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2015 10-Year Assessment Preliminary Study Design

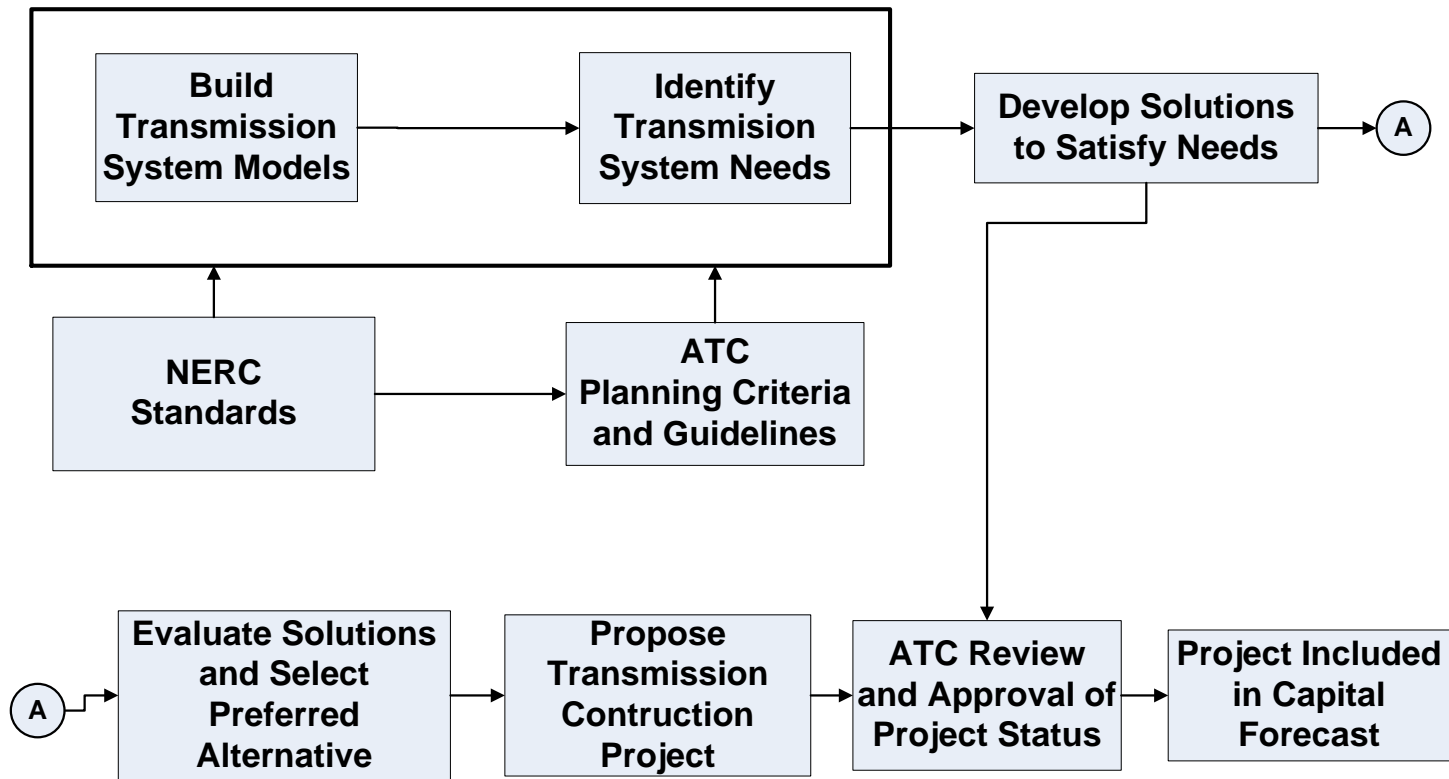
October 15, 2014

Stakeholder and Customer Webcast

