http://www.pjm.com/external/schemas/edart/response response.xsd" xmlns="http://www.pjm.com/external/
schemas/edart/response" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <response>Successfully uploaded dynamic ratings</response>
</edart>
```

DLR Forecast Ticket Revise/Cancel Upload

Functional Overview

This upload revises or cancels an existing DLR Forecast Ticket. The standard response file will be returned to the user to show if the upload has been a success or if errors exist.

Input File

Name	CLI Argument Type	Value/Result	Required
dlrForecastTicket	root		Yes
dlrForecastTicket/ticketId	number		Yes
dlrForecastTicket/equipmentId	number		Yes
dlrForecastTicket/hourlyValues	container		Yes
dlrForecastTicket/hourlyValues/hourlyValue	container		Yes
dlrForecastTicket/hourlyValues/hourlyValue/hourEndGmt	string		Yes
dlrForecastTicket/hourlyValues/hourlyValue/normal	number		Yes
dlrForecastTicket/hourlyValues/hourlyValue/longTerm	number		Yes
dlrForecastTicket/hourlyValues/hourlyValue/shortTerm	number		Yes
dlrForecastTicket/hourlyValues/hourlyValue/loadDump	number		Yes
dlrForecastTicket/pjmComments	string		No
dlrForecastTicket/comments	string		No
dlrForecastTicket/status	string		Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Example Input for Revision

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2020 sp1 (x64) (http://www.altova.com)-->
<dlrForecastTicket xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="dlrforecastticket.xsd">
    <ticketId>0</ticketId>
    <equipmentId>0</equipmentId>
    <hourlyValues>
        <hourlyValue>
            <hourEndGmt>String</hourEndGmt>
            <normal>0</normal>
            <longTerm>0</longTerm>
            <shortTerm>0</shortTerm>
            <loadDump>0</loadDump>
        </hourlyValue>
    </hourlyValues>
    <pjmComments>String</pjmComments>
    <comments>String</comments>
    <status>String</status>
</dlrForecastTicket>
```

Example Input for Cancel

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dlrForecastTicket xsi:schemaLocation="http://www.pjm.com/external/schemas/dlrforecast/v1_dlrforecast.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <ticketId cancel="true">1234567</ticketId>
</dlrForecastTicket>
```

Example Response File

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<edart xsi:schemaLocation="http://www.pjm.com/external/schemas/edart/response_response.xsd"
xmlns="http://www.pjm.com/external/schemas/edart/response" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <response>Successfully revised DLR forecast with ID: 1234567.</response>
</edart>
```

Nuclear Bus Voltage Limit (NBVL)

XML information for the Nuclear Bus Voltage Limit downloads are available to Generation users regardless of your role, uploads are available for Generation write roles only. The main XML for Dynamic Facilities endpoints is located here.

In compliance with NERC standard NUC-001, Nuclear Generation Owners (NGOs), develop Nuclear Plant Interface Requirements (NPIRs) which define safe shutdown voltage limits. Applicable Transmission entities monitor the transmission system as not to violate the NPIRs. The Dart Nuclear Voltage Limit XML tool is limited to NGOs and applicable TOs and is used to Submit Nuclear Bus Voltage Limit change.

Nuclear Bus Voltage Limit Unit Setup Download

Functional Overview

This download provides an overview of the pre-determined voltage limits for all unit groups, and indicates the Default monitored values on a per voltage level basis, including the PJM specific value. All unit group specific scenarios and the associated voltage limits are displayed.

