Western Renewable Energy Zones Project
Technical Committee Meeting
October 15 – 16, 2008
Summary and Next Steps

Decision Items & Next Steps

Decision Items:

- Approved methodology for CSAs in US, and approved application of same methodology to Canada and Baja when data is available.
- Approved ZITA process for refining CSAs to proposed REZs.
- Approved approach for refining CSAs to proposed REZs.
- Approved approach for supply curves with understanding that assumptions will be vetted with ZITA.
- Approved moving forward with conceptual plan for transmission model development.
- Approved recommendation on addressing avoidance areas in REZs.
- Approved recommendation on data quality with edits to language.
- Approved recommendation on scale of maps and outreach to tribes.
- Approved recommendations for Phases 3 and 4, with edits to language, and requested update from planning subgroup at next TC meeting.
- Approved public outreach strategy with revisions.
- Next Meeting: January 13 – 14, 2009 in Denver, CO

Next Steps for Technical Committee:

- TC circulate E&L public comment request among constituencies – suggest to WGA additional stakeholders to send request to.
- WGA send non-REZ resource document to TC – ask for comments by Nov 1 and from those comments determine if TC needs further discussion on a webcast.
- WGA develop a 1-pager for what the TC agreed on at the meeting.
- WGA send TC background information on ZITA's resource discussions.
- WGA post presentations – edit B&V Presentation to refer to PROPOED REZs.
- WGA make necessary edits to data quality/availability item in issue paper.
- WGA edit Phase 3 & 4 recommendations and circulate to TC.
- WGA develop general WREZ PPP for TC members to present or circulate. In future, send clear messages to TC about what documents they can post/circulate to their constituents. Paul Orbuch will also begin contacting TC state and stakeholder representatives.
- WGA begin outline of WREZ report to Governors.

Introductions & Agenda Review – October 15
John Savage and Tom Darin, committee co-chairs, and Abby Arnold, Kearns and West, facilitated the Technical Committee meeting. Ms. Arnold began by introducing members and walking through the purpose of the meeting and proposed agenda. The meeting agenda is available in *Attachment A* and a list of meeting attendees is available in *Attachment B.*

Expected outcomes of the meeting:

- Review background data and approve Candidate Study Areas (CSAs);
- Review, discuss and approve approach for supply curves analysis and transmission modeling;
- Review, discuss and approve approach for outreach strategy and discussion of public input;
- Review discuss and approve outline for Phases 3 & 4; and
- Identify and discuss policy and technical issues.

Briefing on E&L and ZITA Work Group's Progress
E&L Presentation
Work group co-chair Brian Weber presented to the Technical Committee on the recent progress of E&L and their upcoming schedule. E&L has currently identified initial areas for exclusion from REZs. These areas are largely areas where development is precluded by statute or regulation, but also includes some areas work group members agreed, by consensus, should be excluded from REZs. NREL and Black & Veatch have GIS shapefiles for the majority of these exclusion areas and are working to load them onto the GIS portal. E&L has also identified a number of areas that they are recommending NREL and Black & Veatch map as sensitive areas. A next step for the work group is to refine the sensitive areas further to capture the level of conflict with development and associated mitigation costs.

The Western Governors' Wildlife Council (WGWC) State Task Group (STG) is responsible for collecting data and determining REZ exclusion areas for crucial habitat in states. E&L is providing input into that process by developing a recommended list of potentially impacted species and collecting available wildlife and habitat data from sources outside of the state agencies. This information will be sent to STG for consideration.

E&L has also started a public comment process within the work group to solicit feedback on the current exclusion areas, sensitive areas, impacted species list and outside data. The intent of this process is to create transparency and involvement from other stakeholders, but to also learn of available data that may exist. The lists of areas are available at www.westgov.org.

Finally, Brian Weber raised the issue of ranking REZs based on an "environmental cost" value. This issue has been discussed in the work group but not at length and the work group has not yet reached a recommendation for the Technical Committee to consider. The work group did, however, want the Technical Committee to be aware that they were

discussing the merits of ranking REZs based on an environmental cost in the same way supply curves will rank a REZ.

ZITA Work Group Presentation
Lisa Szot, co-chair of the ZITA work group, presented the work group's resource criteria to the Technical Committee. Each renewable resource was reviewed to assess where the greatest energy potential exists. Lisa noted that each resource was reviewed individually, through a series of conference calls, and involved 30 – 50 stakeholders. This resource analysis formed the CSA. However, the resource criteria were introduced with the following caveats; not all Canadian resource information was available in a GIS format, but the Canadian information will be analyzed with this methodology once it is available. Furthermore, biomass and hydro will be analyzed only when these resources are found within a CSA. Projects that are located outside of a CSA will be considered non-REZ resources. An exception to this approach is Canadian hydro resources. British Columbia and Alberta have identified several large scale hydro projects that warrant REZ designation. The specific resource criteria are available at www.westgov.org.

