eDART June 2018 Release Enhancements

PJM eDART XML User Group Meeting

05/30/2018

- Production release of June enhancements scheduled for Wednesday, June 27th.

  – eDART will be unavailable from 19:00 to 02:00 on Thursday, June 28th.

- Sandbox release scheduled for this week.

- **General Discussion Topics**
- Voltage Schedule
- Generation Related Enhancements
  - June 27th Release
  - Future Enhancements
- Transmission Related Enhancements
  - June 27th Release
  - Future Enhancements
- Question & Answer Resolution Session

- PJM issued the Generator Parameter Gathering survey via the eDART Black Start Calculator tool, **May 7, 2018 effective 16:00 EPT**, with a focus on generator parameter data for restoration planning purposes.

- PJM requires that generating resources and transmission owners complete the survey no later than **23:59 EPT on June 10, 2018**.

- A help file is available in the eDART Black Start Calculator tool.

- Review of the tool is available [here](#).

- Please contact Ray Lee (Ray.Lee@pjm.com) or Dan Bennett (Daniel.Bennett@pjm.com) with any questions related to the survey or tool.

- Currently there are 500 to 700 eDART user accounts that have not logged in at least since 2017.

- Account Clean Up Timeline (Q4 2018):

    – Accounts with last login more than 365 days in the past will be locked.

    – Accounts locked for more than 365 days will be revoked.

    – Emails with list of dormant users will be sent to Customer Account Managers (CAM).

- PJM member companies can request email notification of transmission outages.
- Information available at http://www.pjm.com/markets-and-operations/etools/edart.aspx

Requests to Add, Update or Remove Email Notifications

For Generation Owners → Transmission Ticket for Generation Entities | Guide [PDF]

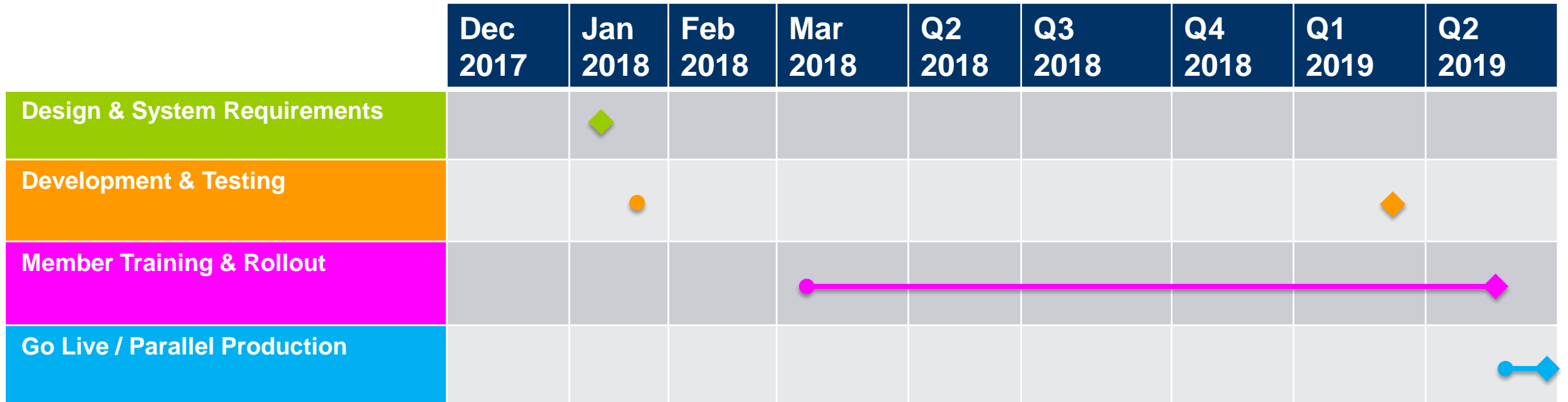Impactful Transmission Outages (RTO/ISO) [PDF] | Help ← For Transmission Owners