Additional Parameters

None

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=nbvlunitsetup
-u %USER%
-p %PSWD%
-s %SERVICEURL%
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nbvl:unitSetUpType xsi:schemaLocation="http://www.pjm.com/external/schemas/nbvl/v1 nbvl.xsd"
xmlns:nbvl="http://www.pjm.com/external/schemas/nbvl/v1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
    <message>Default monitored values are displayed on a per voltage level basis. The PJM specific values
are shown in blue and indicated with the letter "P". In XML download PJM values are shown in the "pjmValue"
attribute on the element.</message>
    <unit>
        <nuclearVoltageID>99</nuclearVoltageID>
        <unitName>Unit1</unitName>
        <company>Company1</company>
        <unitBus>
            <unitBusID>99</unitBusID>
            <station>8888</station>
            <voltage>99 KV</voltage>
            <busNameKeyword>TEST1</busNameKeyword>
            <scenarios>
                <scenario>
                    <scenarioName>Default</scenarioName>
                    <normalMinKv pjmValue="300">200.3</normalMinKv>
                    <normalMaxKv pjmValue="310">210</normalMaxKv>
                    <emergencyMinKv pjmValue="300">200</emergencyMinKv>
                    <emergencyMaxKv pjmValue="310">210</emergencyMaxKv>
                    <loadDump pjmValue="300">200</loadDump>
                    <voltageDropWarnPercent>9</voltageDropWarnPercent>
                    <voltageDropViolationPercent>9</voltageDropViolationPercent>
                </scenario>
            </scenarios>
        </unitBus>
    </unit>
</nbvl:unitSetUpType>
```

Nuclear Bus Voltage Limit Effective Limits Download

Functional Overview

This download provides information provides applicable limits for a chosen timeframe. This information is based on the filter(s) provided and will take into account any current and future tickets.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Values:** Number **Result**: Returns information associated with the NBVL ID entered. Default is all NBVL IDs	No
includeHistorical	Query	**Values:** true, false **Result:** If true, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Any value other than true is interpreted as false.	No

Name	CLI Argument Type	Value/Result	Required
effectiveDate	Query	**Value:** date/time in the format mm/dd/yyyy hh:mi **Result:** Only tickets with an effective date on or after the entered date and time will be reported Default is the date and time the report is run	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype= nbvllimits
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=1234
-q "effectiveDate=02/01/2023 12:05"

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nbvl:effectiveLimitReportType
xsi:schemaLocation="http://www.pjm.com/external/schemas/nbvl/v1 nbvl.xsd"
xmlns:nbvl="http://www.pjm.com/external/schemas/nbvl/v1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <message>PJM specific values are shown in blue and indicated with the
letter "P". In XML download PJM values are shown in the "pjmValue" attribute
on the element</message>
    <effectiveDateTime>dd/mm/yyyy hh24:mi</effectiveDateTime>
    <effectiveLimit>
        <nuclearVoltageID>99</nuclearVoltageID>
        <ticketID>9</ticketID>
        <type>Permanent</type>
        <status>Implemented</status>
        <startDateTime>dd/mm/yyyy hh24:mi</startDateTime>
    </effectiveLimit>
    <effectiveLimit>
        <nuclearVoltageID>88</nuclearVoltageID>
        <ticketID>9</ticketID>
        <type>Permanent</type>
        <status>Implemented</status>
        <startDateTime>dd/mm/yyyy hh24:mi</startDateTime>
    </effectiveLimit>
</nbvl:effectiveLimitReportType>
```

