



Non-Retail BTMG Enhancements in Capacity Exchange

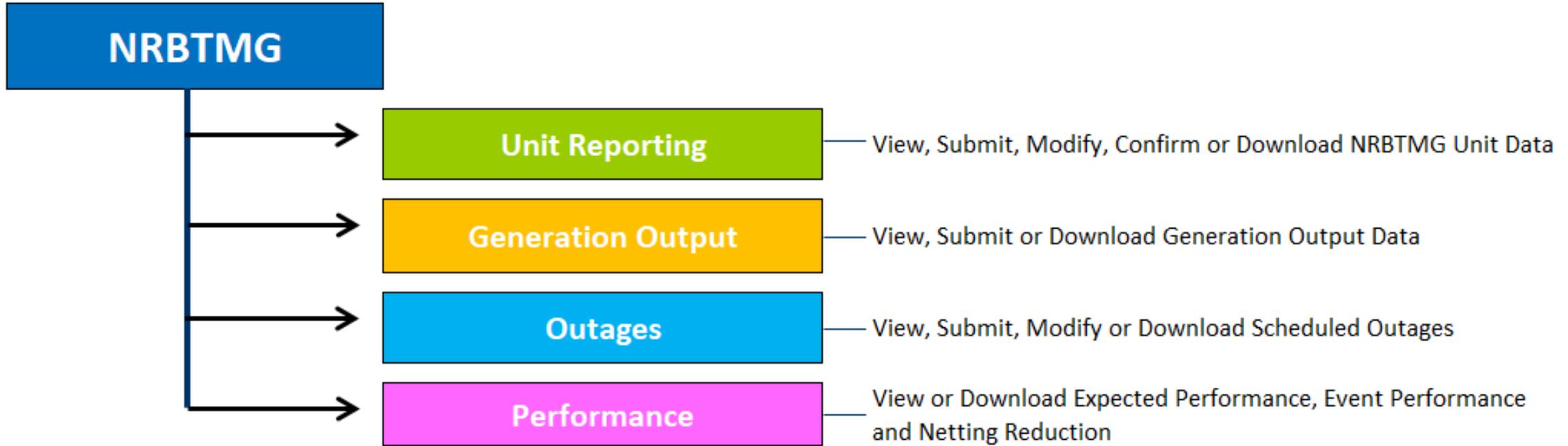
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Quality Assurance

Tech Change Forum Special Session
November 23, 2020

Action Required	Deadline	Who May Be Affected
<p>PJM to educate responsible LSEs/EDCs on new NRBTMG screens released in Capacity Exchange on Nov 11.</p>	<p>June 23, 2020 1:00 -2:30 PM TCF Special Session</p>	<p>LSEs/EDCs that are responsible to report on NRBTMG located in modeled wholesale area in zone</p>
<p>Report NRBTMG generation output data in Coincident Peak Hour screen during the reporting window. Window opens November 1.</p>	<p>November 30, 2020</p>	
<p>Start reporting NRBTMG scheduled outages in Capacity Exchange.</p>	<p>On-going</p>	



- Educate responsible LSEs/EDCs on the latest Non-Retail Behind the Meter Generation (NRBTMG) screens recently released to Capacity Exchange.
 - Prior education on NRBTMG Characteristics, Reporting & Confirmation, and Coincident Peak Hours screens is available at <https://www.pjm.com/-/media/committees-groups/forums/tech-change/2020/20200616-special/20200616-nrbtmg-reporting-in-capacity-exchange.ashx>
- NRBTMG screens are to be used by responsible LSEs/EDCs to satisfy the Non-Retail BTMG requirements in Manual 14D, Appendix A: Behind the Meter Generation Business Rules.



NRBTMG menu is used to administer the reporting, netting, and operational performance requirements of Non-Retail BTMG that are in Manual 14D, Appendix A.

