



# RTEP Upgrades Status Webpage

PJM Planning Committee  
11/18/09

- Added backbone project tab
  - Identify TEAC date / include link to Baseline Report
  - Added separate page for each backbone project with status
  - Included links to backbone project websites
- Baseline, TOI, Supplemental, Network Upgrades
  - Improve descriptions and add Planning Driver information
  - Address TO projected date vs. <null> field issue
- Added / clarified definitions
- Improved ease of sorting on website & excel download
- Added tab for queue projects with executed construction agreements



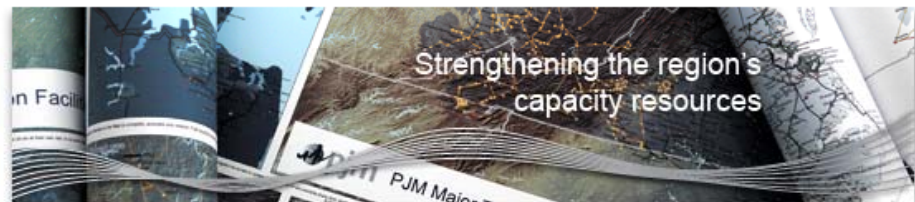
- Generation Interconnection +
- Merchant Transmission +
- Long-Term Firm TSR Customers +
- Generation Retirements +
- ARR Analyses +
- RTEP Upgrades & Status +**
- RTEP Development +
- Resource Adequacy Planning +
- Planning Criteria +
- Design, Engineering & Construction +



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## Planning



PJM's Regional Transmission Expansion Plan (RTEP) identifies transmission system additions and improvements needed to keep electricity flowing to 51 million people throughout 13 states and the District of Columbia. Studies are conducted that test the transmission system against mandatory national standards and PJM regional standards. These studies look 15 years into the future to identify transmission overloads, voltage limitations and other reliability standards violations. PJM then develops transmission plans in collaboration with Transmission Owners to resolve violations that could otherwise lead to overloads and black-outs. This process culminates in one recommended plan - one RTEP - for the entire PJM footprint that is subsequently submitted to PJM's independent governing Board for consideration and approval.

### Highlights

- + **Generation Interconnection Queues:** View active and withdrawn requests.
- + **RTEP Construction Status:** View a full listing of all planned upgrades and their status.
- + **Planning Criteria:** View standards by which PJM identifies needed upgrades.



### RELATED INFORMATION

- + Manuals
- + 2008 Regional Transmission Expansion Plan Report
- + Compliance
- + Transmission Expansion Advisory Committee
- + Regional Planning Process Working Group

### CONTACT INFORMATION

For additional information, please contact **Member Relations** at 610-666-8980 or toll free at 866-400-8980.

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## RTEP Upgrades & Status

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PJM's 2007 Regional Transmission Expansion Plan (RTEP) report, dated February 27, 2008 reflects planned system upgrades announced by PJM through December 31, 2007. To order an electronic version on CD, please contact [Member Relations](#).

View the most recent [RTEP report](#).

View the most recent [construction status](#) of each approved upgrade.

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## Backbone Projects

- Generation Interconnection
- Merchant Transmission
- Long-Term Firm TSR Customers
- Generation Retirements
- ARR Analyses
- RTEP Upgrades & Status
- Backbone Projects
- Branchburg-Roseland-Hudson
- Carson-Suffolk
- Jacks Mountain
- Mid-Atlantic Power Pathway (MAPP)
- Potomac-Appalachian Transmission Highline (PATH)
- Susquehanna-Roseland
- Trans Allegheny Line (TRAIL)
- Transmission Construction Status
- Queues Under Construction
- RTEP Development
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**Baseline Key Backbone Facilities**

PJM baseline upgrade projects are implemented to resolve reliability criteria violations. PJM "backbone" projects are a subset of baseline upgrade projects that have been given the informal designation of "backbone" due to their high degree of visibility within the stakeholder community. Backbone upgrades are on the EHV (Extra High Voltage) system and typically resolve a wide range of reliability criteria violations and market congestion issues. Their permitting and construction status is also typically tracked closely by the stakeholders. This area of the PJM Web site is intended to facilitate the communication of the status of the backbone upgrades.

