



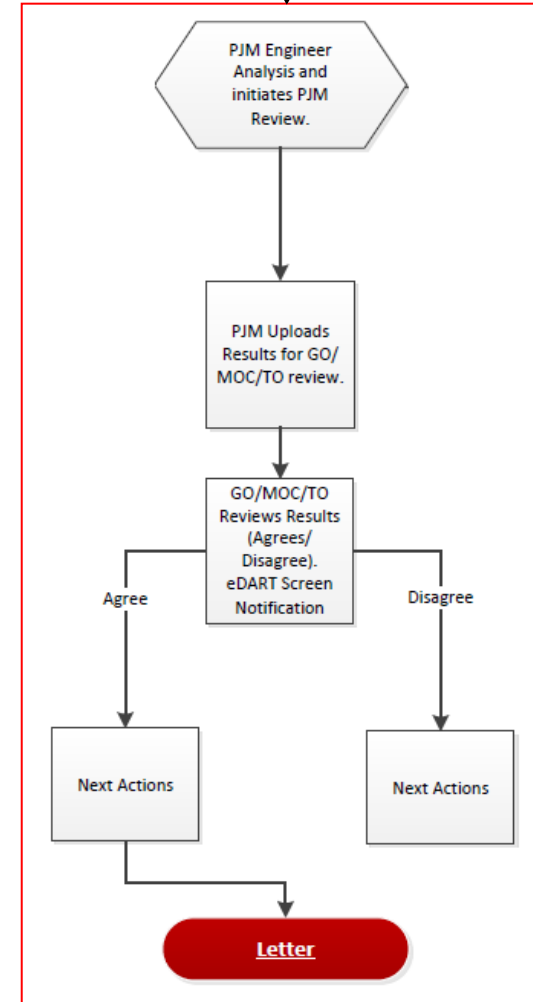
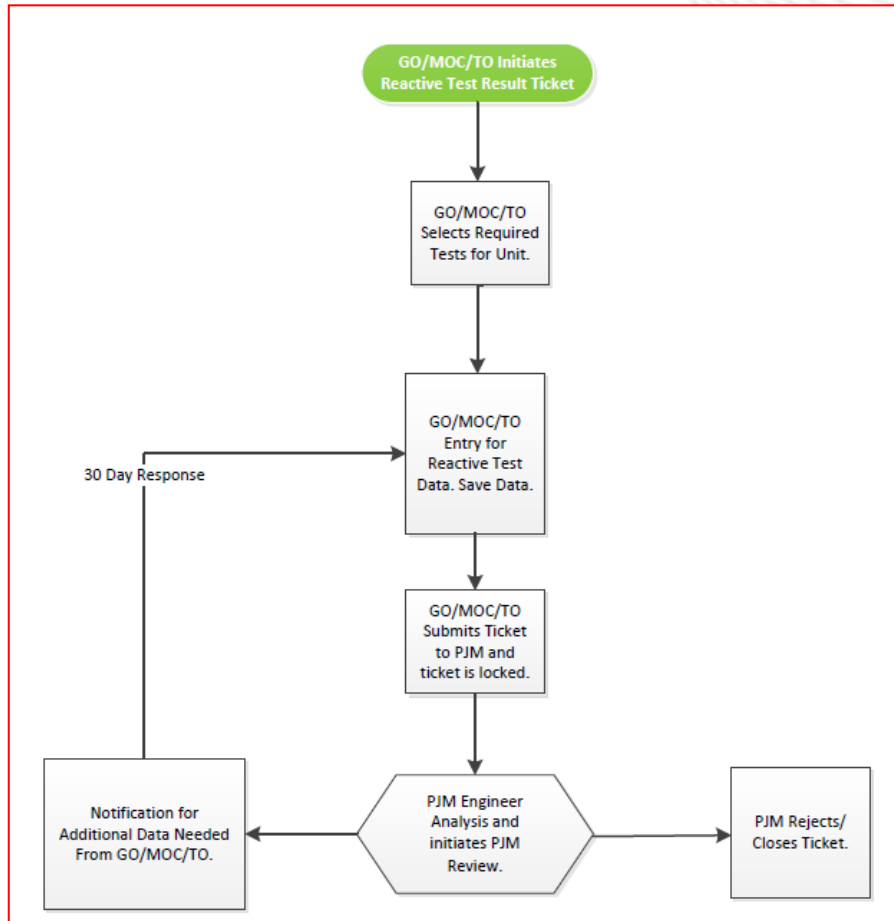
eDART User Group – Generation

eDART User Group – Generation Meeting
1/30/2017



- Discussion Topics
 - Browserless Interface for Reactive Testing Result Ticket
 - Possible Enhancements to the GO Survey Tool
 - Updates to Switch Start Business Rules
- Question and Answer Resolution Session

- Web UI for submission/tracking of reactive test results, analysis results, test status, etc. available with December 14th eDART release.
- On May 1, 2017, current process (email and spreadsheet) will no longer be supported.
- XML/Browserless interface planned for Q1 2017 eDART release.
 - 2 implementation options for ticket creation available:
 - Option 1: Full submission upload
 - Option 2: Step-by-step submission uploads
- Upload of supporting files only available via Web UI.