Menu Area	Screen	Release Date
Unit Reporting	NRBTMG Characteristics	June 11
	Reporting & Confirmation	June 11
	Change Request	Nov 11
Generation Output	Coincident Peak Hours	June 11
	Event Hours	Nov 11
Outages	Outages	Nov 11
Performance	Expected Performance	Nov 11
	Event Performance	Nov 11
	Netting Reduction	Nov 11

Recently released

NRBTMG Characteristics

- View modeled NRBTMG unit characteristic data
 - Static data that is not expected to change each delivery year

Reporting & Confirmation

- View, modify or confirm specific NRBTMG unit data for a Delivery Year
 - Summer rated ICAP value
 - ICAP MWs in PJM Markets
 - DR Hub registration ID

Change Request

- Submit “New Unit” change request to initiate the modeling of a new unit
- Submit “Existing Unit” change request to request modification to previously submitted unit data or submit deactivation date
- View previously submitted change requests

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pjm | Capacity Exchange

Refresh

NRBTMG Characteristics | Reporting & Confirmation | **Change Request**

PJMTST Create Change Request Row Count: 1

ID	Request Type	Request Status	Unit Id	Unit Name	Inservice Date	Deactivation Date	Zone	Area	Nameplate MW	Agent	Timestamp
Show All ▾	Show All ▾	Show All ▾	Show All ▾	Show All	Show All	Show All	▾	▾	Show All ▾	Show All	Show All
50758143	New Unit	New Request		TEST UNIT 1	10/28/2020		DAY	AREA3	1.000	dingctest	10/28/2020 09:18:

Download data on screen

A list of previously submitted Change Requests is displayed.

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▶ Load & Obligation
 ▶ Resource Position
 ▶ Transactions
 ▶ Auctions
 Credit
 FRR
 ▶ Performance
 ▾ NRBTMG
 Unit Reporting
 Generation Output
 Outages
 Performance
 Utilities
 Trace Facility

NRBTMG Characteristics | Reporting & Confirmation | **Change Request**

Refresh

PJMTST Row Count: 1

Create Change Request

ID	Request Type	Request Status	Unit Id	Unit Name	Inservice Date	Deacti Date	Area	Nameplate MW	Agent	Timestamp	
50758143	New Unit	New Request		TEST UNIT 1	10/28/2020		DAY	AREA3	1.000	dingctest	10/28/2020 09:18:

New Unit
 Existing Unit

(1) Click Create Change Request button to display the options to create a change request for either a New Unit or an Existing Unit.

(2) Click on "New unit" to display a Change Request pop-up window for a new unit.

-OR-

Click on "Existing Unit" to display Change Request pop-up window for an existing unit.

Change Request Pop Up Window for New Unit

(1) Enter the data requested for a new unit. Data is required for those data fields that are outlined in red.

Change Request
- X

Request ID:	(null)	Request Type:	New Unit	Account:	PJMTST	Delivery Year:	2020/2021
Unit Name:	<input style="border: 1px solid red;" type="text"/>	Zone:	<input style="border: 1px solid red;" type="text"/> ▼ !	Area:	<input style="border: 1px solid red;" type="text"/> ▼ !	Distribution Owner:	<input style="border: 1px solid red;" type="text"/>
Inservice Date:	<input type="text" value="11/04/2020"/>	Deactivation Date:	<input type="text"/>	City:	<input style="border: 1px solid red;" type="text"/>	EIA Plant Code:	<input type="text"/>
County:	<input style="border: 1px solid red;" type="text"/>	Street:	<input style="border: 1px solid red;" type="text"/>	Nameplate MW:	<input style="border: 1px solid red;" type="text"/>	PJM ICAP MW:	<input style="border: 1px solid red;" type="text"/>
State:	<input style="border: 1px solid red;" type="text"/>	ZIP Code:	<input style="border: 1px solid red;" type="text"/>	Registration Id:	<input type="text"/>	Agent Note	<input type="text"/>
EIA Prime Mover Code:	<input type="text"/> ▼	EIA Primary Energy Source Code:	<input type="text"/> ▼				

(2) If desired, enter a note or comment.

(3) Click Save button to submit the Change Request.

A Confirm Action pop-up window will be displayed. Click confirm to save the change request to the Capacity Exchange database.

A Request ID is assigned once the Change Request is successfully saved.

A change request submitted for a new unit initiates the modeling of the unit in the Capacity Exchange database by PJM.

