eDART Future Enhancements

eDART Forum Meeting

03/23/2020

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Agenda

- General Discussion Topics
- GO Survey Tool Update
- Future Enhancements
- Question and Answer Resolution

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General Discussion Topics

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eDART Refresh Update

- Train Release – Q2 2020
  - New browserless functionality
  - More details to follow
    - Refresh team currently working on UI integrations

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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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Company Distributed Workflow (CDW)

- Minimize the need for multiple sub-accounts per company and multiple user accounts per person.
- Member-Agent Functionality: Company admins of members will be able to request agent companies to act on their behalf in eDART.
  - Suggested for Agent companies managing eDART tasks for multiple PJM Members
- Unit-Task Functionality: Company admins for Generation companies will be able to split eDART tasks per unit/per user.
  - Suggested for Generation companies that currently have multiple sub-accounts or that are managing eDART tasks for multiple plants outside eDART.

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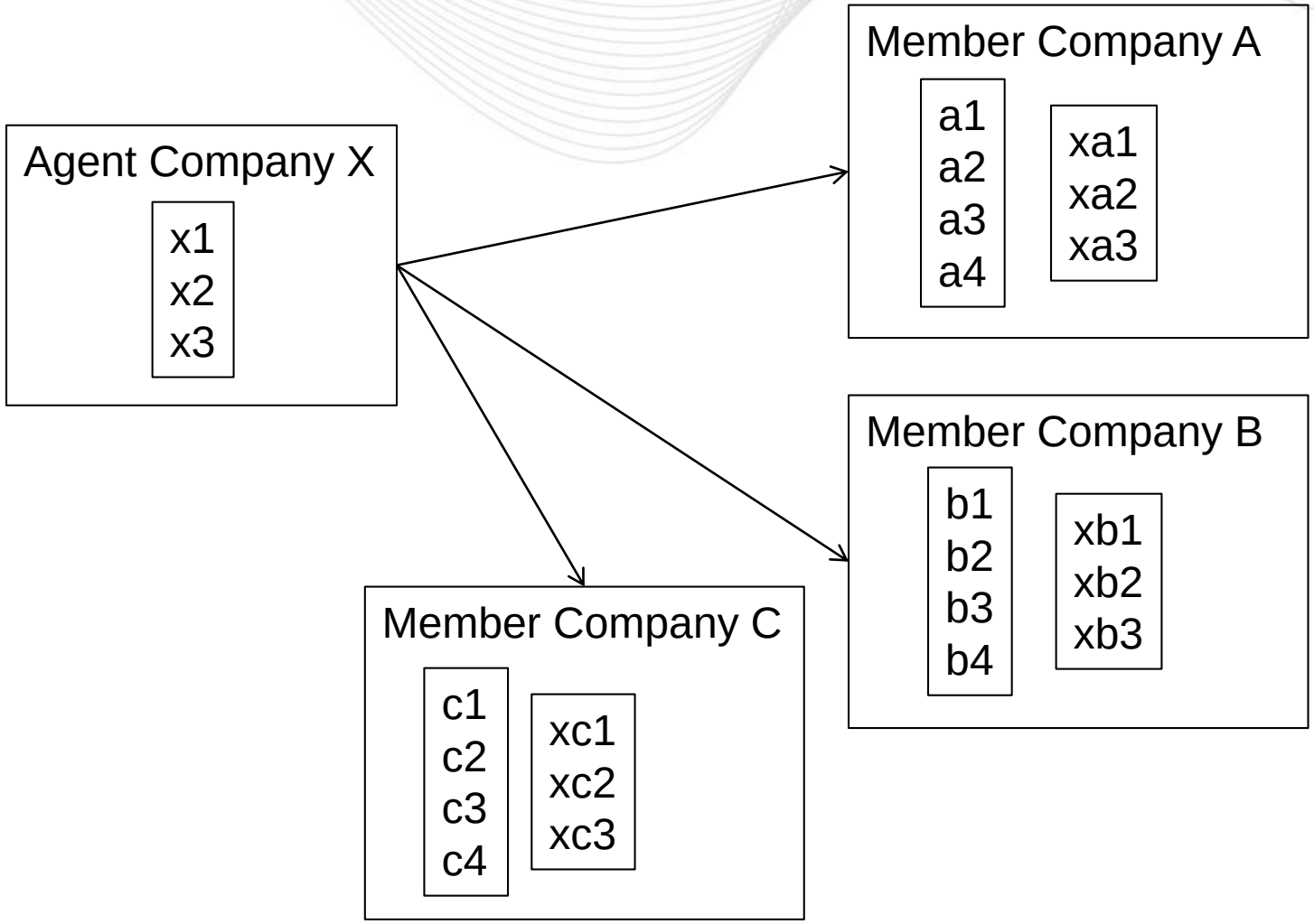
CDW: Member-Agent Functionality

Current Setup



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CDW Objectives

Problem	Solution
Agent users have too many accounts to keep track of.	Agent users only need one account - under Agent company.
Agents may accidentally share data (screenshots, email, etc.).	eDART will display only one Member's information at any time.
If contract between Agent and Member ends, all Agent users need to be found and revoked.	If contract between Agent and Member ends, all Agent users lose access to Member’s data.
If Agent user leaves Agent, multiple accounts need to be found and revoked.	If Agent user leaves Agent, only one account needs to be revoked.
For time sensitive actions like IRC, Agent needs more time to log in and log out for each Member.	No need to log in and out, switching is via drop down selection.

