eDART August 2020 Enhancements

eDART Forum Meeting

05/06/2020

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Agenda

- General Discussion Topics
- August 2020 Enhancements
  - General Enhancements
  - Generation Related Enhancements
  - Transmission Related Enhancements
- Question and Answer Resolution

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General Discussion Topics

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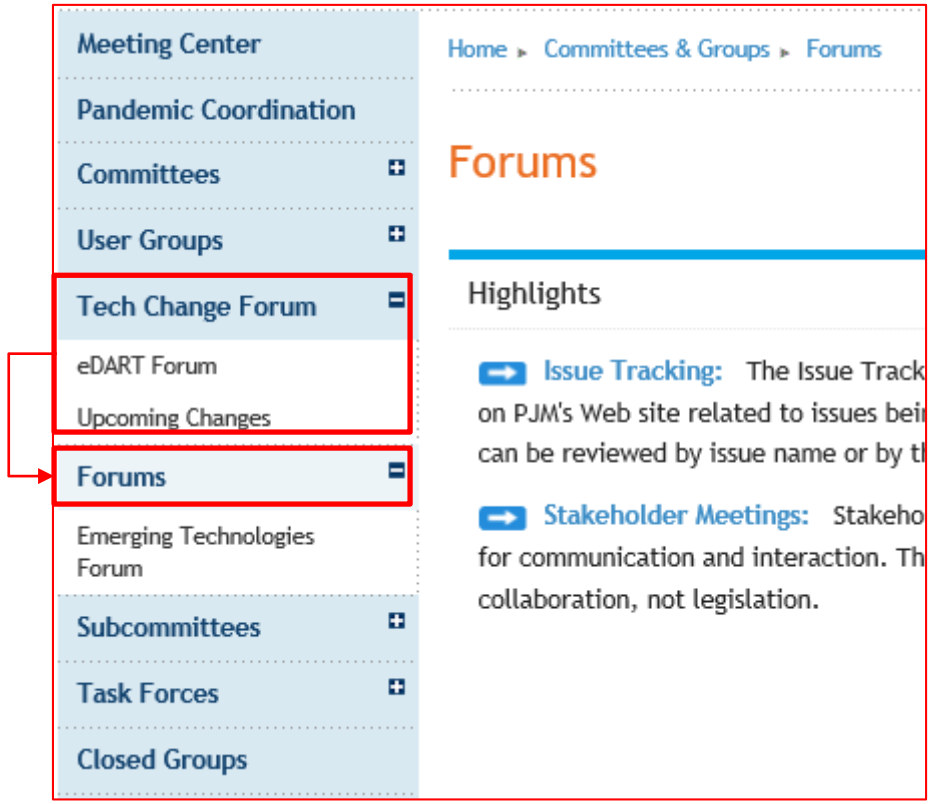
eDART Forum Page Move

A new Forums page has been created on pjm.com at https://www.pjm.com/committees-and-groups/forums.aspx or

Home > Committees & Groups > Forums

Tech Change Forum and eDART Forum will be moved to be under the Forum page on July 16th.

A re-direct message will be added to old pages for users who have them bookmarked.



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Browserless

- Phase 1: PJMCLI Integration
- Phase 2: New browserless functionality (Q1 & Q2 2021)
  - Refreshed endpoints and new functionality will be delivered incrementally
- Parallel Production/Training (Nov 2020 thru Q4 2021)
- Production “Go-Live” (Q4 2021)
  - Retire filetransfer jar file

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eDART Accounts Update for Refresh

With the eDART refresh, management of eDART accounts will be migrated to Account Manager.

In preparation for that:

- Use Account Manager User ID for new eDART account requests.
- Update email addresses for existing accounts.
- Clean up dormant and invalid accounts.

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August 2020 Enhancements

General Enhancements

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Release Schedule

Production release of August enhancements scheduled for Wednesday, August 12th.

- eDART unavailability will be announced at least 3 business days prior.

Sandbox/Training release scheduled for Monday, July 20th.

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Updates to eDART Files on PJM.com

The linesout (https://edart.pjm.com/reports/linesout.txt) and linesout_new (https://edart.pjm.com/reports/linesout_new.txt) files were designed to be easily read by users but it has been observed that several users are now using programs to scrape the data from the files.

The information in the files is available via XML downloads in eDART (emsoutage/ems_outage and toimwg) and anyone with an automated download process should utilize the eDART XML download option.