Change Request Pop Up Window for Existing Unit

Change Request

Request ID:	(null)	Request Type:	Existing Unit	Account:	PJMTST	Delivery Year:	2020/2021
Unit Name:	<input type="text" value="NRBTMG SOLAR UNIT 2"/>	Zone:	<input type="text" value="AEP"/>	Area:	<input type="text" value="AREA2"/>	Distribution Owner:	<input type="text" value="OwnerB"/>
Inservice Date:	<input type="text" value="12/01/2014"/>	Deactivation Date:	<input type="text"/>	City:	<input type="text" value="Findlay"/>	EIA Plant Code:	<input type="text"/>
County:	<input type="text" value="Hancock"/>	Street:	<input type="text" value="456 Main Street"/>	Nameplate MW:	<input type="text" value="2.000"/>	PJM ICAP MW:	<input type="text" value="0.000"/>
State:	<input type="text" value="OH"/>	ZIP Code:	<input type="text" value="45840"/>	Registration Id:	<input type="text"/>	Agent Note:	<input type="text" value="Updated the summer rated ICAP from 0.8 MW to 0.6 MW."/>
EIA Prime Mover Code:	<input type="text" value="PV"/>	EIA Primary Energy Source Code:	<input type="text" value="SUN"/>				
		Summer Rated ICAP MW:	<input type="text" value="0.600"/>				

(1) Click on an editable data field and update the existing data.

(2) Enter a note to explain the change requested.

(3) Click Save button to submit the Change Request.
A Confirm Action pop-up window will be displayed. Click "Confirm" to save the change request to the Capacity Exchange database.
A Request ID is assigned once the Change Request is successfully saved.

There are two options to view the details of a change request.

Option (2): Click the CSV download button to download the complete details for all change requests that appear on the screen.

The screenshot shows the PJM web interface with a table of change requests. The table has the following columns: ID, Request Type, Request Status, Unit Id, Unit Name, Inservice Date, Deactivation Date, Zone, Area, Nameplate MW, Agent, and Timestamp. The first row is highlighted in yellow and contains the following data: ID: 50758143, Request Type: New Unit, Request Status: New Request, Unit Name: TEST UNIT 1, Inservice Date: 10/28/2020, Zone: DAY, Area: AREA3, Nameplate MW: 1.000, Agent: dingctest, and Timestamp: 10/28/2020 09:18. A 'View' button is positioned over the 'TEST UNIT 1' cell. The interface also includes a left-hand navigation menu, a top navigation bar with 'My Tools' and 'PJMST', and a right-hand navigation bar with 'Sign Out', 'Contact', and 'Help'. A 'Refresh' button and a 'CSV' download button are also visible.

- Option (1)
1. Click on the desired change request row to highlight the row.
 2. Right click on the highlighted row to display the "View" button
 3. Click the "View" button to display a Change Request Pop-up window with the details.

Request status will change to "Processed" once PJM completes the processing of the Change Request.

Coincident Peak Hours

- Submit and view hourly generation output data during coincident peak hours

Event Hours

Recently Released

- Submit and view hourly generation output data during an Emergency Event that is subject to performance compliance

Select the desired Compliance Year from drop down list.

Select the desired Emergency Event from drop down list.

Download data on screen

- ▶ Load & Obligation
- ▶ Resource Position
- ▶ Transactions
- ▶ Auctions
- Credit
- FRR
- ▶ Performance
- ▼ NRBTMG
 - Unit Reporting
 - Generation Output**
 - Outages
 - Performance
 - Utilities
 - Trace Facility

Compliance Year: Events:

Coincident Peak Hours

PJMTST >> 11/01/2020-10/31/2021 >> EMERGENCY EVENT 3 Row Count: 12

Unit ID	Unit Name	Account	Zone	Area	Hour ID	Event Name	Hour Ending EPT	Total Output MW	Output MW In PJM Markets
▼ 9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3					
	9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3	110	EMERGENCY EVENT 3	11/03/2020 07:00	
	9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3	111	EMERGENCY EVENT 3	11/03/2020 08:00	
	9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3	112	EMERGENCY EVENT 3	11/03/2020 09:00	
▼ 9900	NRBTMG LFG UNIT 1	PJMTST	AEP	AREA2					
	9900	NRBTMG LFG UNIT 1	PJMTST	AEP	AREA2	98	EMERGENCY EVENT 3	11/03/2020 07:00	
	9900	NRBTMG LFG UNIT 1	PJMTST	AEP	AREA2	99	EMERGENCY EVENT 3	11/03/2020 08:00	
	9900	NRBTMG LFG UNIT 1	PJMTST	AEP	AREA2	100	EMERGENCY EVENT 3	11/03/2020 09:00	
▼ 9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2					
	9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2	98	EMERGENCY EVENT 3	11/03/2020 07:00	
	9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2	99	EMERGENCY EVENT 3	11/03/2020 08:00	
	9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2	100	EMERGENCY EVENT 3	11/03/2020 09:00	

A list of NRBTMG units that LSE/EDC account is required to report generation output data for the emergency event is displayed.

