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10-Year Regional Transmission Plan
PESD Conference
September 15, 2011

Glossary

ECC – Enhanced Curtailment Calculator
EDTTRS – Efficient Dispatch Toolkit Technical Review Subcommittee
EIM – Energy Imbalance Market
EDT – Efficient Dispatch Toolkit
FERC – Federal Energy Regulatory Commission
IRP – Integrated Resource Plan
FOA – Funding Opportunity Announcement
MIC – Market Interface Committee
NERC – North American Electric Reliability Corporation
NGO – non-profit, Non-governmental Organization
RPS – Renewable Portfolio Standard
RTEP – Regional Transmission Expansion Planning Project (activities funded by the DOE grant)
SCED – Security Constrained Economic Dispatch
SCG – Subregional Coordination Group (group of SPGs)
SPG – Subregional Planning Group
SPSG – Scenario Planning Steering Group (WECC multi-constituency steering group)
SPSC – State and Provincial Steering Committee (State steering group)
TEPPC – Transmission Expansion Planning and Policy Committee
TSS – WECC Technical Studies Subcommittee
VGS – Variable Generation Subcommittee
WGA – Western Governors’ Association
WIEB – Western Interstate Energy Board
WREZ – Western Renewable Energy Zone
**RTEP**

*What have we been asked to do?*

Regional Transmission Expansion Planning (RTEP)

Expand the breadth and depth of WECC’s existing Regional Transmission Planning processes under TEPPC.

**2011 Deliverables**

- Create a multi-constituency Steering Group
- **10-Year Regional Transmission Plan**
  - Acquire new long-term planning tools
  - Create educational materials
10-Year Regional Transmission Plan

**Plan Status**

- The Plan was approved by TEPPC at their August 10 meeting
- The Plan will be considered by the WECC Board on September 21-22
  - The final draft will be posted on September 1

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10-Year Regional Transmission Plan

**Process Inputs**

- Generation, Load, and Transmission Assumptions
- Public Policy
- Environmental and Water Information
- TEPPC Case Study Results
- Stakeholder Input/Review
- Reliability Analysis
10-Year Regional Transmission Plan
Documentation Package

• Part 1 – Executive Summary Brochure
  o High-level document with the major observations, recommendations, and overview of the Western Interconnection.

• Part 2 – Plan Summary Brochure
  o Details on the study approach, process, caveats, observations, recommendations, and related information

• Part 3 – Plan Study Report – electronic-only
  o 2019 and 2020 Study Reports
  o Path Reports
  o EDTF Report

• Links to related documents by other organizations

10-Year Regional Transmission Plan
Key Messages

• The Plan is an regional perspective
  o Expected future network
  o Alternatives
  o Other insights

• The Plan is stakeholder-driven
  o Assumptions, studies, results

• This is the first-time for this product
Expected Future Network

• Based on stakeholder-provided assumptions regarding loads, generation, and transmission
• The generation mix is a significant departure from the past
• The transmission network, including assumed additions, enabled energy to flow without significant congestion except in two areas
Renewable Procurement Trends
In and Out of State RPS Energy for 2020 Expected Future
WECC Wide: 79% of RPS energy served by in-state resources in 2020 Expected Future
Resource Relocation Alternatives

Transmission Expansion

• Relocate 12,000 GWh of renewable generation from California to eight different locations
• Observe the impact on costs and transmission needs
10-Year Regional Transmission Plan
Observations & Recommendations

1. Cost-effective remote renewable resources
2. Montana to Northwest (Path 8)
3. Pacific Tie Paths (Paths 65, 66)
4. Operational impacts of variable generation
5. Planning cooperation
6. Environmental and cultural considerations in future transmission planning processes
7. Water resource impacts on the future generation mix
8. Gaps in regional transmission planning processes

What has been Accomplished

• Forum and process for discussing and analyzing regional planning topics
• Process leadership from all types of stakeholders
• First-ever interconnection-wide perspective on transmission in the West
Looking Forward

• Process Improvements
  o Long-term capital planning tools
  o Scenario-driven planning
  o Inclusion of water & environmental factors
  o Operational and reliability impacts
• Things we won’t realize by this process
  o Quantification of impacts on specific ratepayers
  o Cost allocation
  o Permitting or siting

Questions

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All information on the RTEP project can be found on the WECC website at http://www.wecc.biz/Planning/TransmissionExpansion/RTEP/Pages/default.aspx