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Updates to eDART Files on PJM.com

August 2020 Updates:

- Attempts to download the linesout and linesout_new files will be throttled.
- Throttling being extended to all external eDART files
  - Files are available when new data is available or after throttle time; whichever is sooner.

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Updates to eDART Files on PJM.com

File	Update Frequency	Throttle time (minutes)
Voltage Limits	Daily	30
Equipment List/Complete Descriptions	Quarterly	30
Linesout	5 minutes	5
Linesout_new	5 minutes	5
Ratings	Twice a Day	30
Temporary Ratings	Twice a Day	30
NERC Alert Ratings Changes	Twice a Day	30
TERM Reasons List	Daily	30
RTEP Tickets	5 minutes	5
NERC Alert Linesout	Daily	30

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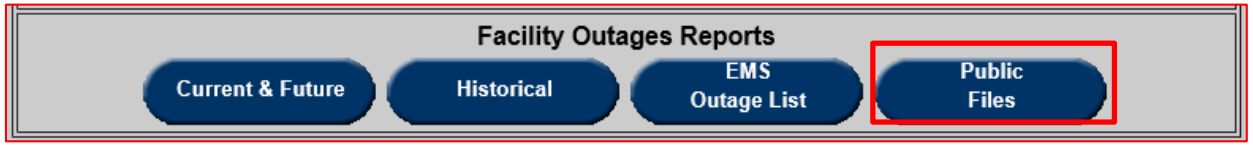
Updates to eDART Files on PJM.com

- External files will also be available via the Transmission Tickets Menu in eDART.
  - Option to select which files to download.
  - Zip file will be downloaded with selected files.



Public Files

Include	File	Description	Timestamp
☐	equiplist.csv	Equipment List/Complete Descriptions file	05/12/2020 20:52:34
☐	linesout.txt	Transmission Facilities Outages List	07/09/2020 14:17:00
☐	linesout_new.txt	Staging version of Transmission Facilities Outages List	07/09/2020 14:17:00
☐	nercalertlinesout.txt	NERC Alert Transmission Outages	07/09/2020 17:00:00
☐	nercratingsalertchanges.txt	Ratings changes due to NERC Alert	07/09/2020 17:00:00
☐	pjm_line_ratings.txt	Current ratings for all reportable facilities in PJM	07/09/2020 17:00:00
☐	pjm_temp_line_ratings.txt	Active temporary changes and future changes to ratings	07/09/2020 17:00:00
☐	pjm_term_reason_list.txt	List of the available reasons for ratings change	07/09/2020 11:41:04
☐	rtep.txt	List of RTEP Transmission Outage Tickets	03/04/2020 18:05:38
☐	voltagelimits.csv	PJM RTO and TO Voltage Limits	07/09/2020 04:05:01

Download Refresh Main Menu

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Enhancements to Linesout Files

Changes to Current Facility Outages section of linesout and linesout_new to better reflect the information contained therein – equipment reported as out-of-service on the PJM system.

- CURRENT FACILITY OUTAGES renamed to DE-ENERGIZED EQUIPMENT
- Normally Open equipment will be labeled as such (N.O.), and on the list when they are OPEN
- Retired Normally Open equipment will remain labeled as Retired.
- File description on PJM.com will also be updated.

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Enhancements to Linesout Files

Before

TIMESTAMP:03-04-2020 13:04:35

The data has been provided to PJM Interconnection, L.LC. (PJM) by Transmissio
status of scheduled outage requests. However, PJM hereby advises that the in
You are also advised that PJM may update or otherwise change the assessment s
List from time to time. By accessing this information, you and the company y
information contained therein at your/the company's own risk. Accordingly, y
its use of the data in the Transmission Facilities Outage List, and neither P
their successors and assigns, agents, contractors, service providers or vendo
by you/your company as relates to the use of the referenced information obtai

