

eDART Reactive Reserve Check User Guide

PJM Interconnection LLC
Version 1.0



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1. Overview

The Reactive Reserve Check [RRC] is a PJM Procedure (See [M-14D](#), PJM's *Generator Operational Requirements Manual*) designed to ensure the accuracy of PJM information with respect to Reactive Power (MVAR) support on the system, particularly during extreme peak or light loads. The procedure is an identified action during a PJM *Low Voltage Alert Emergency Procedure* (See [M-13](#), PJM's *Emergency Procedures Manual*), and supported by this eDART RRC tool when in a Lagging/Peak mode. In addition, the RRC can be leveraged to support a PJM *Minimum Generation Advisory / Alert / Declaration Emergency Procedure* when performed in a Leading/Valley mode.

During an RRC:

- A. PJM provides its derived reserves with respect to static and dynamic reactive resources as determined by the PJM Energy Management System [EMS] based upon equipment availability, status, and limitations.
- B. PJM Transmission Owners [TO] provide their calculated and/or telemetered reserves with respect to static and dynamic reactive resources.
- C. PJM Dispatch compares the data between the TO values and PJM values. Where discrepancies exist, PJM Dispatch follows up with the TO to resolve these differences.

The Reactive Reserve Check tool within eDART aids this data comparison by providing the TO a continuous feed (updates every ~5 minutes) of PJM calculated data which the TO can leverage to compare to their data at any time via a Self-Check tool. In addition to a comparison of PJM EMS to TO EMS data, the RRC also provides eDART available around reactive equipment where applicable.

For further information regarding eDART and links to training on its suite of tools:

- URL: <http://www.pjm.com/markets-and-operations/etools/edart.aspx>
- Breadcrumb Path: www.pjm.com > [Markets & Operations](#) > [PJM Tools](#) > [eDART](#)

2. Data Sources

eDART's RRC leverages two primary data sources:

- PJM EMS data bridge - including member telemetered data, manual status inputs by PJM Dispatch, PJM's Dispatch Management Tool [DMT] online status for generators, and State Estimated [SE] data.
- PJM eDART Database - including member provided data with regard to outage/limitations on reactive equipment via eDART generation and transmission tickets.

eDART receives a data bridge from the PJM EMS approximately twelve times an hour. (updates every ~5 minutes)

Depending on the reactive equipment type and modeling, PJM's EMS may treat a piece of equipment as a transmission reactive resource or a generation reactive resource. For the RRC, the reactive equipment is modeled in PJM's EMS as follows:

- Generating Units and Condensers are modeled as generation reactive resources
- SVCs and/or Stat Var Compensators (Statcoms) are modeled as generation reactive resources, but differ slightly in terms of data fields from units & condensers.
- Capacitors and Reactors are modeled as transmission reactive resources.

The RRC provides and/or derives the following data fields, depending on the reactive resource type:

- **eDART Availability** – [Boolean field, “Y” or “N”]
For transmission reactive resources, whenever a transmission ticket exists in an ACTIVE state and includes the identified equipment as OPEN, the RRC identifies the equipment as not available via an “N” designation.
For generation reactive resources, if the combined amount of ACTIVE generation MW (real power) tickets exceed 90% of the designated ICAP for the facility, then the equipment is deemed unavailable via an “N” designation.
Otherwise, the equipment is identified as available via a “Y” designation.
- **eDART AVR Auto** – [Boolean field, “Y” or “N”]
For transmission reactive resources, this field is not applicable.
For generation reactive resources, if the facility has been designated as unavailable per an ACTIVE eDART Voltage Regulator ticket, then the AVR associated with the equipment is deemed unavailable via an “N” designation. Otherwise, the AVR is deemed available per eDART via a “Y” designation.
- **SE Status** – [N/A; or, Boolean field, “In-Service” or “Offline”]
For transmission reactive resources, this field keys off the PJM EMS SE MVAR for a given facility. If the SE MVAR for a transmission resource = 0 MVAR, the facility's SE Status is deemed “Offline”. Otherwise, when the SE MVAR <> 0 MVAR, the facility is deemed “In-Service”.
For generation reactive resources, this field is not applicable.
- **Unit Status** – [N/A; or, Boolean field, “In-Service” or “Offline”]
For transmission reactive resources, this field is not applicable.
For generation reactive resources, if the unit has any Online Designation in PJM's DMT (as shown in the PJM EMS) which indicates it is NOT online, the RRC interprets the facility as “Offline”. Otherwise, the facility is deemed as “In-Service”.
- **AVR Status** – [N/A; or, Boolean field, “Auto” or “Manual”]
For transmission reactive resources, this field is not applicable.
For generation reactive resources, units only, if the unit's Automatic Voltage Regulator is deemed as being in Manual Mode, the RRC interprets the unit's AVR to be in a “Manual” status. Otherwise, the facility is deemed to have an AVR in an “Auto” status.
- **SE KV** – [N/A; or Decimal field]
For transmission reactive resources, the PJM EMS SE voltage, in kV, at the bus connection for a given transmission facility.
For generation reactive resources, this field is not applicable.