My Tools ▼ PJMTST PJM Interconnection (terrisuper) | Sign Out Contact | Help

Capacity Exchange

Compliance Year: 11/01/2020-10/31/2021 Events: EMERGENCY EVENT 3

Refresh XML CSV Save

(4) Click Save button to submit the output data.

Coincident Peak Hours Event Hours

PJMTST >> 11/01/2020-10/31/2021 >> EMERGENCY EVENT 3 Row Count: 12

Unit ID	Unit Name	Account	Zone	Area	Hour ID	Event Name	Hour Ending EPT	Total Output MW	Output MW In PJM Markets
Show All	Show All		Show All	Show All	Show All	Show All	Show All	Show All	Show All
▼ 9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3					
9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3	110	EMERGENCY EVENT 3	11/03/2020 07:00	4.305	
9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3	111	EMERGENCY EVENT 3	11/03/2020 08:00		
9902	NRBTMG DIESEL UNIT 3	PJMTST	DAY	AREA3		EMERGENCY	11/03/2020 09:00		
▼ 9900	NRBTMG LFG UNIT 1	PJMTST				EMERGENCY EVENT 3			
9900	NRBTMG LFG UNIT 1	PJMTST				EMERGENCY EVENT 3			
9900	NRBTMG LFG UNIT 1	PJMTST				EMERGENCY EVENT 3			
▼ 9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2					
9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2	98	EMERGENCY EVENT 3			
9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2	99	EMERGENCY EVENT 3			
9901	NRBTMG SOLAR UNIT 2	PJMTST	AEP	AREA2	100	EMERGENCY EVENT 3			

(1) Click on row to highlight the unit row that desire to submit output data.

(2) Enter the total generation output MW for the hour ending EPT.

(3) If unit is participating in PJM Markets for the hour, enter the generation output MWs that participated in PJM Markets.

After you entered desired data for the highlighted unit, you may click on another unit row and proceed to update data for next selected unit row.

Outages

- View scheduled outages
- Submit new scheduled outage
- Update an existing scheduled outage

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Capacity Exchange

Compliance Year: 11/01/2020-10/31/2021 ▾

Refresh XML CSV Save

PJMTST >> 11/01/2020-10/31/2021 Row Count: 1

Outage ID	Unit ID	Unit Name	Outage Type	Start Time	Stop Time	MW
Show All ▾	Show All ▾	▾	▾	Show All ▾	Show All ▾	Show All ▾
50758315	9900	NRBTMG LFG UNIT 1	Full	11/19/2020 08:00	11/20/2020 17:00	

Select the desired Compliance Year from the drop down list.

Download data on screen

A list of reported NRBTMG scheduled outages for the Compliance Year are displayed.

(1) Ensure current Compliance Year is displayed.

- ▶ Load & Obligation
- ▶ Resource Position
- ▶ Transactions
- ▶ Auctions
- Credit
- FRR
- ▶ Performance
- ▼ NRBTMG
 - Unit Reporting
 - Generation Output
 - Outages
 - Performance
 - Utilities
 - Trace Facility

Compliance Year: 11/01/2020-10/31/2021

Refresh Save

PJMTST >> 11/01/2020-10/31/2021 Row Count: 1

Outage ID	Unit ID	Unit Name	Outage Type	Start Time	Stop Time	MW
Show All ▼	Show All ▼			Show All ▼	Show All ▼	Show All ▼
50758315	9900	NRBTMG LFG UNIT 1	Full	11/19/2020 08:00	11/20/2020 17:00	

Add Outage

(2) Right click on screen to display the "Add Outage" button.

Click "Add Outage" to display a new highlighted row in the table.

My Tools ▾ PJMTST Sign Out Contact Help

Capacity Exchange

Compliance Year: 11/01/2020-10/31/2021

PJMTST >> 11/01/2020-10/31/2021 Row Count: 2

Outage ID	Unit ID	Unit Name	Outage Type	Start Time	Stop Time	MW
50758315	9900	NRBTMG LFG UNIT 1	Full	11/19/2020 08:00	11/20/2020 17:00	
	9902	NRBTMG DIESEL UNIT 3	Partial	11/18/2020 15:00	11/25/2020 08:00	2

Refresh XML CSV Save

(7) Click Save button to submit the outage.
Success message will display if saved.