Reactive Capability Testing Form

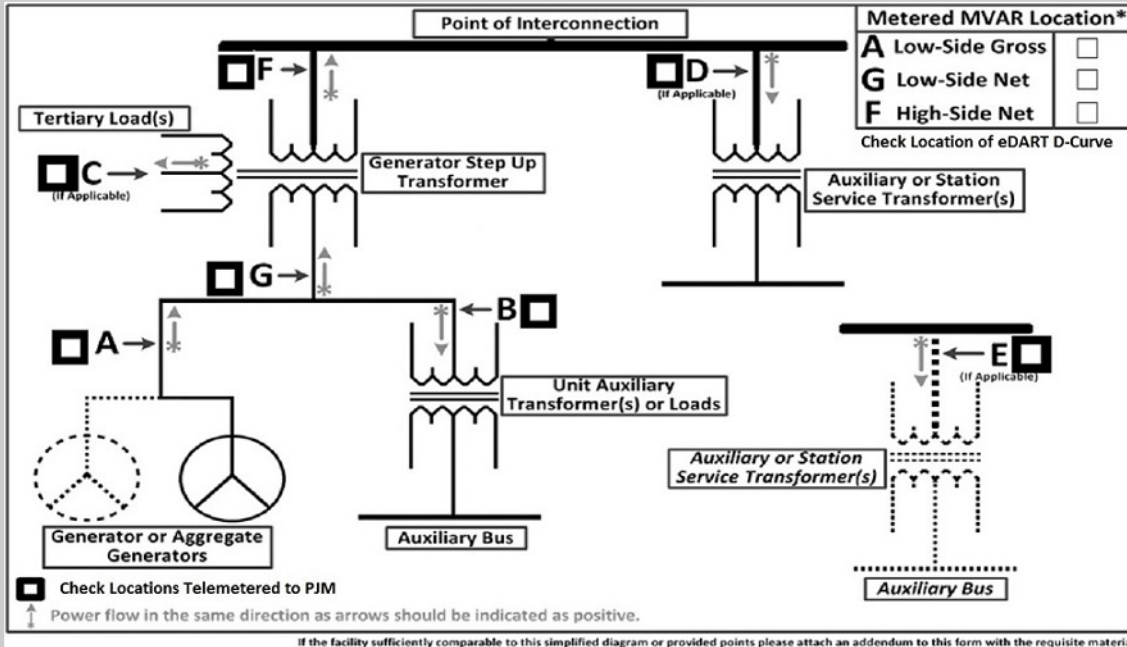
Reactive Result Ticket ID: 146 Test: **Max Load Lagging** Unit Name: **TEST UNIT 7 LEE** Company: **PJM TEST**
 eDART MVAR Test Ticket: 311148 Date of Test: 01/24/2017 Previous Test Date:

Tested By*:
 Test Analysis Contact*:
 Analysis Contact Email*:
 Analysis Contact Phone*:

Cooling Water Temperature:
 Start Time of the Test*: (hh24:mi EPT)
End time of the test will be calculated by PJM based on the test type.

Ambient Temperature, F:
 Ambient Relative Humidity:
 Normal Hydrogen Pressure, PSIG:
 Actual Hydrogen Pressure, PSIG:

Black Start*: Yes No
 Data Type*: Staged Operational
 Test Results Limited by System Conditions and PJM notified:
 Automatic Voltage Regulator verified in service:



Location	Current Test		Stated Capability		Additional Comments		
	Telemetered to PJM*	eDART D-Curve*	Voltage (KV)*	Reactive Power (MVAR)*		Real Power (MW)	Reactive Power (MVAR)
A Low-Side Gross	<input type="checkbox"/>	<input checked="" type="radio"/>					
B	<input type="checkbox"/>						
C	<input type="checkbox"/>						
D	<input type="checkbox"/>						
E	<input type="checkbox"/>						
F High-Side Net	<input type="checkbox"/>	<input checked="" type="radio"/>					
G Low-Side Net	<input type="checkbox"/>	<input checked="" type="radio"/>					