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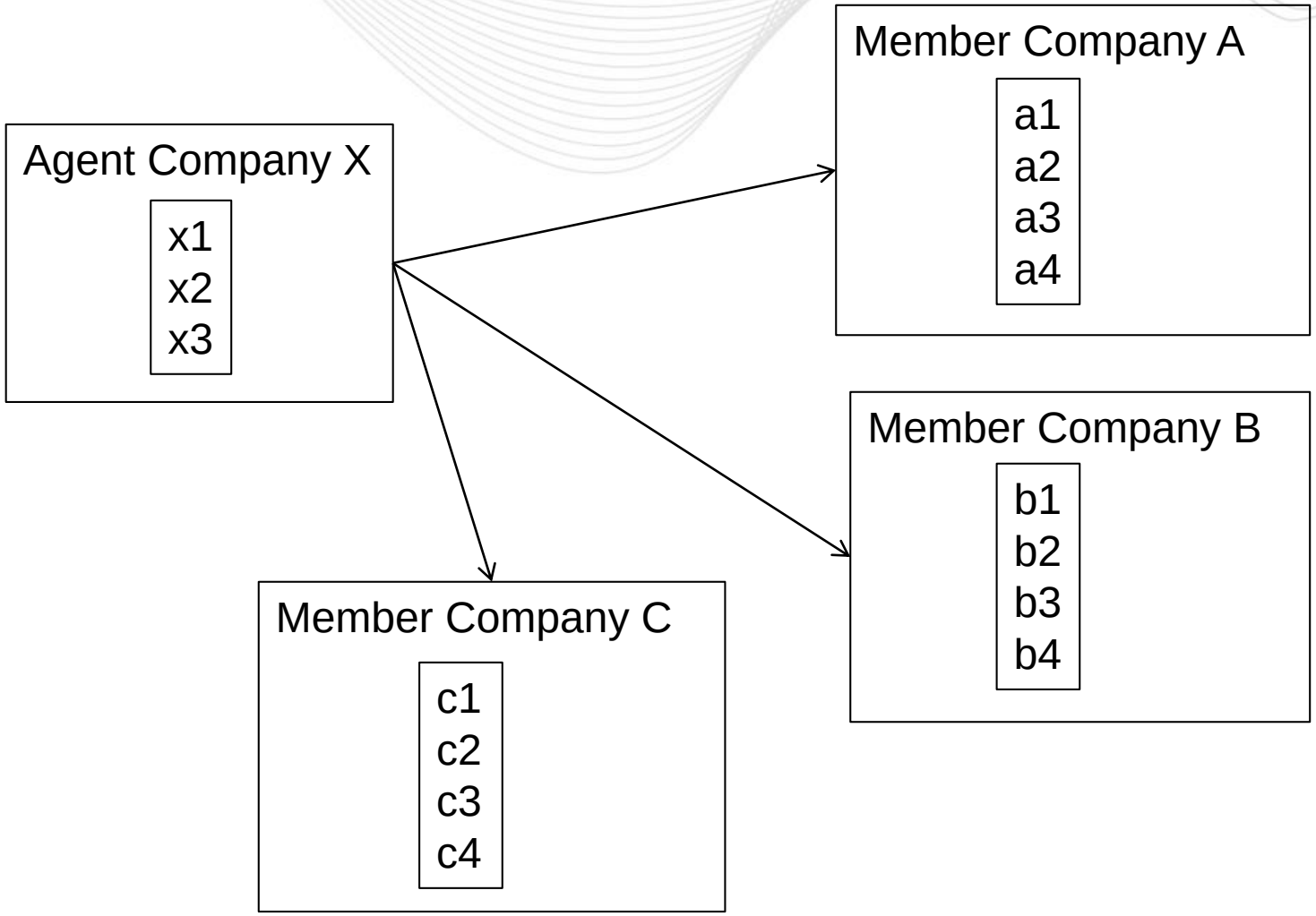
CDW: Member-Agent Functionality

CDW Solution



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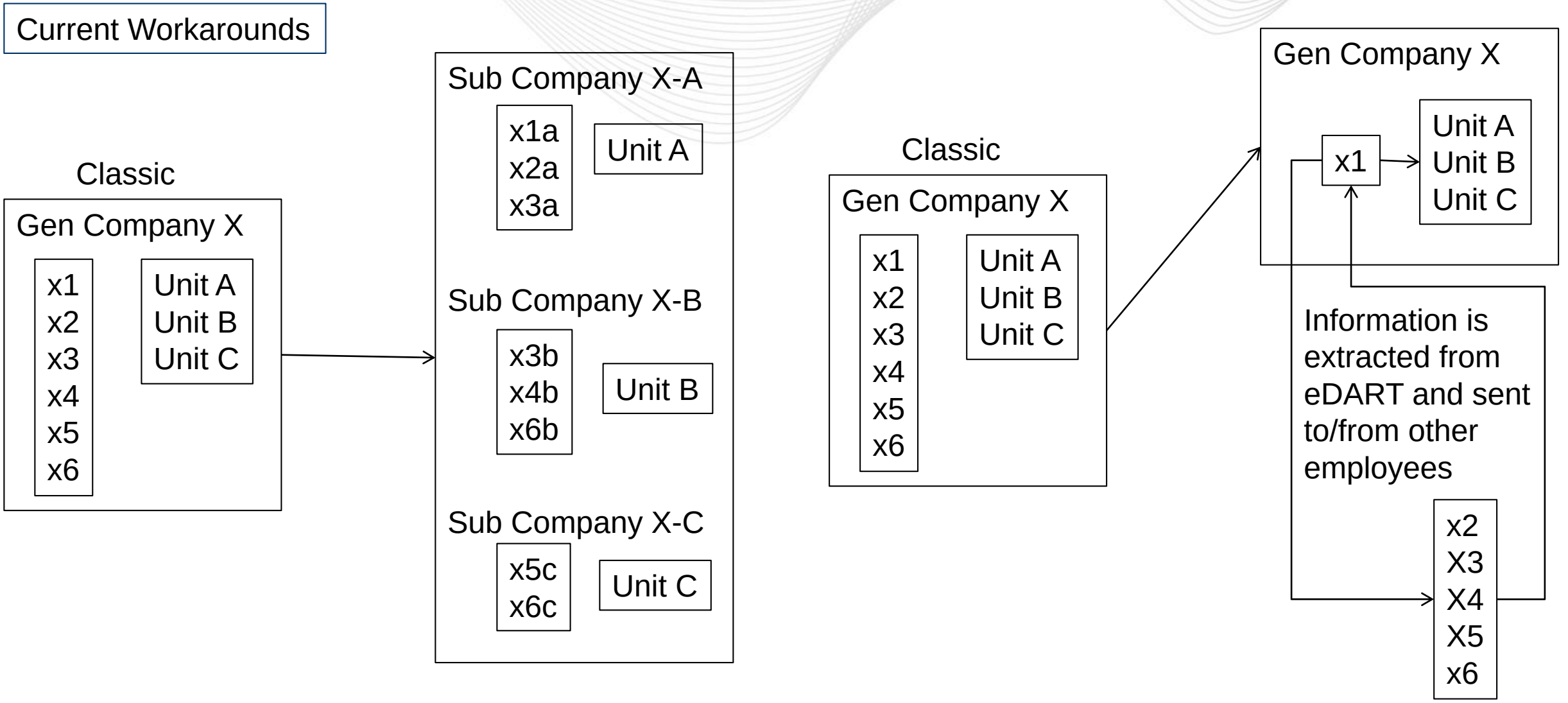
CDW: Unit-Task Functionality

Current Workarounds



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CDW: Unit-Task Functionality

CDW Objectives

- Eliminate the need for sub-companies
  - Users no longer need multiple accounts
  - Correct representation of company data in reports
- Eliminate the need to extract data from eDART for distribution
  - Reduce data entry workload
  - Reduce possibility of sharing sensitive data with unauthorized users