- **SE Mode** – [N/A; or, Boolean field, “Auto” or “Manual”]]
 For SVC/Statcom’s only, this field is set to “Manual” if the PJM EMS deems the facility as a static VAR resource and not regulating voltage. Otherwise, the facility is deemed to be operating in an auto-regulation mode with respect to voltage control and deemed as being in “Auto” status.
 For other transmission and generation reactive resources, this field is not applicable.
- **SE MW** – [N/A; or Decimal field]
 For transmission reactive resources, this field is not applicable.
 For generation reactive resources, reflects the PJM EMS calculated SE output, in MW, of the equipment.
- **SE MVAR** – [Decimal field]
 For all reactive resources, reflects the PJM EMS SE output/intake, in MVAR, of the equipment.
- **Rated MVAR** – [N/A; or Decimal field]
 For transmission reactive resources, reflects the PJM EMS rating, in MVAR, of the equipment.
 For generation reactive resources, this field is not applicable.
- **Max MVAR** – [N/A; or Decimal field]
 For transmission reactive resources, this field is not applicable.
 Peak Mode ONLY. For generation reactive resources, reflects the PJM EMS lagging capability, in MVAR, of the equipment.
- **Min MVAR** – [N/A; or Decimal field]
 For transmission reactive resources, this field is not applicable.
 Valley Mode Only. For generation reactive resources, reflects the PJM EMS leading capability, in MVAR, of the equipment.
- **Lagging Reserve MVAR (Peak)** – [Decimal field]
 Peak Mode ONLY. For all reactive resources, reflects the PJM EMS lagging reserves, in MVAR, of the equipment.
- **Leading Reserve MVAR (Valley)** – [Decimal field]
 Valley Mode Only. For all reactive resources, reflects the PJM EMS leading reserves, in MVAR, of the equipment.

The following table identifies the RRC data sources & derivation by reactive equipment type:

Data Type & Source	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
eDART Availability <i>Source: eDART</i>	If ACTIVE Transmission Ticket then N, else Y	If ACTIVE Transmission Ticket then N, else Y	If ACTIVE Transmission Ticket then N, else Y	If ACTIVE Generation Ticket(s) with a reduction of greater than 90% of ICAP, eDART availability then N, else Y.
eDART AVR Auto <i>Source: eDART</i>	N/A	N/A	N/A	If an ACTIVE Voltage Regulator ticket then N, else Y
SE Status <i>Source: EMS</i>	If SE MVAR <> 0, then In-Service, else Offline	If SE MVAR <> 0, then In-Service, else Offline	If SE MVAR <> 0, then In-Service, else Offline	N/A