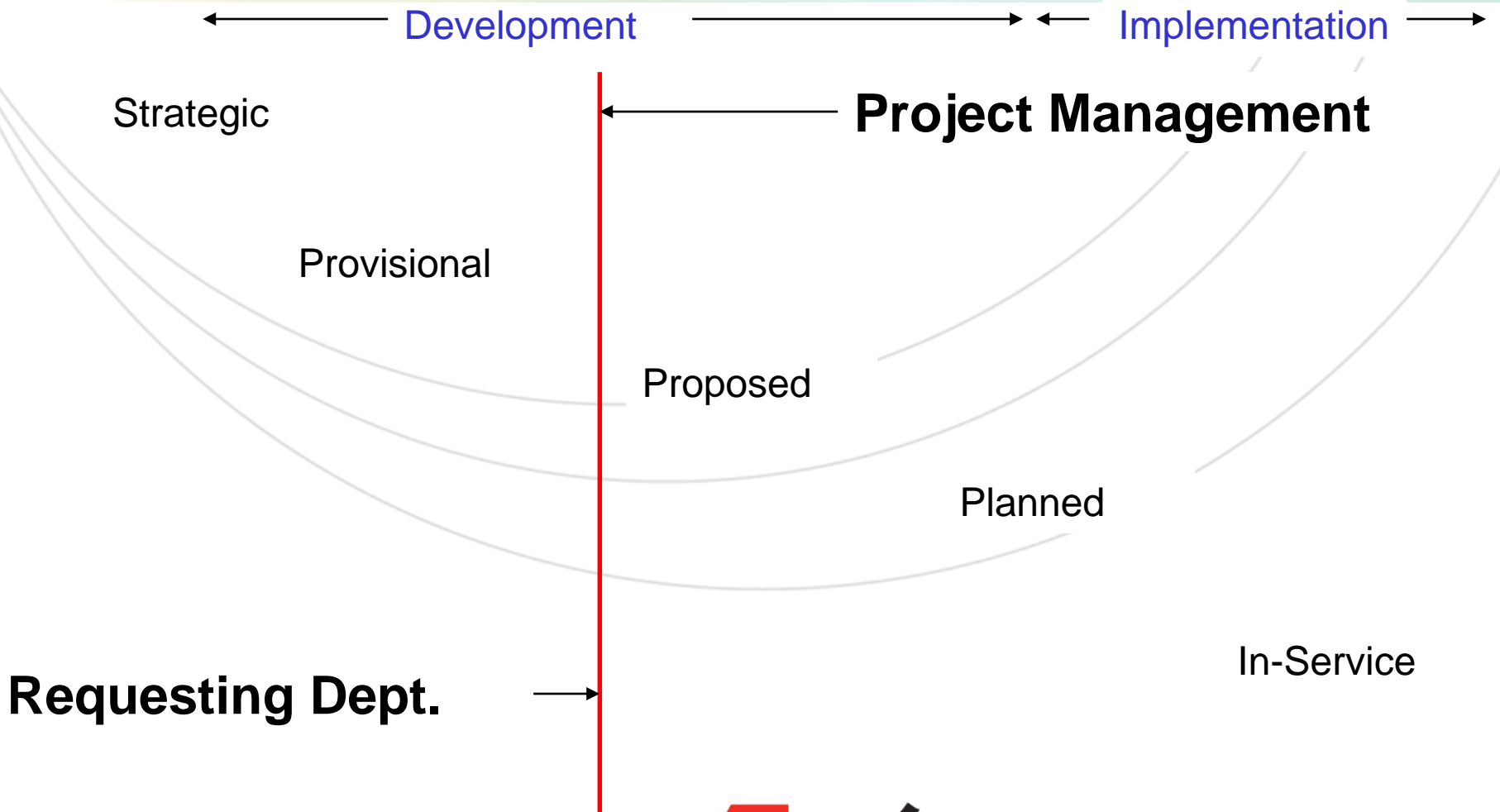
Purpose

- Solicit pre-Study Comments
 - 2015 Assessment Process
 - 2015 Assessment Assumptions
 - Public Policy Requirements

