GETTING TO 33% RENEWABLES PORTFOLIO STANDARD: ESTABLISHING A NEW ISO TARIFF CATEGORY FOR RENEWABLE TRANSMISSION PROJECTS

A STRAW PROPOSAL AND ISSUE PAPER

September 15, 2009
I. Executive Summary

The California Independent System Operator Corporation (the ISO) presents this issue paper as a straw proposal intended to stimulate stakeholder dialog necessary to quickly advance transmission solutions for integrating renewable resources. In order to identify and streamline grid upgrades that help accommodate a 33 percent Renewables Portfolio Standard (RPS) by 2020, the ISO proposes creating a new category of transmission that, among other things, fast tracks network upgrades identified in the generation interconnection process for approval in the annual transmission planning cycle.

As the transmission operator for the bulk of California’s wholesale power grid, and the only Federal Energy Regulatory Commission Order No. 890-compliant transmission planning entity in the West, the ISO is in a unique position to identify specific market and infrastructure improvements necessary to achieve state and looming national emission reduction and clean energy objectives. Eager to help integrate the largest portfolio of renewable power in the country, the ISO recommends convening at least three stakeholder meetings and comment cycles before presenting a final proposal to its Board of Governors for approval at their December 2009 board meeting.

The ISO proposes to study the state’s high-voltage network and its capabilities to deliver renewable energy and compile a 33 percent renewable transmission plan that developers can use to submit projects into our transmission planning request window. The ISO will further sort the projects into those that need additional study and those that merit immediate consideration in the current transmission plan (beginning with 2010). Where there are competing transmission proposals that contribute to meeting 33 percent goals, the ISO will conduct an economic assessment to determine which is the most cost-effective. Grid capability would then be “recalibrated” each year starting with the 2011 transmission planning cycle until sufficient transmission infrastructure is identified and proposed to meet the 33 percent portfolio goal by 2020.

While the current tariff contemplates a comprehensive transmission planning effort, the ISO believes it is necessary to make some changes to ensure review process efficiency and account for any hard deadlines established to meet the portfolio goal. The ISO also proposes a way to coordinate the 33 percent renewable transmission plan studies and the work mandated by the Large Generator Interconnection Process (LGIP) so that renewable projects developed during this effort can be included as an appendix in the ISO’s 2010 Transmission Plan.

II. Introduction

Increased investment in transmission facilities to access renewable-rich resource areas is a foundational requirement to attain the long-term 33 percent portfolio...
goal. The ISO proposes to develop its initial formulation of a long-term renewable transmission plan by building on the work of the Renewable Energy Transmission Initiative (RETI). The ISO is releasing the renewable analysis study results, along with other technical study results, on September 15, 2009. The ISO’s study will be an initial step in a number of technical studies that the ISO will need to conduct during the 2010 transmission planning cycle to develop a 33 percent renewable transmission plan.

The ISO’s technical studies will identify initial network upgrades and additions needed to achieve state renewable goals. Project developers will have the opportunity to propose projects in response to these identified needs for the 2010 transmission planning request window. Under its current tariff, the ISO has the authority to approve, through the transmission planning process, network upgrades to the transmission system for one of two purposes: (1) reliability, or (2) economic benefit.1 To facilitate achieving the state’s 33 percent portfolio goal, the ISO proposes to add a new transmission category that will allow the ISO to approve through the transmission planning process projects that would connect to renewable energy areas with demonstrated significant commercial interest and that are needed to proactively encourage renewable generation development.

The ISO also proposes to distinguish between projects that are likely needed for access to renewable resources and those that are immediately needed by conditionally approving projects in the “likely” category while providing final approval for those projects that meet stricter criteria, but are needed as soon as possible.

Conditionally approved projects will undergo re-evaluation on an annual basis when the ISO, as part of its planning process, “recalibrates” the 33 percent transmission plan to determine which projects should move forward into the final approval process. This will allow the system to adapt to changing circumstances and avoid the risk of stranded infrastructure investment and the overbuilding/underbuilding that could occur if predicted renewable generation development does not take place in locations or quantities expected.

The ISO tariff provides the framework for building a comprehensive transmission plan, but the ISO believes changes to the tariff and Business Practice Manual for Transmission Planning (BPM) are needed to incorporate a process and criteria that allows project evaluations and approvals in a more efficient manner and in a time frame that supports achieving the 33 percent goal by 2020. The ISO proposes outlining, in Section 24 of the tariff, a specific evaluation process and the new category of network upgrades eligible for approval as part of the transmission planning process. In addition, the ISO will set forth the applicable

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1 Location Constrained Resource Interconnection Facilities (LCRIF) are also evaluated in the transmission planning process. These facilities, however, are radial "trunklines" that connect generation in remote locations to the ISO grid. The focus of this proposal is the network infrastructure that will be required to deliver renewable energy in remote locations to the ISO grid.
study methodology and additional process details in the transmission planning business manual. Proposed tariff and business manual modifications will be subject to input from stakeholders.