One Committee member noted that biomass plants are located where the fuel is; to which Ryan Pletka, Black & Veatch, acknowledged that that approach would be taken once the REZ analysis commenced. Another member also sought further clarification on what constituted biomass and whether beetle kill was considered. Ryan responded that beetle kill could be considered, but much would depend on whether the beetle kill fell into a CSA or not. Other members were concerned about how NGOs will respond to beetle kill forests being considered as biomass potential.

Lisa then noted that the richest renewable resources have been mapped. At the joint ZITA and E&L work group meeting in September, the ZITA group broke into four small groups and each group circled those areas on the maps with the greatest resource potential. These four maps were then combined into one; and the results from this exercise were projected on the screen for the Technical Committee.

Action Item: *The Technical Committee approved resource criteria for establishing CSAs.*

Presentation of Draft CSA Criteria & ZITA Refinement
Ryan Pletka began the discussion of how CSAs were created, noting that CSAs are the starting point for creating REZs. A CSA is a broad area that has the potential to contain REZs, and REZs are a concentration of renewable resources that share transmission. Ryan also noted that there is a significant amount of viable renewable resources out there that do not necessarily require this REZ analysis. Resources outside of REZ boundaries can potentially be built faster and with less constraints coming from this process.

The presentation noted those factors that will be used to transition the CSAs to a REZ: exclusions from E&L, other land use exclusions and technological assumptions. One member stated that the effort should focus on steering away from leaving exclusion areas within a REZ, and should focus on creating compact REZs with the greatest potential and the least amount of environmental sensitivities. Since there is such vast potential for

renewable why not focus on only the least sensitive areas for development? Another member countered this by noting that larger land areas result in greater competition for energy production and drawing circles too tightly minimizes the develop-ability of good projects. Additionally, another member sought clarification on the exclusions used to determine CSAs and the difference between those exclusions in the NREL database and those identified by E&L.

The presentation continued with the introduction of ZITA's proposal to differentiate between interstate and intrastate REZs. The interstate resources (such as high class Wyoming wind) were thought to be competitive on a regional basis, whereas those resources with less potential could be utilized to meet energy needs within a state. This proposal from ZITA lead to the discussion of the purpose for distinguishing between state or regional REZs. A presentation from Black & Veatch, outlining the ZITA CSA refinement proposal, is available at www.westgov.org.

The following points were made:

- Why specifically differentiate between interstate and intrastate resources when the transmission model can guide LSEs in selecting appropriate REZs.
- There does not need to be a distinction between REZs unless there are too many zones identified which will make the modeling exercise difficult.
- It is ultimately the utility who will decide what is an in-state resource and a regional resource.
- Excluding lower classes of resources initially could be seen as presupposing the outcome of this initiative. There should be a consistent approach for how REZs are identified and analyzed.
- Classification of interstate/intrastate REZs should not make judgments on a resource's viability.
- There could be additional criteria that impact the viability of rich resources, such as proximity to transmission, potentially making a class 4 wind more attractive than a class 6 wind.
- One of the key cost factors in a projects overall economic appeal is transmission; hence proximity to a load center is a major cost factor. Why not consider that as a cost as well as the class level?
- There was a concern for projects that have Class 4 wind areas in development stages and will be eliminated from this process based on the ZITA resource criteria. Identifying a subset of criteria for local REZs should be avoided.
- If we are too inclusive, there will be too many REZs, making the model meaningless. We don't want to be forced to model areas that no one wants to develop. Suggest there is no in-state/out-of-state designation unless the number of REZs surpasses what the model can handle.
- Subset of criteria among REZs may create confusion.
- There was a concern for REZ analysis the states have already produced and confusion could occur if those REZs are not incorporated into WREZ.
- It makes sense to look at local needs and identify connecting in-state resources with in-state load.

- ZITA needs a method to whittle the CSAs down – there is too much potential now for everything to be assessed. We should seek richest resources without picking winners and losers.

The rationale for different states having different resource criteria for determining REZs is that, right now, some of the smaller classes of resources are going onto the electricity grid because the costs of existing transmission are minimal. Dave Hurlbut noted that this project needs to identify a subset of areas to which wind criteria would be applied, to further narrow the number of zones. While different resource criteria for different states may seem inconsistent, it is really the technological assumptions that need to be consistent among REZs when developing supply curves.

Further discussion on ZITA's refinement of CSAs into REZs was tabled for WGA staff to frame the issue and propose a detailed approach.

Setting-Up Policy Questions
The E&L and ZITA work groups met in mid-September where they identified several WREZ policy issues for Technical Committee consideration. WGA staff used these questions to develop an issue paper for the Technical Committee including staff recommendations for members to consider. At this point in the meeting WGA staff and work group chairs summarized each issue and referenced the issue paper. Technical Committee members were asked to review the paper in preparation for further discussions on Day 2 of the meeting. The issue paper is available at www.westgov.org.

