

WREZ Technical Committee Webcast

**August 21, 2008
1 – 3pm MDT**

Review Agenda and Outcomes

Expected Outcomes

- Approval of work plan, process diagram, premises document and outreach plan
- Update on Work Groups; recent activities, upcoming issues for Technical Committee consideration
- Review of schedule and key activities
- Briefing on NREL GIS portal

Review and Approve Documents

1. Workplan

- Value of workplan - Meant to be a guiding and reference document for project process, methodology and principles. Deadlines and timelines may continue to shift over the life of the project.
- Contains:
 - Project structure and schedule
 - Phase 1 workplan with individual work group workplans, process for developing REZs and coordination among work groups
 - Workplan for Phases 2- 4
- Notable Revisions:
 - Terminology revised to clarify that REZ identification is being done solely for the purpose of regional transmission planning, and REZ designation carries no legal or regulatory status. Similarly, non-REZ areas
 - Language edited to clarify that the report will identify renewable resources that fall inside and outside of a REZ.

Review and Approve Documents

2. Process Diagram – flow chart for key deliverables and milestones in Phase I
 - Value of diagram:
 - Companion to the workplan
 - Visual, chronological progression of tasks and coordination between Steering Committee, Technical Committee and work groups
3. Premises – collection of guiding assumptions for the project
 - Clarifies treatment of several issues early on in the process

Review and Approve Documents

4. Outreach plan

- Identifies objectives, procedures, products and timeline.
- Work Group Workplans: include outreach opportunities, target audiences and timeline for engaging stakeholders
- Products/Action Items: stakeholder e-mail lists and distribution; press releases, fact sheets, etc.; Web site management; managing public comment process

Work Group Updates

- Zone Identification and Technical Analysis (ZITA)
- Environment & Lands (E&L)
- Generation and Transmission Modeling (GTM)
 - Recent activities/accomplishments
 - Outstanding issues/future issues for TC review
 - Upcoming events

ZITA - Wind Criteria

- Class 3 or greater
- Slope less than 20%
- Maps generated from NREL 50m hub height, 1km x 1km data

Next Steps – review data from NREL recommending a Net Capacity Factor and initial Wind study areas. Call on August 29

ZITA - CSP Criteria

- Insulation value of 6.0 kw/m²/day
- Slope less than 2%; up to 5% for PV
- Forested lands

Next Steps – B&V and NREL to propose proxy technology for cost analysis assumptions. Next CSP call September 5th.

ZITA - Geothermal

- Data compiled and presented based on inputs from PIER report. Projections for geothermal potential were based on specific projects and current technology. Theoretical potential was not analyzed
- Some of the participants noted that this was too conservative and technical experts should be relying on more updated info; specifically USGS geothermal compilations. Efforts are underway to collect this information.

Next Steps – Develop criteria for analysis (ie, heat flow, geology, temperature) to better assess potential. Next geothermal call is September 12th.

ZITA - Hydro and Biomass

- Biomass to be discussed August 22nd.
- Preliminary definition for retrofit existing diversions and impoundments thought to be too narrow. Several large projects in WA and Canada would be eliminated and might warrant 'zone' status

Next Steps – identify specific projects and have reviewed by ZITA and E&L.

ZITA - Tech Committee Considerations

- Technology time frame will be 2010 – 2025.
- Concern for handling confidential information
- How to incorporate data from developers.

ZITA - Next Steps

- Fine tune criteria for each resource.
- Pull together resource criteria and land use issues:
 - Military Lands
 - Tribal Lands
 - E&L review
- Meeting September 22nd – 23rd to review selected criteria and develop Candidate Study Areas.

E&L Work Group

- Recent Accomplishments:

- E&L WG membership confirmed
- Workplan finalized
- Confirmed process and began work group discussion to identify land types where development is precluded by law
- Confirmed membership for Western Wildlife Habitat Council (WWHC)

E&L Work Group

- Upcoming Tasks/Future Deliverables to TC:
 - Determine land types where development is precluded by statute or regulation; send to consultants for mapping
 - Identify lands not precluded by law, but which have other impediments to development
 - Establish protocols, definitions and format for key wildlife impacted by renewable resources
 - Identify sources for wildlife data outside of state agencies
 - Send data request to state agencies and other identified sources

E&L Work Group

- Items for TC consideration

- Proposal for treatment of agricultural lands in REZ assessment

(pg 27 of workplan)

- Recommend **not** using "agriculture" as a criterion for excluding lands
 - WGA does not have any policy that would guide us on how to keep certain agriculture lands in production.
 - We believe certain agriculture lands may be able to accommodate both agricultural development and renewable energy development.
 - As agricultural lands are private property, we would be very reluctant to limit use of these private properties without some guiding principles and policies in place.
 - Because the WREZ will only identify potentially developable lands, but development projects will still require extensive permitting, consideration of alternative values for these lands, such as "agriculture", should be considered on a case by case basis through the permitting process.

