

Course: Online Transmission 101

Module: PJM Scheduling
Procedure

Segment: eDART TERM

- State the purposes of the TERM application in eDART.
- Describe the rules for making changes to ratings in TERM.
- Describe the different statuses of TERM tickets.

- Planning for Scheduled Outages
- PJM Scheduling Procedure
 - Scheduling Overview
 - eDART and Transmission Outages
- Additional eDART Functionality for Transmission Owners
- eDART Training TERM

eDART Training TERM

- ❑ TERM is an acronym that stands for:
TRANSMISSION EQUIPMENT RATINGS
MONITOR
- ❑ TERM is used to report line and transformer rating changes
- ❑ TERM is additional functionality that has been added to the existing eDART tool.
- ❑ TERM will be used by Local Transmission Companies (LCC)

Why is TERM Used?

- ❑ TERM is used to satisfy the Federal Energy Regulatory Commission (FERC) requirement for an auditable tracking method of transmission equipment rating changes.
- ❑ Allows for the streamline internet methodology for data exchange already proven in other eDART functions.
- ❑ Will allow for the automatic transfer of rating data changes to the PJM Energy Management System (Phase II)

Creating a TERM Ticket

pjm

Transmission Outage Main Menu

- Create New Outage Ticket
- View/Revise Outage Ticket
- EMS Trip Update

Transmission Reports

- Status Report
- Trans. Outage Tickets Report
- Tickets Active Tomorrow

Submitted: 22 / 12 Revised: 0 / 3 Received: 4 / 0
Approved: 0 / 1 Active: 0 / 2

Generation Reports

- Generation Ack. Required
- Owners Report
- D-Curve Report

Notifications: 40

Notification Reports

- Transmission Ack. Required
- Notifications Report
- Notifications Request Form

Notifications: 228 / 4

Facility Outages Reports

- Current & Future
- Historical

Click on TERM

Upload
Download
Gen. Tickets
Trans. Tickets
Network Model
TERM
Reactive Reserve
Instantaneous Reserve Check
Minimum Gen. Report
PJM Status Report
NERC Data
Restoration Data

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Creating a TERM Ticket

Click on Create
New Ticket

TERM Main Menu

Create New Ticket View/Revise Tickets Bulk Upload

Adjust R, X, B Adj. Monitored Status Effective Ratings

TERM Reports

Status Reports Recently Restored History Report

R, X, B Adjust Report Adj. Monitored Status Report

Submitted Tickets
Submitted: 0/0 Revised: 0/0 Received: 0/0

Approved Tickets
(Temporary) Approved: 0/0 Implemented: 0/0
(Permanent) Approved: 0/0 Implemented: 0/0

R, X, B Adjustment
Submitted: 0/0

Monitored Status
Submitted: 0

Notification Reports

Ack. Required Notifications Report Notifications Request Form

Notifications: 0

Creating a TERM Ticket

User/Company generated by log on

User: **supertrain2** Company: **PJM TEST** Company Ticket ID:

Optional field for internal company tracking number

Reason for Changes:

Planned Permanent
 Immediate Temporary

Est. Start:

Date
(MM/DD/YY)

Hour
(HH24:MI)

Est. End:

Select Reason for Changes from pull down menu

Select either
Planned or
Immediate

Select either
Permanent or
Temporary

Enter Start
and End Date
and Time

Enter any
comments if
desired

Type Station Name Voltage Equipment Name End

| | Normal | | Long Term | | Short Term | | Load Dump | |
|----|--------|-----|-----------|-----|------------|-----|-----------|--|
| | Night | Day | Night | Day | Night | Day | Night | |
| 86 | | | | | | | | |
| 77 | | | | | | | | |
| 68 | | | | | | | | |
| 59 | | | | | | | | |
| 50 | | | | | | | | |

Impedance:

R = X =

Congestion Mngt. Priority:

NOTE:

- Planned or Immediate, one must be selected.
- Permanent or Temporary, one must be selected.
- If Permanent is selected Est. End date and time is not needed

Creating a TERM Ticket

User: [supertrain2](#) Company: [PJM TEST](#)

Select Voltage from pull down
(only reportable voltage levels
are listed)

Select Equipment
Name from
Pull down

Select LINE or XFMR
From pull down

Select Clearance
End A or End B
(for internal
company lines,
clearance will
always be End A)
(for company tie
lines, select your
End)

Select Station Name from
pull down (only station
names from your
company will appear in
this pull down)

*Note: If equipment is a transformer
instead of a line, the Clearance
pull-down choices are either "High"
or "Low"*

Click to retrieve Default
Ratings

| | | | | |
|------|--------------|---------|----------------|-------|
| Type | Station Name | Voltage | Equipment Name | End |
| LINE | CEDAR | 230 KV | CEDAR-OYSTERCR | END A |

| | Normal | | Short Term | | Load Dump | |
|-----|--------|-------|------------|-------|-----------|-------|
| | Day | Night | Day | Night | Day | Night |
| 60 | 800 | 800 | 800 | 800 | 920 | 920 |
| 800 | 800 | 800 | 800 | 800 | 920 | 920 |
| 800 | 800 | 800 | 800 | 800 | 920 | 920 |
| 800 | 800 | 800 | 800 | 800 | 920 | 920 |
| 59 | 730 | 730 | 887 | 887 | 1020 | |
| 50 | 748 | 748 | 892 | 892 | 1026 | |
| 41 | 748 | 748 | 892 | 892 | 1026 | |
| 32 | 748 | 748 | 892 | 892 | 1026 | 1026 |