Supply Curve Presentation
Ryan Pletka presented on the supply curve methodology. Ryan noted that supply curves are just a visual representation of generation costs and do not include transmission costs. Supply curves will be done for every zone, and to do this cost factors are created for each resource. Cost factors include: cost of capital, technology assumptions, development costs, etc. The process creates a 'proxy' technology for each resource that will be consistent throughout the analysis. The supply curve reflects the amount of energy that can be generated and at what cost. Those areas that are on the right of the supply curve reflect higher cost areas; those that are not as economically competitive as those areas on the left of the supply curve.

Members of the E&L work group asked how environmentally sensitive areas with be incorporated and assessed in the supply curves since the goal is to direct the developer into the least sensitive areas. Ryan said that additional mitigation costs would push the projects to the right on the supply curve. Tom Darin, Committee co-chair, asked for Black & Veatch and others to think of measures to push developers away from sensitive areas if mitigation casts are hard to capture. Other members noted that the assumptions into the supply curves will need thorough vetting through the ZITA work group, with input from the GTM work group, as well as the E&L group.

Questions were raised on the production variations associated with seasonal changes. This needs to be captured in the model. This will be captured in the integration costs and is assumed to be mitigated with geographic disparity.

Action Item: *The supply curve methodology was approved by the Technical Committee.*

Transmission Model Presentation

Jerry Vaninetti, GTM work group co-chair, presented on the status of the transmission model, and Amol Phadke, Lawrence Berkeley National Lab, presented a strawman model. Jerry described that the model development subgroup of GTM is working on stages for the model that deal with increasing complexity. The first stage will be to model the delivered cost of energy from one REZ to one load center, increasing to multiple REZs to one load center and finally multiple REZs to multiple load centers. The model will be a flexible excel-based model with the objectives to:

- Assist resource planners and regulators to evaluate the relative attractiveness of geographically broad renewable resource options at a screening level;
- Estimate delivered costs of renewable energy options from REZs to LSE load areas; and
- Highlight potential for collaboration opportunities to develop transmission to access renewable resources.

The model will require inputs from ZITA such as REZ coordinates and resources and cost and performance information, such as fixed and variable costs, temporal profiles and financing assumptions. Assumptions will be input into the model, however the LSEs will have the ability change the defaults and input their own assumptions if they choose.

Model outputs are expected to be:

- Generation resource characteristics and operation, busbar cost, delivered cost, and resource value to the user;
- Transmission cost based on GTM work group identified transmission routes and costs; and
- Identification of other load areas that may be interested in similar resources.

In response to questions from Committee members, Jerry and Amol added that in talking to LSEs they seem to want models that are out of the box, and early on in the model development GTM will conduct trainings on how to use the model and identify examples of good projects for WECC modeling. Additionally, Jerry assed that the model is not assessing load zone needs for resources or looking at RPS standards or competitive purchases. The model is being designed to calculate the cost of "x" megawatts of energy to a particular load zone. Farther along in the WREZ process GTM could adjust production costs and performance costs to consider future costs, but the starting point now is to use today's costs and data.

Action Item: *The conceptual direction for model development was approved by the Technical Committee.*

Public Comment

Rich Halvey provided comments on behalf of members of the public not present at the meeting. The first issue was a concern that high potential wind resources from Kansas, Nebraska, and the Dakatoas are not being considered in the REZ identification process.

The second issue addressed land speculation issues and the following letter was submitted:

To: Tom Darin and John Savage, Co-Chairs, Technical Committee

The best laid plans of mice and men often go astray. There is real danger in the WREZ initiative if the rules to access these zones are not determined before the zones (presumably the best and most desirable places for renewable energy projects) are identified and made public. In the absence of such rules, the reason why the WGA is doing this work – presumably, to facilitate the siting of renewable energy projects can turn out to do just the opposite. By identifying these prime areas for siting renewable energy projects without the criteria or terms under which developers or others can apply for, or claim or access them, invites speculation and the thwarting of the WGA' intended purpose.

I urge the WGA to immediately initiate a parallel and immediate effort to, by open discussion and consensus among stakeholders, and with legal participation, arrive at the rules whereby anyone may claim a portion of, or a site within, these zones. Just as one should be required to "show their cattle" when asking for federal land for grazing, developers and others should be required to "show their project" when asking for the right to site their project in a WREZ.

I offer this conceptual approach to setting such a rule:

1. Any developer may propose to any utility or off-taker to site its plant in any WREZ that it wishes, but it does not have any right to that site within that WREZ at that time.
2. If and when that developer signs a PPA or similar sales contract, e.g. for a turn-key project, or when the developer signs a contract with an EPC company for a merchant plant, the developer may ask for, and receive, the right to a specific site within a specific WREZ. That right should then be promptly but conditionally granted, subject to meeting the following conditions.
    a. Complete the permitting of the project (defined as the right to begin construction) within the time period stated in the PPA or 18 months after acquiring the right to a specific site, which ever is longer.
    b. Secure finance for the project or begin construction within the time period stated in the PPA or 12 months after completion of permitting.
3. Upon passing this last milestone, the developer has the right to that site for as long as the plant remains in operation, or is operable.