(3) Select a NRBTMG unit from the drop down list box.

(4) Select outage type (Full or Partial)

(5) Enter start time and stop time of the outage.
Start date/time and stop date/time must be a date/time in the future.
Start date/time and stop date/time must be within the compliance year.

(6) If Partial outage type is selected, enter the amount of MWs that are not available.
If Full outage type is selected, there is no ability to enter MWs.

My Tools ▾ PJMTST terrisuper | Sign Out Contact | Help

Capacity Exchange

Compliance Year: 11/01/2020-10/31/2021

PJMTST >> 11/01/2020-10/31/2021 Row Count:

Outage ID	Unit ID	Unit Name	Outage Type	Start Time	Stop Time	MW
50758316	9902	NRBTMG DIESEL UNIT 3	Partial	11/18/2020 14:00	11/25/2020 08:00	2
50758315	9900	NRBTMG LFG UNIT 1	Full	11/19/2020 08:00	11/20/2020 00:00	

Buttons: Refresh, Save, XML, CSV

(1) Click on row to highlight the unit outage row that desire to update

(2) Outage Type is editable only if existing start time is in the future.

(3) Outage start time is only editable if existing start time is in the future.

(4) Outage stop time is only editable if existing stop time is in the future.

(5) Partial Outage MW is editable if existing start time is in the future.

If the existing start time is in the past, entering an updated MW amount will prevent the updated outage information from being saved.

(6) Click Save button to submit the update.

Success message will display if saved.

My Tools ▾ PJMTST (risuper) | Sign Out | Contact | Help

pjm | Capacity Exchange

Compliance Year: 11/01/2020-10/31/2021

PJMTST >> 11/01/2020-10/31/2021 Row Count: 2

Outage ID	Unit ID	Unit Name	Outage Type	Start Time	Stop Time	MW
50758316	9902	NRBTMG DIESEL UNIT 3	Partial	11/18/2020 16:00	11/25/2020 08:00	2.000
50758315	9900	NRBTMG LFG UNIT 1	Full	11/19/2020 08:00	11/20/2020 17:00	

Refresh XML CSV

Save

Outages

Right-click context menu: Add Outage, Remove Outage

(3) Click Save button to remove the outage.

A Success message will display if removed.

(1) Click on row to highlight the outage row that desire to update.

(2) Right click on highlighted row to display the "Remove Outage" option.

Click on "Remove Outage".

The highlighted row will disappear.

Existing start time must be in the future to remove the outage.

Expected Performance

- View expected performance level of NRBTMG units

Event Performance

- View performance compliance event results determined by PJM

Netting Reduction

- View total netting reduction penalty for failure of NRBTMG units to perform during emergency events during annual period of November 1-October 31

(1) Select the desired Compliance Year from the drop down list.

- ▶ Load & Obligation
- ▶ Resource Position
- ▶ Transactions
- ▶ Auctions
- Credit
- FRR
- ▶ Performance
- ▼ NRBTMG
 - Unit Reporting
 - Generation Output
 - Outages
 - Performance**
- Utilities

Compliance Year: Refresh

Expected Performance | Event Performance | Netting Reduction

PJMTST >> 11/01/2019-10/31/2020 Row Count: 3

Account Name	Unit ID	Unit Name	Zone	Area	Netting Capability MW	Highest Output MW	Expected Performar MW
PJMTST	9902	NRBTMG DIESEL UNIT 3	DAY	AREA3	4.4	4.2	4.2
PJMTST	9900	NRBTMG LFG UNIT 1	AEP	AREA2	3.0	2.9	2.9
PJMTST	9901	NRBTMG SOLAR UNIT 2	AEP	AREA2	0.8	1.9	0.8

A list of NRBTMG units with their Expected Performance value for the compliance year is displayed.

Expected Performance for a compliance year is available in December of the compliance year. Expected Performance for the 11/01/2020-10/31/2021 will be available in December 2020. PJM plans to send a communication when expected performance data is available in Capacity Exchange.