[Submit Form](#) [Default Ratings](#) [% of Change](#) [Main Menu](#)

Creating a TERM Ticket

New TERM Ticket

User: **supertrain2** Company: **PJM TEST** Company Ticket ID:

Reason for Changes:
 Planned Permanent Immediate Temporary

Est. Start:
 Est. End:

Date (MM/DD/YY) Hour (HH24:MI)

Comments:

Type: Station Name: Voltage: Equipment Name: End:

| Temp | Normal | | Long Term | | Short Term | | Load Dump | |
|------|--------|-------|-----------|-------|------------|-------|-----------|-------|
| | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 650 | 650 | 800 | 800 | 800 | 800 | 920 | 920 |
| 86 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 |
| 77 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 |
| 68 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 |
| 59 | 730 | 730 | 887 | 887 | 887 | 887 | 1020 | 1020 |
| 50 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 |
| 41 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 |
| 32 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 |

Impedance/Charging:
 R = 0.0019 X = 0.018 B = 0.04734

Congestion Mngt. Priority:
 Not monitored, no status

Adj. %:

Rating set for selected equipment is now populated

Resistance and Reactance value for selected equipment

Congestion Management Priority either Monitored or Non-Monitored is now displayed

- ❑ Changes to Default Ratings
 - ❑ Individual Changes in Rating Matrix
 - ❑ Adjust % value for the entire matrix at once
- ❑ Rules for changes
 - ❑ A change to the Day – Long Term rating will also cause the Day – Short Term rating to change to the same value.
 - ❑ The Day – Load Dump rating will also change to the Product of the Day – Short Term rating X 1.15
 - ❑ The Day – Short Term and Load Dump ratings that are a result of this calculation may also be overridden.

Creating a TERM Ticket

New TERM Ticket

User: **supertrain2** Company: **PJM TEST** Company Ticket ID:

Reason for Changes:
 Planned Permanent Immediate Temporary

Est. Start:
 Est. End:

Comments:

Name: Voltage: Equipment Name:

| Temp | Day | Normal | | Long Term | | Short Term | | Load Dump | |
|------|-----|--------|-------|-----------|-------|------------|-------|-----------|-------|
| | | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 650 | 650 | 800 | 800 | 800 | 800 | 920 | 920 | |
| 86 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 | |
| 77 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 | |
| 68 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 | |
| 59 | 730 | 730 | 887 | 887 | 887 | 887 | 1020 | 1020 | |
| 50 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 | |
| | | | 892 | 892 | 892 | 892 | 1026 | 1026 | |
| 32 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 | |

Impedance/Charging
 R = 0.0019 X = 0.018 B = 0

Congestion Mngt. Prior
 Not monitored, no status

Adj. %:

Values in matrix can be changed individually and Click on Submit Form

Values can all be changed at once by a given percentage and click on Apply and Submit Form

Click on % of Change

Creating a TERM Ticket

Display lists the Original values, Changed values, and the % of Change

| Changing Percentage | | | | | | | | |
|---|------------------|------------------|----------------|----------------|----------------|----------------|------------------|------------------|
| Type | Station Name | Voltage | Equipment Name | End | Impedance R | Impedance X | Charging B | |
| LINE | CEDAR | 230 KV | CEDAR-OYSTERCR | END A | 0.0019 | 0.018 | 0.04734 | |
| Temp | Normal | | Long Term | | Short Term | | Load Dump | |
| | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 650 / 670 / 3.1% | 650 / 670 / 3.1% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 920 / 948 / 3% | 920 / 948 / 3% |
| 86 | 659 / 679 / 3% | 659 / 679 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 920 / 948 / 3% | 920 / 948 / 3% |
| 77 | 659 / 679 / 3% | 659 / 679 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 920 / 948 / 3% | 920 / 948 / 3% |
| 68 | 659 / 679 / 3% | 659 / 679 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 800 / 824 / 3% | 920 / 948 / 3% | 920 / 948 / 3% |
| 59 | 730 / 752 / 3% | 730 / 752 / 3% | 887 / 914 / 3% | 887 / 914 / 3% | 887 / 914 / 3% | 887 / 914 / 3% | 1020 / 1051 / 3% | 1020 / 1051 / 3% |
| 50 | 748 / 770 / 2.9% | 748 / 770 / 2.9% | 892 / 919 / 3% | 892 / 919 / 3% | 892 / 919 / 3% | 892 / 919 / 3% | 1026 / 1057 / 3% | 1026 / 1057 / 3% |
| 41 | 748 / 770 / 2.9% | 748 / 770 / 2.9% | 892 / 919 / 3% | 892 / 919 / 3% | 892 / 919 / 3% | 892 / 919 / 3% | 1026 / 1057 / 3% | 1026 / 1057 / 3% |
| 32 | 748 / 770 / 2.9% | 748 / 770 / 2.9% | 892 / 919 / 3% | 892 / 919 / 3% | 892 / 919 / 3% | 892 / 919 / 3% | 1026 / 1057 / 3% | 1026 / 1057 / 3% |
| Original Value / Changed Value / % Change | | | | | | | | |
| Back | | | | | | | | |

