eDART September 2014 Release
Enhancements

eDART Users Group Meeting
09/10/2014
• Production
  – Release of enhancements scheduled for Wednesday, September 24th.

• Sandbox
  – Release of enhancements scheduled for week of September 15th.
Overview

- Password Security Enhancements
  - September 2014 Enhancements
  - Flow Breaker Functionality
  - Future Enhancements
  - Question & Answer Resolution Session
• New password security algorithm implemented on August 21st.
  – Changes transparent to users.
• Users are being asked to log in/connect to eDART by the end of 2014.
  – Production and Sandbox environments.
• Users still on old algorithm to be notified early 2015.
Overview

- Password Security Enhancements
- September 2014 Enhancements
- Flow Breaker Functionality
- Future Enhancements
- Question & Answer Resolution Session
Generation Outage Related Enhancements
Additional Filtering on Gen Checkout Reports

• New filters added to Gen Checkout Breakdown report to display units in or close to violations.
  – Regular Records: check to display units with periods of no violation (grey rows).
  – Warning Records: check to display units with periods exceeding warning level (yellow rows).
  – Violation Records: check to display units with periods exceeding acknowledgement level (red rows).
  – Diff. Tolerance: will limit report to units where the $|\text{Adj. ICAP Diff}| > \text{Diff. Tolerance}$ OR $|\text{Adj. ICAP RPM}| > \text{Diff. Tolerance}$. 
Additional Filtering on Gen Checkout Reports

- By default, all the checkboxes are checked and the Diff. Tolerance value is 0 MW.
  - Displays report as it currently is.
- New columns added to the Gen Checkout Breakdown report:
  - Adj. ICAP Diff = \(\frac{\text{Adj. Cap. ICAP} - \text{Economic Max}}{\text{Adj. Cap ICAP}}\) * 100.
  - Adj. RPM Diff = \(\frac{\text{Adj. Cap. RPM} - \text{Economic Max}}{\text{Adj. Cap RPM}}\) * 100.
  - If Emergency Max is Yes, it replaces Economic Max in the calculations above.
## Additional Filtering on Gen Checkout Reports

### Gen Checkout

**Report Date:** 09/09/2014 (mm/dd/yy)

**Emergency Max:** Yes

**Last Syncd:** 06/19/2014 00:00

**Last Ack.Start:** 08/19/2014 00:00

**Last Ack.End:**

<table>
<thead>
<tr>
<th>Gen Type</th>
<th>Warn Level %</th>
<th>Ack Level %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Cycle</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Diesel/CT</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Diesel/CT (Small Unit)</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Hydro</td>
<td>99</td>
<td>200</td>
</tr>
<tr>
<td>Nuclear</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Nuc</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Solar</td>
<td>99</td>
<td>200</td>
</tr>
<tr>
<td>Steam/Fossil</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Wind</td>
<td>99</td>
<td>200</td>
</tr>
</tbody>
</table>

Please update the values in red. If they are correct, please contact the PJM Scheduling Coordinator for further details.

### Company:
- Generation Co.

### ASM:
- Mid-Atlantic

### Zone:
- PJM CZ

### Type:
- Combined Cycle
- Diesel/CT
- Hydro
- Nuc

### Period:
- Mid: 03:00
- Day: 10:00
- Eve: 18:00

### Table:

<table>
<thead>
<tr>
<th>Zone</th>
<th>Unit Name</th>
<th>Unit Type</th>
<th>ICAP</th>
<th>RPM</th>
<th>Sales</th>
<th>Period</th>
<th>Reduct.</th>
<th>Amb Adj.</th>
<th>Econ Max</th>
<th>Emerg Max</th>
<th>Adj. Cap</th>
<th>ICAP Diff</th>
<th>Adj. ICAP Diff %</th>
<th>Adj. Cap Diff</th>
<th>RPM Diff</th>
<th>Adj. RPM Diff %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJM CZ</td>
<td>UNIT 11</td>
<td>Diesel/CT</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PJM CZ</td>
<td>UNIT 11</td>
<td>Diesel/CT</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PJM CZ</td>
<td>UNIT ST12</td>
<td>Steam/Fossil</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
# Additional Filtering on Gen Checkout Reports