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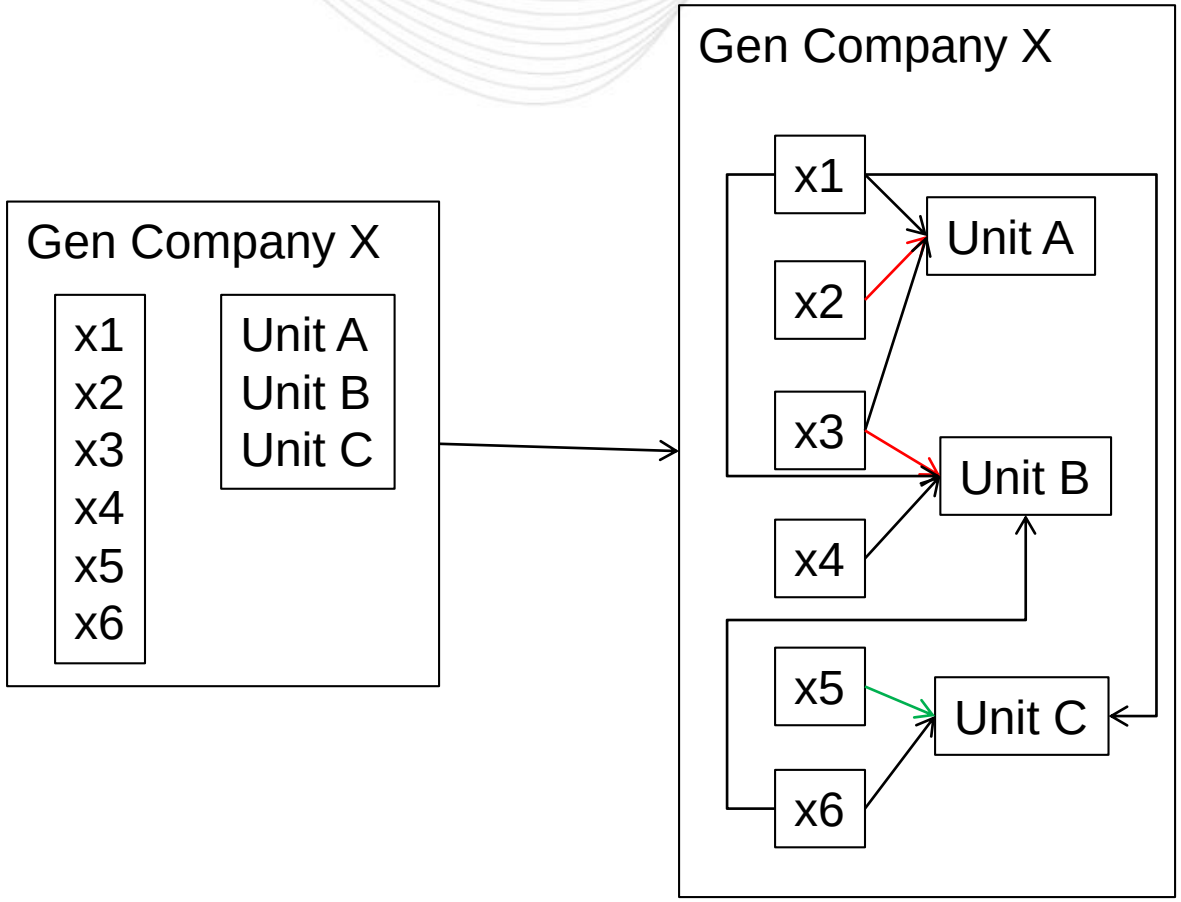
CDW: Unit-Task Functionality

CDW Solution



Arrows represent tasks in eDART.

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CDW Next Steps

Companies interested in using the Company Distributed Workflow (CDW) functionality should contact the eDART team for set up requirements.

- Enrollment paperwork needs to be signed by company officers
  - Identifies company admin and/or delegate
- eDART Only DOA for Member-Agent pairs
- Sandbox set up for Unit-Task companies
  - Will be copied over to Production

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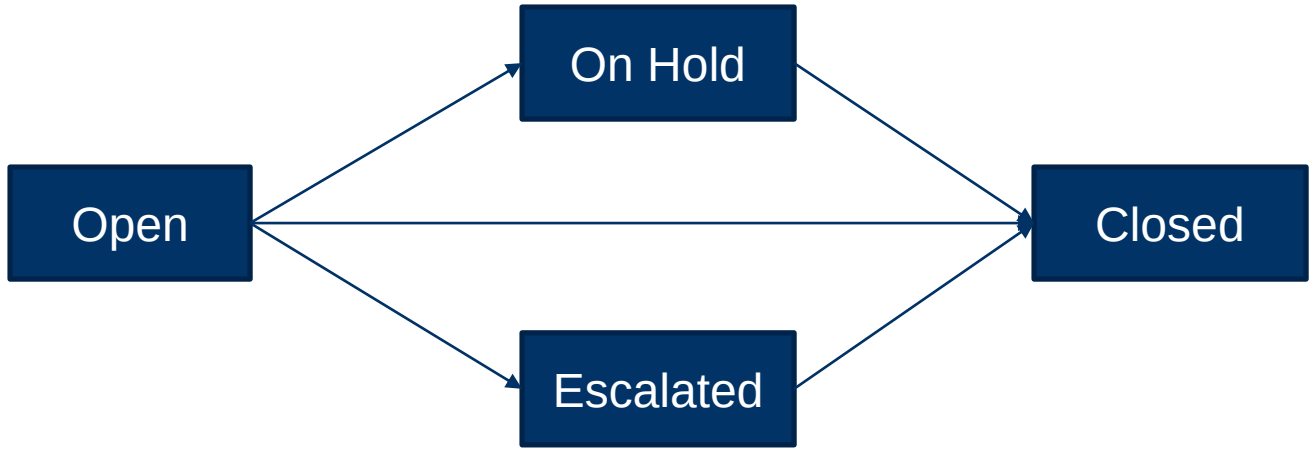
Salesforce for eDART Help Requests

Emails to edarthelp@pjm.com and eDART team members now used to create Salesforce cases.

Email responses and status updates will be sent via Salesforce.

Enables better tracking of open eDART help requests.

Salesforce Case Status Flow



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eDART Training Page Update

The PJM.com team is working on simplifying the navigation on pjm.com.

- eDART Training presentations moved to main eDART page: https://www.pjm.com/markets-and-operations/etools/edart.aspx.
  - Message and link to main page posted on current training presentations page.
- Presentation slides and interactive presentations combined and grouped by Generation and Transmission.
- Link to eDART Forum page added to main eDART page.

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eDART Training Page Update

eDART

eDART (Dispatcher Application and Reporting Tool) allows generation and transmission owners to submit generation and transmission outage requests. eDART allows its users to manage their outage data by viewing the status of their outages and obtaining outage reports.