I realize that the WGA may not have any authority to implement any such rule as the WREZs are so broad that they will include federal, state, and private land. I also assume that some or most of the WREZs will fall into areas already identified by the individual states as such zones. The purpose of this letter is to get this issue on the table to get the discussion going, realizing that any rules will have to be accepted and implemented a the local level by those with jurisdiction.

We are seeing the results of minimal regulation on the financial market. Please do not proceed with the identification of WREZs without setting the rules for claiming sites within them.

While I am the Senior Advisor for U.S. Operations of Abengoa Solar, a solar power plant developer, and the former co-chair of the WGA Solar Task Force, I write this letter strictly on my own, as a person who has worked in renewable energy since 1969.

Sincerely,
Frederick H. Morse

Review of Day 1 – October 16

Refining CSAs to REZs – ZITA Process

During the previous day, Committee members spent a significant amount of time discussing ZITA's proposal to refine CSAs into REZs using two different resource criteria; one for resources requiring intrastate transmission and another for resources requiring interstate transmission. The discussion circulated around the best way to incorporate the state REZ identification reports in Colorado, California and Nevada, and also recognize that some resources hold the potential for longer distance transport. One question was whether or not to identify the best REZs in a state even if they do not meet the overall WREZ resource criteria.

Overnight, WGA staff worked to revise ZITA's proposal based on members' comments. The following is the revised proposal that was presented to Technical Committee members:

Proposal for 1st Step in Refining CSAs into REZs

1. Identifying High Quality Renewables
    - Most likely to attract interstate interest
    - Class 5 wind plus
    - 7 Kwh/M2/day solar
    - High density
2. For states not having areas meeting the criteria choose high quality
    - Not less than Class 3 wind
    - Not less than 6.5 Kwh/M2/day solar
    - High density
    - Must meet minimum size requirement (*tbd*)
        - *Recognizes potential in each state*
        - *Creates more choices for LSEs*
        - *Creates potential to have manageable number of REZs*
3. In states with richest resources, lower quality resources will be shown as non-REZ
4. All state approved REZs must be part of initial CSAs
    - State areas may be adjusted or consolidated
    - As other state REZs approved will be incorporated, if timely
5. All states will have WREZ exception criteria and cost curve analysis approved except CA which will be imported as is
6. No labeling as "interstate" or "in-state"

Action Item: *Technical Committee members agreed to the proposed process for ZITA to refine CSAs into proposed REZs. ZITA has the ability to respond to the Technical Committee if revisions to this plan are necessary.*

Transitioning From CSAs to REZs

The above approach for ZITA to refine CSAs into proposed REZs takes into consideration resource criteria. Additional refinement will occur based on environmental sensitivities and technology assumptions before proposed REZS are established. CSAs become the initial areas to refine into proposed REZs. ZITA will refine CSAs based on the process above and based on technology assumptions, additionally CSAs will be refined further based on E&L exclusion areas. Once ZITA and E&L factors have been applied the CSAs will be refined to proposed REZs. Proposed REZs will still need to undergo review by the Technical Committee and Steering Committee, public comment and the incorporation of E&L wildlife assessments. The transition was depicted in a presentation by Black & Veatch which is available at www.westgov.org.

***Action Item**: Technical Committee members agreed to the proposed process for E&L and ZITA to refine CSAs into proposed REZs.*

Discussion of Policy Questions
WGA staff prepared an issue paper based on policy questions identified by the work groups, the issue paper includes staff recommendations for the Technical Committee. At this point in the meeting staff asked the Technical Committee to discuss each issue and make a determination. The issue paper is available on www.westgov.org and each issue is described below.

What it means to be in a CSA
CSAs are the NREL base resource maps modified through the application resource criteria identified by ZITA and initial environmental screens used by NREL and currently being modified and supplemented by E&L. Identifying candidate study areas is an interim step the work groups will take in the process of developing proposed REZs. Reducing the entire Western Interconnection into CSAs before proposed REZs are established provides the ability for work groups to conduct environmental assessments and economic analysis in only those areas where it is possible that a REZ will be located. The expectation is that CSAs will be refined further into proposed REZs. To meet the WREZ objective of providing load serving entities, PUCs and others with a user-friendly, transparent model to calculate the delivered price of power from REZs, it will be necessary to limit the total number of REZs to approximately 20-60 (not 100+).

Staff requested that the Technical Committee provide comments on the definition of CSAs and approve its use in establishing REZs.

***Action Item:** The Technical Committee approved the definition of CSAs described above.*

What it means to be in a REZ or not in a REZ
REZ identification is intended to help guide renewable resource development decisions by encouraging development in those areas that have the best energy potential, least environmental and other impacts, and favorable economics. Although the WREZ project has no authority to create legally enforceable parameters for what is or is not a REZ, work group members in ZITA have been concerned about the impact on particular projects should they fall inside or outside of a REZ. At the E&L/ZITA Joint Workshop

in September, Dave Hurlbut from NREL gave a presentation on what it means for a project to be located outside a REZ. Dave's PowerPoint (WGA Resources Outside A Renewable Energy Zones - Dave Hurlbut, NREL) is available at: http://westgov.org/wga/initiatives/wrez/enviro/meetings/index.htm. Dave also prepared a briefing paper discussion non-REZ renewables which was passed out at the meeting. This document is available at www.westgov.org.
Dave emphasized the following considerations:

- REZ resources and non-REZ resources have different development paths. The WREZ process is not a forum for everyone, and might not fit everyone's needs.
- There exist high-potential resources that do not need REZ designation in order to be developed.