Data Telemetry Verified between the plant, the MOC and PJM as per M14D, E 4.1:
(MM/DD/YYYY) (hh24:mi)

Generator Voltage Schedule: KV GSU Nameplate Data:
 Generator Voltage PT Ratio: KV Tap Setting: KV
 System Voltage Schedule: KV Impedance: %
 System Voltage PT Ratio: KV Generator Voltage PT Ratio: MVA

[Save](#) [Refresh](#) [Back to Ticket](#)

- 2 schemas:
 - a. gentic_rtr
 - One file with all test data for all included tests for the unit.
 - To edit the ticket, re-upload file with updated values.
 - Data in upload will overwrite existing data.
 - Any excluded information/empty tags will be deleted.
 - See *Reactive Testing Result Ticket Full Upload Sample.xml*.
 - b. rtr_status_change
 - Options: Saved, Canceled by GO and PJM Review.

```
- <edart xsi:noNamespaceSchemaLocation="PLACEHOLDER" xmlns:xsi="PLACEHOLDER">
  <!-- Example file -->
  - <rtr_status_change>
    <pjm_ticket_id>1112</pjm_ticket_id>
    <ticket_status>Saved</ticket_status>
  </rtr_status_change>
</edart>
```

- Pros:
 - Only one file upload needed per unit.
- Cons:
 - Very large XML file with unit and all ticket data.
 - Over 100 fields per test (6 tests possible per unit).
 - Data analyzed line by line; entire upload will be rejected at the first data validation fail.
 - Possibility of multiple errors resulting in multiple upload trials.

- Mimics ticket creation process on the Web UI.
- 4 schemas:
 - a. newgentic_rtr
 - Select Unit, enter Company Ticket ID and GO Comments.
 - Ticket ID is returned.
 - See *Reactive Testing Result Ticket New Ticket Sample.xml*

```
- <edart xsi:noNamespaceSchemaLocation="PLACEHOLDER" xmlns:xsi="PLACEHOLDER">
  <!-- Example file -->
  - <newgentic_rtr>
    <company_ticket_id>TestPJM_ReactiveResult</company_ticket_id>
    <generator>232</generator>
    <go_comments>"TEXT FIELD"</go_comments>
  </newgentic_rtr>
</edart>
```


b. rtr_test_data

- Select Test type, MVAR Test ticket and enter test data.
- User can submit only one test per file; provide ticket ID with each upload.
- To edit the ticket, re-upload test data file with updated values.
 - Data in upload will overwrite existing data.
 - Any excluded information/empty tags will be deleted.
- See *Reactive Testing Result Ticket Test Data Sample.xml*

c. rtr_test_exclude

- Upload to delete submitted test data.

```
- <edart xsi:noNamespaceSchemaLocation="PLACEHOLDER" xmlns:xsi="PLACEHOLDER">
  <!-- Example file -->
  - <rtr_test_exclude>
    <pjm_ticket_id>1112</pjm_ticket_id>
    <test_type>Max Load Lagging</test_type>
  </rtr_test_exclude>
</edart>
```

d. rtr_status_change

- Options: Saved, Canceled by GO and PJM Review

```
- <edart xsi:noNamespaceSchemaLocation="PLACEHOLDER" xmlns:xsi="PLACEHOLDER">  
  <!-- Example file -->  
  - <rtr_status_change>  
    <pjm_ticket_id>1112</pjm_ticket_id>  
    <ticket_status>Saved</ticket_status>  
  </rtr_status_change>  
</edart>
```

- Pros:
 - Data validation done per step.
 - Smaller data set and file size to manage.
- Cons:
 - Multiple steps to submit data for unit tests.

Option	Number of Schemas	Pros	Cons
<p>1: Full Submission Upload: Unit & all ticket data submitted at same time.</p>	<p>2 Schemas</p> <ol style="list-style-type: none"> 1. gentic_rtr 2. rtr_status_change 	<ol style="list-style-type: none"> 1. Only 1 file upload per unit 	<ol style="list-style-type: none"> 1. Large XML file. 2. Data analyzed line by line; entire upload rejected at first data validation failure
<p>2. Step by Step Submission Upload: Uploads performed in steps, mimicking Web UI</p>	<p>4 Schemas</p> <ol style="list-style-type: none"> 1. newgentic_rtr 2. rtr_test_data 3. rtr_test_exclude 4. rtr_status_change 	<ol style="list-style-type: none"> 1. Data validation each step 2. Smaller data sets & file sizes 	<ol style="list-style-type: none"> 1. Multiple steps to submit all data 2. Data is submitted per test type

- New review download with all test data for included tests.
 - Blank fields returned as empty tags.
- New report download that includes:
 - Unit
 - Ticket ID
 - Ticket Status
 - Submission Date
 - Test Date
 - GO Comment

- 2 downloads:
 - Full review download per ticket
 - Report download
- Potential to provide Test letter with review or report download.

