eDART December 2013 Release
Enhancements

eDART Users Group Meeting
12/04/2013
• Production
  – Release of enhancements scheduled for Wednesday, December 18th.
PJM Roster Verification Process

- December 2013 Enhancements
- Future Enhancements
- eDART User Group Contact Update
- Question & Answer Resolution Session
PJM Roster Verification Process
• PJM Member Services initiated a roster verification review process.
  – Verify name and contact information of all representatives in your organization.
  – Add/remove representatives from the roster.
  – Subscribe to user group email distribution list.

• Roster: [http://www.pjm.com/~/media/committees-groups/rosters/edug.ashx](http://www.pjm.com/~/media/committees-groups/rosters/edug.ashx)
  – Note: User must be logged into PJM.com to view the roster.
User Group Roster Update

• To make any changes to the roster, complete and submit the Roster Update Form:
• Individuals with PJM.com accounts can now self-subscribe to all public mailing lists at https://www.pjm.com/mypjm/newsletters.aspx

• Log into PJM.com with username and password or click ‘Register Now’ to create PJM.com account.
1. When logged into PJM.com, click on Newsletters.

2. Select the desired mailing list(s) from Available Subscriptions.

3. Click ‘>' to add to Current Subscriptions.

4. Submit
- PJM Roster Verification Process
  - December 2013 Enhancements
- Future Enhancements
- eDART User Group Contact Update
- Question & Answer Resolution Session
Black Start Calculator (Phase 1)
Member Input Functionality
• New Black Start application functionality to more easily maintain and evaluate system restoration plans.
  – Existing Issues:
    • Black Start Terminations/Generator Retirements
    • SRP cranking path extraction
    • TO to PJM Model Translation
    • Generation and Transmission Outages
  – Benefits:
    • GO/TO Data entry
    • Notification of data changes and associated issues
    • Convenient data reporting
    • Faster analysis and problem resolution
    • Easy identification of critical load needs unserved
Black Start Calculator Time Line

• Phase I – December 18th 2013
  – Release input forms to collect Black Start, Critical Load, and Cranking Path data.
  – Viewable only to PJM to enter initial data.

• Available to Members – December 2013
  – Forms made viewable for members (review only)
  – PJM continues to manage and enter data for RTO-wide analysis

• Phase II – February 2014
  – Critical load reports
  – Cranking paths outage info
  – Capability vs. required cranking MW calculations

• PJM Analysis Complete – April 2014
  – Forms open to members for data updates.

• Phase III
  – Review process
  – GIS Data
Black Start Application added for GO/NGOs.
New Cranking Paths and Black Start Calculator sections added to Black Start application for TOs.
Generator Data Form – GO/NGO

- Generator Data form used to capture unit data and determine critical load in TO system restoration plans.
• Generator Data form managed by PJM and used to determine critical load.
  – Read only for TO

<table>
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<tr>
<th>Removed</th>
<th>Gen Data ID</th>
<th>Company</th>
<th>Unit Type</th>
<th>Commercial Name</th>
<th>Station</th>
<th>Voltage</th>
<th>Equipment</th>
<th>ICAP</th>
<th>Restoration Area Location</th>
<th>eMKT HotStart Time</th>
<th>Cranking Power Requirement</th>
<th>Required Startup MW</th>
<th>Nuclear Safe Shutdown MW</th>
<th>Default Class</th>
<th>Notification Time</th>
<th>Effective Date</th>
<th>Terminate Date</th>
<th>Permanent</th>
<th>Exceptions</th>
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<td>No</td>
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<td>PJM TEST</td>
<td>SteamFossil</td>
<td>TEST UNIT 1 GEN UNIT</td>
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<td>TEST</td>
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<td>TEST</td>
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<td>No</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>View</td>
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</table>

- Removed units not used in reports in Phase II
- Select based on approved Restoration Areas
- eMKT HotStart Time <= 4 hours determines critical load units.
- Designates if it's a future Market Integration or Planning unit.

www.pjm.com
- Critical Gas form used to enter critical gas requirements.