From a policy perspective, the stakeholders are concerned about perceived benefits that may be derived from being in a REZ versus not being in a REZ (i.e. tax incentives, special permitting, etc). There is also concern that when the report is released, that portions of the report will be taken out of context. For instance, areas identified as environmentally sensitive will be used as 'law' in a different setting; when the intent of the environmental sensitivities are meant to steer developers to easily developable locations.

Staff requested that the Technical Committee comment on the values of inclusion and exclusion from a REZ and approve these values as guidance to the working groups and for incorporation into WREZ written reports.

Action Item: *WGA will circulate Dave Hurlbut's non-REZ briefing paper and Technical Committee members will submit comments on the paper by November 1. Once comments are received WGA will determine if a follow-up call with the Technical Committee is needed to get agreement on the treatment of non-REZ resources.*

How exclusion areas will influence the proposed REZ boundaries
It is possible that in some proposed REZs the exclusion and mitigation areas might consume a significant part of the REZ. This in turn will affect the supply curves for those potential REZs. The question is whether or not to eliminate a proposed REZ based on the presence of significant exclusion and mitigation areas.

Staff requested that the Technical Committee provide guidance to ZITA and E&L on this issue. The staff recommended that ZITA and E&L will coordinate to send the Technical Committee an analysis and a recommendation by December 31 on how to treat proposed REZs with significant exclusion and mitigation areas. This will include a recommendation on when such REZs should be eliminated from consideration.

Members discussed E&L's objective to identify areas with the fewest conflicts for development and ZITA's role of using exclusion areas to identify boundaries for proposed REZs. One side of the discussion was that there will be plenty of resource potential left if all the sensitive areas are excluded from a REZ, with a counter argument being that developers want to reserve the right to decide whether or not to develop on

areas that may have conflicts based on the overall costs. One member mentioned that Colorado attempted to create REZs that were large enough so that developers had room to avoid development in some areas within the REZ.

Action Item: *The Technical Committee recommended that ZITA and E&L coordinate to send the Technical Committee an analysis and a recommendation, by December 31, on how to treat proposed REZs containing significant exclusion and mitigation areas.*

How to evaluate data quality/availability
E&L anticipates that in their process of collecting data on crucial habitat and impacted species within the CSAs and proposed REZs they may discover that there is varying quality and availability of data for all of the analysis areas. E&L is not yet certain where these data gaps may occur, or what the extent of the gaps is, however they do not want a lack of data to bias the boundaries of a REZ. Similarly, E&L is utilizing the work of the Western Governors' Wildlife Council (WGWC) to identify crucial habitat in the states, and it will be important for the schedule of that information to match with the expected schedule of the WREZ zone identification.

Staff requested that the Technical Committee direct the E&L group to work with the WGWC to obtain the best data available from state sources, and if state data is not available, from any reliable source for the purposes of acting as a placeholder until such time as state data becomes available, and to complete this by December 31 for analysis of the CSAs and by April 2009 for inclusion the final REZs.

Action Item: *The Technical Committee agreed to direct E&L to work with the WGWC to obtain the best data available from state sources, and if state data is not available, from any reliable source for the purposes of acting as a placeholder until such time as state data becomes available, and to complete this by December 31 for analysis of the CSAs and by April 2009 for inclusion the final REZs.*

How specifically will proposed REZs be presented in maps
In looking at the regional scale maps, it is difficult to appreciate the possible significance of the exclusion areas. Having more detailed maps will make it easier for developers and decision makers to see REZ boundaries and avoidance areas.
Staff requested that the REZ maps be available on a regional (interconnection) scale, a state scale, and a county scale.

Action Item: *The Technical Committee agreed that the REZ maps be available on a regional (interconnection) scale, a state scale, and a county scale.*

Increasing the participation of tribes
WGA has held initial conversations on incorporating additional tribal participation into the REZ identification process. It will be important, once the CSAs are defined, to discuss potential areas of importance to tribes and WGA is working to increase their representation on the Technical Committee.

Staff requested that the Technical Committee direct ZITA and E&L to coordinate with tribes to identify areas of cultural and historic significance within the candidate study areas. Further, the work groups should clearly identify which areas would be considered exclusion areas by tribes, and which would require consultation and potential mitigation.

***Action Item**: The Technical Committee agreed to direct ZITA and E&L to coordinate with tribes to identify areas of cultural and historic significance within the candidate study areas.*

The last policy issue regarding REZs complimenting state REZ efforts was discussed and agreed to during an earlier conversation on ZITA's proposal to refine CSAs into proposed REZs by targeting the greatest available resource potential in each state and utilizing the efforts of state REZ projects in Colorado, California and Nevada.