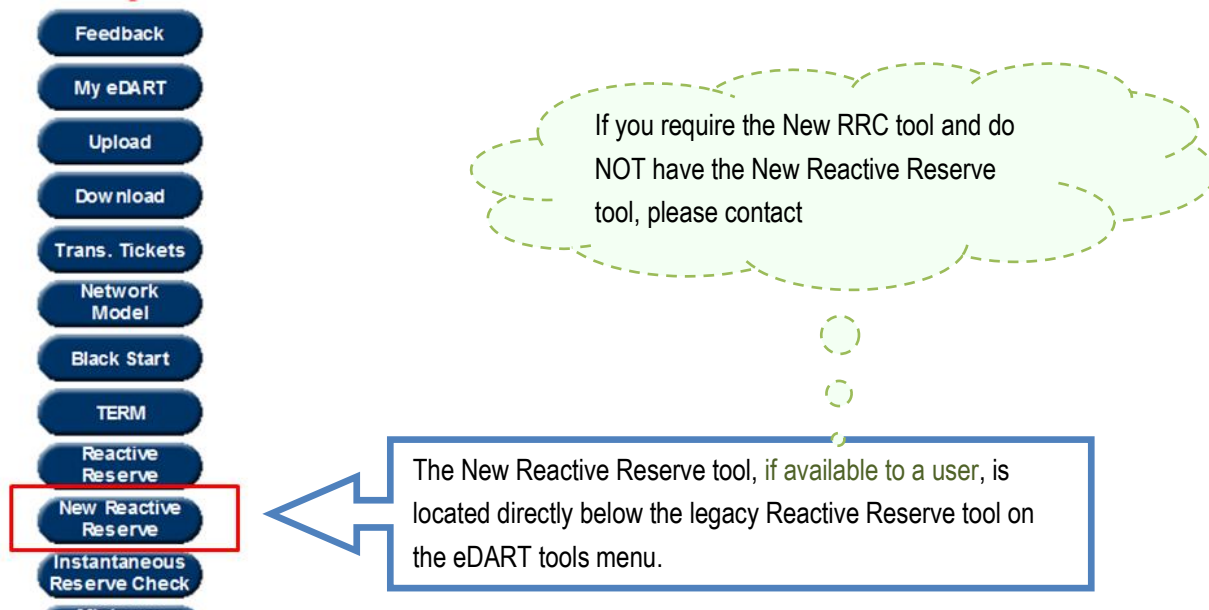
Unit Status <i>Source: EMS</i>	N/A	N/A	N/A	Status, In-Service or Offline.
AVR Status <i>Source: EMS</i>	N/A	N/A	N/A	Auto or Manual, as set by PJM Dispatch.
SE KV <i>Source: EMS</i>	Connected bus voltage SE calculation.	Connected bus voltage SE calculation.	N/A	N/A
SE Mode <i>Source: EMS</i>	N/A	N/A	Auto or Manual, as set by PJM Dispatch.	N/A
SE MW <i>Source: EMS</i>	N/A	N/A	MW output for the given piece of equipment.	MW output for the given piece of equipment.
SE MVAR <i>Source: EMS</i>	MVAR output for the given piece of equipment.	MVAR output for the given piece of equipment.	MVAR output for the given piece of equipment.	MVAR output for the given piece of equipment.
Rated MVAR <i>Source: EMS</i>	MVAR Rating for the piece of equipment per PJM's EMS, i.e. Max or Min MVAR capability for the equipment.	MVAR Rating for the piece of equipment per PJM's EMS, i.e. Max or Min MVAR capability for the equipment.	N/A	N/A
Min/Max MVAR <i>Source: EMS</i>	N/A	N/A	Based on the current MW output for a given facility, the Max or Min MVAR capability within the D-Curve – Units/SVC/Statcom/Condensers Only	Based on the current MW output for a given facility, the Max or Min MVAR capability within the D-Curve – Units/SVC/Statcom/Condensers Only
Lagging Reserve MVAR (Peak) <i>Source: eDART RRC</i>	If (SE Status – Offline) and eDART Availability = Y, then Rated MVAR, else 0.	If (SE Status = In-Service), then SE MVAR * -1, else 0.	If eDART Available is Y, Max of (Max MVAR – SE MVAR) or 0, else 0	If eDART Available is Y, Max of (Max MVAR – SE MVAR) or 0, else 0
Leading Reserve MVAR (Valley) <i>Source: eDART RRC</i>	If (SE Status = In-Service), then SE MVAR * -1, else 0.	If (SE Status – Offline) and eDART Availability = Y, then Rated MVAR, else 0.	If eDART Available is Y, Min of (Min MVAR – SE MVAR) or 0, else 0	If eDART Available is Y, Min of (Min MVAR – SE MVAR) or 0, else 0