E&L Work Group

- Scheduling & Upcoming Dates
 - Bi-weekly work group conference calls on Tuesdays, 9:30 am MDT
 - Sept 22 – 23 Joint ZITA/E&L Workshop
 - Fall workshop with WWHC Task Group/E&L

GTMWG

- Task 1 – LSE model
 - July 24 webinar on model development
 - Creation of 3 sub-groups
 - Model Development (on Work Group critical path)
 - Transmission Segments (input to model)
 - Transmission Characteristics (input to model)
- Task 2 – Conceptual transmission plans from REZs
 - WREZ background briefings for SWAT, CCPG, Sierra, WECC
 - January 31 WREZ study request to WECC

GTMWG Next Steps

- Model development
 - Early Sept meeting of Model Development Subgroup, LBNL and B&V
 - Late Sept written description of the model
 - Mid-Oct Technical Committee briefing on the model
 - **KEY ISSUE: ability to evaluate multiple REZs and load zones using same transmission vs. keeping model transparent and user friendly**
- Inputs to model
 - Developing initial list of inputs needed from ZITA
 - Transmission segments and transmission cost/characteristics information from GTMWG subgroups

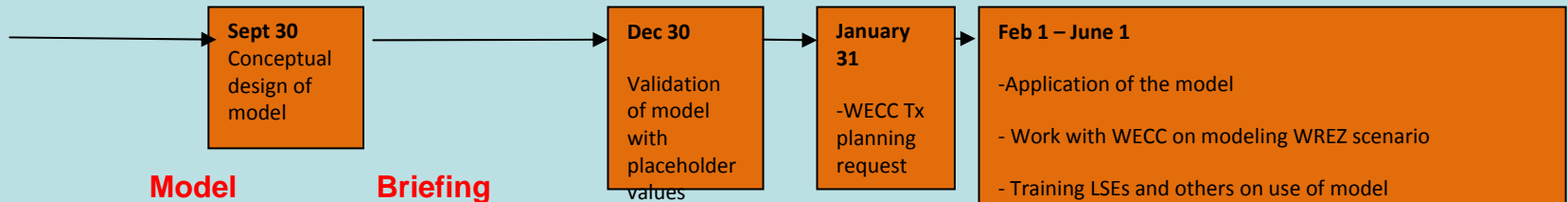
GTMWG - Requested Concurrence from Technical Committee

The GTMWG is proposing the following guidance to model developers:

- Incorporate intermediate on and off ramps
 - The preferred alternative is enable the model to evaluate multiples REZs and load zones using the same transmission line.
 - If the preferred alternative is not feasible, then consider:
 - Ways to evaluate multiple REZs and load zones external to the model; and
 - The need for a second model to evaluate multiple REZs and load zones.
- Mileage segments
 - The preferred alternative is to:
 - Calculate distance between REZs and load zones using transmission segments not a straight line transmission from REZs to load zones. A tabulation will be provided to document mileages for identified segments.
 - The distance from the REZ centroid to the nearest logical transmission corridor will be assumed to be a straight line, unless data provided by the L&E work group suggests an alternate route to the nearest transmission corridor.
 - The initial input to the model will be a single value for the distance and cost per mile between the REZ and the load zone in which the user can use mileages from the tabulation of segments or a mileage of their own choosing.

Details on GTMWG Schedule

Task 1



Model Development Sub-group meeting

Briefing of Technical Committee on model

Task 2

Briefings

SWAT

Renewables

Task Force

briefing

WCPSC

briefing

WECC OC/PC/MIC

briefing

WECC Board

briefing

CCPG/SWAT/Siera

briefing

WECC TEPPC

briefings

CREPC briefing

Acronyms

CCPG – Colorado Coordinated Planning Group
 CREPC – Committee on Regional Electric Power Cooperation
 LSEs – Load-serving entities
 OC – WECC Operating Committee
 PC – WECC Planning Committee
 SWAT – Southwest Area Transmission Group
 T.C. – WREZ Technical Committee
 TEPPC – WECC Transmission Expansion Planning Policy Committee
 WCPSC – Western Conference of Public Service Commissioners
 WECC – Western Electricity Coordinating Council

Upcoming WREZ Schedule & Key Dates

- Technical Committee
 - In-person Meeting October 15 – 16, Phoenix, AZ
 - Purpose: To discuss recommendations and analysis from work groups
 - Candidate study areas
 - Environment & lands exclusion areas
 - Presentations:
 - Supply curve inputs (Black & Veatch)
 - Transmission model development (LBNL)

Schedule & Key Dates

- Joint ZITA/E&L Workshop
 - September 22 – 23, Denver, CO
- GTM Model Development Sub-Group
 - September 12, San Francisco, CA
- E&L/WWHC Task Group Workshop
 - October 2008