- Restoration Data application retired.
  - Download type = restoration.
  - Identified as no longer needed after review with System Operator Training team.
- Legacy Reactive Reserve Check (RRC) retired.
  - Information on new RRC downloads upload available at http://pjm.com/pub/etools/edart/xmldocs/xmldoc.html

eDART Browserless Refresh Timeline

	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019
Design & System Requirements		◆							
Development & Testing		●						◆	
Member Training & Rollout				●━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━◆					
Go Live / Parallel Production									●━◆

Legend

●   Start Date

◆   End Date

- New Voltage Control Philosophy option added for units.
  - Current options:
    - Voltage Schedule
    - Reactive Power Schedule
    - TBD
  - New option: Power Factor Schedule
- Visible on D-Curve and Unit list downloads.
  - Tag name: voltageControlPhilosophy

- General Discussion Topics
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- The Voltage Schedule tool is a new eDART web-based tool to aid compliance monitoring of Voltage Schedule communication between PJM, TOs and GOs.

- Includes new ticket (record) type, handling of exemptions, reporting, processing and seasonal verification.

- Features:
  - Download for TOs and GOs to see effective Voltage Schedules by date.
  - Upload for TOs to submit changes to Voltage Schedules.
  - Upload for GOs to acknowledge Voltage Schedules.

- New Voltage Schedule XSD available:
  http://www.pjm.com/pub/etools/edart/xmldocs/voltageschedule.xsd
- Download type = voltageschedule

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2016 rel. 2 sp1 (x64) (http://www.altova.com)-->
<vs:voltageSchedules
 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/XMLSchema-instance">
  <voltageSchedule>
      <unitNumber>1234</unitNumber>
      <scheduleType>Voltage</scheduleType>
      <effectiveDate>2018-08-13</effectiveDate>
      <toComments>August Schedule</toComments>
    <normalValues>
        <target>138</target>
        <lowerBound>4</lowerBound>
        <upperBound>2</upperBound>
    </normalValues>
    <lightValues>
        <target>140</target>
        <lowerBound>2</lowerBound>
        <upperBound>5</upperBound>
    </lightValues>
    <heavyValues>
        <target>142</target>
        <lowerBound>0</lowerBound>
        <upperBound>5</upperBound>
    </heavyValues>
  </voltageSchedule>
</vs:voltageSchedules>
```

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2016 rel. 2 sp1 (x64) (http://www.altova.com)-->
<vs:voltageSchedules
 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/XMLSchema-instance">
   <voltageSchedule>
      <ticketId>101</ticketId>
      <unitNumber>1234</unitNumber>
      <scheduleType>Voltage</scheduleType>
      <effectiveDate>2018-08-13</effectiveDate>
      <status>xxxx</status>
      <toComments>August Schedule revised</toComments>
      <normalValues>
         <target>138</target>
         <lowerBound>4</lowerBound>
         <upperBound>2</upperBound>
      </normalValues>
      <lightValues>
         <target>140</target>
         <lowerBound>2</lowerBound>
         <upperBound>5</upperBound>
      </lightValues>
      <heavyValues>
         <target>142</target>
         <lowerBound>1</lowerBound>
         <upperBound>5</upperBound>
      </heavyValues>
   </voltageSchedule>
</vs:voltageSchedules>
```