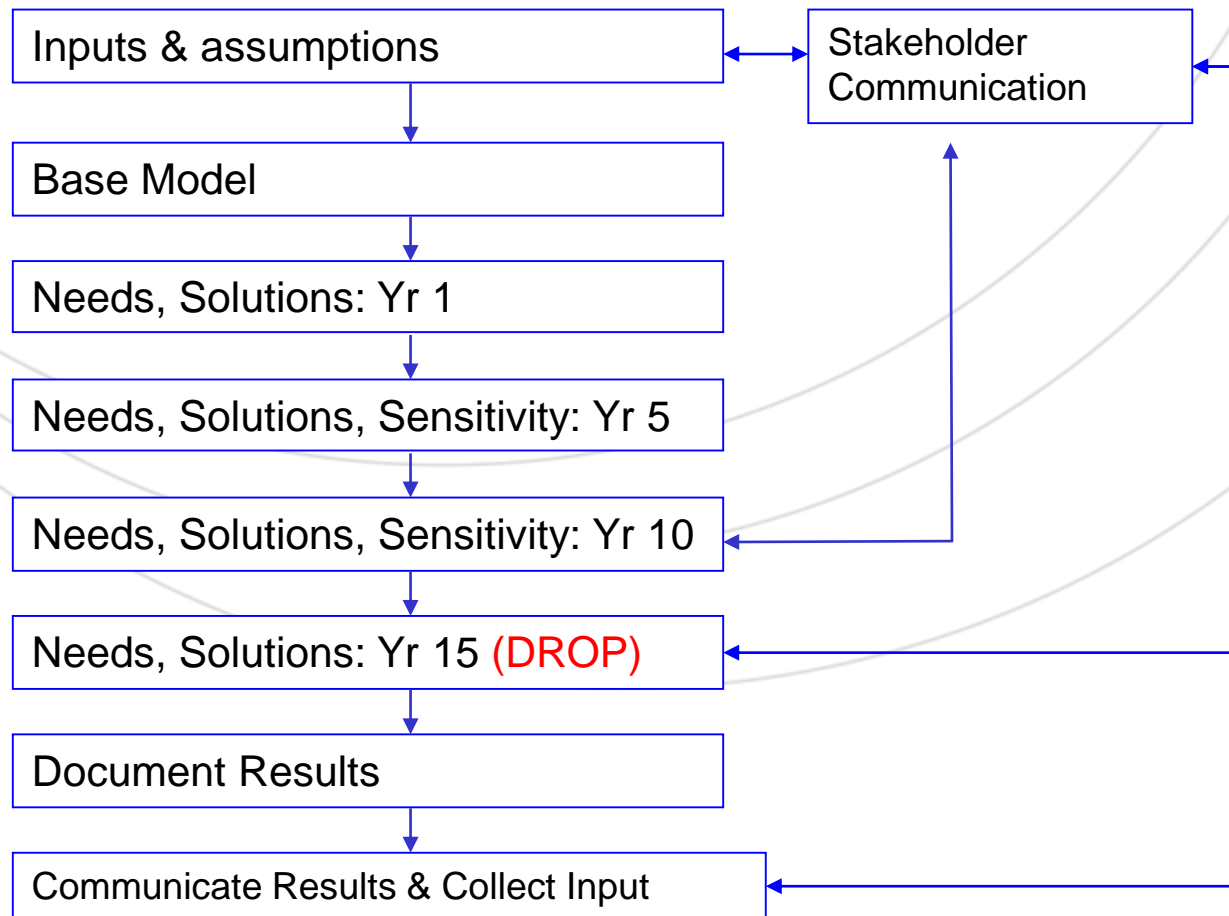
Transmission Planning Process



Project Status



Assessment Process - Proposed



Planning Criteria & Methodology

- NERC Standards, particularly TPL-001, version 4
- ATC Planning Criteria/Methodology
 - <http://www.atc10yearplan.com> (About tab)
 - Next presentation reviews changes
- Reinforcement Guidelines for ATC Planners – development is ongoing