Outline of Phases 3 & 4

A small task force of volunteers has been formed to begin discussing the scoping and execution of Phases 3 and 4 of the WREZ project. The need to further define Phases 3 and 4 was raised at the WREZ kick-off meeting in May. On September 18, volunteers were solicited to join a task force to scope out Phases 3 and 4. The task force currently includes Ron Lehr, AWEA; Will Lutgen, Northwest Public Power Association; Richard Smart, Community Hydro Consulting; Larry Mansueti, DOE OE; Steve Lindenberg, DOE EERE; Doug Larson, WIEB; Rich Halvey WGA.

Phase 3 is "Coordinate Procurement to Support Commercial Transmission Projects and a Regional Market for Renewables." Phase 4 is "Build Interstate Cooperation to Facilitate Transmission Facility Approvals, Allocate Costs, and Ensure Cost Recovery." These tasks were briefly described in the December 2007 proposal Western Governors made to Energy Secretary Bodman, but were not part of the budget proposal. The parties that need to engage in Phase 4 (e.g., permitting agencies, regulators) are better defined than the parties needed to implement Phase 3. Many of the key parties to implement Phase 4 already have forums for ongoing discussions. There are a number of existing policies and practices that affect Phase 4, such as WGA transmission permitting protocol, EPAct Section 1221(h) MOU among federal agencies, the Northern Tier Transmission Group cost allocation principles, etc. Additionally, potential action by a new Administration and Congress will need to be incorporated into the Phase 4 work.

Doug Larson presented a memo to the Technical Committee that made the following recommendations to the Technical Committee:

- The Technical Committee should broaden the membership of the task force to include representatives of load-serving entities, specifically resource planners, and PUCs.
- The task force should be directed to produce a draft scope of work for Phase 3 by December 1. Technical Committee members should provide comments on the draft. A complete proposal for Phase 3, including a proposed budget, should be presented to the Technical Committee at its January meeting.

- The scoping of Phase 3 should be first priority. The scoping of Phase 4 should be done after Phase 3 scoping, for presentation at the WGA Annual Meeting in June 2009.
- The task force should be directed to develop a set of options on potential desired outcomes for the Technical Committee to consider.

The full memo is available at www.westgov.org.

Technical Committee members encouraged focusing efforts to broaden the task force membership to include LSE and PUC representatives, specifically resource planners. They also discussed encouraged the task group to identify a timeline for Phase 4 to present to the Western Governors at WGA's Annual meeting in June 2009. Other members discussed how input from the environmental community would be included in Phases 3 & 4, and considering how some states allow renewable energy development within the state but not the purchase of power.

Action Item: *The Technical Committee approved the task force's recommendations (above).*

- *Next Steps: The task force will continue to meet and work through recommended objectives, and will provide a progress report to the Technical Committee at their next meeting.*

WREZ Public Outreach Strategy

Paul Orbuch and Karen Deike presented on the WREZ public outreach strategy, and specifically on the role of the Technical Committee in providing outreach. A summary document on public outreach was circulated to the Technical Committee and can be downloaded at www.westgov.org. The WREZ Charter calls for the Technical Committee to ensure their constituencies and the public understand Committee products and objectives of the WREZ. The Technical Committee is asked to assist with public outreach; each Technical Committee member should consider how to utilize any of the following options or make suggestions to WGA for additional materials/approaches that will assist in meeting public outreach obligations to their constituencies and a wider audience:

- Written materials describing the WREZ process that can be placed in newsletters, e-mails and on Web sites;
- Notices of draft products from the WREZ work groups and the opportunity to provide public comment;
- WREZ meeting notices where public participation is being sought;
- Assistance in designing and facilitating WREZ public outreach events that stand on their own or that are held in conjunction with other events; and,
- In-person meetings or conference call briefings for constituents and the broader public with WREZ principals and/or staff.

There is a specific public comment period scheduled for review of proposed REZs in February 2009. For the comment period, WGA staff will develop outreach materials to circulate via e-mail and post on the WREZ website. Technical Committee members will be asked to notify their constituencies of the public comment period.

WGA will assist in developing outreach materials for use by Technical Committee members, governors offices, PUCs and others for use in communities within or near a designated REZ. WGA will also provide to Technical Committee members meeting support and expert presentations for site-specific outreach.

Additionally, WGA is conducting outreach to tribes. A representative from CERT will be added to the Technical Committee, DOE wil provide WREZ information to tribes through their Tribal Energy Program, and outreach to First Nations in BC and Alberta will be pursued by Canadian Technical Committee representatives.

Finally, WGA anticipates producing a public outreach report for the next Technical Committee meeting. WGA will track and develop a summary of its public outreach efforts for the Technical Committee, and will correspond with each state and province over the next two months to seek information on public outreach opportunities and how WGA can assist. Public outreach efforts undertaken in each jurisdiction will be compiled and presented to the Technical Committee.