CURRENT FACILITY OUTAGES

ITEM	TICKET	FACILITY NAME
1	0	BRKR AXTONAEP 765 KV AXTONAEP R CB
2	0	CAP AXTONAEP 765 KV AXTONAEP RXAA REACTOR
3	0	CAP AXTONAEP 765 KV AXTONAEP RXAB REACTOR
4	0	CAP AXTONAEP 765 KV AXTONAEP RXAC REACTOR
5	0	BRKR CLOVERD2 765 KV CLOVERD2 DD CB
6	0	BRKR CLOVERD2 765 KV CLOVERD2 DD2 CB
7	0	BRKR CLOVERD2 765 KV CLOVERD2 RAA2 CB
8	0	CAP CLOVERD2 765 KV CLOVERD2 RXOD REACTOR
9	0	CAP CLOVERD2 765 KV CLOVERD2 RXOE REACTOR
10	0	CAP CLOVERD2 765 KV CLOVERD2 RXOF REACTOR
11	0	XFMR CLOVERD2 765 KV CLOVERD2 T17 XFORMER
12	0	XFMR DUMONT2 765 KV DUMONT2 1-P XFMR - RETIRED

After

TIMESTAMP:07-09-2020 10:17:00

The data has been provided to PJM Interconnection, L.LC. (PJM) by Transmissio
status of scheduled outage requests. However, PJM hereby advises that the in
You are also advised that PJM may update or otherwise change the assessment s
List from time to time. By accessing this information, you and the company y
information contained therein at your/the company's own risk. Accordingly, y
its use of the data in the Transmission Facilities Outage List, and neither P
their successors and assigns, agents, contractors, service providers or vendo
by you/your company as relates to the use of the referenced information obtai

DE-ENERGIZED EQUIPMENT

ITEM	TICKET	FACILITY NAME
1	0	BRKR AXTONAEP 765 KV AXTONAEP R CB - N.O.
2	0	CAP AXTONAEP 765 KV AXTONAEP RXAA REACTOR
3	0	CAP AXTONAEP 765 KV AXTONAEP RXAB REACTOR
4	0	CAP AXTONAEP 765 KV AXTONAEP RXAC REACTOR
5	0	BRKR CLOVERD2 765 KV CLOVERD2 DD CB
6	0	BRKR CLOVERD2 765 KV CLOVERD2 DD2 CB
7	0	BRKR CLOVERD2 765 KV CLOVERD2 RAA2 CB
8	0	CAP CLOVERD2 765 KV CLOVERD2 RXOD REACTOR
9	0	CAP CLOVERD2 765 KV CLOVERD2 RXOE REACTOR
10	0	CAP CLOVERD2 765 KV CLOVERD2 RXOF REACTOR
11	0	XFMR CLOVERD2 765 KV CLOVERD2 T17 XFORMER
12	0	XFMR DUMONT2 765 KV DUMONT2 1-P XFMR - RETIRED

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Voltage Schedules Enhancements

Additional date columns to be included in the CSV export:

- Submitted
- PJM Review
- GO Acknowledgement
- Active (for Active schedules only)

Email notification to be sent to Transmission Owner when Voltage Schedules tickets are GO Acknowledged.

Email notification to be sent to Transmission and Generation Owners when Voltage Schedules tickets become Active.

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August 2020 Enhancements

Generation Related Enhancements

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Reactive Results Tickets Enhancements

On the Reactive Results tickets:

- Issues, Additional Comments and Retest columns kept blank if there are no Issues selected by PJM.
- Only Issues selected by PJM are displayed.

		GO Data					PJM Analysis				
Editable	Test Type	MVAR Test Ticket	MVAR Test Date	Test Data	Test Entry Date	Additional Files	Result vs. D-Curve	Issues	Additional Comments	Retest	Analysis Files
No	Max Load Lagging	1360985	11/16/2018	View Data	11/28/2018	Files (1)	Within +/- 5%	Telemetry Discrepancy Model Mismatch		No	Files (1)
No	Max Load Leading	1360985	11/16/2018	View Data	11/28/2018	Files (0)	Shortage	Start Time Mismatch		No	Files (1)
No	Min Load Lagging	1360985	11/16/2018	View Data	11/28/2018	Files (0)	Shortage				Files (1)
No	Min Load Leading	1360985	11/16/2018	View Data	11/28/2018	Files (0)	Shortage				Files (1)