Creating a TERM Ticket

New TERM Ticket

User: [supertrain2](#) Company: [PJM TEST](#) Company Ticket ID:

Reason for Changes:
 Planned Permanent Immediate Temporary

Est. Start:
 Est. End:

Comments:

Type: Station Name: Voltage: Equipment Name: End:

| Temp | Normal | | Long Term | | Short Term | | Load Dump | |
|------|--------|-------|-----------|-------|------------|-------|-----------|-------|
| | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 650 | 650 | 800 | 800 | 800 | 800 | 920 | 920 |
| 86 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 |
| 77 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 |
| 68 | 659 | 659 | 800 | 800 | 800 | 800 | 920 | 920 |
| 59 | 730 | 730 | 887 | 887 | 887 | 887 | 1020 | 1020 |
| 50 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 |
| 41 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 |
| 32 | 748 | 748 | 892 | 892 | 892 | 892 | 1026 | 1026 |

Impedance/Charging:
R = 0.0019 X = 0.018 B = 0.04734

Congestion Mngt. Priority:
Not monitored, no status

Adj. %:

Click on Submit Form when data is correct

Creating a TERM Ticket

TERM Ticket Revision

Ticket ID: **User:** **Company:** PJM
Company Ticket ID:

Reason for Changes: Computation error
 Planned Permanent
Est. Start:
Date (MM/DD/Y) Hour (HH:MM)

Ticket Status: Submitted
 Immediate Temporary
Est. End:

Dynamic: No
Actual Start:
Actual End:

Comments: **PJM Comments:**

Type: LINE **Station Name:** **Voltage:** 345 KV **Equipment Name:** **End:** END A

| Temp | Normal | | Long Term | | Short Term | | Load Dump | |
|------|--------|-------|-----------|-------|------------|-------|-----------|-------|
| | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |
| 86 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |
| 77 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |
| 68 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |
| 59 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |
| 50 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |
| 41 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1500 | 1500 |
| 32 | 1255 | 1255 | 1374 | 1374 | 1374 | 1374 | 1580 | 1580 |

Click on Limitations

Force/Charging: X = 0.0049 B =

Collection Mngt. Priority: Monitored

Adj. %: **Apply**

Submit Form **Duplicate Ticket** **History Log** **Notifications Log** **Default Ratings** **% of Change** **Limitations** **Main Menu**

Creating a TERM Ticket

Limitations

Ticket ID: 35517 **Company:** PJM
Ticket Type: Planned - Temporary **Status:** Submitted
Reason: Computation error
Est. Start Date: 04/04/06 12:12 **Est. End Date:** 05/04/06 12:12
Act. Start Date: **Act. End Date:**

Type: LINE **Station Name:** **Voltage:** 345 KV
Equipment Name:

| Rate Changes | | | | |
|--------------------------|----------|-------------|-----|---------------------|
| Temp | Category | Time of Day | Val | |
| <input type="checkbox"/> | 95 | SHORT TERM | Day | Disconnect Switches |

Submit Form **Add Limitation** **Back**

Click on Add Limitation

Creating a TERM Ticket

- Limitations identify the specific equipment that restricts thermal capacity (e.g. disconnect switch, generator, fuses, etc.)
- Limitations can be submitted for each individual rating or for all Temps, Categories, Times of Day
- Check boxes readily associate limitations with rating sets.

Limitation Addition

Type: SD Station Name: TRAIN Voltage: 35 KV Equipment Name: TERM TRAIN SD End: END A

| Temp | Category | Time of Day | Limitation |
|------|------------|-------------|----------------------|
| 95 | NORMAL | Day | Ammeter Scale |
| 86 | LONG TERM | Night | Circuit Breaker |
| 77 | SHORT TERM | | Copper or Aluminum |
| 68 | LOAD DUMP | | Current Transformers |
| 59 | | | Cutout |
| 50 | | | Disconnect Switches |
| 41 | | | Fuses |
| 32 | | | Generator |

Add Limitation

Choose specific limiting factor(s) and Click on Add Limitation

| Remove | Temp | Category | Time of Day | Limitation |
|--------------------------|------|------------|-------------|--------------------|
| <input type="checkbox"/> | 77 | NORMAL | Night | Circuit Breaker |
| <input type="checkbox"/> | 95 | NORMAL | Night | Circuit Breaker |
| <input type="checkbox"/> | 95 | SHORT TERM | Night | Circuit Breaker |
| <input type="checkbox"/> | 86 | NORMAL | Night | Circuit Breaker |
| <input type="checkbox"/> | 86 | SHORT TERM | Night | Circuit Breaker |
| <input type="checkbox"/> | 77 | SHORT TERM | Night | Circuit Breaker |
| <input type="checkbox"/> | 95 | NORMAL | Night | Copper or Aluminum |
| <input type="checkbox"/> | 95 | SHORT TERM | Night | Copper or Aluminum |
| <input type="checkbox"/> | 86 | NORMAL | Night | Copper or Aluminum |
| <input type="checkbox"/> | 86 | SHORT TERM | Night | Copper or Aluminum |
| <input type="checkbox"/> | 77 | NORMAL | Night | Copper or Aluminum |
| <input type="checkbox"/> | 77 | SHORT TERM | Night | Copper or Aluminum |
| <input type="checkbox"/> | 95 | NORMAL | Night | Copper or Aluminum |
| <input type="checkbox"/> | 95 | SHORT TERM | Night | Copper or Aluminum |
| <input type="checkbox"/> | 86 | NORMAL | Night | Copper or Aluminum |
| <input type="checkbox"/> | 86 | SHORT TERM | Night | Copper or Aluminum |
| <input type="checkbox"/> | 77 | NORMAL | Night | Copper or Aluminum |
| <input type="checkbox"/> | 77 | SHORT TERM | Night | Copper or Aluminum |

Submit Form **Add Limitation** **Go To Ticket**

Click on Submit Form

Creating a TERM Ticket

- Warnings are displayed for all temperature values.