Nuclear Bus Voltage Limit Tickets Download

Functional Overview

This download provides information for all ticket IDs listed in the input parameters. This can be a single ID or a comma separated list of IDs. The report returned includes all ticket information including Default, Current and Adjusted values. If a single ID is selected and the includeAttachment parameter is true, a ZIP file including the ticket information and the file attachment is sent to the user. If a series of IDs are entered along with the includeAttachment, an error will be returned.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id ids	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result**: Returns the specific ticket(s) requested	No
includeAttachment	Query	**Values:** true, false **Result**: If true, all file attachments are sent in a ZIP folder. Default is false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=nbvl
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=1234
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nuclearVoltageLimitTicket xsi:schemaLocation="http://www.pjm.com/external/schemas/nbvl/v1
nbvl.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ticketID>999</ticketID>
  <type>Permanent</type>
  <ticketStatus>Submitted</ticketStatus>
  <nuclearVoltageID>99</nuclearVoltageID>
  <estStartDateTime>dd/mm/yyyy hh24:mi</estStartDateTime>
  <unitBusLimits>
    <unitBusID>99</unitBusID>
    <scenario>
      <scenarioType>type</scenarioType>
    </scenario>
    <defaultValues>
      <normalMinKv>999</normalMinKv>
      <normalMaxKv>999</normalMaxKv>
      <emergencyMinKv>999</emergencyMinKv>
      <emergencyMaxKv>999</emergencyMaxKv>
      <loadDump>999</loadDump>
      <voltageDropWarnPercent>99</voltageDropWarnPercent>
      <voltageDropViolationPercent>99</voltageDropViolationPercent>
    </defaultValues>
    <currentValues>
      <normalMinKv>888</normalMinKv>
      <normalMaxKv>888</normalMaxKv>
      <emergencyMinKv>888</emergencyMinKv>
      <emergencyMaxKv>888</emergencyMaxKv>
      <loadDump>888</loadDump>
      <voltageDropWarnPercent>99</voltageDropWarnPercent>
      <voltageDropViolationPercent>99</voltageDropViolationPercent>
    </currentValues>
    <adjustedValues>
      <normalMinKv>777</normalMinKv>
      <normalMaxKv>777</normalMaxKv>
      <emergencyMinKv>777</emergencyMinKv>
      <emergencyMaxKv>777</emergencyMaxKv>
      <loadDump>777</loadDump>
      <voltageDropWarnPercent>99</voltageDropWarnPercent>
      <voltageDropViolationPercent>99</voltageDropViolationPercent>
    </adjustedValues>
  </unitBusLimits>
  <comments>comments</comments>
  <fileCount>9</fileCount>
</nuclearVoltageLimitTicket>
```

Nuclear Bus Voltage Limit Ticket Report Download

Functional Overview

This download provides information allows the users to search for historical, current, and future Nuclear Voltage Limit tickets. The available filter choices allow the user to be specific if desired, or complete a broad search by not selecting any additional information.

Additional Parameters

Name	CLI Argument Type	Value/Result	Required
id	Query	**Values:** A single id or multiple ids in a comma separated list without spaces **Result**: Returns the specific ticket(s) requested. If ID is entered, no other parameters will be evaluated.	No
status	Query	**Values:** A single status or multiple statuses in a comma separated list without spaces Approved Cancelled by Company Completed Denied Implemented Implemented w/o Approval PJM Admin Closure Received Revised Submitted **Result**: Returns tickets where the status is one specifically identified in the parameter, or all statuses if this parameter is not set.	No
startDate	Query	**Values**: Date format, time is not needed **Result**: If this parameter is populated, only tickets on or after the startDate are returned	No
stopDate	Query	**Values**: Date format, time is not needed **Result**: If this parameter is populated, only tickets on or before the endDate are returned	No
permanent	Query	**Values:** yes, no **Result**: Returns tickets where the Type matches the parameter value entered Default is Yes	Yes

Name	CLI Argument Type	Value/Result	Required
temporary	Query	**Values:** yes, no **Result**: Returns tickets where the Type matches the parameter value entered Default is Yes	Yes
includeHistorical	Query	**Values:** yes, no **Result:** If yes, includes tickets that were completed or canceled more than 40 days ago. The default value is false. Used with start and stop parameters.	No
late	Query	**Values:** yes, no **Result**: Returns tickets where today's date is after the endDate on the ticket, and the status is not Completed or Implemented	No
upcoming	Query	**Values:** yes, no **Result**: Returns tickets where the startDart on the ticket is still in the future, but within 7 days of today's date.	No
recent	Query	**Values:** yes, no **Result**: Returns tickets that have been Completed within the last 7 days.	No
showhistory	Query	**Values:** true, false **Results:** If true, the history logs for the ticket are included. The default value is false.	No

PJM CLI Example

