PJM Order 1000 Implementation
Proposal Window Process

Competitive Transmission Forum
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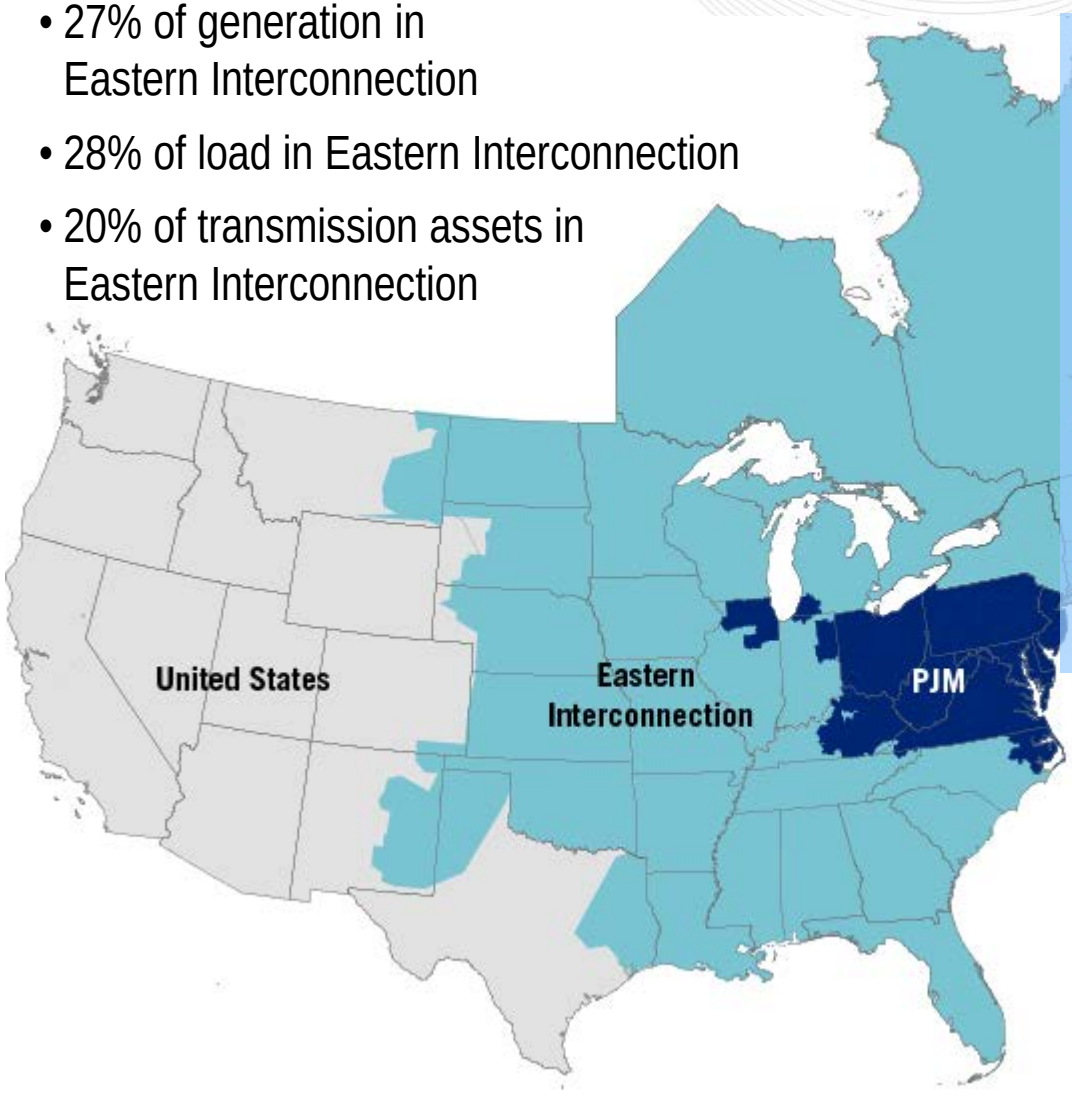
PJM as Part of the Eastern Interconnection

- 27% of generation in Eastern Interconnection
- 28% of load in Eastern Interconnection
- 20% of transmission assets in Eastern Interconnection



KEY STATISTICS	
PJM member companies	900+
millions of people served	61
peak load in megawatts	165,492
MWs of generating capacity	183,604
miles of transmission lines	62,556
2013 GWh of annual energy	791,089
generation sources	1,376
square miles of territory	243,417
area served	13 states + DC
externally facing tie lines	191

21% of U.S. GDP produced in PJM

As of 4/1/2014

Order 1000 – Goals of Competitive Process

- ✓ Broader range of creative solution alternatives driven by opportunities for developers