TERM Ticket Warning

TERM ticket was created with following warnings:

Long Term Day Value for 95 degrees is greater than Short Term Day Value.
Long Term Night Value for 95 degrees is greater than Short Term Night Value.
Long Term Day Value for 86 degrees is greater than Short Term Day Value.
Long Term Night Value for 86 degrees is greater than Short Term Night Value.
Normal Day Value for 95 degrees is greater than Normal Day Value for 86.
Normal Night Value for 95 degrees is greater than Normal Night Value for 86.
Long Term Day Value for 95 degrees is greater than Long Term Day Value for 86.
Long Term Night Value for 95 degrees is greater than Long Term Night Value for 86.
Short Term Day Value for 95 degrees is greater than Short Term Day Value for 86.
Short Term Night Value for 95 degrees is greater than Short Term Night Value for 86.
Load Dump Day Value for 95 degrees is greater than Load Dump Day Value for 86.
Load Dump Night Value for 95 degrees is greater than Load Dump Night Value for 86.
Long Term Day Value for 77 degrees is greater than Short Term Day Value.
Long Term Night Value for 77 degrees is greater than Short Term Night Value.
Long Term Day Value for 68 degrees is greater than Short Term Day Value.
Long Term Night Value for 68 degrees is greater than Short Term Night Value.
Long Term Day Value for 77 degrees is greater than Long Term Day Value for 68.
Short Term Day Value for 77 degrees is greater than Short Term Day Value for 68.
Load Dump Day Value for 77 degrees is greater than Load Dump Day Value for 68.
Long Term Day Value for 59 degrees is greater than Short Term Day Value.
Long Term Night Value for 59 degrees is greater than Short Term Night Value.
Long Term Day Value for 50 degrees is greater than Short Term Day Value.
Long Term Night Value for 50 degrees is greater than Short Term Night Value.
Normal Day Value for 59 degrees is greater than Normal Day Value for 50.
Normal Night Value for 59 degrees is greater than Normal Night Value for 50.
Long Term Day Value for 59 degrees is greater than Long Term Day Value for 50.
Long Term Night Value for 59 degrees is greater than Long Term Night Value for 50.
Short Term Day Value for 59 degrees is greater than Short Term Day Value for 50.
Short Term Night Value for 59 degrees is greater than Short Term Night Value for 50.
Load Dump Day Value for 59 degrees is greater than Load Dump Day Value for 50.
Load Dump Night Value for 59 degrees is greater than Load Dump Night Value for 50.
Long Term Day Value for 41 degrees is greater than Short Term Day Value.
Long Term Night Value for 41 degrees is greater than Short Term Night Value.
Long Term Day Value for 32 degrees is greater than Short Term Day Value.

Creating a TERM Ticket

- At least one limitation is required for each ticket.

TERM Ticket Error

Error Message: **TERM Ticket must have at least one Limitation.**

[Back](#)

| Remove | Temp | Category | Time of Day | Limitation |
|-------------------------------------|------|------------|-------------|--------------------|
| <input checked="" type="checkbox"/> | 77 | NORMAL | Night | Circuit Breaker |
| <input checked="" type="checkbox"/> | 95 | NORMAL | Night | Circuit Breaker |
| <input checked="" type="checkbox"/> | 95 | SHORT TERM | Night | Circuit Breaker |
| <input checked="" type="checkbox"/> | 86 | NORMAL | Night | Circuit Breaker |
| <input checked="" type="checkbox"/> | 86 | SHORT TERM | Night | Circuit Breaker |
| <input checked="" type="checkbox"/> | 77 | SHORT TERM | Night | Circuit Breaker |
| <input checked="" type="checkbox"/> | 95 | NORMAL | Night | Copper or Aluminum |
| <input checked="" type="checkbox"/> | 95 | SHORT TERM | Night | Copper or Aluminum |
| <input checked="" type="checkbox"/> | 86 | NORMAL | Night | Copper or Aluminum |
| <input checked="" type="checkbox"/> | 86 | SHORT TERM | Night | Copper or Aluminum |
| <input checked="" type="checkbox"/> | 77 | NORMAL | Night | Copper or Aluminum |
| <input checked="" type="checkbox"/> | 77 | SHORT TERM | Night | Copper or Aluminum |
| <input checked="" type="checkbox"/> | 95 | NORMAL | Night | Ammeter Scale |
| <input checked="" type="checkbox"/> | 95 | SHORT TERM | Night | Ammeter Scale |
| <input checked="" type="checkbox"/> | 86 | NORMAL | Night | Ammeter Scale |
| <input checked="" type="checkbox"/> | 86 | SHORT TERM | Night | Ammeter Scale |
| <input checked="" type="checkbox"/> | 77 | NORMAL | Night | Ammeter Scale |
| <input checked="" type="checkbox"/> | 77 | SHORT TERM | Night | Ammeter Scale |