Production: Sign In | Register
Train: Sign In
Release Notes PDF
Model Sharing Non-Disclosure Agreement PDF

Requests to Add, Update or Remove Email Notifications

Transmission Ticket for Generation Entities | Guide PDF

Impactful Transmission Outages (RTO/ISO) PDF | Help

New Default MVAR PDF | Help

Generation Owner Report & Admin PDF

Training Presentations

User Guide PDF

Transmission Facilities Outage List PDF - Training presentation on functionality contained in the eDART TFOL reports. This includes the eDART Current and Future and Historical Reports along with the TOIMWG download.

- **Generation**
- **Transmission**

Additional Help

XML Documentation and Browserless Application

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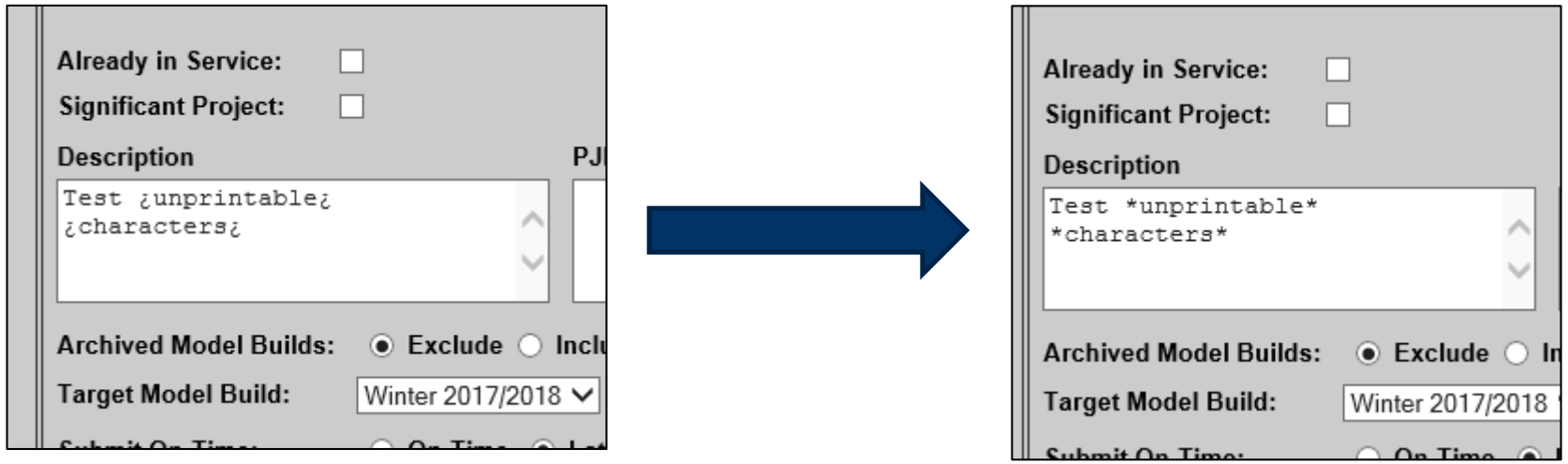
Enhancement to change user inputted unprintable characters to *.

- Unprintable characters causing issues for applications downstream of eDART.
- Deployed on Wednesday, March 18th.
- Applicable to all text entry fields in eDART.



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GO Survey Tool Updates

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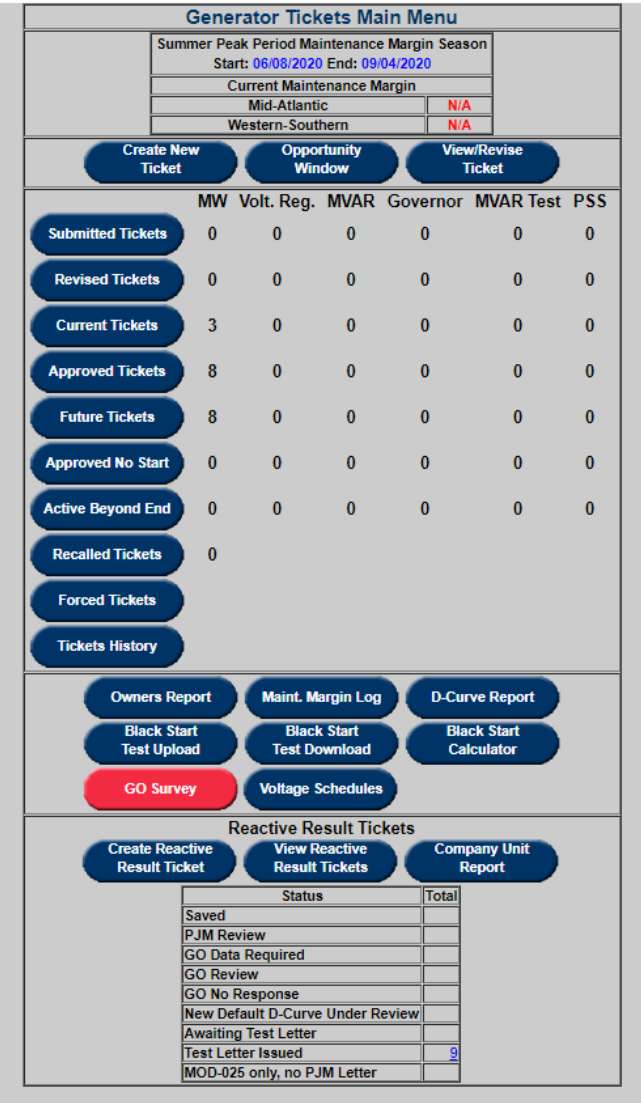
eDART GO Surveys



- PJM uses eDART GO Surveys as a tool to collect data from generators
- Historically, PJM has issued anywhere from one to five surveys each year
- Companies can provide responses through the web interface, by editing and uploading a .TXT file, or by editing and uploading a .XML file