## Regular Records

<table>
<thead>
<tr>
<th>Zone</th>
<th>Unit Name</th>
<th>Unit Type</th>
<th>ICAP</th>
<th>RPM</th>
<th>Sales</th>
<th>Period</th>
<th>Reduct.</th>
<th>Amb. Adj.</th>
<th>Econ Max</th>
<th>Emerg Max</th>
<th>Adj. Cap ICAP</th>
<th>Adj. ICAP Diff</th>
<th>Adj. ICAP Diff %</th>
<th>Adj. Cap RPM</th>
<th>Adj. RPM Diff</th>
<th>Adj. RPM Diff %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJMCZ</td>
<td>UNIT 11</td>
<td>Diesel/CT</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Day</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eve</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>PJMCZ</td>
<td>UNIT ST12</td>
<td>Steam/Fossil</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Day</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eve</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>-10.26</td>
<td>-16%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Warning Records

<table>
<thead>
<tr>
<th>Zone</th>
<th>Unit Name</th>
<th>Unit Type</th>
<th>ICAP</th>
<th>RPM</th>
<th>Sales</th>
<th>Period</th>
<th>Reduct.</th>
<th>Amb. Adj.</th>
<th>Econ Max</th>
<th>Emerg Max</th>
<th>Adj. Cap ICAP</th>
<th>Adj. ICAP Diff</th>
<th>Adj. ICAP Diff %</th>
<th>Adj. Cap RPM</th>
<th>Adj. RPM Diff</th>
<th>Adj. RPM Diff %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJMCZ</td>
<td>UNIT 11</td>
<td>Diesel/CT</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Day</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eve</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>-10.26</td>
<td>-16%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PJMCZ</td>
<td>UNIT ST12</td>
<td>Steam/Fossil</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Day</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eve</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>-10.26</td>
<td>-16%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.pjm.com
### Additional Filtering on Gen Checkout Reports

**Violation Records**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Unit Name</th>
<th>Unit Type</th>
<th>ICAP</th>
<th>RPM</th>
<th>Sales</th>
<th>Period</th>
<th>Reduct.</th>
<th>Amb. Adj.</th>
<th>Econ Max</th>
<th>Emerg Max</th>
<th>Adj. Cap</th>
<th>ICAP Diff</th>
<th>Adj. ICAP Diff %</th>
<th>Adj. Cap RPM</th>
<th>Adj. RPM Diff</th>
<th>Adj. RPM Diff %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJMCZ</td>
<td>UNIT 11</td>
<td>Diesel/CT</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Day</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eve</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Diff. Tolerance = 5 MW**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Unit Name</th>
<th>Unit Type</th>
<th>ICAP</th>
<th>RPM</th>
<th>Sales</th>
<th>Period</th>
<th>Reduct.</th>
<th>Amb. Adj.</th>
<th>Econ Max</th>
<th>Emerg Max</th>
<th>Adj. Cap</th>
<th>ICAP Diff</th>
<th>Adj. ICAP Diff %</th>
<th>Adj. Cap RPM</th>
<th>Adj. RPM Diff</th>
<th>Adj. RPM Diff %</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJMCZ</td>
<td>UNIT ST12</td>
<td>Steam/Fossil</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Day</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>0</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eve</td>
<td>0</td>
<td>0</td>
<td>302</td>
<td>333</td>
<td>302</td>
<td>-10.26%</td>
<td>-15%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Currently, the Ticket Validation Form is displayed after MW ticket creation and lists other tickets for the unit scheduled to run during the same time as the new ticket.
  – Text displayed reads "The above tickets were found and are scheduled to run during the same time as this newly submitted ticket".

• With this release, the text will not be displayed if there are no tickets scheduled for the unit at the same time as the new ticket.
"Occurring During" filter added to the filter for the Ticket History Report.
Transmission Outage Related Enhancements
Error Message for Retired Transmission Facilities