Netting Capability

- = Summer Rated ICAP - ICAP MWs in PJM Markets
- Netting Capability reported as of October 31 prior to the Compliance Year

Highest Output

- Maximum hourly generation output level excluding any generation output participating in PJM Markets that was reported in the Coincident Peak Hours screen for period of November 1 through October 31 prior to the Compliance Year

Expected Performance

- = Minimum (Netting Capability, Highest Output)

(1) Select the desired Compliance Year from the drop down list.

(2) Select the desired Event from the drop down list.

- ▶ Load & Obligation
- ▶ Resource Position
- ▶ Transactions
- ▶ Auctions
- Credit
- FRR
- ▶ Performance
- ▼ NRBTMG
 - Unit Reporting
 - Generation Output
 - Outages
 - Performance**
 - Utilities
 - Trace Facility

Compliance Year: 11/01/2019-10/31/2020 | Events: EMERGENCY EVENT 1 | Refresh | XML | CSV

Expected Performance | **Event Performance** | Netting Reduction

PJMTST >> 11/01/2019-10/31/2020 >> EMERGENCY EVENT 1 | Row Count: 5

Zone	Area	Unit ID	Unit Name	Start Time	Stop Time	Expected Performance MW	Average Output MW	Excused MW Due To Scheduled	Excused MW Due to Transmissior Restriction	Unit Performance Shortfall MW
▼ AEP	AREA2									-0.3
AEP	AREA2	9900	NRBTMG LFG UNIT 1	01/15/2020 06:30	01/15/2020 08:45	2.9	3.400			-0.5
AEP	AREA2	9901	NRBTMG SOLAR UNIT 2	01/15/2020 06:30	01/15/2020 08:45	0.8	0.600			0.2
▼ DAY	AREA3									1.1
DAY	AREA3	9902	NRBTMG DIESEL UNIT 3	01/15/2020 06:30	01/15/2020 08:45	4.2	3.200			1.1

Net Shortfall → -0.3

A list of NRBTMG units that were subject to performance compliance for the emergency event are displayed.

The Net Performance Shortfall for a wholesale area is also displayed.

Expected Performance

- Expected Performance for the compliance year in which the emergency event occurs

Average Output MW

- Average output of the unit over the time period of the emergency event

Excused MW due to Scheduled Outage

- If Average Output MW < Expected Performance, Excused MWs may be granted if scheduled outage reported to PJM in advance of the emergency event
- No Excused MW will be granted for emergency events occurring during June through September

Excused MW due to Transmission Restrictions

- If Average Output MW < Expected Performance, Excused MWs may be granted if unit was unable to generate due to the actual wholesale area load level and restrictions placed on the unit to prevent injections into the PJM transmission system

Unit Performance Shortfall

- = Expected Performance – Average Output MW – total Excused MWs
- Positive unit performance shortfall indicates under-performance.

(1) Select the desired Compliance Year from the drop down list.

Compliance Year: 11/01/2019-10/31/2020 Refresh XML CSV

Expected Performance | Event Performance | **Netting Reduction**

PJMTST >> 11/01/2019-10/31/2020 Row Count: 2

Zone	Area	Start Date	Stop Date	Netting Reduction
Show All ▾				
AEP	AREA2	11/01/2019	10/31/2020	0.0
DAY	AREA3	11/01/2019	10/31/2020	0.1

The total netting reduction amount for a wholesale area due to the first ten emergency events during the compliance year is displayed.

The EDC that is responsible for calculating the NSPL and OPL for wholesale areas in the zone will be able to view netting reduction data for all wholesale areas in the zone.

In EDC procedures for calculating a wholesale area's NSPL or OPL for the subsequent calendar year/delivery year, the total amount of operating NRBTMG that is allowed to net against the wholesale area's actual load during the relevant hours is to be reduced by the total netting reduction amount for the wholesale area.

Event Netting Reduction

- 10% of the Net Performance Shortfall for wholesale area for the emergency event

Total Netting Reduction

- Sum of event netting reduction amounts for wholesale area for the first 10 emergency events in compliance period

- Capacity Exchange User Guide
 - <https://www.pjm.com/-/media/etools/capacity-exchange/capacity-exchange-user-guide.ashx?la=en>
- Email questions to CapacityExchangeSupport@pjm.com
- Contact Terri Esterly or Connie Ding
 - theresa.esterly@pjm.com
 - congmei.ding@pjm.com