```
java -jar pjm-cli.jar
-d ./download/
-a rest/secure/download
--httpType POST
-q dart=true
-q downloadtype=nbvlticketreport
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-q id=1234
-q startDate=dd/mm/yyyy
-q stopDate=dd/mm/yyyy
-q "status=Approved,Cancelled by Company,Submitted"
```

Example Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nbvl:nuclearVoltageLimitReportType
xsi:schemaLocation="http://www.pjm.com/external/schemas/nbvl/v1 nbvl.xsd"
xmlns:nbvl="http://www.pjm.com/external/schemas/nbvl/v1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <nuclearVoltageLimitTicket>
        <ticketID>99</ticketID>
        <nuclearVoltageID>88</nuclearVoltageID>
        <company>Company1</company>
        <type>Permanent</type>
        <startDateTime>mm/dd/yyyy hh24:mi</startDateTime>
        <ticketStatus>Submitted</ticketStatus>
        <fileCount>99</fileCount>
    </nuclearVoltageLimitTicket>
    <nuclearVoltageLimitTicket>
        <ticketID>88</ticketID>
        <nuclearVoltageID>77</nuclearVoltageID>
        <company>Company1</company>
        <type>Temporary</type>
        <startDateTime>mm/dd/yyyy hh24:mi</startDateTime>
        <endDateTime>mm/dd/yyyy hh24:mi</endDateTime>
        <ticketStatus>Cancelled by Company</ticketStatus>
        <fileCount>99</fileCount>
    </nuclearVoltageLimitTicket>
</nbvl:nuclearVoltageLimitReportType>
```

Nuclear Bus Voltage Limits - Ticket Upload

Functional Overview

The Nuclear Bus Voltage Limit Ticket Upload is used to create a new ticket or to revise an existing ticket. When creating a new ticket, the NBVL Ticket ID will not be included on the upload file. When revising an existing ticket, the NBVL Ticket ID will be included on the upload file.

When creating a new ticket, all required elements must be included. When modifying an existing ticket, only those fields that are changing need to be included, but the full ticket can be included.

For canceling a NBVL ticket, only the Ticket ID and Ticket Status must be included, however Comments can also be included.

Input Elements – Create Ticket

Name	Type	Value/Result	Required
nuclearVoltageLimitTicket	root	1	Yes
nuclearVoltageLimitTicket/type	container string	1..*	Yes
nuclearVoltageLimitTicket/type/ nuclearVoltageLimitID	number	1	Yes
nuclearVoltageLimitTicket/estStartDateTime	datetime	1	Yes
nuclearVoltageLimitTicket/unitBusLimits	container	1..*	Yes
nuclearVoltageLimitTicket/unitBusID	number	1	Yes
nuclearVoltageLimitTicket/scenario	container	1..*	Yes
nuclearVoltageLimitTicket/scenario/ scenarioType	string	1	Yes
nuclearVoltageLimitTicket/defaultValues	container	1..*	Yes
nuclearVoltageLimitTicket/defaultValues/ normalMinKv	string	1	Yes
nuclearVoltageLimitTicket/defaultValues/ normalMaxKv	string	1	Yes
nuclearVoltageLimitTicket/defaultValues/ emergencyMinKv	number	1	Yes
nuclearVoltageLimitTicket/defaultValues/ emergencyMaxKv	number	1	Yes
nuclearVoltageLimitTicket/defaultValues/ loadDump	number	1	Yes
nuclearVoltageLimitTicket/defaultValues/ voltageDropWarnPercent	number	1	Yes
nuclearVoltageLimitTicket/defaultValues/ voltageDropViolationPercent	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues	container	1..*	Yes
nuclearVoltageLimitTicket/adjustedValues/ normalMinKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ normalMaxKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ emergencyMinKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ emergencyMaxKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ loadDump	number	1	Yes

Name	Type	Value/Result	Required
nuclearVoltageLimitTicket/adjustedValues/ voltageDropWarnPercent	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ voltageDropViolationPercent	number	1	Yes
nuclearVoltageLimitTicket/comments	string	1	Yes
nuclearVoltageLimitTicket/fileCount	number	1	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Input Elements – Revise Ticket

Name	Type	Value/Result	Required
nuclearVoltageLimitTicket	root	1	Yes
nuclearVoltageLimitTicket/ticketID	number	1	Yes
nuclearVoltageLimitTicket/type	string	1	Yes
nuclearVoltageLimitTicket/ticketStatus	string	1	Yes
nuclearVoltageLimitTicket/nuclearVoltageID	number	1	Yes
nuclearVoltageLimitTicket/estStartDateTime	datetime	1	Yes
nuclearVoltageLimitTicket/estEndDateTime	datetime	1	Yes
nuclearVoltageLimitTicket/unitBusLimits	container	1..*	Yes
nuclearVoltageLimitTicket/unitBusID	number	1	Yes
nuclearVoltageLimitTicket/scenario	container	1..*	Yes
nuclearVoltageLimitTicket/scenario/ scenarioType	string	1	Yes
nuclearVoltageLimitTicket/currentValues	container	1..*	Yes
nuclearVoltageLimitTicket/currentValues/ normalMinKv	string	1	Yes
nuclearVoltageLimitTicket/currentValues/ normalMaxKv	string	1	Yes