The following table identifies the RRC data derivations by equipment type:

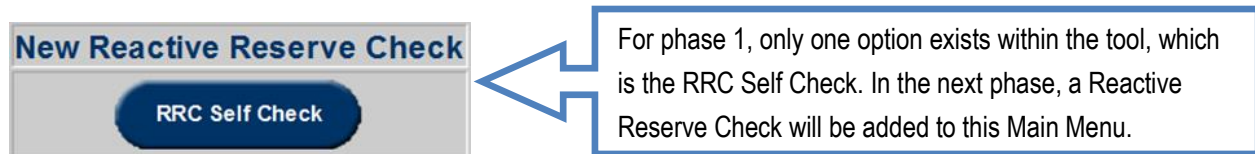
	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
eDART Availability	If active Transmission Ticket , N, else Y	If active Transmission Ticket , N, else Y	If active Transmission Ticket , N, else Y	If an active Generation Ticket with a reduction of greater than 90% of ICAP, eDART availability will be N, else Y.
eDART AVR Auto	N/A	N/A	N/A	If an active Voltage Regulator ticket , then N, else Y
SE Status	If SE MVAR <> 0, then In-Service, else Offline	If SE MVAR <> 0, then In-Service, else Offline	Status from EMS	N/A

Unit Status	N/A	N/A	N/A	Status from EMS
AVR Status	N/A	N/A	N/A	From EMS – Auto or Manual
SE KV	PJM's EMS affiliated bus voltage calculation	PJM's EMS affiliated bus voltage calculation.	N/A	N/A
SE Mode	N/A	N/A	From EMS – Auto or Manual	N/A
SE MW	N/A	N/A	PJM's EMS calculated MW output for the given piece of equipment.	PJM's EMS calculated MW output for the given piece of equipment.
SE MVAR	PJM's EMS calculated MVAR output for the given piece of equipment.	PJM's EMS calculated MVAR output for the given piece of equipment	PJM's EMS calculated MVAR output for the given piece of equipment	PJM's EMS calculated MVAR output for the given piece of equipment
Rated MVAR	MVAR Rating for the piece of equipment per PJM's EMS, i.e. Max or Min MVAR capability for the equipment.	MVAR Rating for the piece of equipment per PJM's EMS, i.e. Max or Min MVAR capability for the equipment.	N/A	N/A
Min/Max MVAR	N/A	N/A	Based on the current MW output for a given facility, the Max or Min MVAR capability within the D-Curve – Units/SVC/Statcom/Condensers Only	Based on the current MW output for a given facility, the Max or Min MVAR capability within the D-Curve – Units/SVC/Statcom/Condensers Only
Lagging Reserve MVAR (Peak)	If (SE Status – Offline) and eDART Availability = Y, then Rated MVAR, else 0.	If (SE Status = In-Service), then SE MVAR * -1, else 0.	If eDART Available is Y, Max of (Max MVAR – SE MVAR) or 0, else 0	If eDART Available is Y, Max of (Max MVAR – SE MVAR) or 0, else 0
Leading Reserve MVAR (Valley)	If (SE Status = In-Service), then SE MVAR * -1, else 0.	If (SE Status – Offline) and eDART Availability = Y, then Rated MVAR, else 0.	If eDART Available is Y, Min of (Min MVAR – SE MVAR) or 0, else 0	If eDART Available is Y, Min of (Min MVAR – SE MVAR) or 0, else 0

3. Navigating to *NEW REACTIVE RESERVE* tool



4. Main Menu for *NEW REACTIVE RESERVE* tool



Click the **RRC Self Check** button to proceed to the Reactive Reserve Check Self Check.