Critical Gas Form

<table>
<thead>
<tr>
<th>Zone</th>
<th>Station</th>
<th>Voltage</th>
<th>Critical Gas Value</th>
<th>Permanent</th>
<th>Effective Date</th>
<th>Terminated Date</th>
<th>Description</th>
<th>Effective Date</th>
<th>Terminate Date</th>
<th>Permanent</th>
<th>History Log</th>
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<td></td>
<td>11/01/2013</td>
<td></td>
<td></td>
<td>View</td>
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</table>

Checked rows will not be used in reports in Phase II.

Zone, Station, Voltage selection

Critical gas requirement

Date gaps and overlaps for the same Zone/Station/Voltage/Restoration Area not allowed.
Black Start Facilities form managed by PJM provides Black Start designation data to assist with restoration planning.

The table below shows the Black Start Facilities Form.

<table>
<thead>
<tr>
<th>Removed</th>
<th>UD</th>
<th>Company</th>
<th>Unit Type</th>
<th>Black Start Class</th>
<th>Critical</th>
<th>Commercial Name</th>
<th>Equipment Name</th>
<th>ICAP Zone</th>
<th>Restoration Area Location</th>
<th>Restoration Area Served</th>
<th>MW Served</th>
<th>% ICAP</th>
<th>Effective Date</th>
<th>Terminated Date</th>
<th>Retirement Date</th>
<th>Permanent</th>
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<td>Yes</td>
<td>TEST 1</td>
<td>TEST GEN 01 GEN UNIT</td>
<td>650 TST</td>
<td>TEST</td>
<td>TEST</td>
<td>650</td>
<td>100%</td>
<td>10/07/2013</td>
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<td>Yes</td>
<td>No</td>
<td>View</td>
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<tr>
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<td>47</td>
<td>PJM TEST</td>
<td>Nuclear</td>
<td>Black Start Critical</td>
<td>Yes</td>
<td>TEST 2</td>
<td>TEST GEN 02 GEN UNIT</td>
<td>847 TST</td>
<td>TEST</td>
<td>TEST</td>
<td>847</td>
<td>100%</td>
<td>12/01/2013</td>
<td>01/01/2014</td>
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<td>No</td>
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<td></td>
<td>Yes</td>
<td>No</td>
<td>View</td>
</tr>
</tbody>
</table>

- **Removed rows will not be used in reports in Phase II.**
- **Unit’s Black Start capabilities**
- **MW Served per Restoration Area and percentage of ICAP used**
- **Duration of Black Start designation. Records for the same unit/equipment/restoration area cannot overlap.**
- **Link to any Cranking Paths utilizing unit**
• Cranking Paths Form to build cranking paths.
• Please contact:

Ron Lavan
lavanr@pjm.com
610-666-2212
Other Enhancements for December 2013
• Addition of an “Important Links” to the eDART Login page.
• When clicked, will open a new popup displaying links to:
  – eDART Info Page
  – Training
  – Registration
  – Registration Help
  – XML Documentation
  – Browserless Information
  – User Group
The Member Registration button on the main eDART Login page will now open the eDART Registration Form in a new window, preserving eDART Login page in the background.
Member requested download to combine information currently in tariff and transmission equipment downloads.

- All data in tariff facility download.
- Equipment short name included from transmission equipment download.
- eDART Facility ID (tariff facility download) = TA ID (transmission equipment download)
<?xml version="1.0" encoding="UTF-8"?>
<edart xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="tariff.xsd">
  <tariff_equipment_details>
    <company name="PJM Test">
      <equipment>
        <tariff_type>Capacitor</tariff_type>
        <comp_facility_id/>
        <edart_facility_id>1514369</edart_facility_id>
        <facility_name>Moseley 138 kV Cap AA</facility_name>
        <station>MOSELEY</station>
        <voltage>138 KV</voltage>
        <short_name>CAP1</short_name>
        <equipment_name>MOSELEY CAP1 CAP</equipment_name>
        <pjm_oat_facility_status>Yes</pjm_oat_facility_status>
        <included_in_ems_model>Yes</included_in_ems_model>
        <reportable_trans_facility>Low</reportable_trans_facility>
        <pjm_monitored_status>Status Only</pjm_monitored_status>
        <effective_date>2010-09-21 00:00:00</effective_date>
      </equipment>
    </company>
  </tariff_equipment_details>
</edart>
• TERM Equipment Rpt. download will be changed to include transmission facilities as well.
  – Previously only included TERM facilities where the TO had ownership rights.
  – Available via browserless interface as well.
On the Restoration Plan Update History Log, when an update is required due to a ticket, Update Reason will now be “Ticket” then the ticket number.