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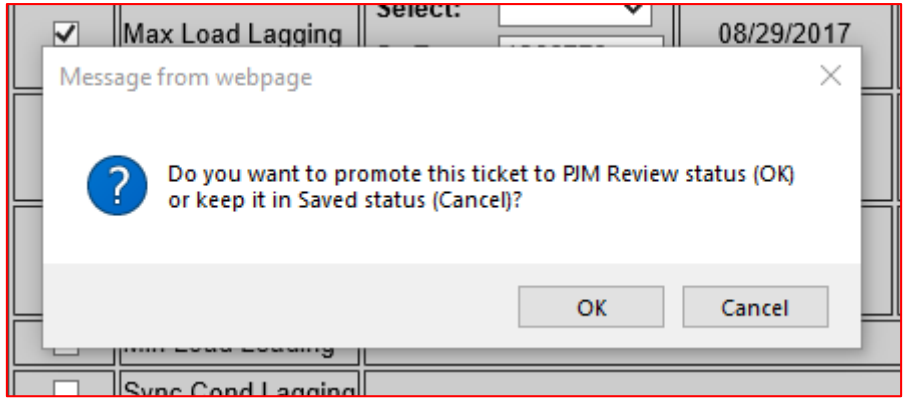
Reactive Results Tickets Enhancements

- Additional logic being added to tickets in Saved status.
  - If user is trying to Save a ticket that can be updated to PJM Review status (i.e. all test data has been entered), eDART will display a message with the option to update the status or keep it as Saved.



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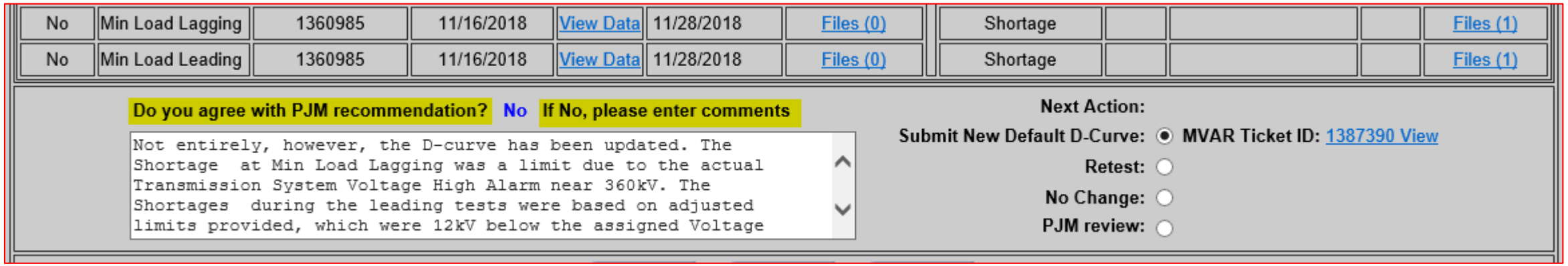
Reactive Results Tickets Enhancements

- 'Do you agree with PJM Analysis?' to be changed to 'Do you agree with PJM recommendation?'
- 'GO Comments on PJM Analysis:' to be changed to 'If No, you must enter comments:' for clarity.
  - Validation and accompanying error message will be added to ensure that comments are entered if 'No' is selected.



No	Min Load Lagging	1360985	11/16/2018	View Data	11/28/2018	Files (0)	Shortage				Files (1)
No	Min Load Leading	1360985	11/16/2018	View Data	11/28/2018	Files (0)	Shortage				Files (1)

Do you agree with PJM recommendation? No If No, please enter comments

Not entirely, however, the D-curve has been updated. The Shortage at Min Load Lagging was a limit due to the actual Transmission System Voltage High Alarm near 360kV. The Shortages during the leading tests were based on adjusted limits provided, which were 12kV below the assigned Voltage

Next Action:

Submit New Default D-Curve: MVAR Ticket ID: 1387390 View

Retest:

No Change:

PJM review:

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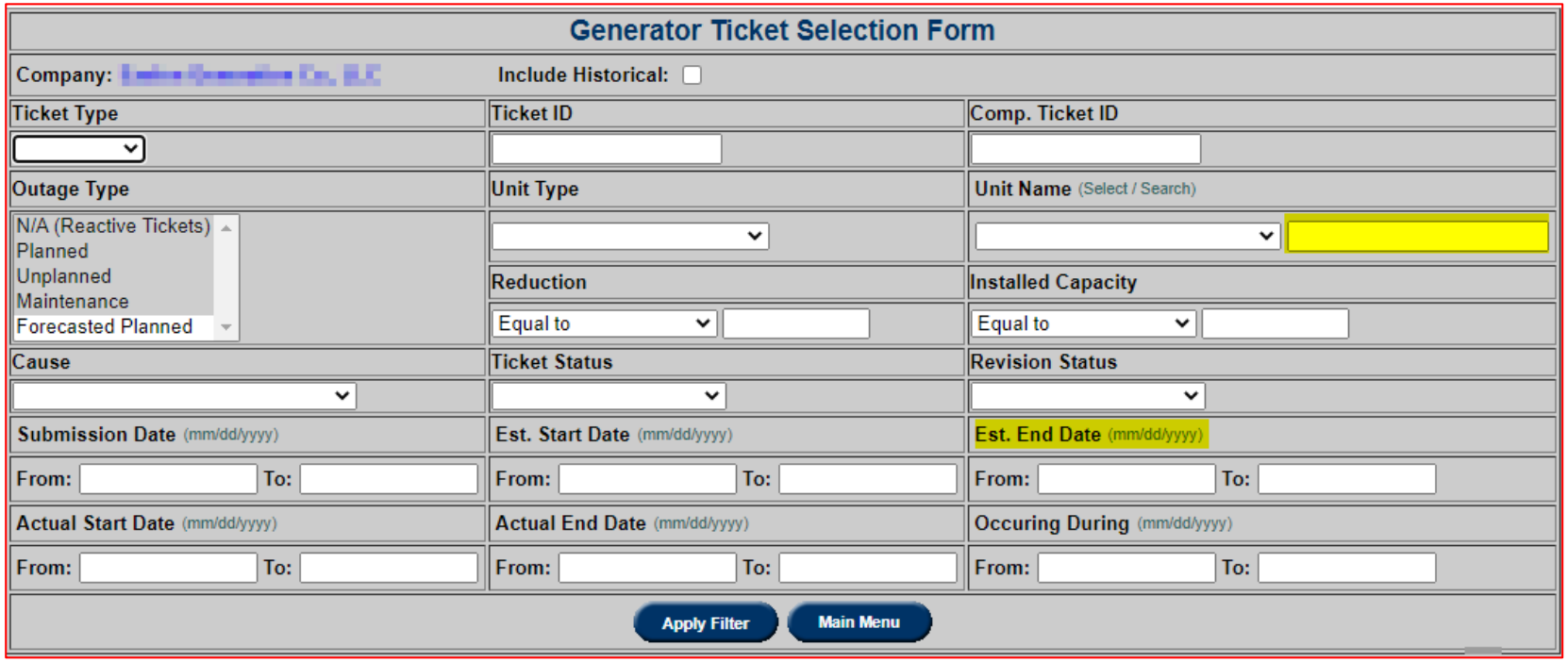
Gen Tickets Report Enhancements

Enhancements to View/Revise and Tickets History filters:

- Unit Name wildcard search field to be added.
- Filter selections to persist when user returns to filter from report.
- Date field labels to be changed to mm/dd/yyyy to match calendar input.



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CDW Unit-Task Enhancements

Currently, retired units are excluded from the Unit Group display but still considered for the assigned vs. unassigned units check

Enhancements:

- Retired units will be displayed on the Unit Group forms and highlighted.
- Note will be added to Unit Groups report for groups with retired units.

Read Only users will be displayed in Assignment reports.

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CDW Unit-Task Enhancements

CDW Unit Group Edit

Company: [redacted] Group ID: 1

Name: Nuclear

Note: Nuclear units

Enter Unit Group Name and Note (description of group)
Click Save Group
Select Units to be added to Group

Roles: Nuclear Plant Engineers

Group Units (11)

Delete	Unit ID	Commercial Name	Unit Type	Installed Capacity	Effective Date	Terminate Date
	New					
☐	[redacted]	[redacted]	Pressurized Water Reactor	1136 MW	08/25/2003	
☐	[redacted]	[redacted]	Solar	5 MW		06/15/2020
☐	[redacted]	[redacted]	Nuclear	902 MW	04/21/2013	
☐	[redacted]	[redacted]	Nuclear	1285 MW	06/01/2012	
☐	[redacted]	[redacted]	Nuclear	681 MW	06/01/2012	
☐	[redacted]	[redacted]	Nuclear	683 MW	11/17/2010	

Save Group | Refresh | Help | Back to Groups

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August 2020 Enhancements

Transmission Related Enhancements

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Cut-In Tasks on Trans Ticket – Current State

There are cut-in tasks that if not completed, can hold up the energization of cut-in equipment.

e.g. Monitored Priority, Ratings, Contingency, Connectivity, SE Override, Telemetry

There is limited TO visibility to current statuses of the cut-in tasks.