[Branchburg - Roseland-Hudson](#)  
[Carson - Suffolk](#)  
[Jacks Mountain](#)  
[Mid-Atlantic Power Pathway \(MAPP\)](#)  
[Potomac-Appalachian Transmission Highline \(PATH\)](#)  
[Susquehanna - Roseland \(S-R\)](#)  
[Trans Allegheny Line \(TRAIL\)](#)

**Construction Status Database Area**

Upgrades to the transmission system are part of PJM's Regional Transmission Expansion Planning (RTEP) process. An outcome of the RTEP process are these Transmission System Upgrades:

- Expected (normal / emergency) Rating: expected normal continuous rating and long term 4 hour emergency rating based on summer 95 degree F temperature basis




Percent Complete - The percentages should be correlated to the following milestones:

- EP Status: 0% - 25% - Engineering and Planning (Includes engineering, detailed design, materials procurement, resource planning)
- UC Status:
  - 26% - 100% - Under Construction
  - 26% - 90% - Construction Activities
  - 91% - 100% - Testing and Inspection

Note: In order to properly use this page you must have ActiveX enabled for your browser. Click [here](#) for instructions on how to enable ActiveX for Internet Explorer 6.0 & 7.0.

- Engineering / Planning
- Under Construction
- On Hold - network upgrades associated with a queue project suspension or baselines impacted by an ongoing retool
- In-Service - project complete, fully energized and planning criteria met

[Click to enlarge](#)

Upgrade ID	PJM Required Date	TO Projected Date	Description	Trans Owner	Planning Driver	Status	State	Percent Complete	Cost Estimate (millions)
b0328.4	06/01/2011	06/01/2011	Location: Loudoun Task: Upgrade Equipment: Substation Desc: Voltage: 500 Expected Rating (N/E): Last Updated: 09/15/2009	Dominion	Study Year: 2011 Baseline Report: <a href="#">2008 (PDF)</a> Driver: Load Deliverability Initial TEAC Date: 05/23/2006 Latest TEAC Date:		VA		10.00
b0329	06/01/2011	06/01/2011	Location: Carson-Suffolk - Suffolk - Ferris Task: Construct Equipment: Circuit Desc: and Suffolk second transformer, build Suffolk-Ferris 230kV line Voltage: 500/230 Expected Rating (N/E): Last Updated: 10/28/2009	Dominion	Study Year: 2011 Baseline Report: <a href="#">2006 (PDF)</a> Driver: NERC Category C Initial TEAC Date: 05/23/2006 Latest TEAC Date:		VA	46%	223.73
b0347.1	06/01/2011	06/01/2011	Location: Mount Storm - 502 Junction Task: Build	APS	Study Year: 2011 Baseline Report: <a href="#">2006 (PDF)</a>		MD/P A/WV	12%	310.00

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- Carson-Suffolk
- Jacks Mountain
- Mid-Atlantic Power Pathway (MAPP)


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## Carson-Suffolk

Dominion assigned baseline project with PJM id: Dominion b0329

Scope:

- Build new 500kV line from Carson to Suffolk substation
- Install new 500/230 #2 transformer at Suffolk
- Build new 230kV line from Suffolk to Thrasher substation



[Click to enlarge](#)

Need: Based on the PJM analysis of 2011, the Carson - Suffolk project is required to resolve reliability criteria violations starting June 1, 2011.

Related Information  
[Carson-Suffolk](#)

**Permits:**

- State Corporation Permit received 10.31.2008
- Filed joint application for environmental permits

**Energization:** PJM required in service: 06.01.2011

**Land Acquisition:** Dominion has acquired 78% of the ROW

**Engineering / Design:**

- Structural design is complete
- Foundation design is underway (soils data collection complete)
- Tower design complete
- Foundation design 90%
- Substation design 20%

**Equipment Procurement / Delivery:** Contracts for line construction, tree trimming, and materials have been executed

**Construction:**

- Tree trimming ongoing
- Foundations will start November 1, 2009

**Outages:**

- Majority of construction does not require an outage

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## Transmission Construction Status

Upgrades to the transmission system are part of PJM's Regional Transmission Expansion Planning (RTEP) process. An outcome of the RTEP process are these Transmission System Upgrades:






- Baseline Upgrades are those that resolve a system reliability criteria violation. This can be PJM criteria, NERC, RFC or TO planning criteria.
- Network Upgrades are new or upgraded facilities required primarily to eliminate reliability criteria violations caused by proposed generation, merchant transmission or long term firm transmission service requests, but can also include certain direct connection facilities required to interconnect proposed generation projects.
- Supplemental Projects (formerly referred to as Transmission Owner Initiated projects) are projects initiated by the Transmission Owner to satisfy local Transmission Owner criteria. These projects are used as inputs to RTEP models, but are not required for reliability, economic efficiency or operational performance criteria, as determined by PJM.

Expected (normal / emergency) Rating: expected normal continuous rating and long term 4 hour emergency rating based on summer 95° F temperature basis.