- ✓ Savings to customers driven by

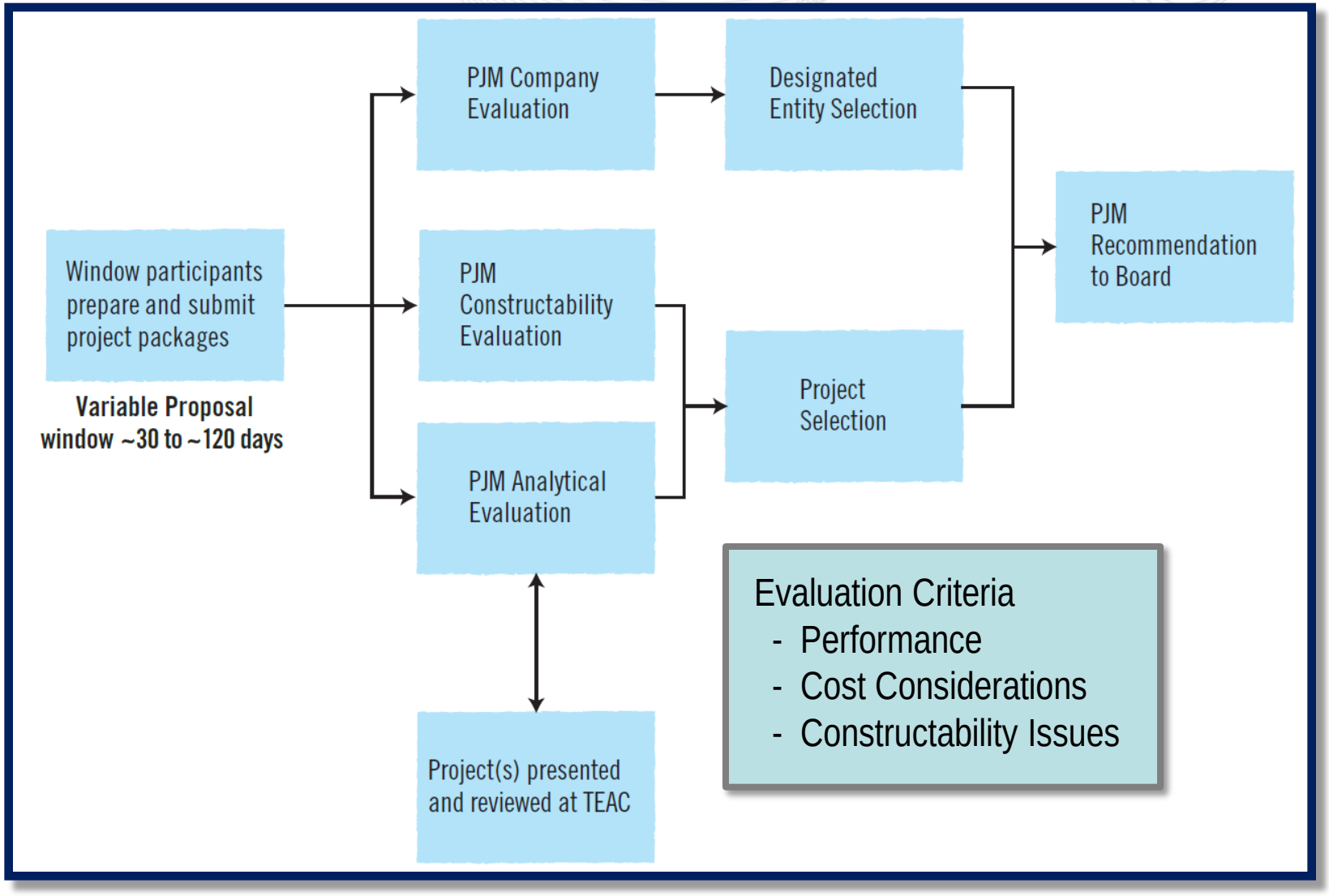
  - availability of a broader range of solution alternatives leading to a more cost-effective solution, and

  - competition with respect to cost among prospective developers

- ✓ Greater opportunities for transmission development by non-incumbents.
- ✓ One or more needs: reliability, market efficiency, operational performance, public policy
- ✓ If included in RTEP, project could be assigned to proposing entity to build.

- ✓ Competitive solicitation window duration based on project classes:
  - *Long-lead projects*: reliability or market efficiency driven upgrades needed in year six or beyond – 120 day window.
  - *Short-term projects*: reliability driven upgrades needed in year four or five – 30 day window.
  - *Immediate-need projects*: reliability driven upgrades needed in three years or less; window if possible, likely less than 30 days, nominally.