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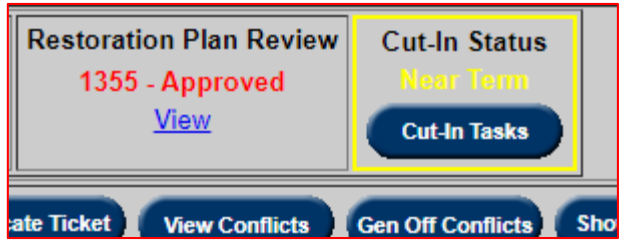
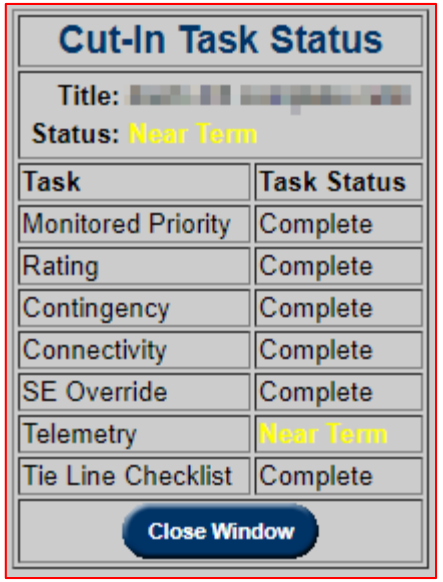
Cut-In Tasks on Trans Ticket

New Cut-In Task button on Transmission Tickets

- Only available if ticket is a cut-in ticket
- Cut-In Status will be displayed above the button in colored text
  - Green if Complete
  - Yellow if Near Term
  - Blue if Sufficient
  - Red if Not Ready
  - Black if N/A (historical tickets) or Unreviewed
- Cut-In Status Report information will also be added to the transmission ticket download via XML





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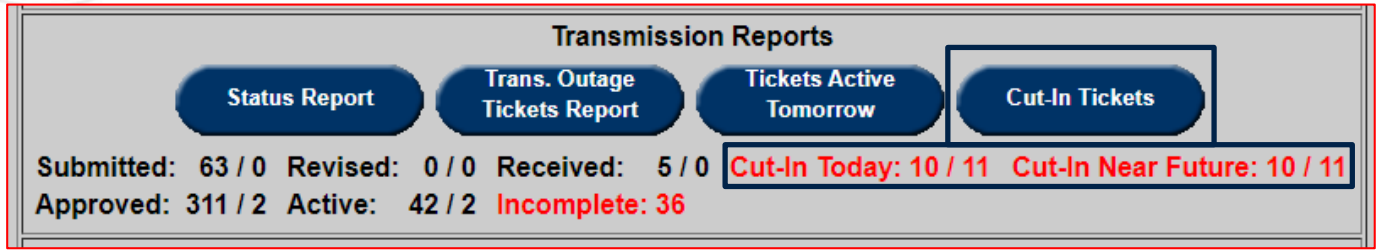
Cut-In Tasks on Trans Ticket

New report of Cut-In tickets and their status information to be available via web UI and XML.



Cut-In Tickets Report

Company: [redacted] Not Ready: ○ Ready: ○ Both: ◉ From: 05/05/2020 × To: 05/12/2020 Tickets Only: ◉ Notification Only: ○

Apply Filter | Main Menu

Ticket ID	Ticket Status	Start Date	End Date	On Time	Congestion Expected	Station	Cut-In Title	Cut-In Status	Incomplete Cut-In Tasks
787264	Active	01/20/2020 00:30	03/03/2020 16:00	No	No	[redacted]	[redacted]	Sufficient	
787082	Active	10/29/2019 08:00	03/03/2020 16:00	No	Yes	[redacted]	[redacted]	Complete	
846544	Active	01/06/2020 08:00	03/05/2020 16:00	No	No	[redacted]	[redacted]	Sufficient	
809059	Active	01/06/2020 08:00	03/06/2020 16:00	No	No	[redacted]	[redacted]	Not Ready	Connectivity;Contingency;Monitored Priority;Rating;SE Override;Telemetry;Tie Line Checklist
838753	Received	03/16/2020 08:00	03/16/2020 16:00	Yes	No	[redacted]	[redacted]	Not Ready	Contingency;Monitored Priority;Rating;SE Override;Telemetry;Tie Line Checklist
787272	Received	03/05/2020 07:00	03/18/2020 16:00	Yes	No	[redacted]	[redacted]	Not Ready	Contingency;Monitored Priority;Rating;SE Override;Telemetry;Tie Line Checklist
853790	Received	03/17/2020 08:00	03/19/2020 16:00	No	No	[redacted]	Unreviewed	Unreviewed	

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Takeout/Restore Equipment on Trans Ticket

Equipment for switching (takeout/restore) are usually out for a short duration at the beginning or the end of an outage ticket.