[Submit Form](#) [Add Limitation](#) [Back](#)

Limitation Additions

- Limitation additions identify the specific piece of equipment that is causing the de-rating.
 - i.e. disconnect switch, generator, fuses etc.
- Initially only the equipment is identified.
 - Temp, Category and Time of Day are not selectable

Status of TERM Tickets

Click on
View/Revise Tickets

TERM Main Menu

Create New Ticket View/Revise Tickets Bulk Upload

Adjust R, X, B Adj. Monitored Status Effective Ratings

TERM Reports

Status Reports Recently Restored History Report

R, X, B Adjust Report Adj. Monitored Status Report

Submitted Tickets
Submitted: 0/0 Revised: 0/0 Received: 0/0

Approved Tickets
(Temporary) Approved: 0/0 Implemented: 0/0
(Permanent) Approved: 0/0 Implemented: 0/0

R, X, B Adjustment
Submitted: 0/0

Monitored Status
Submitted: 0

Notification Reports

Ack. Required Notifications Report Notifications Request Form

Notifications: 0

Revising a TERM Ticket

From the View/Revise Reports Filter, select desired Report search criteria, and/or Click on Apply Filter

| View/Revise Reports Filter | | |
|---|---|---|
| Company | Ticket | Notifications |
| PJM Interconnection | <input checked="" type="radio"/> | <input type="radio"/> |
| Ticket ID | Type | Station Name |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Reason For Change | Voltage | Equipment Name |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Temporary | Permanent | Include Dynamic Tickets |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Planned | Immediate | Implemented w/o Actual Start Date |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ticket Status | Tickets Occurring (mm/dd/yy) | Submittal Date (mm/dd/yy) |
| <input type="text"/> | From: <input type="text"/> To: <input type="text"/> | From: <input type="text"/> To: <input type="text"/> |
| <input type="button" value="Apply Filter"/> <input type="button" value="Refresh"/> <input type="button" value="Main Menu"/> | | |

Clicking on Apply Filter with no search criteria selected will call up a report with all equipment in eDART

Revising a TERM Ticket

From the View/Revise Report all tickets can be viewed. Only tickets with "Submitted" status may be revised.

| View/Revise Report | | | | | | | | | | |
|-----------------------|----------|----------------------|------|----------|---------|--------------------------|-------|------------------|------------------|------------------|
| Ticket ID | Company | Ticket Status | Type | Station | Voltage | Equip. Name | End | Est. Start | Est. End | Timestamp |
| 49414 | PJM TEST | Cancelled by Company | LINE | CEDAR | 69 KV | CEDAR-MOTTS 0702-4 | END B | 04/15/2007 09:00 | 04/21/2007 09:00 | 04/10/2007 08:10 |
| 49415 | PJM TEST | Cancelled by Company | LINE | CEDAR | 69 KV | CEDAR-MOTTS 0702-4 | END B | 04/15/2007 09:00 | 04/21/2007 10:00 | 04/10/2007 08:18 |
| 49429 | PJM TEST | Submitted | LINE | 20SPURLK | 345 KV | 20SPURLK-STUART2 SPU-STU | END A | 05/01/2007 09:00 | | 04/11/2007 09:54 |
| 4944 | PJM TEST | Cancelled by Company | LINE | CEDAR | 69 KV | CEDAR-MOTTS 0702-4 | END B | 05/01/2007 09:00 | 05/16/2007 09:00 | 05/08/2007 17:45 |
| 4945 | PJM TEST | Cancelled by Company | LINE | CEDAR | 69 KV | CEDAR-MOTTS 0702-4 | END B | 05/01/2007 09:00 | 05/16/2007 09:00 | 05/08/2007 17:53 |

[Go To Filter](#) [Main Menu](#)

Click on the Ticket ID# of a Submitted ticket to view

Revising a TERM Ticket

TERM Ticket Revision appears

Make desired revisions to upper portion of ticket.

TERM Ticket also now has a PJM Comments field

Term Ticket after initial submission now has a Ticket Status field.

TERM Ticket Revision

Ticket ID: 2782 User: student1 Company: PJM Interconnection
Company Ticket ID:

Reason for Changes: Equipment failure Planned Permanent Est. Start: 12/13/03 23:00
Ticket Status: Submitted Immediate Temporary Est. End: 12/18/04 21:00
Dynamic: No Actual Start:
Actual End:

Comments: PJM Comments:
This is an example of a TERM Ticket Congestion Value was change as of 08/30/2007 11:27

Location Name: HUDSON Voltage: 345 KV Equipment Name: HUDSON 345-1 XFDR

| Long Term | | Short Term | | Load Dump | |
|------------|-------|------------|-------|-----------|-------|
| Day | Night | Day | Night | Day | Night |
| 879 | 879 | 879 | 879 | 1177 | 1177 |
| 909 | 909 | 909 | 909 | 1214 | 1214 |
| 937 | 937 | 937 | 937 | 1248 | 1248 |
| 68 818 818 | 965 | 965 | 965 | 1265 | 1265 |
| 59 843 843 | 990 | 990 | 990 | 1278 | 1278 |
| 50 866 866 | 1018 | 1018 | 1018 | 1294 | 1294 |
| 41 890 890 | 1040 | 1040 | 1040 | 1309 | 1309 |
| 32 913 913 | 1067 | 1067 | 1067 | 1325 | 1325 |

Impedance:
R = 0.00022 X = 0.01344

Congestion Mngt. Priority:
Not monitored, no status

Adj. %:

Revising a TERM Ticket

TERM Ticket Revision

Ticket ID: 2782 User: [student1](#) Company: [PJM Interconnection](#)
 Company Ticket ID: _____

Date (MM/DD/YY) _____ Hour (HH:MM) _____

Make desired revisions to lower portion of ticket.