Name	Type	Value/Result	Required
nuclearVoltageLimitTicket/currentValues/ emergencyMinKv	number	1	Yes
nuclearVoltageLimitTicket/currentValues/ emergencyMaxKv	number	1	Yes
nuclearVoltageLimitTicket/currentValues/ loadDump	number	1	Yes
nuclearVoltageLimitTicket/currentValues/ voltageDropWarnPercent	number	1	Yes
nuclearVoltageLimitTicket/currentValues/ voltageDropViolationPercent	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues	container	1..*	Yes
nuclearVoltageLimitTicket/adjustedValues/ normalMinKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ normalMaxKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ emergencyMinKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ emergencyMaxKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ loadDump	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ voltageDropWarnPercent	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ voltageDropViolationPercent	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues	container	1..*	Yes
nuclearVoltageLimitTicket/adjustedValues/ normalMinKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ normalMaxKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ emergencyMinKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ emergencyMaxKv	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ loadDump	number	1	Yes

Name	Type	Value/Result	Required
nuclearVoltageLimitTicket/adjustedValues/ voltageDropWarnPercent	number	1	Yes
nuclearVoltageLimitTicket/adjustedValues/ voltageDropViolationPercent	number	1	Yes
nuclearVoltageLimitTicket/comments	string	1	Yes
nuclearVoltageLimitTicket/fileCount	number	1	Yes

PJM CLI Example

java -jar pjm-cli.jar
-d ./output/
-a rest/secure/upload
--httpType POST
-q dart=true
-u %USER%
-p %PSWD%
-s %SERVICEURL%
-f {filename.xml}
–o {filename2.xml}

Example Input File - Create Ticket

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nuclearVoltageLimitTicket xsi:schemaLocation="http://www.pjm.com/external/schemas/nbvl/v1 nbvl.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