- Based on data size and expected tool usage frequency, which option is preferred?
 - Full submission upload + additional downloads
 - Step-by-step submission upload + additional downloads
 - Downloads Only
 - Web UI only; No XML interaction

- Discussion Topics
 - Browserless Interface for Reactive Testing Result Ticket
 - Possible Enhancements to the GO Survey Tool
 - Updates to switch Start Business Rules
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- PJM Initiates GO Survey and sends email notification.
 - Email contains survey questions and instructions
 - eDART GO Survey button turns red.
 - Survey pre-populated with responses from previous year where available.
- GO responds to Survey questions in eDART.
 - Questions and instructions available in PDF format.
 - Pre-populated responses with question index available via XML download.
 - User can respond via Web UI and/or XML upload.

1. Limited time to prepare for GO Survey due to changes such as addition or removal or reordering or modifications to questions
2. Current XML file is difficult to read and questions not included.
3. Inability to save partial GO Survey responses on Web UI without losing entered data.
4. Difficult for GOs with large fleets to send survey by plant to individual operators to provide responses.

1. Limited time to prepare for GO Survey due to changes such as addition or removal or reordering or modifications to questions.

PJM Suggestion:

- Initiate GO Survey in Sandbox ahead of initiation in Production.
- Send support documentation ahead of GO Survey initiation.
 - Instructions/Help
 - Survey questions
 - List changes from last year

2. Current XML file is difficult to read and questions not included.

PJM options:

- a. Additional XML download with survey questions and help information for reference.
 - Use in addition to XML download with pre-populated responses.
- b. Additional CSV file download with questions, pre-populated responses, and help information for reference.
 - Responses submitted via XML upload or Web UI.

PJM options:

- c. Additional CSV file that can be used for download and upload.
 - User can edit pre-populated data in downloaded file and upload updated file to eDART.
 - User will need to enter information for units with no responses from previous year.

Summary of options

(Note: these are in addition to the current XML upload)

Option	Download	Upload	Notes
A – XML Download	<ol style="list-style-type: none"> Survey Questions Help Information 	N/A	<ol style="list-style-type: none"> Use in addition to current XML download w/ pre-populated answers Response upload via current XML or Web UI
B – CSV Download	<ol style="list-style-type: none"> Survey Questions Pre-populated Responses Help Information 	N/A	<ol style="list-style-type: none"> Response upload via current XML or Web UI
C – CSV Download & Upload	<ol style="list-style-type: none"> Survey Questions Pre-populated Responses Help Information 	Upload updated CSV file	<ol style="list-style-type: none"> Users edit downloaded CSV file Users upload updated CSV file to eDART Users will need to enter responses for units with no responses from previous surveys.

3. Inability to save partial GO Survey responses on Web UI without losing entered data

PJM Suggestion:

- New functionality for user to save responses and continue the survey at another time.
 - Until submission, survey is considered incomplete; PJM unable to view partially completed surveys.

4. Difficult for GOs with large fleets to send survey by plant to individual operators to provide responses.

PJM Suggestion:

- New eDART user qualification which grants access only to GO Surveys.
- GO will need to select Admin user that can assign users new qualification.
 - Assigned users will be able to complete GO Survey for assigned plant in eDART
 - Similar to Owners Report Maintenance Admin functionality.
- Potential to expand functionality to other GO tasks.

- Requirement to complete GO Contact Information Survey (GCIS) being added to PJM Manual.
- GCIS must be completed prior to Fall Fuel Survey initiation.

- Discussion Topics
 - Browserless interface for Reactive Testing Result Ticket
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 - Updates to Switch Start Business Rules
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- New Switch Start Business Rules implemented in December 14th eDART release.
 - Switch Start restricted to 1 hour or less before Est. Start.
- Bug reported with implementation of rule for tickets in certain statuses.
 - Will be fixed in March eDART release.
- After recent review, Unplanned Tickets will also be subject to 1 hour limit for Switch Start Date submission.

- Discussion Topics
 - Browserless interface for Reactive Testing Result Ticket
 - Possible Enhancements to the GO Survey Tool
 - Switch start rules
- Question and Answer Resolution Session

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