Continue to add additional Limitations if desired or click on Submit Form

Comments: PJM Comments:

This is a sample of a TERM Ticket for a TERM Ticket.

Congestion Value was change as of 08/30/2007 11:27

Type: XFMR Station Name: HUDSON Voltage: 345 KV Equipment Name: HUDSON 345-1 XFORMER

| Temp | Normal | | Long Term | | Short Term | | Load Dump | |
|------|--------|-------|-----------|-------|------------|-------|-----------|-------|
| | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 741 | 741 | 879 | 879 | 879 | 879 | 1177 | 1177 |
| 86 | 768 | 768 | 909 | 909 | 909 | 909 | 1214 | 1214 |
| 77 | 794 | 794 | 937 | 937 | 937 | 937 | 1248 | 1248 |
| 68 | 818 | 818 | 965 | 965 | 965 | 965 | 1265 | 1265 |
| 59 | 843 | 843 | 990 | 990 | 990 | 990 | 1278 | 1278 |
| 50 | 866 | 866 | 1018 | 1018 | 1018 | 1018 | 1294 | 1294 |
| 41 | 890 | 890 | 1040 | 1040 | 1040 | 1040 | 1309 | 1309 |
| 32 | 913 | 913 | 1067 | 1067 | 1067 | 1067 | 1325 | 1325 |

Imp... 01344

R = 0.000

Congestion Priority:

Not more status

Apply

[Submit Form](#)
[Duplicate Ticket](#)
[History Log](#)
[Notifications Log](#)
[Default Ratings](#)
[% of Change](#)
[Limitations](#)
[Main Menu](#)

Status of TERM Tickets

Submitted

- Ticket has been submitted to PJM
- Only status that allows revisions to a ticket

Revised

- Status of a Submitted ticket that has been Revised

Received

- Acknowledgement that PJM has seen and received the ticket
- Applies to Submitted and Revised tickets

Approved

- Ticket has been reviewed, accepted as valid and approved by PJM

Implemented

- Data from ticket has been entered into the PJM EMS

Denied

- Ticket has been denied by PJM
 - Data sanity check
 - Possible manipulation of the system

Cancelled

- Ticket can be cancelled by PJM or the company
 - Equipment has been repaired
 - Various reasons

- Restored
 - Applies to Temporary tickets
 - Only has a 30 day history
 - Equipment is back to default ratings

Status of TERM Tickets

**Click on
Status
Report**

TERM Main Menu

Create New Ticket View/Revise Tickets Bulk Upload

Adjust R, X, B Adj. Monitored Status Effective Ratings

TERM Reports

Status Reports Recently Restored History Report

R, X, B Adjust Report Adj. Monitored Status Report

Submitted Tickets
Submitted: 0/0 Revised: 0/0 Received: 0/0

Approved Tickets
(Temporary) Approved: 0/0 Implemented: 0/0
(Permanent) Approved: 0/0 Implemented: 0/0

R, X, B Adjustment
Submitted: 0/0

Monitored Status
Submitted: 0

Notification Reports

Ack. Required Notifications Report Notifications Request Form

Notifications: 0

Status of TERM Tickets

Under Ticket Status, check one or more of the statuses.

On this Status Report, check either Ticket or Notifications (more on Notifications later)

STATUS REPORT

Ticket Notifications

Ticket Status: Submitted Revised Received Approved Implemented Denied Cancelled

Last 30 Days: Exclude Active Permanent Tickets: Include Dynamic Tickets: No Actual Start Date:

Apply Filter

| Ticket ID | Company | Ticket Status | Type | Station Name | Voltage | Equipment Name | Est. Start | Est.End | End |
|----------------------|---------------------|---------------|------|--------------|---------|-------------------|------------------|------------------|------|
| 2782 | PJM Interconnection | Submitted | XFMR | HUDSON | 345 KV | HUDSON 345-1 XFMR | 12/13/2003 23:00 | 12/18/2004 21:00 | HIGH |
| 2783 | PJM Interconnection | Submitted | XFMR | HUDSON | 345 KV | HUDSON 345-1 XFMR | 12/12/2003 23:00 | 12/12/2004 23:00 | HIGH |

Main Menu

Click on desired Ticket ID to view.