Percent Complete - The percentages should be correlated to the following milestones:

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-  Engineering / Planning
-  Under Construction
-  On Hold - network upgrades associated with a queue project suspension or baselines impacted by an ongoing retool
-  In-Service - project complete, fully energized and planning criteria met
-  Active - network upgrades associated with queue projects that have SIS but no ISAMCSA

Planned									
IS Pre Jan 2006									
IS Post Dec 2005									
Baseline TOI/Suppl Network									
Upgrade ID	PJM Required Date	TO Projected Date	Description	Trans Owner	Planning Driver	Status	State	Percent Complete	Cost Estimate (millions)
b0366	06/01/2011	06/01/2011	Location: Richie Task: Install Equipment: Transformer Desc: 4th Voltage: 230/69 Expected Rating (N/E): Last Updated: 09/16/2009	PEPCO	Study Year: 2011 Baseline Report: <a href="#">2008 (PDF)</a> Driver: NERC Category C Initial TEAC Date: 05/23/2006 Latest TEAC Date:		MD	30%	13.10
b0367	06/01/2011	06/01/2011	Location: Dickerson - Quince Orchard Task: Reconductor Equipment: Desc: circuits 33 & 35 Voltage: 230 Expected Rating (N/E): Last Updated: 09/15/2009	PEPCO	Study Year: 2011 Baseline Report: <a href="#">2006 (PDF)</a> Driver: NERC Category C Initial TEAC Date: 05/23/2006 Latest TEAC Date:		MD	30%	20.00
b0369	06/01/2012	06/01/2012	Location: Airdale Task: Install Equipment: Dynamic Reactive Device	PENELEC	Study Year: 2010 Baseline Report: <a href="#">2008 (PDF)</a> Driver: Load Deliverability		PA	8%	12.00

Planned									
IS Pre Jan 2006									
IS Post Dec 2005									
Baseline TOI/Suppl Network									
Upgrade ID	PJM Required Date	TO Projected Date	Description	Trans Owner	Planning Driver	Status	State	Percent Complete	Cost Estimate (millions)
n1124	11/30/2009		Location: Garrett Task: Construct Equipment: Ring Bus Desc: 3 breaker ring bus along the Rockwood-Somerset line approx. 1 mi. NE of Rockwood, to include Disconnect Switches, Bus Structures and a Control House with relaying and SCADA. Voltage: 115 Expected Rating (N/E): Last Updated: 08/27/2009	PENELEC	Study Year: 2011 Baseline Report: Driver: Q34 Initial TEAC Date: 06/09/2009 Latest TEAC Date:		PA		2.76
n1125	11/30/2009		Location: Garrett Task: Install Equipment: Circuit Desc: New tap structure on Rockwood-Somerset line Voltage: 115 Expected Rating (N/E): Last Updated: 08/27/2009	PENELEC	Study Year: 2011 Baseline Report: Driver: Q34 Initial TEAC Date: 06/09/2009 Latest TEAC Date:		PA		0.25
n1126	11/30/2009		Location: Rockwood Task: Modify Equipment: Relay Desc: and control work at 115KV substation for Q34	PENELEC	Study Year: 2011 Baseline Report: Driver: Q34 Initial TEAC Date: 06/09/2009		PA		0.25

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## Queues Under Construction






Generation Interconnection projects and Merchant Transmission projects that have a Interconnection Construction Service Agreement (ICSA) and are not fully in-service.

Note: In order to properly use this page you must have ActiveX enabled for your browser. Click [here](#) for instructions on how to enable ActiveX for Internet Explorer 6.0 & 7.0.






MW - Maximum facility output after interconnection request

MWC - Capacity interconnection request for the queue position (summer net)

MWE - MW Energy for the interconnection request (summer net)

	Under Construction
	In-Service
	Partially In-Service
	In-Service - No Capacity
	Suspended

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Under Construction										
Queue	Project Name	Commercial Name	MW	MWC	MWE	Status	Fuel Type	Backfeed Date	Test Energy Date	Commercial Operation Date
P47	Mansfield-S. Troy 115kV	Armenia Mountain WF	100	20	100		Wind	10/23/2009	11/04/2009	12/31/2009
P60	New Baltimore 115kV (Stony Creek)	Stony Creek WF	52.5	10.5	52.5		Wind	10/22/2009	10/23/2009	03/01/2010
Q01	Olive-Dequine 345kV	Fowler Ridge WF	500	100	500		Wind			06/30/2009
Q20	Holtwood	Holtwood	249	140	140		Hydro			06/30/2013
Q28	Ektred-Frackville 230kV	Rausch Creek WF (88 WT)	170	34	170		Wind			07/31/2011

- Continue to refine backbone project detail status pages
  - Quarterly updates from TOs
- Continue to refine data in transmission upgrade tables
  - Bi-monthly updates from TOs
- Continue to refine data in Queues under Construction tables
  - Regular updates from TOs / Generator Developers