        <type>Permanent</type>
         <nuclearVoltageID>2</nuclearVoltageID>
        <estStartDateTime>06/28/2024 15:00</estStartDateTime>
        <unitBusLimits>
            <unitBusID>9</unitBusID>
            <scenario>
                <scenarioType>No Change</scenarioType>
            </scenario>
            <defaultValues>
                <normalMinKv pjmValue="2">1</normalMinKv>
                <normalMaxKv pjmValue="2">1</normalMaxKv>
                <emergencyMinKv pjmValue="2">1</emergencyMinKv>
                <emergencyMaxKv pjmValue="2">1</emergencyMaxKv>
                <loadDump pjmValue="2">1</loadDump>
                <voltageDropWarnPercent>1</voltageDropWarnPercent>
                <voltageDropViolationPercent>1</voltageDropViolationPercent>
            </defaultValues>
            <adjustedValues>
                <normalMinKv pjmValue="2">1</normalMinKv>
                <normalMaxKv pjmValue="2">1</normalMaxKv>
                <emergencyMinKv pjmValue="2">1</emergencyMinKv>
                <emergencyMaxKv pjmValue="2">1</emergencyMaxKv>
                <loadDump pjmValue="2">1</loadDump>
                <voltageDropWarnPercent>1</voltageDropWarnPercent>
                <voltageDropViolationPercent>1</voltageDropViolationPercent>
            </adjustedValues>
        </unitBusLimits>
        <comments>All combo</comments>
        <fileCount>0</fileCount>
  </nuclearVoltageLimitTicket>
```

Example Input File - Revise Ticket

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nuclearVoltageLimitTicket xsi:schemaLocation="http://www.pjm.com/external/schemas/nbv1/v1 nbv1.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

        <ticketID>156</ticketID>
        <type>Temporary</type>
        <ticketStatus>Submitted</ticketStatus>
        <nuclearVoltageID>15</nuclearVoltageID>
        <estStartDateTime>04/19/2023 15:00</estStartDateTime>
        <estEndDateTime>04/20/2023 09:00</estEndDateTime>
        <unitBusLimits>
            <unitBusID>12</unitBusID>
            <scenario>
                <scenarioType>Unlisted</scenarioType>
            </scenario>
            <adjustedValues>
                <normalMinKv>2</normalMinKv>
                <normalMaxKv>2</normalMaxKv>
                <emergencyMinKv>2</emergencyMinKv>
                <emergencyMaxKv>2</emergencyMaxKv>
                <loadDump>2</loadDump>
                <voltageDropViolationPercent>2</voltageDropViolationPercent>
            </adjustedValues>
        </unitBusLimits>
        <unitBusLimits>
            <unitBusID>1</unitBusID>
            <scenario>
                <scenarioType>Unlisted</scenarioType>
            </scenario>
            <defaultValues>
                <normalMinKv>226.3</normalMinKv>
                <normalMaxKv>239</normalMaxKv>
                <emergencyMinKv>224</emergencyMinKv>
                <emergencyMaxKv>242</emergencyMaxKv>
                <loadDump>207</loadDump>
                <voltageDropWarnPercent>1</voltageDropWarnPercent>
                <voltageDropViolationPercent>3.5</voltageDropViolationPercent>
            </defaultValues>
            <currentValues>
                <normalMinKv>226.3</normalMinKv>
                <normalMaxKv>239</normalMaxKv>
                <emergencyMinKv>224</emergencyMinKv>
                <emergencyMaxKv>242</emergencyMaxKv>
                <loadDump>207</loadDump>
                <voltageDropWarnPercent>1</voltageDropWarnPercent>
                <voltageDropViolationPercent>3.5</voltageDropViolationPercent>
            </currentValues>
            <adjustedValues>
                <normalMinKv>1</normalMinKv>
                <normalMaxKv>1</normalMaxKv>
                <emergencyMinKv>1</emergencyMinKv>
                <emergencyMaxKv>1</emergencyMaxKv>
                <loadDump>1</loadDump>
                <voltageDropViolationPercent>1</voltageDropViolationPercent>
            </adjustedValues>
        </unitBusLimits>
        <comments>test ticket</comments>
        <fileCount>0</fileCount>
 </nuclearVoltageLimitTicket>
```

Appendix A –Dart Endpoint to eDART Type Mapping

This appendix provides a mapping of the Dart Endpoint name to the eDART type. The Dart Endpoint Name is a link to the section in this document. The eDART type information is from the Browserless File Transfer Spec document.

Dart Endpoint Name	eDART Type	Description	Allowed User Roles
Company Names Download	companynames	List of all active transmission companies in eDART. Report consists of short name and long name	Any Role
Conflict Generator Offline Scenarios Download	conflictgenoffscenario	List of conflict scenarios defined as requiring generators to be offline.	Transmission R/W, Transmission Read Only Generation and Transmission R/W
Conflict Group Scenarios Download	conflictgroupscenario	List of conflict scenarios defined for a group of equipment and the number of equipment allowed to be out at the same time.	Transmission R/W, Transmission Read Only Generation and Transmission R/W
Conflict Primary Facilities Download	conflictfacilityscenario	List of conflict scenarios defined for primary and associated secondary equipment.	Transmission R/W, Transmission Read Only Generation and Transmission R/W
Control Zones Download	controlzones	List of active control areas and associated control zones.	Transmission R/W, Transmission Read Only Generation and Transmission R/W Generation R/W Generation Read Only
DLR Equipment Report	dlrequipmentreport	List of TERM/DLR equipment	Transmission R/W Transmission Read Only Generation and Transmission R/W
DLR Forecast	dlrforecastticket	List of information about a specific Forecast Ticket.	Transmission R/W Transmission Read Only Generation and Transmission R/W
DLR Forecast Tickets Report	dlrforecastreport	List of equipment and its ratings where the company is responsible for reporting rating adjustments.	Transmission R/W Transmission Read Only Generation and Transmission R/W
Download Types	downloadtype	Upload and download file types allowed in eDART.	Generation R/W, Generation Read Only, Generation and Transmission R/W Transmission R/W, Transmission Read Only
EMS Outages Download	emsoutage	List of equipment currently out of service in PJM's EMS (Energy Management System)	Any Role
EMS Tripped Ticket	emstripped	Report of transmission outage tickets automatically generated by eDART due to equipment tripping	Transmission R/W Transmission Read Only Generation and Transmission R/W
EMS Tripped Ticket by Date	emstrippedbydate	Download of transmission outage tickets by date automatically generated by eDART due to equipment tripping	Transmission R/W Transmission Read Only Generation and Transmission R/W
Forecast Value	forecastvalue	List of effective ratings of TERM/DLR equipment.	Transmission R/W Transmission Read Only Generation and Transmission R/W