Click on Apply Filter

Status of TERM Tickets

View the Ticket

TERM Ticket Revision

Ticket ID: 2783 User: student1 Company: PJM Interconnection
 Company Ticket ID:

Reason for Changes: Clerical error Planned Permanent
 Immediate Temporary

Ticket Status: Submitted Immediate Temporary

Dynamic: No

| | Date (MM/DD/YY) | Hour (HH24:MI) |
|---------------|--------------------|-------------------|
| Est. Start: | 12/12/03 | 23:00 |
| Est. End: | 12/12/04 | 23:00 |
| Actual Start: | | |
| Actual End: | | |

Comments: PJM Comments:

Congestion Value was change as of
08/30/2007 11:27

Type: XFMR Station Name: HUDSON Voltage: 345 KV Equipment Name: HUDSON 345-1 XFORMER End: HIGH

| Temp | Normal | | Long Term | | Short Term | | Load Dump | |
|------|--------|-------|-----------|-------|------------|-------|-----------|-------|
| | Day | Night | Day | Night | Day | Night | Day | Night |
| 95 | 741 | 741 | 879 | 879 | 879 | 879 | 1177 | 1177 |
| 86 | 768 | 768 | 909 | 909 | 909 | 909 | 1214 | 1214 |
| 77 | 794 | 794 | 937 | 937 | 937 | 937 | 1248 | 1248 |
| 68 | 818 | 818 | 965 | 965 | 965 | 965 | 1265 | 1265 |
| 59 | 843 | 843 | 990 | 990 | 990 | 990 | 1278 | 1278 |
| 50 | 866 | 866 | 1018 | 1018 | 1018 | 1018 | 1294 | 1294 |
| 41 | 890 | 890 | 1040 | 1040 | 1040 | 1040 | 1309 | 1309 |
| 32 | 913 | 913 | 1067 | 1067 | 1067 | 1067 | 1325 | 1325 |

Impedance:
 R = 0.00022 X = 0.01344

Congestion Mngt. Priority:
 Not monitored, no status

Adj. %:
 Apply

Submit Form
Duplicate Ticket
History Log
Notifications Log
Default Ratings
% of Change
Limitations
Main Menu

- ❑ TERM Tickets have two types of Notification
 - ❑ Owner (X)
 - ❑ Notification (Y)
- ❑ Owners (X) are notified about their own TERM tickets via the Status Report
- ❑ Other Transmission Companies (Y) are notified via the Notifications Report
- ❑ Owners (X) and other Transmission Companies (Y) can select and de-select the Zone and equipment for which they would like to receive notification
- ❑ TERM also has provisions for the acknowledgement of notifications

Notifications and TERM Tickets

Owner (X) ticket area summarizes number of tickets within the owners zone

TERM Main Menu

Create New Ticket View/Revise Tickets Bulk Upload

Adjust R, X, B Adj. Monitored Status Effective Ratings

TERM Reports

Status Reports Recently Restored History Report

R, X, B Adjust Report Adj. Monitored Status Report

Submitted Tickets
Submitted: 0/0 Revised: 0/0 Received: 0/0

Approved Tickets
(Temporary) Approved: 0/0 Implemented: 0/0
(Permanent) Approved: 0/0 Implemented: 0/0

R, X, B Adjustment
Submitted: 0/0

Monitored Status
Submitted: 0

Notification Reports

Ack. Required Notifications Report Notifications Request Form

Notifications: 0

Notifications and TERM Tickets

The screenshot displays the 'TERM Main Menu' interface. At the top, the title 'TERM Main Menu' is centered. Below it, there are two rows of buttons: 'Create New Ticket', 'View/Revise Tickets', and 'Bulk Upload' in the first row; 'Adjust R, X, B', 'Adj. Monitored Status', and 'Effective Ratings' in the second row. A section titled 'TERM Reports' follows, containing five buttons: 'Status Reports', 'Recently Restored', 'History Report', 'R, X, B Adjust Report', and 'Adj. Monitored Status Report'. Below this, there are summary sections for 'Submitted Tickets' (Submitted: 0/0, Revised: 0/0), 'Approved Tickets' (Temporary: 0/0, Permanent: 0/0), 'R, X, B Adjustment' (Submitted: 0/0), and 'Monitored Status' (Submitted: 0). At the bottom, a section titled 'Notification Reports' is enclosed in a red border and contains three buttons: 'Ack. Required', 'Notifications Report', and 'Notifications Request Form', with 'Notifications: 0' displayed below them. A green callout box with a black border points to the 'Notifications Report' button, containing text about the Owner (X) Notification area.

TERM Main Menu

Create New Ticket View/Revise Tickets Bulk Upload

Adjust R, X, B Adj. Monitored Status Effective Ratings

TERM Reports

Status Reports Recently Restored History Report

R, X, B Adjust Report Adj. Monitored Status Report

Submitted Tickets
Submitted: 0/0 Revised: 0/0

Approved Tickets
(Temporary) Approved: 0/0
(Permanent) Approved: 0/0

R, X, B Adjustment
Submitted: 0/0

Monitored Status
Submitted: 0

Notification Reports

Ack. Required Notifications Report Notifications Request Form

Notifications: 0

Owner (X) Notification area summarizes number of notifications within the owners zone. Notifications can be acknowledged, requested or removed from notification list for other transmission zones.