5. Reactive Reserve Check (Phase 2)

This feature will be added in a Phase 2 release, slated for June 2017 to allow the member to submit their data on an equipment level basis via:

- ICCP continuous stream to PJM EMS → Data will auto-import into eDART RRC, with company override option.
- XML Upload → Browserless and Browser options.
- eDART Web UI → Direct user data entry.

Further information to be provided via eDART UG meetings.

<http://www.pjm.com/committees-and-groups/user-groups/edart-ug.aspx>

6. RRC Self Check

Purpose: The RRC Self Check serves to provide the member with a snapshot view of PJM's status and estimated reserves for each of the static and dynamic reactive devices within their zone. Snapshots run through a bridge from the PJM EMS, and update on a ~5 minute cycle.

Upon navigating to the RRC Self Check, the user is automatically taken to either a lagging (aka, Peak) or leading (aka, Valley) mode or view. Historically, PJM and its members performed RRC's during Peak load periods in order to assess the static/dynamic lagging reserves available within the RTO. The New RRC provides an option to perform a Valley load assessment, in order to assess leading reserve capability during times such as Minimum Generation Advisories / Alerts / Declarations.

Peak Mode

Provides total available Lagging MVAR on an equipment, Zone, Company, and RTO level (PJM User), including a breakdown by Equipment Type (Capacitors, Reactors, SVCs/Statcom, Units/Condensers).

Peak Mode is the default mode of operation from 0500-2300. Optionally the user can switch to a Valley Mode.

Valley Mode

Provides total available Leading MVAR on an equipment, Zone, Company, and RTO level (PJM User), including a breakdown by Equipment Type (Capacitors, Reactors, SVCs/Statcom, Units/Condensers).

Valley Mode is the default mode of operation from 0500-2300. Optionally the user can switch to a Peak Mode.

The RRC Self Check has four pages of information corresponding to the Reactive Equipment Type:

1. **Capacitors** page
2. **Reactors** page
3. **SVCs/Statcom** page
4. **Units/Condensers** page

Each page above has four zones/areas:

1. **RRC Self-Check Base Info** section
 - Company – Company being examined
 - User Name – User Login ID
 - Request Timestamp – Timestamp of the page refresh. Reflects when the page was opened/refreshed.
 - Data Updated – Reflects timestamp of the EMS Data received by eDART.
 - Peak/Valley Radio Buttons – User Option to change from a Lagging to a Leading view. Will also reflect "(Current)" for whichever mode would be the default per the current timestamp. (See Peak Mode, Valley Mode, above.)
2. **Zone/Company Aggregate** section

- Zone Total - On a Zone by Zone basis (PJM EMS may split a TO Company into multiple Zones), displays the total Reserve capability (Lagging or Leading, depending on Mode) for each of the four Reactive Equipment Types.
- Company Total - Aggregates the Zone by Zone totals into a Company Total
- Discrepancies Count – Displays a total count of discrepancies, per Company, on a Reactive Equipment Type level.