- In current system, no error message displayed if user submits emergency transmission outage ticket for retired facilities.
  - Ticket rejected.
- Enhancement made to display <error> in <edartreply>.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<edartreply>
  <ticket_info>
    <company_ticket_id>PJM Test Ticket</company_ticket_id>
    <error>One or more supplied pieces of equipment are not in the current EMS model. Equipment ta_id not in current model: 123</error>
    <error>Ticket rejected</error>
  </ticket_info>
</edartreply>
```
- Equipment filters added to the Ticket Selection Form:
  - Type
  - Station
  - Voltage
  - Equipment
- "Occurring During" filter also added to the Ticket Selection Form.
### Ticket Selection Form

**Company**

**Electric Company**
- Tickets Only
- Notifications Only
- Yes
- No
- Both

**Ticket ID**
- Company Ticket ID
- Emergency / Informational / Cut-in / Potentially Incomplete
- Emergency Only
- Info Only
- Cut-in Only
- Potentially Incomplete Only

**Outage Type**
- Continuous
- Continuous - No Weekends
- Daily - Including Weekends
- Daily - No Weekends
- Daily - Weekends Only
- EMS Tripped

**Availability**
- Immediate
- 30 min.
- 1 hr.
- 2 hr.
- 4 hr.
- 8 hr.
- Duration

**RTEP Queue #**

**Direct Billing**
- Yes
- No
- Both

**Direct Billing Decline**
- Yes
- No
- Both

**Ticket Status**

**Ticket Type**

**Ticket Station**

**Ticket Voltage**

**Ticket Equipment**

**Ticket Start (MM/DD/YYYY)**

**Ticket End (MM/DD/YYYY)**

**Occurring During (MM/DD/YYYY)**

**From:**
**To:**
**From:**
**To:**
**From:**
**To:**
• Sorting functionality added to Gen Outage Lookup Report.
  – Default sort order is by Ticket ID ascending.

Enter sorting order and click ‘Apply Sorting’
NERC TADS Report UI Changes

- Updates made to the NERC TADS Reports to match current webTADs format.
  - Update to XML download format was made in March 2014 release.
  - No changes to NERC TADS fields on Transmission Outage Tickets and NERC TADS Ticket Update forms.
### 4.1 AC Circuit Automatic Outages

<table>
<thead>
<tr>
<th>Outage ID Code</th>
<th>Voltage Class</th>
<th>AC/Substation Name #1</th>
<th>To Element Identifier (AC Circuit)</th>
<th>OH or UG</th>
<th>Start Time</th>
<th>Outage Duration HHHH:MM</th>
<th>Shared Common Structure</th>
<th>Fault Type</th>
<th>Outage Initiation Code</th>
<th>Initiation Cause Code</th>
<th>Sustained Cause Code</th>
<th>Outage Mode Code</th>
<th>Outage Continuation Code</th>
</tr>
</thead>
</table>

### 4.2 DC Circuit Automatic Outages

<table>
<thead>
<tr>
<th>Outage ID Code</th>
<th>Voltage Class</th>
<th>AC/DC Terminal Name #1</th>
<th>To Element Identifier (DC Circuit)</th>
<th>OH or UG</th>
<th>Start Time</th>
<th>Outage Duration HHHH:MM</th>
<th>Fault Type</th>
<th>Outage Initiation Code</th>
<th>Initiation Cause Code</th>
<th>Sustained Cause Code</th>
<th>Outage Mode Code</th>
<th>Outage Continuation Code</th>
</tr>
</thead>
</table>
### 4.3 Transformer Automatic Outages

|----------------|-------------------------|---------------------------|--------------------------------------|------------|-------------------------|-----------|------------------------|----------------------|-----------------------|-----------------|-------------------------|

### 6.1 AC Circuit Non-Automatic Outages

<table>
<thead>
<tr>
<th>Outage ID Code</th>
<th>Voltage Class</th>
<th>AC Substation Name #1</th>
<th>To Element Identifier (AC Circuit)</th>
<th>OH or UG</th>
<th>Non-Automatic Outage Type</th>
<th>Start Time</th>
<th>Outage Duration HHHH:MM</th>
<th>Planned Outage Cause Code</th>
<th>Operational Outage Cause Code</th>
<th>Outage Continuation Code</th>
</tr>
</thead>
</table>

---

**NERC TADS Report UI Changes**

www.pjm.com
### 6.2 DC Circuit Non-Automatic Outages

<table>
<thead>
<tr>
<th>Outage ID Code</th>
<th>Voltage Class</th>
<th>AC/DC Terminal Name #1</th>
<th>To Element Identifier (DC Circuit)</th>
<th>OH or UG</th>
<th>Non-Automatic Outage Type</th>
<th>Start Time</th>
<th>Outage Duration HHHH:MM</th>
<th>Planned Outage Cause Code</th>
<th>Operational Outage Cause Code</th>
<th>Outage Continuation Code</th>