R, X, and B Adjustment

- New type of TERM Ticket created for notifying PJM to adjustment of impedance and charging value changes

The screenshot displays the 'TERM Main Menu' interface. At the top, the title 'TERM Main Menu' is centered. Below it, there are several buttons arranged in a grid. The first row contains 'Create New Ticket', 'View/Revise Tickets', and 'Bulk Upload'. The second row contains 'Adjust R, X, B' (highlighted with a red box), 'Adj. Monitored Status', and 'Effective Ratings'. Below this is the 'TERM Reports' section, which includes buttons for 'Status Reports', 'Recently Restored', 'History Report', 'R, X, B Adjust Report' (highlighted with a red box), 'Adj. Monitored Status Report', and 'Historical Bulk Report'. The bottom section of the menu provides statistics for 'Submitted Tickets' (Submitted: 7/1, Revised: 0/0, Received: 5/0), 'Approved Tickets' (Temporary: Approved: 2/0, Implemented: 143/56; Permanent: Approved: 2/3, Implemented: 587/0), 'R, X, B Adjustment' (Submitted: 0/2), and 'Monitored Status' (Submitted: 0). At the very bottom, there is a 'Notification Reports' section with buttons for 'Ack. Required', 'Notifications Report', and 'Notifications Request Form', along with the text 'Notifications: 175'.

R, X, and B Adjustment

Select facility to update

- Note: you will not need to select an End for this type of ticket.

The image shows two overlapping screenshots of a web application form titled "New R, X, B Adjustment Request". The top-left screenshot shows the form's header and input fields. The bottom-right screenshot shows the same form with a data table and a comments section.

New R, X, B Adjustment Request

User: . Company: PJM TEST

Type: LINE Station Name: Voltage: Equipment Name:

Main Menu

New R, X, B Adjustment Request

User: Company: PJM TEST

Type: LINE Station Name: Voltage: Equipment Name:

| | R (p/u, 100MVA Base) | X (p/u, 100MVA Base) | B (p/u Total) |
|--------------|----------------------|----------------------|---------------|
| Initial | 0.0038 | 0.0306 | 0.0514 |
| New | 0.0038 | 0.0306 | 0.0514 |
| % Difference | 0% | 0% | 0% |

Comments: Just showing the functionality

Submit Form Main Menu

R, X, and B Adjustment

- Enter Change in the new row
- The Percent of Change will be calculated in the Difference
- Comments are desired for explanation of change

New R, X, B Adjustment Request

User: Company: **PJM TEST**

Type Station Name Voltage Equipment Name

LINE

| | R (p/u, 100MVA Base) | X (p/u, 100MVA Base) | B (p/u Total) |
|---------------------|------------------------------------|------------------------------------|---------------|
| Initial | 0.0038 | 0.0306 | 0.0514 |
| New | <input type="text" value="0.004"/> | <input type="text" value="0.031"/> | 0.058 |
| % Difference | 5.26% | 1.31% | 12.84% |

Comments
Just showing the functionality

R, X, and B Adjustment

- After submitting change you are then brought to R, X, B Adjustment Report Filter
- You can view the tickets you entered or ones you get notified of in TERM
- Default to show tickets created in last 30 days
- Filtering by voltage available
 - Note: Multiple voltages can be selected
- Filtering by Status available as well

The screenshot shows a web interface titled "R, X, B Adjustment Report". It features a header with the title and two radio buttons: "Your Facilities" (selected) and "Notified Facilities". To the right of these buttons is a checkbox labeled "Last 30 Days:" which is checked. Below the header, there are three columns: "Company", "Voltage", and "Status". The "Company" column contains the text "PJM TEST". The "Voltage" column has a dropdown menu with the following options: "4KV", "4.1KV", "12KV", and "13KV". The "Status" column has an empty dropdown menu. At the bottom of the form, there are four buttons: "Apply Filter", "Refresh", "Adjust R,X,B", and "Main Menu".

R, X, and B Adjustment

- Same data as in ticket
- Status & timestamp of last update displayed
- Status can be changed to Canceled in report

R, X, B Adjustment Report

Your Facilities
 Notified Facilities
 Last 30 Days:

Company Voltage Status
 PJM TEST 0 KV
 2 KV
 4 KV
 4.1 KV

| Ticket ID | Company | Facility | | R (p/u, 100MVA Base) | X (p/u, 100MVA Base) | B (p/u Totals) | Comments | Status | Last Updated |
|-----------|----------|----------------------------|----------|----------------------|----------------------|----------------|--------------------------------|-------------------------|------------------|
| 60000 | PJM TEST | Type: LINE | Initial | 0.0031 | 0.0126 | 0.0034 | | Submitted | 04/25/2012 12:22 |
| | | Station: 143 WOLF | Adjusted | 0.0034 | 0.013 | 0.035 | | History | |
| | | Voltage: 138 KV | % Diff. | 9.68% | 3.17% | 929.41% | | | |
| 60001 | PJM TEST | Short Name: 11110 | | | | | | | 04/25/2012 12:31 |
| | | Long Name: 143 WOLF-11110 | Initial | 0.0038 | 0.0306 | 0.0514 | Just showing the functionality | Submitted | |
| | | Long Name: 11110 | Adjusted | 0.004 | 0.031 | 0.058 | | History | |
| | | Long Name: 13836TAP-ELDEAN | % Diff. | 5.26% | 1.31% | 12.84% | | | |

Questions?

Disclaimer:

PJM has made all efforts possible to accurately document all information in this presentation. The information seen here does not supersede the PJM Operating Agreement or the PJM Tariff both of which can be found by accessing:

<http://www.pjm.com/documents/agreements/pjm-agreements.aspx>

For additional detailed information on any of the topics discussed, please refer to the appropriate PJM manual which can be found by accessing:

<http://www.pjm.com/documents/manuals.aspx>

Resources and References

- PJM Manual 3 Transmission Operations
- PJM Manual 38 Operations Planning