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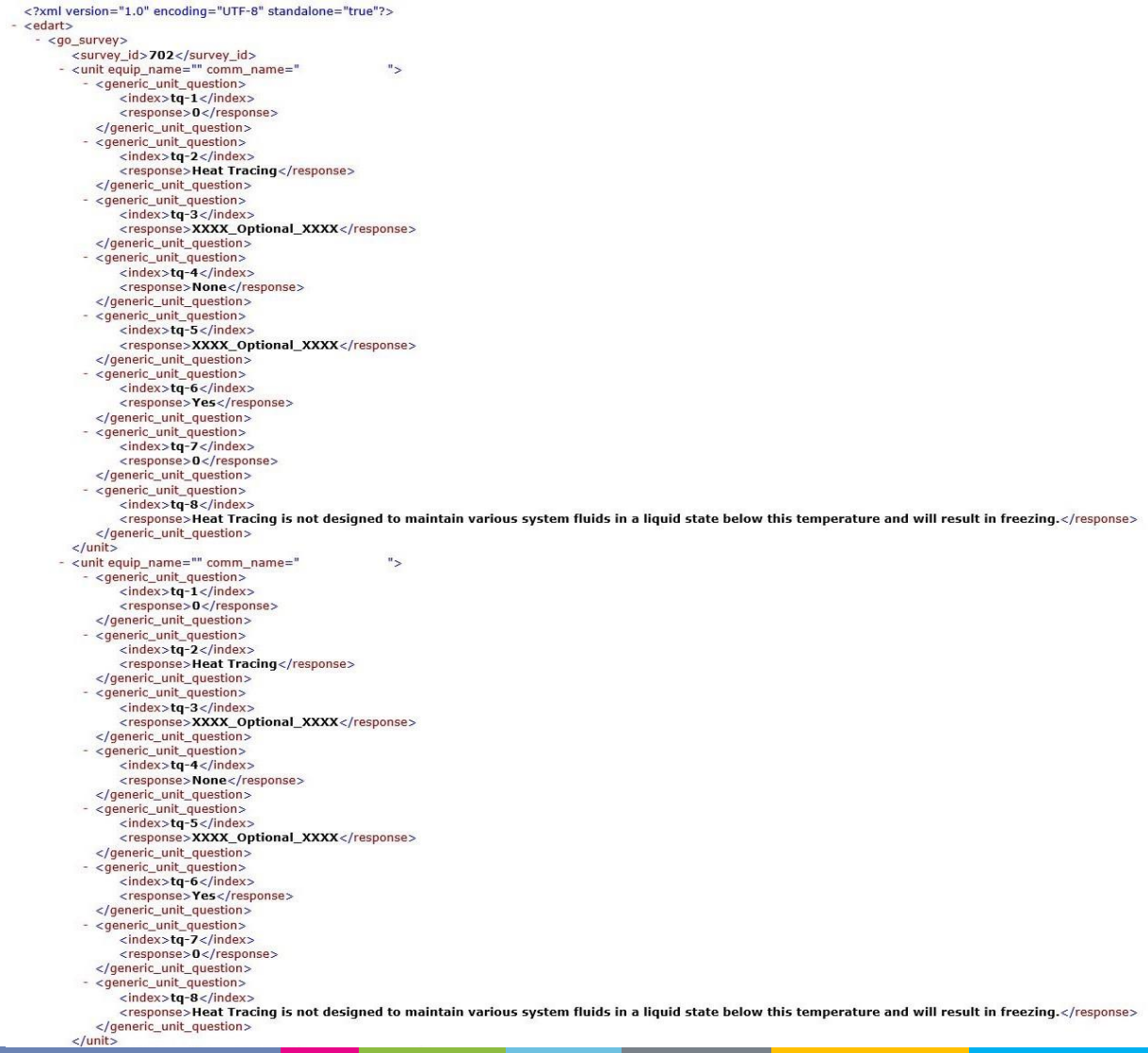
XML File Challenges



```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
<edart>
  <go_survey>
    <survey_id>702</survey_id>
    <unit equip_name="" comm_name="                ">
      <generic_unit_question>
        <index>tq-1</index>
        <response>0</response>
      </generic_unit_question>
      <generic_unit_question>
        <index>tq-2</index>
        <response>Heat Tracing</response>
      </generic_unit_question>
      <generic_unit_question>
        <index>tq-3</index>
        <response>XXXX_Optional_XXXX</response>
      </generic_unit_question>
      <generic_unit_question>
        <index>tq-4</index>
        <response>None</response>
      </generic_unit_question>
      <generic_unit_question>
        <index>tq-5</index>
        <response>XXXX_Optional_XXXX</response>
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      <generic_unit_question>
        <index>tq-6</index>
        <response>Yes</response>
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      <generic_unit_question>
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        <response>0</response>
      </generic_unit_question>
      <generic_unit_question>
        <index>tq-8</index>
        <response>Heat Tracing is not designed to maintain various system fluids in a liquid state below this temperature and will result in freezing.</response>
      </generic_unit_question>
    </unit>
    <unit equip_name="" comm_name="                ">
      <generic_unit_question>
        <index>tq-1</index>
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      <generic_unit_question>
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        <response>0</response>
      </generic_unit_question>
      <generic_unit_question>
        <index>tq-8</index>
        <response>Heat Tracing is not designed to maintain various system fluids in a liquid state below this temperature and will result in freezing.</response>
      </generic_unit_question>
    </unit>
```

- Very few companies are using .XML files to upload survey responses and those that are have issues with the format the majority of the time

- This leads to confusion and frustration of the member GO and requires PJM staff time to troubleshoot the issue

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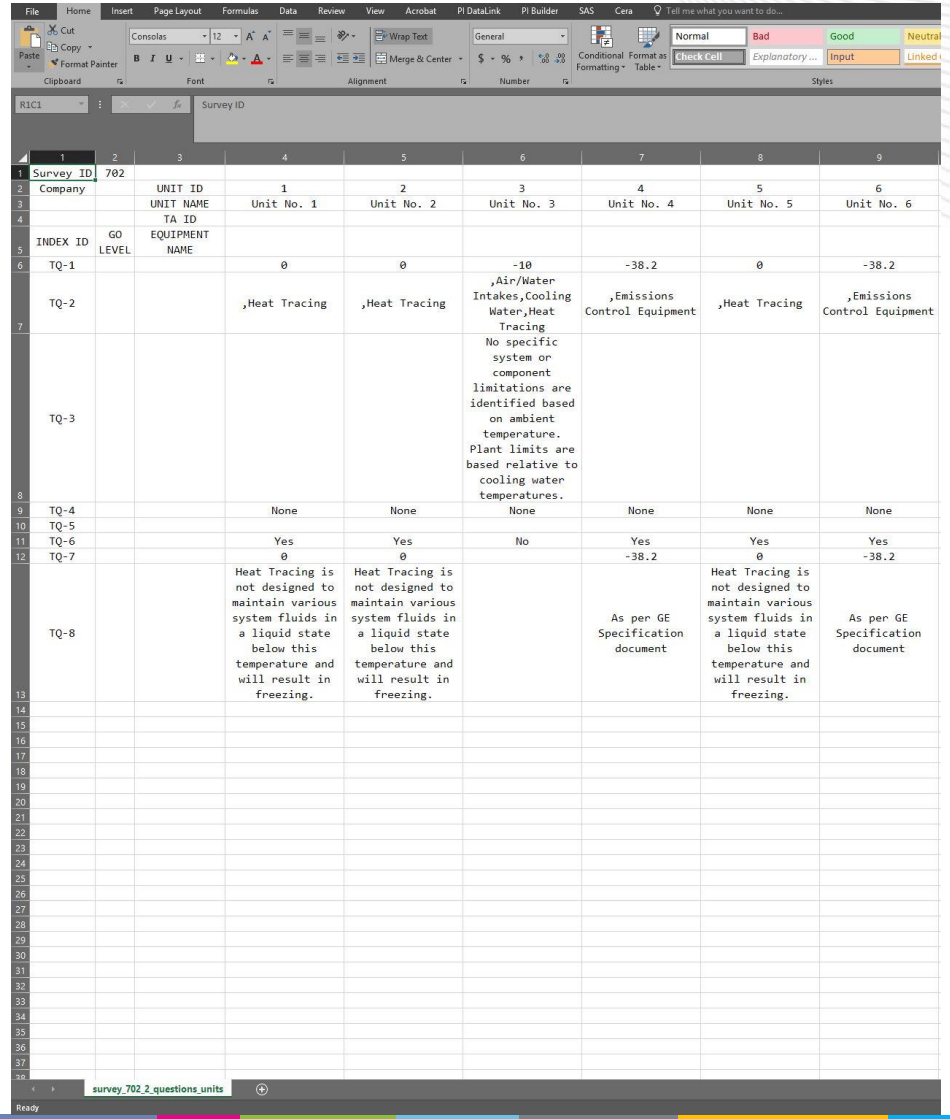
TXT File Alternative



