

## Preface: What This Document Conveys



The report you are reading is published annually by PJM to convey the results of planning studies throughout the previous calendar year and to explain the rationale behind why transmission system upgrades are needed. The discussion in this document of system drivers, reliability criteria violations and upgrades themselves is for reporting purposes to facilitate greater RTEP understanding.

Fundamentally, the Regional Transmission Expansion Plan (RTEP) is that ongoing, body of PJM Transmission Expansion Advisory Committee (TEAC) presentation materials and published RTEP Baseline Assessment reports which remains PJM's authoritative source of RTEP information and data.

- PJM TEAC materials can be accessed online from PJM's Web site via the following URL link: <http://www.pjm.com/committees-and-groups/committees/teac.aspx>.
- PJM RTEP Baseline Assessment reports can also be accessed online from PJM's Web site via the following URL link: <http://www.pjm.com/planning/rtep-development/baseline-reports.aspx>.

### Audience

PJM has crafted this report to explain and emphasize the interrelationship among the following:

- system upgrade drivers (e.g., load growth, generation addition, generation deactivation)
- reliability criteria violations (e.g., thermal transmission constraints, voltage limits)
- system enhancements needed (e.g., new facilities, upgrades to existing facilities)

Readers of this report are encouraged to participate in the ongoing activities of the PJM Transmission Expansion Advisory Committee (TEAC). This forum provides opportunity for stakeholder participation and advice throughout the RTEP process and for remaining apprised of all evolving aspects of PJM's RTEP – plans and process alike.

### Order 890 Compliance

PJM expanded its stakeholder process in 2008 in compliance with FERC's Order 890 to enhance coordinated, open and transparent planning at both regional and local level. PJM and stakeholders already conduct a compliant planning process filed with the Commission and incorporated in Schedule 6 of the PJM Operating Agreement (OA). Valuable stakeholder discussions culminated in the establishment of three Sub-Regional RTEP Committees – Mid-Atlantic, Western and Southern – commissioned to review proposed upgrades of more local concern.

Each Sub-Regional RTEP Committee increases the opportunity for direct stakeholder participation in the planning process from initial assumption setting stages through review of the planning analyses, violations, and alternative transmission expansions. The Subregional RTEP Committee provides a more local forum for gathering and considering planning issues. Interested parties can access Subregional RTEP Committee planning process information from PJM's Web site via the following URL links:

- PJM Mid-Atlantic Sub-Regional RTEP Committee: <http://www.pjm.com/committees-and-groups/committees/srtep-ma.aspx>.
- PJM Western Sub-Regional RTEP Committee: <http://www.pjm.com/committees-and-groups/committees/ssrtep-w.aspx>.
- PJM Southern Sub-Regional RTEP Committee: <http://www.pjm.com/committees-and-groups/committees/ssrtep-s.aspx>.

Through the activities of these committees, all PJM stakeholders have a forum to raise issues, propose solutions or alternatives and conduct other related discussions. These meetings are open to all stakeholders interested in the issues under consideration.

## Scope of Upgrades Discussed

In 2009 alone, the PJM Board approved 420 individual BES upgrades. However, to put reasonable parameters around the scope and length of this report, the upgrades discussed here are generally those of larger scale whose cost exceeds \$5 million. A complete list of all approved RTEP upgrades, a brief description of facility and driver as well as current status can be found on PJM's Web site via the following URL link: <http://www.pjm.com/planning/rtep-upgrades-status/construct-status.ashx>.

## Queued Interconnection Requests

Generation and merchant transmission interconnection requests are a key part of PJM's RTEP Process. From a power flow modeling perspective, PJM's RTEP process specifies that planning studies model all generation with a completed System Impact study. Of these generators, only those with executed Interconnection Service Agreements (ISAs) are permitted to back-off an identified transmission constraint. Over ten years experience with queue activity and generation withdrawal rates has demonstrated that, in this manner, PJM's interconnection process encompasses sound, consistent and reliable planning, minimizing the need for retooling studies that would otherwise be necessitated by those generator interconnection requests that withdraw from the planning process.

For reporting purposes and the queue activity interest of this report audience, please note that PJM has included in many tables statistical information about interconnection request activity through the close of Queue V4, the window for which closed on January 31, 2010.

## RTEP Process Information...

This report does not describe the RTEP Process itself in great detail. The reader is directed to a number of online resources, including those noted below, to pursue greater understanding of the RTEP Process. Detailed information on the RTEP Process itself can be found in the following resources, available on PJM's Web site:

1. The M-14 series of PJM Manuals describe the specific "business rules" under which PJM effects the entire RTEP Process. Specifically, Manual 14B addresses the details associated with the methodologies associated with the planning studies and upgrades derived from them as discussed in this report. PJM Manual 14B, "Regional Planning Process" can be found via the following URL link: <http://www.pjm.com/documents/~media/documents/manuals/m14b.ashx>.
2. The PJM Operating Agreement, Schedule 6, codifies the overall provisions under which PJM executes its Regional Transmission Expansion Planning Protocol, more familiarly known (and used throughout this document) as the "PJM RTEP Process." The PJM Operating Agreement can be found on PJM's Web site via the following URL link: <http://www.pjm.com/documents/agreements/~media/documents/agreements/oa.ashx>.
3. The PJM Open Access Transmission Tariff (OATT) describes the interconnection request process for generating resource interconnection, merchant transmission interconnection as well as specific process provisions to address long-term firm transmission service and Auction Revenue Rights. The PJM OATT can be found via the following URL link: <http://www.pjm.com/documents/agreements/~media/documents/agreements/tariff.ashx>.

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