3. Sort/Filter/Info section

- Reactive Equipment Type radio buttons – Used to change the Equipment Discrete Data section to desired view, by Type. Radio buttons dynamically retrieve the associated data set by equipment type.
- SE Status dropdown – Used to filter Equipment Discrete Data section SE Status to show In-Service, Offline, or Both (default).
 - Capacitors, Reactors, SVCs/Statcom pages ONLY.
 - Applied via the Apply Sort/Filter button.
- SE Mode dropdown – Used to filter Equipment Discrete Data section SE Mode to show Auto, Manual, or Both (default).
 - SVCs/Statcom page ONLY.
 - Applied via the Apply Sort/Filter button.
- Unit Status dropdown – Used to filter Equipment Discrete Data section Unit Status to show In-Service, Offline, or Both (default).
 - Units/Condensers page ONLY.
 - Applied via the Apply Sort/Filter button.
- AVR Status dropdown – Used to filter unit Equipment Discrete Data section AVR Status to show Auto, Manual, or Both (default).
 - Units/Condensers page ONLY.
 - Applied via the Apply Sort/Filter button.
- Discrepancies Only filter – Used to filter Equipment Discrete Data section by only equipment with eDART derived [Discrepancies](#).
 - Applied via the Apply Sort/Filter button.
- Apply Sort/Filter button – Used to apply Sorts from the Equipment Discrete Data column headers and/or filters within the Sort/Filter/Info section.
- Refresh button – Used to refresh data on page to most recent available information. Will update the Request Timestamp. May update the Data Updated timestamp, if new information is available.
- Main Menu button – Takes the user back to the [Main Menu](#).
- Help button – Opens pdf containing this user guide.
- Color Legend button – Button that opens color legend related to [Discrepancies](#).

4. Equipment Discrete Data section

- Contains equipment data fields described in [Data Sources](#) section of this guide.
- Highlights cell backgrounds appropriately wherever data [Discrepancies](#) are calculated.
- Equipment will fall into one of three categories:

- EMS & eDART / aligned – Common; No header provided to delineate this section, and listed first.
- In EMS, not mapped to eDART – Rare; Equipment that exists in the PJM EMS, but has no matching eDART equipment mapping. [If no equipment in this category, section is not displayed.]
- In eDART, not mapped to EMS – Rare; Equipment that exists in eDART, but is not mapped to EMS. [If no equipment in this category, section is not displayed.]

Peak MVAR Reserves Self-Check

Company: **RRC SELF-CHECK BASE INFO** Request Timestamp: 12/01/2016 12:57
 User Name: Data Updated: 11/08/2016 15:20

Peak (Current) Valley

Zone	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
	8069.60	403.22	300.00	2891.05
Company Total	8069.60	403.22	300.00	2891.05

Capacitors Reactors SVCs/Statcom Units/Condensers

SE Status: Both Discrepancies Only:

Apply Sort/Filter
 Refresh
 Main Menu
 Help
 Color Legend

Capacitors

1	2	Company	Station/Equipment Name	KV	eDART Availability	SE Status	SE KV	SE MVAR	Rated MVAR	Lagging Reserve MVAR
					Y	In-Service	34.99	3.60	3.60	0.00
					Y	Offline	0.00	0.00	18.00	18.00
					Y	Offline	0.00	0.00	18.00	18.00

7. Capacitors page(s)

The Capacitor Page is the default page that opens when entering the RRC. The user can identify that they are in the Capacitors page view in three ways:

1. Column for Capacitors font turns blue.
2. Radio button for Capacitors is marked.
3. Equipment header caption is *Capacitors*.

Peak MVAR Reserves Self-Check

Company: ▼
 User Name: **SUPER3**

Request Timestamp: 12/01/2016 12:57
 Data Updated: 11/08/2016 15:20

Peak (Current) Valley

Zone	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
<input type="text" value=""/>	8069.60	403.22	300.00	2891.05
Company Total	8069.60	403.22	300.00	2891.05
Discrepancies Count	0	0	0	19

Capacitors Reactors SVCs/Statcom Units/Condensers

SE Status: ▼

Discrepancies Only:

Apply Sort/Filter
Refresh
Main Menu
Help
Color Legend

Capacitors

1	2	3	4	5	6	7	8	9	10
Company	Station/Equipment Name	Zone	KV	eDART Availability	SE Status	SE KV	SE MVAR	Rated MVAR	Lagging Reserve MVAR
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

- The first four columns of the Equipment Discrete Data section are for equipment identification.
- *eDART Availability* reflects whether the equipment has a current eDART ticket making the facility unavailable.
- *SE Status*, *SE KV*, *SE MVAR*, *Rated MVAR* all are derived from the PJM EMS.
- *Reserve MVAR* reflects the available reserves (lagging/leading) as shown in [Data Sources](#). For example:

eDART Available	SE Status	Lagging Reserves	Leading Reserves
Y	Offline	Rated MVAR	0
Y	In-service	0	SE MVAR * -1
N	Offline	0	0
N	In-service	0	0

8. Reactors page(s)

The Reactors Page can be displayed by clicking on the Reactor radio button. The user can identify that they are in the Reactors page view in three ways:

1. Column for Reactors font turns blue.
2. Radio button for Reactors is marked.
3. Equipment header caption is *Reactors*.