Set <status>cancel<status> to cancel ticket.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2016 rel. 2 sp1 (x64) (http://www.altova.com)-->
<vs:voltageSchedules
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/XMLSchema-instance">
    <voltageSchedule>
        <ticketId>101</ticketId>
        <goComments>Received and Acknowledged</goComments>
    </voltageSchedule>
</vs:voltageSchedules>
```

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2016 rel. 2 sp1 (x64) (http://www.altova.com)-->
<vs:voltageSchedules
   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/XMLSchema-instance">
   <voltageSchedule>
      <ticketId>101</ticketId>
      <unitNumber>1234</unitNumber>
      <scheduleType>Voltage</scheduleType>
      <effectiveDate>2018-08-13</effectiveDate>
      <status>GO Acknowledged</status>
      <genAcknowledgeTimestamp>2018-05-29T09:30:47Z</genAcknowledgeTimestamp>
      <pjmComments>PJM reviewed</pjmComments>
      <toComments>August Schedule revised</toComments>
      <goComments>Received and Acknowledged</goComments>
      <normalValues>
         <target>138</target>
         <lowerBound>4</lowerBound>
         <lowerValue>134</lowerValue>
         <upperBound>2</upperBound>
         <upperValue>140</upperValue>
      </normalValues>
      <lightValues>
         <target>140</target>
         <lowerBound>2</lowerBound>
         <lowerValue>138</lowerValue>
         <upperBound>5</upperBound>
         <upperValue>145</upperValue>
      </lightValues>
      <heavyValues>
         <target>142</target>
         <lowerBound>1</lowerBound>
         <lowerValue>141</lowerValue>
         <upperBound>5</upperBound>
         <upperValue>147</upperValue>
      </heavyValues>
   </voltageSchedule>
</vs:voltageSchedules>
```

TO (New Ticket Upload)

Accepted Values	Ignored Values
	ticketId
unitNumber	
scheduleType	
effectiveDate	
	status
	genAcknowledgeTimestamp
	pjmComments
	goComments
toComments	
normalValues: target	
normalValues: lowerBound	
	normalValues: lowerValue
normalValues: upperBound	
	normalValues: upperValue
lightValues: target	
lightValues: lowerBound	
	lightValues: lowerValue
lightValues: upperBound	
	lightValues: upperValue
heavyValues: target	
heavyValues: lowerBound	
	heavyValues: lowerValue
heavyValues: upperBound	
	heavyValues: upperValue

TO (Ticket Edits Re-Upload)

Accepted Values	Ignored Values
ticketId	
unitNumber	
scheduleType	
effectiveDate	
status	
	genAcknowledgeTimestamp
	pjmComments
	goComments
toComments	
normalValues: target	
normalValues: lowerBound	
	normalValues: lowerValue
normalValues: upperBound	
	normalValues: upperValue
lightValues: target	
lightValues: lowerBound	
	lightValues: lowerValue
lightValues: upperBound	
	lightValues: upperValue
heavyValues: target	
heavyValues: lowerBound	
	heavyValues: lowerValue
heavyValues: upperBound	
	heavyValues: upperValue

GO (Ticket Acknowledge Re-Upload)

Accepted Values	Ignored Values
ticketId	
	unitNumber
	scheduleType
	effectiveDate
	status
	genAcknowledgeTimestamp
	pjmComments
goComments	
	toComments
	normalValues: target
	normalValues: lowerBound
	normalValues: lowerValue
	normalValues: upperBound
	normalValues: upperValue
	lightValues: target
	lightValues: lowerBound
	lightValues: lowerValue
	lightValues: upperBound
	lightValues: upperValue
	heavyValues: target
	heavyValues: lowerBound
	heavyValues: lowerValue
	heavyValues: upperBound
	heavyValues: upperValue

- Augustine Caven
  Augustine.Caven@pjm.com
  610-666-8200

- Daniel Bennett
  Daniel.Bennett@pjm.com
  610-635-3082

- General Discussion Topics
- Voltage Schedule
- <mark>Generation Related Enhancements</mark>
  - June 27th Release
  - Future Enhancements
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- 'generatorpsse' download will be made read only.
  - Insert, update and delete tags (upload functionality) will no longer be valid.
  - Minimal usage by members.
  - Primarily managed by PJM.
  - Any mapping issues should be reported to eDARTHelp@pjm.com.

- New Include Historical parameter:
  - By default, downloads will return current information; user can use parameter to specifically request historical information (tickets completed or cancelled more than 40 days in the past.).
  - Will help reduce size of files transferred and improve performance.
  - Parameter name = includehistorical (true/false; false by default).
- Impacted downloads: generation, genwithnotify.

- Instantaneous Reserve Check (IRC) monthly statistical report.
  - Report comparing # of IRCs per month and Generation Owner's response to IRCs.