- Previously was “Annual” then the ticket number.
• In the Company Ongoing Restoration Report, clicking 'Select All' will now check 'Restore' for all the equipment on the report.
Overview

- PJM Roster Verification Process
- December 2013 Enhancements
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- eDART User Group Contact Update
- Question & Answer Resolution Session
• Replace and consolidate current methods of capturing CB ratings in TERM.
  – Dummy SDs
  – Manual 03
  – Incorporate into other device rating.
• Looking for CB ratings data to determine scope.
• Target implementation – June 2014
  – Will function like other equipment in TERM.
  – More detailed information to be provided at future meetings.
• User will be required to choose Reason for Change when changing dates or cancelling a Transmission Outage Ticket.
  – Canned list of Reasons for Change provided.
  – User can also select ‘Other’ and enter comments.
• Reasons for Change entered will be logged with user, ticket status, start and end dates.
• PJM version to be implemented December 18th.
• Functionality for user to create Transmission Projects and associate outage tickets to the projects.
• Tickets can be ranked by order of work being done.
  – Aid in identifying dependencies between tickets.
• User will be able to attach files to projects.
Other Future Enhancements

• RXB Ticket Clean Up.
  – New UI, improved ticket functionality.

• Addition of Voltage Limits.
  – New application similar to TERM/RXB.

• Inclusion of long station names.
  – ENDA/ENDB stations already available.

• Conflict Analyzer Phase 3A/3.
  – Inclusion of external outages in conflict analyzer logic.
  – Recommend outage scheduling windows.
Overview

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eDART User Group Resource Update

• User Group Chair ➔ Chidi Ike-Egbohuonu (ikeegc@pjm.com; 610-666-4639).
• User Group Secretary ➔ Mike Zhang (zhangm@pjm.com; 610-666-4708).
PJM Roster Verification Process
December 2013 Enhancements
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Question & Answer Resolution Session
• Requirement: M03, Section 4.2.1
  – When the Transmission Owners notify PJM using eDART of an Outage Request, the notification includes the following information:
    • Date
    • Facility and associated elements
    • All line and transformers that will be outaged or open ended as a result of the scheduled maintenance must be included in the outage request. For example, an outage request for CB work that open ends a line must include the line as being out of service in the ticket. This will ensure proper posting of all outages to the PJM OASIS and the NERC System Date Exchange (SDX) site.
    • Etc.
• Previous Issue:
  – TO submission of breaker-only outage tickets where breaker will open-end a line or transformer.
  – During ticket review and receipt, OPD staff would have to call TO for all such tickets.

• PJM Current Solution:
  – Add open-ended facility to ticket with a note to state what has been added.
  – Lock ticket to prevent it from being overwritten by automated systems.
PJM Ticket Review/Receiving Process

• Current Issue:
  – Since updated tickets are locked, TO has to call PJM to make changes to tickets.

• Possible Solutions:
  – Requiring TOs to add open-ended facilities to tickets before OPD staff can Receive tickets.
  – During ticket review and receipt, OPD staff to call TO for all such tickets.
  – Automation within eDART to recognize and force the line/xfrmr addition to the ticket upon seeing a CB or CB combination associated with the facility.

NOTE: The 1st 2 solutions would require one phone call, at minimum, per ticket/batch to resolve the issue. The Current Issue was seen as at least a reduction to that coordination.
• eDART is not linked to the webTADS application and is not notified when TADS reporting requirements change.
  – As a result, eDART TADS report may not be in the required format or have necessary data when needed for report submission to NERC.

• Proposal:
  eDUG member who will be the NERC TADS rep and inform eDART team when TADS reporting requirements change.