Peak MVAR Reserves Self-Check

Company:
 User Name: SUPER3

Request Timestamp: 12/01/2016 12:58
 Data Updated: 11/08/2016 15:20

Peak (Current) Valley

Zone	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
	8069.60	403.22	300.00	2891.05
Company Total	8069.60	403.22	300.00	2891.05
Discrepancies Count	0	0	0	19

Capacitors Reactors SVCs/Statcom Units/Condensers

SE Status: Discrepancies Only:

Apply Sort/Filter
Refresh
Main Menu
Help
Color Legend

Reactors

1	2	3							
Company	Station/Equipment Name	Zone	KV	eDART Availability	SE Status	SE KV	SE MVAR	Rated MVAR	Lagging Reserve MVAR

- The first four columns of the Equipment Discrete Data section are for equipment identification.
- *eDART Availability* reflects whether the equipment has a current eDART ticket making the facility unavailable.
- *SE Status*, *SE KV*, *SE MVAR*, *Rated MVAR* all are derived from the PJM EMS.
- *Reserve MVAR* reflects the available reserves (lagging/leading) as shown in [Data Sources](#). For example:

eDART Available	SE Status	Lagging Reserves	Leading Reserves
Y	Offline	0	Rated MVAR
Y	In-service	SE MVAR * -1	0
N	Offline	0	0
N	In-service	0	0

9. SVCs/Statcom page(s)

The SVCs/Statcom page can be displayed by clicking on the SVCs/Statcom radio button. The user can identify that they are in the SVCs/Statcom page view in three ways:

1. Column for SVCs/Statcom font turns blue.
2. Radio button for SVCs/Statcom is marked.
3. Equipment header caption is *SVCs/Statcom*.

Peak MVAR Reserves Self-Check

Company: Request Timestamp: 12/01/2016 12:59
 User Name: SUPER3 Data Updated: 11/08/2016 15:20

Peak (Current) Valley

Zone	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
<input type="text"/>	8069.60	403.22	300.00	2891.05
Company Total	8069.60	403.22	300.00	2891.05
Discrepancies Count	0	0	0	19

Capacitors Reactors SVCs/Statcom Units/Condensers

SE Status: SE Mode: Discrepancies Only:

SVCs/Statcom

Company	Station/Equipment Name	Zone	KV	eDART Availability	SE Status	SE Mode	SE MW	SE MVAR	Max MVAR	Lagging Reserve MVAR
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- The first four columns of the Equipment Discrete Data section are for equipment identification.
- *eDART Availability* reflects whether the equipment has a current eDART ticket making the facility unavailable.
- *SE Status*, *SE Mode*, *SE KV*, *SE MW*, *SE MVAR*, *Max(Min)MVAR* all are derived from the PJM EMS.
- *Reserve MVAR* reflects the available reserves (lagging/leading) as shown in [Data Sources](#). For example:

eDART Available	Lagging Reserves	Leading Reserves
Y	Max (0, Max MVAR – SE MVAR)	Min (0, Min MVAR – SE MVAR)
N	0	0

10. Units/Condensers page(s)

The Units/Condensers page can be displayed by clicking on the Units/Condensers radio button. The user can identify that they are in the Units/Condensers page view in three ways:

1. Column for Units/Condensers font turns blue.
2. Radio button for Units/Condensers is marked.
3. Equipment header caption is *Units/Condensers*.