Members of the Technical Committee suggested the following outreach efforts:

- Form ad hoc public outreach subgroup of the Technical Committee;
- Have members notify WGA when they make presentations on WREZ in order to track constituencies that have been briefed;
- Members maintain responsibility for outreach to constituencies, particularly on sensitive issues or to groups that may be particularly impacted by WREZ outcomes;
- Consider overall goal of getting people to endorse WREZ project;
- Thinking proactively about outreach to targeted groups

Action Item: *The Technical Committee approved the Outreach Strategy.*

Next Steps

At the end of the meeting Abby Arnold recapped decision items and next steps identified during the past two days of discussions. Specific decisions items and next steps for the Technical Committee are listed on the first page of this summary. The Technical Committee also identified next steps for the work groups and Steering Committee; these are listed below.

Next Steps for Steering Committee:

- WGA will send Steering Committee a specific update memo after this meeting and schedule a briefing webinar.

Next Steps for E&L:

- Work group discuss options for reflecting mitigation costs in supply curves.
- Work group consider options for how to further classify sensitive areas.
- Coordinate with ZITA on:
    - A proposal for addressing exclusion areas within REZs
    - Options for including mitigation costs in supply curves

Next Steps for ZITA:

- WGA post resource criteria factsheets on the WREZ website.
- Co-chairs take CSA refinement process back to full work group for review.
- Work group discuss with GTM what proxy technologies will be used in the model.
- Work group work with GTM to come up with assumptions for supply curves – vet those.
- Work group work on technology assessments.

Next Steps for GTM:

- Work group develop optional study requests to be vetted with Technical Committee.

Next Steps for Phase 3 & 4 Planning Task Group:

- Task group edit outline with some friendly amendments, including a deadline for Phase 4 timeframe before WGA Annual Meeting in June 2009.

Attachment A: Agenda

Western Renewable Energy Zones Project
Technical Committee Meeting
Denver, CO

October 15-16, 2008

PROPOSED AGENDA

Purpose:

- Approve Candidate Study Areas
  - Review of background data feeding into the CSA
    - resource criteria and initial environmental exclusions;
- Discuss implications of resource and environmental criteria for certain CSAs;
- Review, discuss and approve approach for supply curve model and analysis and economic modeling;
- Review, discuss and approve approach for outreach plan and discussion of how to receive public input for CSAs, and REZs;
- Review, discuss and approve outline for Phases III, and IV;
  Identify and discuss policy and technical issues.

Wednesday, October 15, 2008		
12:00-12:45	**Technical Committee Lunch** *Lunch is limited to members of the Technical Committee and project staff*	*Red Lion Hotel*
1:00 -1:30	**I. <u>Introductions, Overview of TC Objectives for Meeting and Agenda</u>** • **Introductions of TC members** • **Review and approve agenda** • **Review decisions/outcomes to be made by TC**	*Tom Darin/John Savage, Co-Chairs and A. Arnold, Kearns and West*
1:30-3:30 *(including break)*	**II. <u>Briefing On ZITA and E&L Work Group's Progress: Proposed CSAs</u>** • Overview of Work Groups progress • **E & L**: Methodology, key points of discussion, and outcomes – ***20 minute presentation and Q&A*** - Present definitions of exclusions areas - Provide list of categorized lands • **ZITA**: Methodology, key points of discussion, and outcomes – ***20 minute presentation and Q&A*** - Present resource criteria matrices from which candidate study areas (CSAs) were created	*Pam Eaton/Brian Weber, Co-chairs* *Amanda Ormond/Lisa Szot, Co-chairs*

	- Present renewable resource maps derived from criteria • **Present draft CSA maps – *20 minute presentation and Q&A*** - Present geographic boundaries and overlays *Technical Committee discuss CSAs. CSAs will be approved on Day 2.* • Policy Questions for TC consideration – ***15 minute briefing*** *(Specific questions and background information are included in a separate handout to Technical Committee members)*	*Dave Hurlbut, NREL and Ryan Pletka, Black and Veatch* *Group Discussion*
3:30-4:15	**III. <u>Supply Curve Analysis Presentation</u>** • Explanation of analysis • Explanation of inputs from ZITA • Explanation of incorporating E&L inputs *Technical Committee discuss and approve approach for economic analysis*	*Ryan Pletka, Black and Veatch*
4:15-4:45	**IV. <u>Modeling Work Group Transmission Model Presentation</u>** • Presentation of "strawman" model • Next steps and timeline *Technical Committee discuss and approve conceptual direction for model development*	*LBNL and GTMWG Co-chairs and Doug Larson, WIEB*
4:45-5:15	**V. <u>Public Comment Period</u>** *Observers interested in making comments should sign-up in advance – check registration table for sign-in sheet*	
5:15-6:30	**Reception**	*Red Lion Hotel*