	1	2	3	4	5	6	7	8	9
1	Survey ID	702							
2	Company		UNIT ID	1	2	3	4	5	6
3			UNIT NAME	Unit No. 1	Unit No. 2	Unit No. 3	Unit No. 4	Unit No. 5	Unit No. 6
4			TA ID						
5	INDEX ID	GO LEVEL	EQUIPMENT NAME						
6	TQ-1			0	0	-10	-38.2	0	-38.2
7	TQ-2			,Heat Tracing	,Heat Tracing	,Air/Water Intakes,Cooling Water,Heat Tracing	,Emissions Control Equipment	,Heat Tracing	,Emissions Control Equipment
8	TQ-3					No specific system or component limitations are identified based on ambient temperature. Plant limits are based relative to cooling water temperatures.			
9	TQ-4			None	None	None	None	None	None
10	TQ-5								
11	TQ-6			Yes	Yes	No	Yes	Yes	Yes
12	TQ-7			0	0		-38.2	0	-38.2
13	TQ-8			Heat Tracing is not designed to maintain various system fluids in a liquid state below this temperature and will result in freezing.	Heat Tracing is not designed to maintain various system fluids in a liquid state below this temperature and will result in freezing.		As per GE Specification document	Heat Tracing is not designed to maintain various system fluids in a liquid state below this temperature and will result in freezing.	As per GE Specification document

- Much more commonly used and better understood
- Allows members to use common software, such as Microsoft Excel, to edit the data
- Can be easily split apart and recombined, allowing members to distribute the work to many individuals

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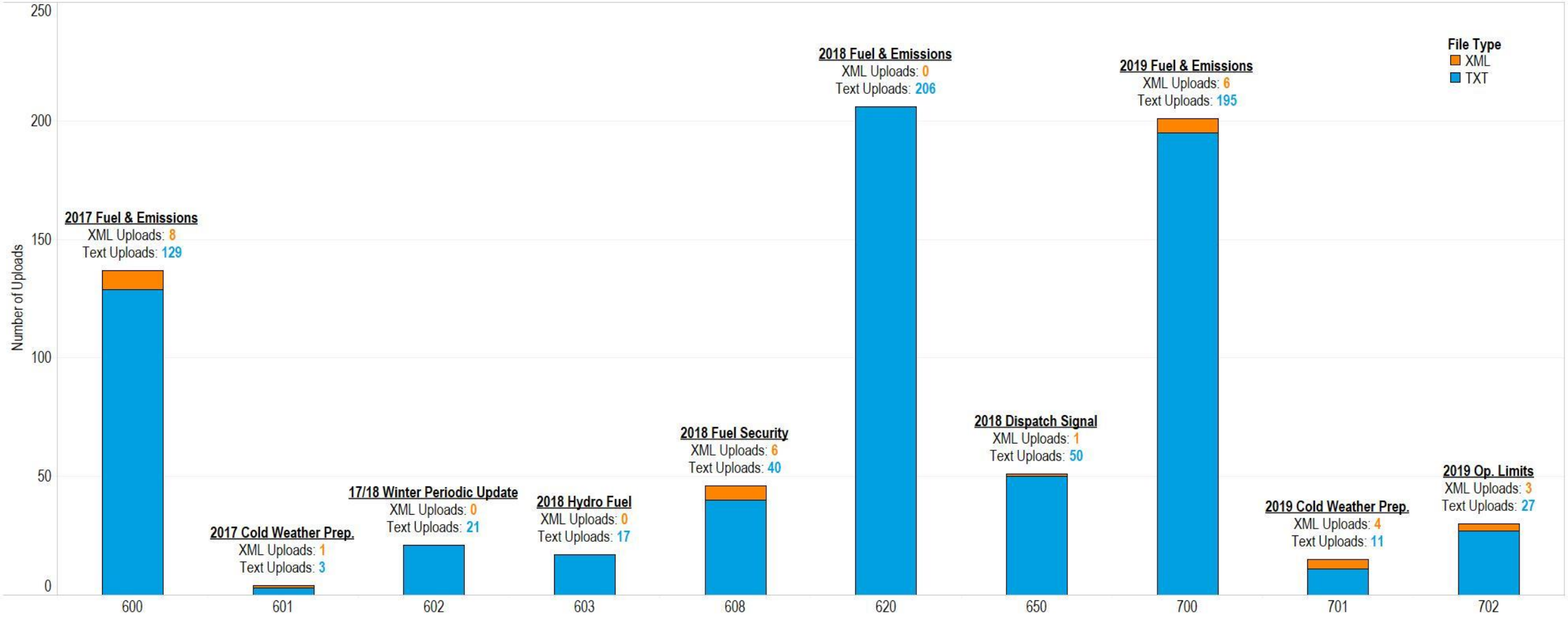
Uploaded Response Files by Survey