Currently, TOs are either

- noting these in the description of work,
- adding the equipment to the ticket with staggered dates or
- adding the equipment to the ticket for the duration of the outage.

New eDART functionality to clearly identify the equipment for takeout and/or restore only.

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Takeout/Restore Equipment on Trans Ticket

New Equipment Status available to identify equipment for takeout and/or restore only:

- Takeout Only
- Takeout & Restore
- Restore Only

These will also be available via XML for transmission ticket upload and downloads.

Equipment outage dates will be set behind the scenes and fed to downstream processes (SDX, outage reports, etc.)

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Takeout/Restore Equipment on Trans Ticket

Business Rules

- Takeout/Restore equipment cannot be the primary equipment.
- Normally Open equipment cannot be used as Takeout/Restore equipment.
- Ticket cannot have only Takeout/Restore equipment.
- Takeout/Restore equipment can also be listed as outaged equipment but not for start day (takeout) or end day (restore).
  - If user wants to have Takeout/Restore equipment out for the start or end day, list it as regular outaged equipment.

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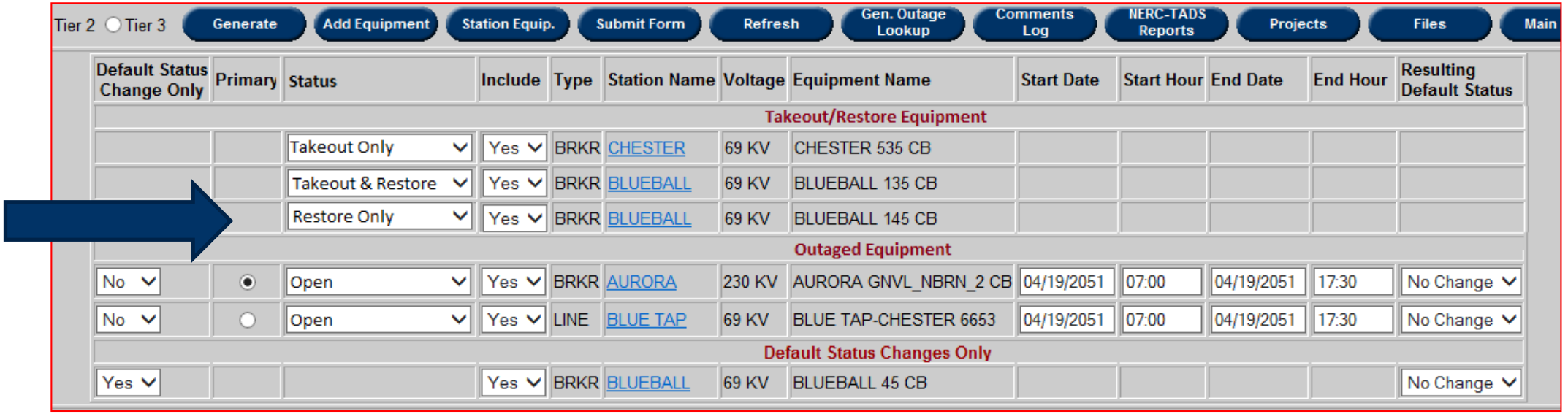
Takeout/Restore Equipment on Trans Ticket

Equipment will be displayed in sections as appropriate.