Thursday, October 16, 2008		
7:30 – 8:30	**Continental Breakfast**	*Red Lion Hotel*
8:30 –8:50	**VI. <u>Overview of the Day, Review Objectives and Agenda</u>** • Review agenda • Open table: *Upon reflection what is on TC members minds and decide when during remainder to address.*	*A. Arnold, Kearns and West*
8:50-10:00	**VII. <u>Transitioning from a Candidate Study Area to a proposed REZ</u> –** *(The TC will be presented with a suggested approach for consideration)* • Possible elements for assessing proposed REZs: - Inputs on land classifications from E&L ▪ Avoid and sensitive areas - Inputs from Modeling Work Group ▪ MW threshold in 500 MW increments ▪ Reasonable size for manageable collector system - Inputs on REZ technological criteria from ZITA *brainstorming list includes:* ▪ Apply technology assumptions to CSAs to identify energy output ▪ Assess multiple resources in one zone**;** results in higher line utilization and reliability ▪ Assess geographic diversity ▪ Assess economics *Are there other elements that the TC believes should be considered?*	*ZITA and E&L Co-chairs*
9:45-10:00	**VIII. <u>TC members approve CSAs and transition approach</u>** *Technical Committee discuss and approve CSAs and approach for transition from CSAs to proposed REZs.*	*Group Discussion*
10:00-10:45	**IX. <u>Open Discussion on policy items or questions raised by TC members or work groups on Day 1.</u>** *(Specific questions and background information are included in a separate handout to Technical Committee members)* • Feedback and comments	*Group Discussion*

	• Is more information needed to reach a decision? What additional data do the groups need to compile? *Technical Committee discuss and provide direction on policy questions.*	
10:45-11:00	**BREAK**	
11:00-11:30	**X. Outline of Phases III and IV** • Proposal for Phases III and IV of WREZ process • Whats involved and who needs to be involved? *Technical Committee discuss and provide direction.*	*Phase III & IV Planning Subgroup*
11:30-12:00	**X. Outreach Strategy and Role for TC** • Outline outreach strategy, public comment • Clarify role of TC in public outreach • Identify needs of TC to gain input from public on proposed REZs. *Technical Committee discuss process and objectives for public outreach efforts – who to reach out to, successful outreach mechanisms, etc.*	*Karen Deike, WGA and Paul Orbuch, Orbuch Consulting*
12:00 – 12:30pm	**XII. Action Items & Next Steps** • Next TC meeting to approve proposed REZs – Jan 15-16? • Next Steering Committee meeting to approve TC recommendations – late Jan • Proposed REZ public comment period - February	*WGA Team, Tom Darin/John Savage, Co-Chairs*
12:30	**Adjourn**	

Atachment B: Participants' List

Western Renewable Energy Zone Project
Technical Committee Meeting
October 15 – 16, 2008

Member Participants
Co-chair – Tom Darin, Western Resource Advocates
Co-chair – John Savage, OR Public Utilities Commission
Steve Arenson– OSD Sustainability Office
Dana Cabbell – Southern California Edison
Pam Eaton – The Wilderness Society *(Environment & Lands WG Co-chair)*
Ken Eklund – ID Office of Energy Resources
Steve Ellenbecker – WY Governor's Office
Jeff Hahn – USA Biomass Power Alliance
Jeff Hein – CO Public Utilities Commission
Tom Kaiserski – MT Dept. of Commerce, Energy Infrastructure Promotion & Development
LaVerne Kyriss – WAPA
Ron Lehr – American Wind Energy Association
Steve Lindenberg – U.S. DOE EE
Rich Lindsay – Council of State Governments
Doug Little – BC Transmission Corporation
Clyde Loutan – CA ISO
Will Lutgen – NorthWest Public Power Association
Les MacLaren – British Columbia Ministry of Energy, Mines & Petroleum Resources
Larry Mansueti – U.S. DOE OE
Bevan Laing – Alberta Energy
Greg Nelson – PNM Resources
Brad Nickell – WECC
Amanda Ormond – Ormond Group *(ZITA WG Co-chair)*
Kevin Ritchie – Western Municipal Conference
Richard Smart – Community Hydropower Consulting
Lisa Szot – Renewable Energy Transmission Authority, NM *(ZITA WG Co-chair)*
Robert Taylor – Salt River Project
Jerry Vaninetti – TransElect *(GTM WG Co-chair)*
Brian Weber – PacifiCorp *(E&L WG Co-Chair)*
Carl Zichella, Sierra Club

Observers:
Margie Bates – DOE
Kevin Everett – Power Engineering, Inc.
Roger Frauga – Cota Holdings
Amy Halle – American Public Power Association
Leon Porter – SW Wind Dynamics
Brad Ring – DOE

John Schnagl – DOE
Michael Sidiropoulos – RES Americas, Inc.
Karen Smith – Argonne National Laboratory
Mark Strength – LS Power

Technical Consultants:
David Hurlbut – NREL
Ryan Pletka – Black & Veatch

Project Staff:
Tom Carr – WIEB
Linda Davis
Karen Deike
Rich Halvey
Pam Inmann
Doug Larson – WIEB
Paul Orbuch – Orbuch Consulting LLC
Shaun McGrath
Madeleine West
Abby Arnold, *Facilitator* – Kearns and West