RTEP Window Process



- ✓ Artificial Island
  - Window opened on 4/29/2013
  - Closed on 6/28/2013
  - 26 proposals addressing operational performance from 7 entities
  - Approx. $100M - $1.55B
  - 1 project approved - $275.45M

- ✓ Market Efficiency
  - Window opened on 8/12/2013
  - Closed on 9/26/2013
  - 17 proposals addressing congestion from 6 entities
  - $0.19M - $528M
  - 1 project approved - $8M

✓ RTEP Window 1 - Reliability

- Window opened on 6/27/2014
- Closed on 7/28/2014
- 106 proposals addressing reliability from 15 entities
  - 46 TO upgrade proposals: $0.02M to $139.2M
  - 60 greenfield Proposals: $10.2M to $1.4B
- 22 projects approved - all upgrades - Total $82.03M

✓ RTEP Window 2 - Reliability

- Window opened on 10/17/2014
- Closed on 11/17/2014
- 79 proposals addressing reliability from 14 entities
  - 45 TO upgrade proposals: $0.2M to $103.7M
  - 34 greenfield Proposals: $6.1M to $450M
- 33 projects approved - 4 greenfield, 29 upgrades - all to incumbent

✓ RTEP Window 2 Addendum - Reliability

- Window opened on 2/24/2015
- Closed on 3/12/2015
- 10 proposals addressing reliability from 4 entities
- $0.96M - $25.5M
- 1 Proposal approved to address all issues in this window

✓ 2014/15 Long-Term Window – Reliability, Market Efficiency

- Window opened on 10/30/2014
- Closed on 2/27/2015
- 119 proposals addressing congestion from 22 entities
- $0.01M - $432.5M
- 11 projects approved earlier in October
- Expect more later this year or Q1 2016

✓ RTEP Window 1 - Reliability

- Window opened on 6/19/2015
- Closed on 7/20/2015
- 91 proposals addressing reliability from 9 entities
  - 27 TO upgrade proposals: $0.013M to $73M
  - 64 greenfield Proposals: $6M to $167.1M
- 21 projects approved earlier in October

✓ RTEP Window 2 - Reliability

- Window opened on 8/5/2015
- Closed on 9/4/2015
- 23 proposals addressing reliability from 4 entities
  - 5 TO upgrade proposals: $0.075M to $6.0M
  - 18 greenfield Proposals: $4M to $47.5M
- Analysis is underway

- ✓ The number of proposals related to each transmission driver has increased analytical and administrative workload, in some cases significantly.
- ✓ In some instances, there is no clear way to distinguish between levels of performance among proposals that resolve the initial need driver.
- ✓ In order to distinguish between similar proposals, significant attention must be paid to secondary benefits that cannot be quantified or compared directly to compliance with reliability criteria.

- ✓ In order to distinguish between similar proposals, significant attention must be paid to project cost issues, including details of cost caps, and constructability issues, including perceptions of siting risk.
- ✓ It is becoming more and more difficult to secure consultants to perform cost analyses and constructability reviews.
- ✓ The stakeholder debate has gotten much more contentious, even on smaller localized projects, as developers attempt to influence our decision-making.

Issues With The Competitive Process

- ✓ Cost allocation issues are factoring into the stakeholder debate about project proposals as parties attempt to influence our decision-making based on who will pay rather than which project is the most cost-effective.

- ✓ The length of the decision-making process is putting pressure on the RTEP schedule as well as entities requesting longer window duration to prepare submittals.

- ✓ Transparency requirements are lengthening the evaluation process and have significantly increased the workload associated with each phase of the RTEP cycle.

- ✓ Some skill sets cannot realistically be retained within RTO staff
- ✓ RTO staff cannot reasonably be increased to meet the requirements of the current process, especially if the number of annual reliability needs returns to earlier levels
- ✓ Manage workload
  - eliminate sponsorship model and solicit bids for only selected projects
  - reduce range of projects applicable to sponsorship model

- ✓ Communications
- ✓ Evaluation
- ✓ Process

- ✓ Pre-Window Preparation
  - Case development and availability
  - Software tool issues
  - CEII clearance/restricted access on web site
- ✓ Problem Statement Detail
  - Problem definition
  - Applicable performance criteria
- ✓ Proposal Template
  - Upgrades vs. greenfield projects
  - Detail of cost estimates and treatment of contingency
  - Redaction guidelines
  - Cost capping/containment language

- ✓ Development of Most Effective Solution
  - Minor modifications to proposals
  - Combination of separable proposal elements
- ✓ Pre-defined, Formulaic Evaluation Template
  - Unique to each problem
  - Transparency
- ✓ Constructability Review
  - Internal staff review vs. consultant review
  - Review of cost estimates & cost capping terms
  - Availability of consultants – many already working for transmission developers
    - Qualifications of environmental/siting consultants

- ✓ Scope of Windows
  - Implementation of voltage floor
  - Resolution of substation equipment upgrades prior to windows
  - Identification of infrastructure upgrades before opening of window
    - Earlier release of base case information to all parties
- ✓ Sequencing of Windows During Planning Cycle
  - Separate window for each major body of analysis
  - One window to cover entire planning cycle
  - Longer windows for development of cost information
- ✓ Multi-Step Solicitation
  - Current process is sponsorship based
  - Consider developing most effective solution and then soliciting bids

Questions