Tier 2 ○ Tier 3 | Generate | Add Equipment | Station Equip. | Submit Form | Refresh | Gen. Outage Lookup | Comments Log | NERC-TADS Reports | Projects | Files | Main

Default Status Change Only	Primary	Status	Include	Type	Station Name	Voltage	Equipment Name	Start Date	Start Hour	End Date	End Hour	Resulting Default Status
Takeout/Restore Equipment												
		Takeout Only	Yes	BRKR	CHESTER	69 KV	CHESTER 535 CB					
		Takeout & Restore	Yes	BRKR	BLUEBALL	69 KV	BLUEBALL 135 CB					
		Restore Only	Yes	BRKR	BLUEBALL	69 KV	BLUEBALL 145 CB					
Outaged Equipment												
No	◉	Open	Yes	BRKR	AURORA	230 KV	AURORA GNVL_NBRN_2 CB	04/19/2051	07:00	04/19/2051	17:30	No Change
No	○	Open	Yes	LINE	BLUE TAP	69 KV	BLUE TAP-CHESTER 6653	04/19/2051	07:00	04/19/2051	17:30	No Change
Default Status Changes Only												
Yes			Yes	BRKR	BLUEBALL	69 KV	BLUEBALL 45 CB					No Change

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Transmission Outage Tickets for SVCs

Current State

- SVCs (equipment type = GEN) must be in a separate transmission ticket.
- Other equipment out as part of the SVC job must be in a separate transmission ticket; including the SVC breaker.

eDART enhancement to allow users to create transmission tickets with mixture of SVCs and non-SVCs.

- SVC can be O (open) if out of service or C (closed) if in service.
  - Min and Max MVAR values not required.
- SVC can be used for takeout and restore.

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Transmission Outage Tickets for SVCs

New Equipment Status will be available to identify if ticket is for a reduction in SVC output: Reactive.

- Min and Max MVAR values required.
  - Min Var changed to Min MVAR
  - Max Var changed to Max MVAR

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Transmission Outage Tickets for SVCs

Takeout and Restore Equipment

		Status	Include	Type	Station Name	Voltage	Equipment Name					
		Takeout Only	Yes	BRKR	[redacted]	765 KV	[redacted]					
		Takeout & Restore	Yes	BRKR	[redacted]	765 KV	[redacted]					
		Takeout & Restore	Yes	BRKR	[redacted]	765 KV	[redacted]					
		Restore Only	Yes	BRKR	[redacted]	765 KV	[redacted]					

Reactive Equipment

		Status	Include	Type	Station Name	Voltage	Equipment Name	Min MVAR	Max MVAR			
		Reactive	Yes	GEN	[redacted]	765 KV	[redacted]					

Outaged Equipment

Default Status Change Only	Primary	Status	Include	Type	Station Name	Voltage	Equipment Name	Start Date	Start Hour	End Date	End Hour	Resulting Default Status
No	○	Open	Yes	LINE	[redacted]	765 KV	[redacted]	05/15/2020	11:00	05/22/2020	11:00	No Change
No	○	Open	Yes	BRKR	[redacted]	765 KV	[redacted]	05/15/2020	11:00	05/22/2020	11:00	No Change
No	○	Open	Yes	BRKR	[redacted]	765 KV	[redacted]	05/15/2020	11:00	05/22/2020	11:00	No Change
No	○	Open	Yes	BRKR	[redacted]	765 KV	[redacted]	05/15/2020	11:00	05/22/2020	11:00	No Change

Default Status Changes Only

Default Status Change Only			Include	Type	Station Name	Voltage	Equipment Name					Resulting Default Status
Yes			Yes	BRKR	[redacted]	765 KV	[redacted]					Open
Yes			Yes	BRKR	[redacted]	765 KV	[redacted]					Open

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Transmission Outage Types

Current State

- No validations in place to align with the outage types.
  - e.g. Daily – Weekends Only ticket that are not scheduled for a weekend.
- Results in misalignment of outage dates downstream of eDART.

Future enhancement to implement checks that the outage dates are valid based on the outage type selected.

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EMS Trip Logic

Current EMS Trip logic ignores normally open equipment when auto-generating eDART tickets.

Normally open equipment in closed state may not be reported.

Update to the EMS Trip logic to generate eDART tickets for normally open equipment that PJM's EMS reports as closed.

- Other EMS Trip ticket rules apply (equipment type, voltage level, etc.)
- Equipment reported in Linesout file.

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RXB Overlapping Tickets

Current functionality

- When a new ticket is created for equipment with a Submitted ticket, the status of the Submitted ticket is changed to 'Cancelled by Company'
  - PJM Comment is added: “Ticket replaced by RXB Ticket# XXXX”.

This will also be applied to tickets in Awaiting Build status.

Existing overlapping Awaiting Build tickets will be reviewed – most recent ticket (by submit date) for equipment will be kept; the older ones will be cancelled and comment added.

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Contact

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