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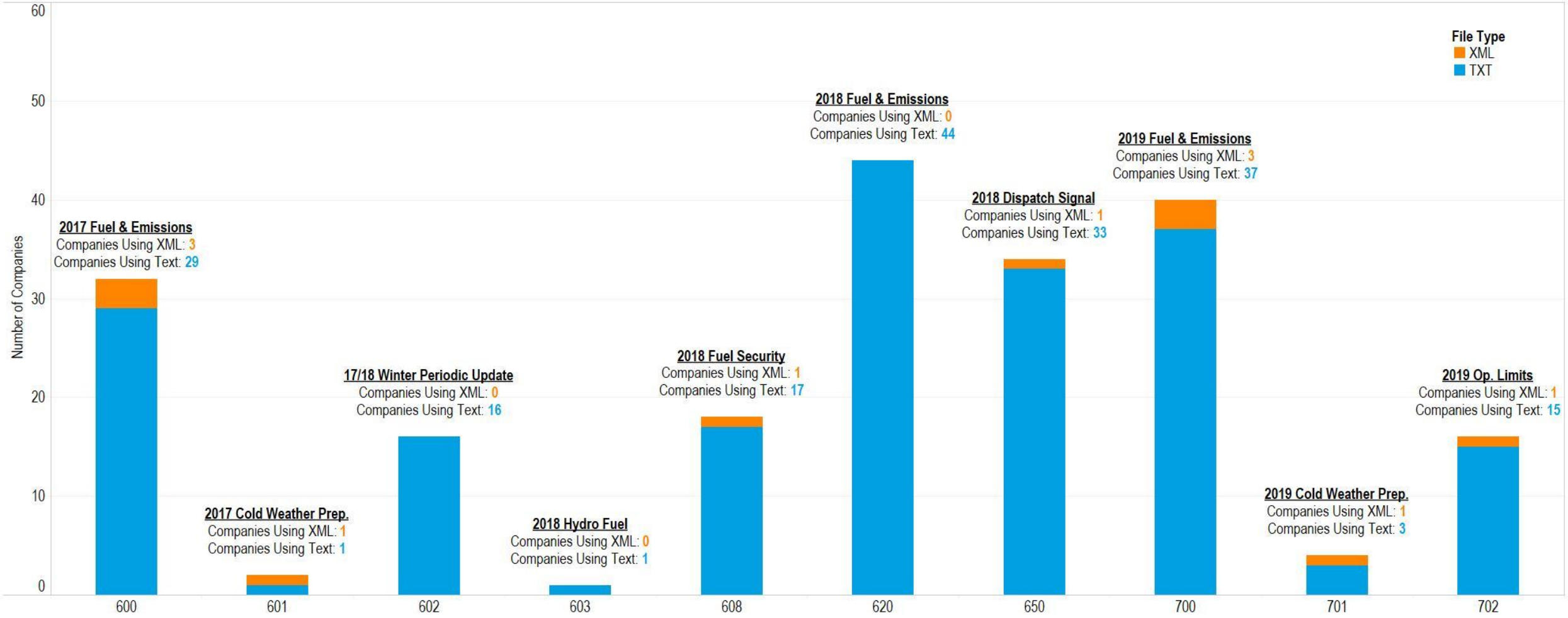
Companies Uploading Responses by Survey



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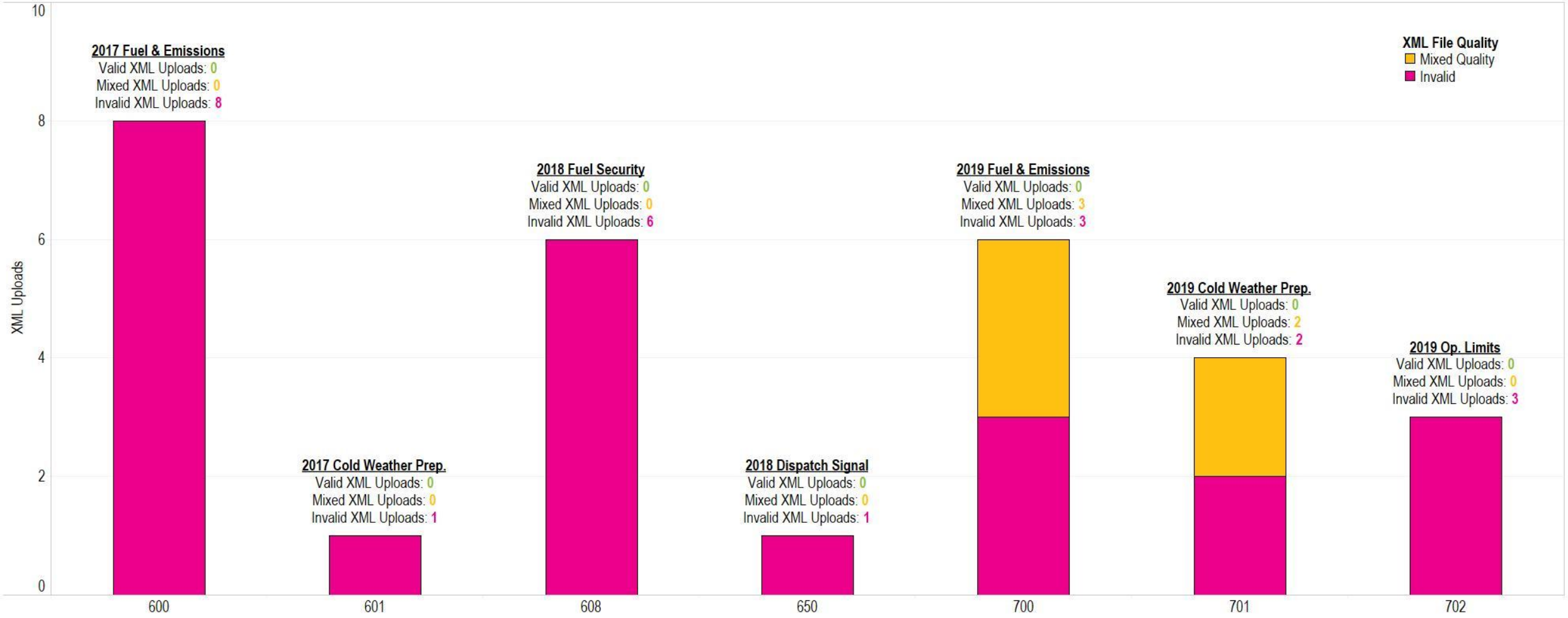
XML Response File Quality by Survey



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PJM is planning on eliminating the .XML upload functionality, starting with the next GO Survey

- This will not affect any other areas of eDART, only the GO Survey portion will be impacted
- This will not affect any past surveys or the responses provided for those surveys
- This will not affect the current practice of pre-populating responses in new surveys where possible
- This will not affect the .TXT upload functionality in any way, that method will remain available to respond to surveys for multiple units at a time

If you have any questions, concerns, or feedback please contact EdartGOSurvey@pjm.com

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Future Enhancements

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2020 Updates to Linesout Files

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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2020 Updates to Linesout Files

Q3 2020 Updates:

- Attempts to download the linesout and linesout_new files will be throttled.
- Users will only be able to complete a download when there is new data or every 5 minutes, whichever is sooner.

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Removal of Voltage Control Philosophy Column

Voltage Control Philosophy column in the D-Curve report, which was populated and updated based on GO feedback, is no longer the primary method for communicating the nature of a unit's Voltage Schedule to PJM.

As a result, the column will be removed from the XML unit download, D-Curve report and the corresponding CSV download.