Dart Endpoint Name	eDART Type	Description	Allowed User Roles
Gen Checkout Download	gencheckout	Download of gencheckout reports	Generation R/W Generation Read Only Generation and Transmission R/W
Gen Checkout Regions Download	gencheckoutcontrolareas	List of control areas used in the gencheckout reports	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Cause Download	generationcause	List of outage cause types and unit types for which they are applicable for unit outage tickets	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Cause List by Generator Name Download	genbynamecause	List of units owned by the user's company and the outage cause types applicable to the units	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Ticket by Date Download	generationbydate	Download of generation tickets by ticket date and/or generation type.	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Ticket by Modify Date Download	genticchanges	Download of specific generation tickets or a group of generation tickets based on parameters provided.	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Ticket Download	generation	Download of units outage tickets for generation owners	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Ticket for Transmission Owners by Date Download	gentix4transbydate	Download of units outage tickets for transmission owners	Transmission R/W Transmission Read Only Generation and Transmission R/W
Generation Ticket Notify and Acknowledge	genwithnotifywithacknowledge	Downloads unacknowledged generation tickets for which user's company has notification rights, and acknowledges them.	Generation R/W Generation and Transmission R/W
Generation Ticket Notify Download	genwithnotify	Download of unacknowledged generation tickets for which user's company has notification rights	Generation R/W Generation Read Only Generation and Transmission R/W
Generation Ticket Recalled Download	genrecalled	List of recalled generation tickets and includes recalled time and forced dates.	Generation R/W Generation Read Only Generation and Transmission R/W
Generator List Download	generators	List of company's units including units ID, unit name, type, installed capacity, and MVAR Ratings	Generation R/W Generation Read Only Generation and Transmission R/W
Generator List for Transmission Owners Download	generators4trans	Download of active generators that the Transmission Owners are approved to see or where the generator is in their zone.	Transmission R/W Transmission Read Only Generation and Transmission R/W
Generator PSSE Download	generatorpsse	Download of eDART to PSSE model mapping for units	Generation R/W Generation Read Only Generation and Transmission R/W
IRC by Date Download	ircbydate	Download list of IRC reports by dates	Generation R/W Generation Read Only Generation and Transmission R/W
IRC Full Download	ircfull	Download of the most recent IRC report except when ID is provided.	Generation R/W Generation Read Only Generation and Transmission R/W
IRC Pool Totals Download	ircpooltotals	Download of the most recent IRC pool totals report	Any Role