Public Policy Requirements

- **Previously Identified Requirements (included in MTEP)**
 - State Renewable Portfolio Standard (RPS) Mandates
 - EPA Regulations
 - State Mandates and Goals for Energy Efficiency (EE) and Demand Side Management (DSM) Programs
- **For Economic Benefits analysis, ATC also models Distributed Resources to represent Demand Response and Distributed Generation Technologies**
- **For 2015 Assessment**
 - Expected Load Forecasts
 - Generation Additions
 - Generation Retirements
 - Sensitivities
 - Load
 - Bias flows?
- **Other requirements in place?**

Model Years

- 2015 (As-Planned)
- 2016
- 2020
- 2025

- Cutoff date for model changes

Load - Historical

- Request by October 1
 - summer peak
 - winter peak
 - light load
 - shoulder load
- Due by November 1
- Add to Databases

Load – Expected Forecast

- Requested LDC forecasts February 2014
 - 11 years
 - Consistent with Resource Planning forecast
- Received in April 2014
- ATC Compiles
 - Comparisons to previous forecasts
 - Differences confirmed with LDCs
 - Finalized copy to LDCs – September 2014

Generation Modeling

- **Generation Additions**
 - Only add generators with signed Interconnection Agreements
 - Additions modeled at MISO Facility study location
 - MISO queue Suspended Generators with signed IAs
 - included in after 18 months
- **Generation Retirements**
 - generators with a completed MISO Attachment Y are modeled as retired, unless there is an SSR agreement

Generation Dispatch

- **Local Balancing Area Merit Order Dispatch:**
 - Used for Assessment Summer Peak models. Local Balancing Area Dispatch from merit order provided by LBA
- **ATC-Wide Merit Order Dispatch:**
 - Shoulder and Minimum Load models
 - ATC-Wide Merit Order Dispatch determined with PROMOD
- **Generators without Scheduled Transactions:**
 - If signed IA,
 - generation included in the host Local Balancing Area.

Reactive Power Resources

- **Intact System and Outage Conditions**
 - Maintain voltage criteria for
 - 90% maximum generator reactive power output
 - 90% minimum generator reactive power consumption

2015 General Assessment Studies

- 1st contingency Needs – 3 years
- Multiple Outage Screening
- Generation - Transmission studies
- Distribution - Transmission studies
- Economic benefits studies
- Regional Reliability
- Public Policy Requirements, part of studies above

Initial Assessment Studies

- Initial Screening (reduced generator reactive capability)
 - Summer Peak (5 and 10 year models)
 - 2014 Load Forecast
 - 2014 TYA outside world, except
 - DPC forecast from MTEP14
 - Completed and drove changes to MTEP15 Project database
- To Support MTEP15 Database Development

Additional Assessment Studies (yet to be started)

- **Reduced generator reactive capability**
 - Shoulder (firm)
 - 5 and 10 Year out models
 - 70% load except for Zone 2 (90% load) and northern Zone 4 (80% load)
 - Shoulder rating methodology
 - Minimum Load
 - 1 year out model
 - 40% load
- **Sensitivities (full reactive capability)**
 - Load Forecast - Higher Growth
 - at least 90/10 vs. 50/50
 - 10 year out model
 - Generation Retirements with Proposed projects?

Schedule

- Expected Load Forecast – Done
- **Stakeholder Study Design Meeting – October 2014**
- **Stakeholder Comments – October 31, 2014**
- Initial Screening Study – Done
- Study Design - 4th Qtr 2014
- Criteria and Methodology Update – 4th Qtr 2014
- Model Development – 3rd & 4th Qtrs 2014
- **Preliminary Needs – 1st Qtr 2015, or earlier?**
- **Preliminary Solutions – 2nd Qtr 2015, or earlier?**
- **Document and Publish – 3rd Qtr 2015, or earlier?**

ATC intends to share preliminary needs and solutions with Stakeholders in the quarters noted above

Thank you for Participating

**To provide solicited comments or
for more information, please
contact**

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By October 31, 2014