</tr>
</thead>
</table>

### 6.3 Transformer Non-Automatic Outages

<table>
<thead>
<tr>
<th>Outage ID Code</th>
<th>High-Side Voltage Class</th>
<th>Located at (AC Sub. Name)</th>
<th>To Element Identifier (Transformer)</th>
<th>Non-Automatic Outage Type</th>
<th>Start Time</th>
<th>Outage Duration HHHH:MM</th>
<th>Planned Outage Cause Code</th>
<th>Operational Outage Cause Code</th>
<th>Outage Continuation Code</th>
</tr>
</thead>
</table>
TERM Related Enhancements
• TOs will now be able to view and edit TERM tickets on shared equipment they own whether ticket was created by TO or not.
• Duplicates removed from the ‘termi’ download.
  – Duplicates as a result of the combination of TERM notification and Transmission notification access.

• New filter criteria added to the eDART TERM Equipment Information XML File Download page.
  – When checked, includes <equipment_information> section in download.
Changes to TERM Equipment Info. Download

eDART TERM Equipment Information XML File Download

- <xml version="1.0" encoding="UTF-8">?
  - <edart>
    - <term_equipment_list>
      - <term_equipment_info>
        <equipment_id>1234</equipment_id>
        <ta_id>12345</ta_id>
        <company_name>Test Company</company_name>
        <equipment_information>
          <b1_name>STATION 1</b1_name>
          <b2_name>500 KV</b2_name>
          <b3_name>STA-TEST</b3_name>
          <b3_text>STATION-TEST 5016</b3_text>
        </equipment_information>
      </term_equipment_info>
      <type>LINE</type>
      <charging_b>.8512</charging_b>
      <notification_type>Notification</notification_type>
      + <rating_list>
        + <rating_list>
          + <rating_list>
            + <rating_list>
              + <rating_list>
                + <rating_list>
                  + <rating_list>
                    <term_equipment_info>
                    </term_equipment_info>
                  </term_equipment_list>
                </edart>
Password Security Enhancements
September 2014 Enhancements
Flow Breaker Functionality
Future Enhancements
Question & Answer Resolution Session
• New functionality for the addition of flow breakers and their ratings to the TERM application.
  – Users will be able to create TERM tickets for breakers identified as Flow Breakers in eDART.
 Password Security Enhancements
 September 2014 Enhancements
 Flow Breaker Functionality
➢ Future Enhancements
 Question & Answer Resolution Session
• New Generation report to display gen tickets for units in TO’s zone with the status of Active and occurring tomorrow.
  – Similar function to Transmission Reports – Tickets Active Tomorrow.
• Identification of BES facilities.
  – Adj. Monitored Status form and report changed to Adj.
    Tariff Data form and report.
  – Addition of BES flag to updated form, report and log.
  – Addition of BES flag tag to Tariff Facilities downloads and
    online spreadsheet.
• Identification of At Risk Transmission Outage Tickets.
  – Addition of At Risk Yes/No flag to tickets.
• Requirement for LD rating to be at least 103% of LTE.
  – STE = LTE unless otherwise documented.
Future Enhancements

• Grouping Transmission Outage Tickets into Projects.
  – Ability to add tickets to projects on ticket creation.
  – Ability to create projects and add tickets to projects.
  – Ability to move all or cancel all tickets per project.

• Conflict Analyzer Phase 3a:
  – Identification and creation of conflict scenarios including external/neighborhood outages.
Future Enhancements

• Tools Refresh of Emergency Procedures:
  – Users will have the option to request accounts for access to EP or continue to use the Guest login.
  – Users will have to use the new Command Line Interface instead of the current legacy browserless client.
  – XML file format will change from the current version.
  – Demos and parallel operations being planned.
Password Security Enhancements
September 2014 Enhancements
Flow Breakers Functionality
Future Enhancements
Question & Answer Resolution Session
Contact:
- edarthelp@pjm.com
- Chidi Ike-Egbutu: chidi.ike@pjm.com
- Mike Zhang: michael.zhang@pjm.com