- Planned for May 2020

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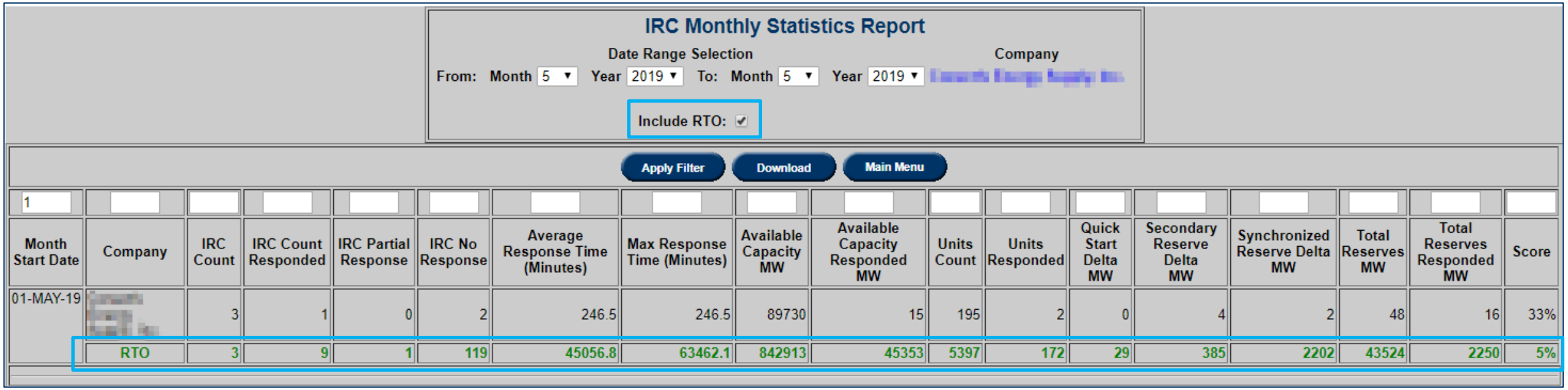
Update to IRC Monthly Stats Report

New option to ‘Include RTO’ for comparison per monthly stats.



IRC Monthly Statistics Report

Date Range Selection — From: Month 5 Year 2019 To: Month 5 Year 2019 — Company

Include RTO: ☑

Apply Filter | Download | Main Menu

Month Start Date	Company	IRC Count	IRC Count Responded	IRC Partial Response	IRC No Response	Average Response Time (Minutes)	Max Response Time (Minutes)	Available Capacity MW	Available Capacity Responded MW	Units Count	Units Responded	Quick Start Delta MW	Secondary Reserve Delta MW	Synchronized Reserve Delta MW	Total Reserves MW	Total Reserves Responded MW	Score
01-MAY-19	[redacted]	3	1	0	2	246.5	246.5	89730	15	195	2	0	4	2	48	16	33%
	RTO	3	9	1	119	45056.8	63462.1	842913	45353	5397	172	29	385	2202	43524	2250	5%

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Model Sharing NDA Signoff in eDART

Model Sharing Non-Disclosure Agreement is currently signed monthly in eDART by transmission users.

Issues:

- No validation on name and email address submitted.
- PJM manually deleting invalid signoffs.
  - Users needing to re-sign the NDA

Future enhancements:

- Check for valid email addresses.
- Non-corporate email addresses (e.g. Gmail, Yahoo) no longer allowed.

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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.

Future 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.

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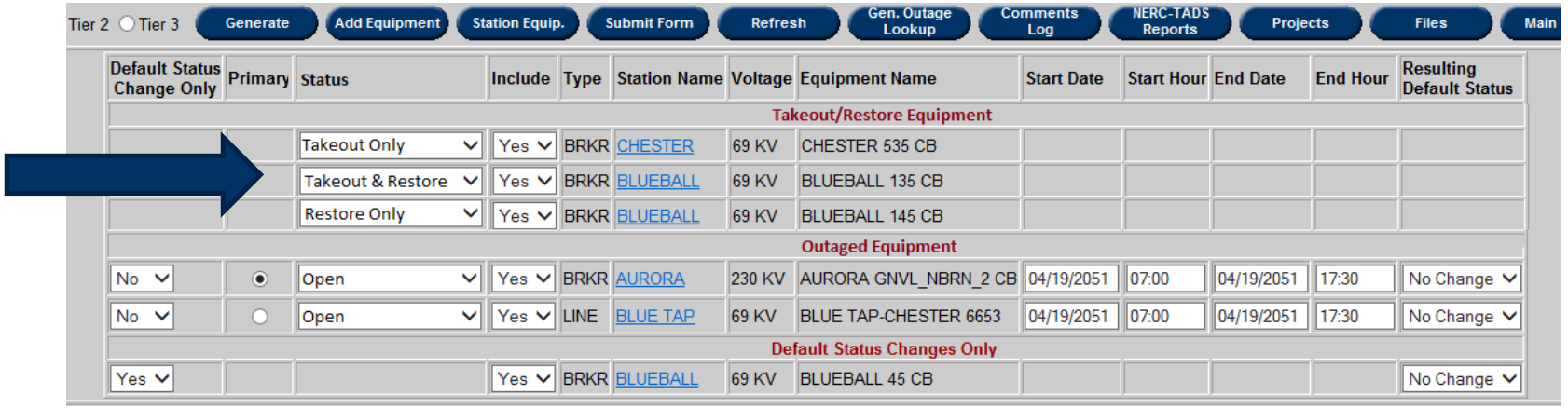
Takeout/Restore Equipment on Trans Ticket

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

Takeout/Restore equipment cannot be normally open or primary 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
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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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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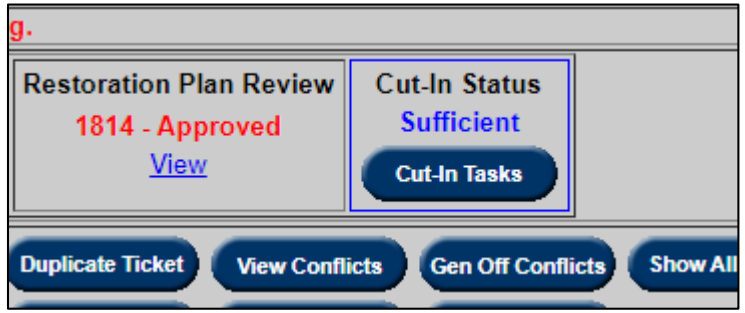
Cut-In Tasks on Trans Ticket

New Cut-In Task button on Transmission Tickets

- Only available if ticket is a cut-in ticket
- Cut-In Status 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)



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Cut-In Tasks on Trans Ticket

Cut-In Status Report will have:

- Cut-In Title
- Cut-In Status
- Tasks and task status

Cut-In Task Status

Title: New Transformer
Status: Sufficient

Task	Task Status
Monitored Priority	Complete
Rating	Complete
Contingency	Complete
Connectivity	Complete
SE Override	Complete
Telemetry	Complete
Tie Line Checklist	N/A

This report is read-only.

Cut-In Status Report information will be added to the transmission ticket download via XML

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

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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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Contact

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