Peak MVAR Reserves Self-Check

Company: Request Timestamp: 12/01/2016 14:34
 User Name: SUPER3 Data Updated: 11/08/2016 15:20

Peak (Current)
 Valley

Zone	Capacitors	Reactors	SVCs/Statcom	Units/Condensers
	8069.60	403.22	300.00	2891.05
Company Total	8069.60	403.22	300.00	2891.05
Discrepancies Count	0	0	0	19

Capacitors
 Reactors
 SVCs/Statcom
 Units/Condensers

Unit Status: AVR Status: Discrepancies Only:

Units/Condensers

Company	Station/Equipment Name	Zone	KV	eDART Availability	eDART AVR Auto	Unit Status	AVR Status	SE MW	SE MVAR	Max MVAR	Lagging Reserve MVAR
1	2	3									

- The first four columns of the Equipment Discrete Data section are for equipment identification.
- *eDART Availability* reflects whether the equipment has current eDART tickets making the facility unavailable.
- *eDART AVR Auto* reflects whether the equipment has an eDART Voltage Regulator ticket.
- *Unit Status, SE MW, SE MVAR, Max(Min)MVAR* all are derived from the PJM EMS.
- *Reserve MVAR* reflects the available reserves (lagging/leading) as shown in [Data Sources](#). For example:

eDART Available	Lagging Reserves	Leading Reserves
Y	Max (0, Max MVAR – SE MVAR)	Min (0, Min MVAR – SE MVAR)
N	0	0

11. Discrepancies & Color Legend

Color Legend
eDART Unavailable and SE MVAR is not 0
Mismatch between eDART AVR and EMS AVR
Future or Retired Equipment
Regular
Close Window

To assist operators in identification of disagreements between the PJM EMS and eDART, discrepancies between the data sets are identified by color coding fields. Examples and use cases below.

eDART Unavailable and SE MVAR is not 0

Condition:

- Whenever eDART identifies a facility as unavailable, but the PJM EMS SE MVAR output which would indicate that the facility is in-service.

Mismatch between eDART AVR and EMS AVR

Conditions:

- Whenever an eDART AVR ticket exists, but the PJM EMS has the AVR in AUTO (automatic) mode.
- Whenever no eDART AVR ticket exists, but the PJM EMS has the AVR in Manual mode.

Units/Condensers											
1	2	3									
Company	Station/Equipment Name	Zone	KV	eDART Availability	eDART AVR Auto	Unit Status	AVR Status	SE MW	SE MVAR	Max MVAR	Lagging Reserve MVAR
				Y	Y	Offline	Auto				
				Y	Y	Offline	Auto				
				N/A	Y	Offline	Manual				
				N/A	Y	Offline	Manual				
				N/A	Y	Offline	Manual				
				N/A	Y	Offline	Auto				
				N/A	Y	Offline	Manual				
				N/A	Y	Offline	Manual				
				N/A	Y	Offline	Manual				

Future or Retired Equipment

Conditions:

- Whenever a facility is marked as retired in the eDART database.
- Whenever a facility is marked as future in the eDART database.

12. Frequently Asked Questions

Q. Why is my equipment not showing in the RRC?

A. eDART is a reflection of the PJM EMS. If the PJM EMS does not model your equipment as expected, that will carry over into the RRC. If you believe the omission is in error, please contact RRCHelp@pjm.com.

Q. How does the PJM EMS derive the Max(Min) MVAR capability for a unit?

A. The PJM EMS utilizes the active D-Curve for a given facility, interpolating the MVAR Min/Max based upon the current MW output for the facility. If you believe the data is incorrect, please contact the PJM Dispatch per your normal dial-in.

Q. Who should I contact if I have a question regarding the SE Status for my Transmission reactive equipment?

A. eDART obtains this information directly from the PJM EMS. If you believe the data is incorrect, please contact the PJM Dispatch per your normal dial-in.

Q. Who should I contact if I have a question regarding the Unit or AVR Status reflected in RRC?

A. eDART obtains this information directly from the PJM EMS. If you believe the data is incorrect, please contact the PJM Dispatch per your normal dial-in.