Dart Endpoint Name	eDART Type	Description	Allowed User Roles
IRC Revise Download	ircrevise	Download of user editable fields for the open IRC. User can edit file and upload to eDART.	Generation R/W Generation Read Only Generation and Transmission R/W
IRC Self Check Download	ircselfcheck	Download of IRC self-check report; updated every 5 minutes and available when there is no open IRC.	Generation R/W Generation Read Only Generation and Transmission R/W
NBVL Effective Limits	nbvllimits	Download of NBVL Effective Limits data.	Generation R/W Generation Read Only Generation and Transmission R/W
NBVL Ticket Report	nbvlticketreport	Download of NBVL Tickets based on input parameters.	Generation R/W Generation Read Only Generation and Transmission R/W
NBVL Tickets	nbvl	Download of NBVL Tickets including default, current and adjusted values.	Generation R/W Generation Read Only Generation and Transmission R/W
NBVL Unit Setup	nbvlunitsetup	Download of NBVL Unit Setup including scenario values.	Generation R/W Generation Read Only Generation and Transmission R/W
NERC Load Forecast	nerclfbydate	Download of NERC load forecast data.	Transmission Read Only Transmission R/W Generation and Transmission R/W
NERC TADS Report Codes	nerctadsreportcodes	Download of TADS report codes including ID, and description.	Any Role
RRC by Date	rrcbydate	Download list of RRC reports by dates	Transmission R/W Transmission Read Only Generation and Transmission R/W
RRC Equipment List Download	rrcequipmentlist	List of equipment(capacitors, reactors, SVC/STATCOM, Unit/Condensers) included in the RRC	Transmission R/W Transmission Read Only Generation and Transmission R/W
RRC Full Download	rrcfull	Download of the most recent RRC report except when ID is provided.	Transmission R/W Transmission Read Only Generation and Transmission R/W
RRC Self Check Download	rrcselfcheck	Download of RRC self-check report; updated every 5 minutes and available when there is no open RRC.	Transmission R/W Transmission Read Only Generation and Transmission R/W
RXB Adjustment Download	termrxb	Download of TERM RXB Adjustment ticket information for review.	Transmission R/W Transmission Read Only Generation and Transmission R/W
Tariff Download	tariff	Download of equipment tariff information by transmission company, effective and termination dates.	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM Equipment Information Download	termi	Download of TERM equipment information including IDs, and ratings	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM Equipment Report Download	terme	Download of TERM equipment information including IDs, type, impedance and congestion status	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM Facilities Download	termequipment	Download TERM facilities report including Equipment ID, Station, Voltage, Equipment Name and End.	Transmission R/W Transmission Read Only Generation and Transmission R/W

Dart Endpoint Name	eDART Type	Description	Allowed User Roles
TERM File Attachment Retrieval	gettermattachments termattachments	Download files that have been attached to a TERM ticket Download a list of file attachments for a TERM ticket	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM Limitations Report Download	terml	List of TERM limitations that can be used in TERM tickets	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM Reason Report Download	termr	List of Reasons for Change that can be used in TERM tickets.	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM Ticket Review	term	Download of TERM Tickets for revise or review including ticket id for selecting specific tickets	Transmission R/W Transmission Read Only Generation and Transmission R/W
TERM by Date	termbydate	Download of TERM Tickets for revise or review including a date parameter for selecting a date range	Transmission R/W Transmission Read Only Generation and Transmission R/W
Tier Report Download	tier	Download of tier relationship between transmission equipment	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Acknowledge Notifications Download	transwithnotifywithacknowledge	Downloads unacknowledged transmission tickets for which user's company has notification rights, and acknowledges them.	Transmission R/W Generation and Transmission R/W
Transmission Causes Download	transmissioncauses	List of transmission outage cause types	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Companies Download	transcomp	List of active transmission companies including the ID and long name.	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Cut-In Report	cutinreport	Download showing cut-in status, tasks and task status for Transmission cut-in tickets.	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Equipment List Download	equipment	List of transmission equipment including those owned by the user's company and equipment for which user's company has notification rights	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Facility Outage Report (TOIMWG) Download	toimwg	Report of non-market sensitive transmission outage tickets	Any Role
Transmission Notification Report Download	transwithnotify	Download of unacknowledged transmission tickets for which user's company has notification rights	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission PSSE Download	transmissionpsse	Download of eDART to PSSE model mapping for transmission equipment	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Ticket Review by Modify Date	transticchanges	Download of transmission tickets that have changed since supplied start date & time	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Ticket Review, Revise Download	transmission	Download outage tickets for transmission owners Upload to revise an existing transmission ticket	Transmission R/W Transmission Read Only Generation and Transmission R/W

Dart Endpoint Name	eDART Type	Description	Allowed User Roles
Transmission Ticket Review, Revise Download	transticattachment	Download file attachment for transmission ticket is done with a parameter in Transmission Ticket Review, it is no longer a separate endpoint	Transmission R/W Transmission Read Only Generation and Transmission R/W
Transmission Zones Download	zones	List of Transmission companies and their associated control zones.	Transmission R/W Transmission Read Only Generation and Transmission R/W
Voltage Schedule Download	voltageschedule	Download voltage schedule for units for transmission and generation owners	Generation R/W Generation Read Only Transmission R/W Transmission Read Only Generation and Transmission R/W