- General Discussion Topics
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- Study Note to be added to transmission tickets to indicate PJM real-time study is not required when a TO calls for outage to non-reportable equipment.
- Per PJM Tariff, Non-reportable equipment defined as:
  - Modeled in EMS (optional)
  - No SA impact expected
  - No Congestion expected

- Study Note displayed when all the equipment in a ticket is Reportable = No,
  - AND Cong. Expected Flag = [FALSE],
  - AND Ticket has No Associated System Impact Notes,
  - AND Ticket has No Associated Conflicts,
  - AND ticket cause type is not Relay related

```
<outage_type>Continuous</outage_type>
<ticket_type info="false" emergency="false" />
<study_note>Ticket consists entirely of Tariff Non-Reportable equipment: PJM Real-time Study NOT required.</study_note>
- <equipment status="O" primaryEquipFlag="true">
    <ta_id>38516</ta_id>
  - <interval_definition>
    - <interval_start>
```

- Addition of the ability to download transmission tickets by Company ticket ID.
  - Parameter: companyticketid or companyTicketId
  - Currently, users have to supply the PJM ticket ID.
- Facility information section to be added to download of notification transmission tickets for retired equipment.
  - Warning message will also be updated to state that equipment is retired.

```xml
- <equipment primaryEquipFlag="true" status="O">
      <ta_id>321</ta_id>
      <warning>Retired equipment</warning>
  - <facility_information>
        <type>LINE</type>
        <station>CHERRY</station>
        <voltage>230 KV</voltage>
        <short_name>CHE-FLA</short_name>
        <long_name>CHERRY-FLAVOR 222</long_name>
    </facility_information>
  - <interval_definition>
```

- Operational tag (for NERC TADS reporting) on transcreate, transticrevise and transticreview will be updated to include Human Error and N/A.
  - Currently has only Emergency, Other, System Operation and System Voltage.
- Error message to be returned when transticchanges download returns no transmission tickets (i.e. no changes to tickets to report).
  - Currently returns a blank response.

```xml
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <edart xmlns="http://www.pjm.com/external/schemas/edart/response">
    <error>No tickets to process. All tickets have been acknowledged, or if a list was supplied, access to the ticket was denied.</error>
</edart>
```

- Issue with equipment download returning duplicate notification records will be fixed.

  – Duplicates present when TO has TERM and Transmission ownership access to the same equipment.

- Three Winding Transformer information (station_i, station_j and station_k tags) to be added to transmissionpsse download.

- 'transmissionpsse' download will be made read only.
  - Insert, update and delete tags (upload functionality) will no longer be valid.
  - psse_equipment_id tag removed; was used for update and delete.
  - Minimal usage by members.
  - Primarily managed by PJM.
  - Any mapping issues should be reported to eDARTHelp@pjm.com.

Before

After

- New download 'generators4trans' for Transmission Owners to retrieve unit information for units in TO's zone or for which TO has approved access.

  – Information the same as in generators download.

  – Needed for TOs which do not have users with Generation and Transmission access.

- Global Include Historical flag:
  - By default, downloads will return current information; user can use flag to specifically request historical information.
  - Will help reduce size of files transferred and improve performance.
  - Implemented for Transmission outage downloads in Q1 2018.
  - Currently being implemented for Generation outage downloads.
  - Will be implemented for TERM ticket downloads in Q3.
- Study Note implementation for tickets with Low Priority Reportable equipment.
  - Pending review and update of PJM Manual 3.

- RRC by Date Download
  - New report to provide list of RRC reports (by ID) created between provided start and end dates.

- Voltage Limits
  - new tool for transmission users to view and submit voltage limits information, replacing M-03 as the historian.

- Transformer Tap Changer
  - new tool for transmission users to submit adjustments to transformer tap settings (default, min., max. and step size).

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- edarthelp@pjm.com
- Vy Le: vy.le@pjm.com
- Chidi Ofoegbu: chidi.ofoegbu@pjm.com