The ISO envisions changes that provide for close coordination of the ISO transmission planning and generation interconnection processes including the criteria for evaluating transmission proposals and categorizing them as candidates for conditional approval or final approval. The ISO welcomes stakeholder comments according to following schedule:

**September 15** – Straw proposal and issue paper posted

**September 23** – Stakeholder meeting

**September 30** – Comments due

**October 16** – Updated straw proposal published

**October 23**– Second stakeholder meeting

**October 30** – Comments on updated straw proposal due

**November 5** – Second update posted

**November 12** – Third stakeholder meeting

**November 17** - Comments on second updated straw proposal due

**November 23** – Final proposal and tariff language posted

**December 1** – Conference call to discuss final proposal and tariff language

**December 16-17** – Presentation to ISO Board of Governors with the tariff filing in late December.

**III. The Transmission Infrastructure Projects Needed to Achieve the 33 Percent Renewables Portfolio Standard will be a Blend of Generation Interconnection Network Upgrades and Cost Efficient Economic Solutions**

Taking into account economic and environmental factors, RETI has identified renewable rich areas where generation development is likely to occur. This information is informing the ISO renewables transmission plan. At the same time, the ISO is studying the necessary interconnection and network upgrade facilities required to access the renewable projects that are already in the ISO generation interconnection queue. It is anticipated that network upgrades
required for specific renewable generation projects in the queue will meet some of the needs identified in the ISO annual transmission plan.

However, many of the transmission projects intended to access renewables may be hybrids, i.e., projects that have the attributes of a network upgrade needed to connect generation projects already in the queue as well as an economic project designed to add capacity that can accommodate future renewable generation projects needed to meet the portfolio standard. Increasing the capacity of the most viable transmission projects can provide another efficient way to achieve renewable goals. Also, stand-alone economic projects could provide an economic and efficient means to help meet the portfolio standard as well.

IV. Evaluating the Need for Transmission to Achieve the 33 Percent Renewables Portfolio Standard Requires Coordination Between the ISO Interconnection Transmission Planning Processes as well as a Cost Benefit Analysis that is Suitable for Evaluating Network Projects Intended to Access Renewable Resources

Section 7.2 (iv) and (v) of the ISO LGIP provides for coordinating the Phase II Interconnection Studies with the ISO transmission planning process under Section 24 of the tariff. This includes, but is not limited to, coordination of generation development potential in transmission upgrade designs and consideration of phased development and option value of transmission projects to address uncertainty. Specifically, the ISO proposes that its evaluation and approval of the 33 percent renewable-related transmission projects be based on:

1) A coordinated process between the comprehensive renewables transmission plan, network upgrades developed in the ISO LGIP and the Generation Interconnection Process Reform (GIPR) that provide access to projects in the generation queue and evaluations of projects submitted through the transmission planning process request window.

2) A transparent renewable portfolio standard cost benefit analysis.

3) Using specific criteria to evaluate proposed projects and determine the projects ready for conditional approval and those that are ready to move into the final approval process.

V. The ISO Proposal for Study Coordination and Project Analysis

A. A Coordinated Process

The ISO, beginning with the 2010 planning cycle, will coordinate the 33 percent transmission planning process and the LGIP/GIPR processes in parallel with the other technical studies being conducted during the planning cycle. Specific project approvals or project approval schedules developed during this
coordinated process, as well as the study results and the final 33 percent transmission plan would be described in the 2010 Transmission Plan. The milestones for this parallel study track would be as follows:

- Posting of Phase I LGIP/GIPR transition cluster interconnection study results and the base case information to the ISO secure website.

- Releasing the initial 33 percent study results on September 15 and posting the base cases on the ISO secure website.

- Receiving proposed projects responding to the September 15 study results in the annual transmission planning process request window (open August 15-November 30, 2009).

- Posting summaries and specific information of projects submitted through the request window on the ISO secure website.

- Beginning specific project evaluations after December 1 when the transition cluster generators post financial security for their Phase II interconnection studies and making a list of generation projects that post security available on the ISO secure website.

- Adjusting the 33 percent transmission plan to reflect the generation projects remaining in the queue after developers post deposits.

- Identifying the study and approval schedules for request window projects that achieve the level of renewable portfolio compliance specified for that study period.

- Describing the study and approval schedules developed through this coordinated process in the transmission plan, starting with the 2010 Transmission Plan.

B.  Transmission Project Screening and Evaluation

Except for network upgrades already identified in a final interconnection agreement, developers must propose transmission projects subject to evaluation on the 33 percent track through the request window. A network upgrade or addition identified in the LGIP/GIPR process or a transmission project that is otherwise proposed to accommodate renewable resources must be submitted through the request window under the “LGIP/Renewable” category. These projects must provide sufficient information to satisfy the request window screening criteria before entering into the evaluation process. Each project that comes through the request window is subject to study and potential approval using the following criteria:
1) First Criterion — The ISO proposes that transmission projects accommodating renewable generation in the serial study group interconnection queue and identified as needed network upgrades in a large generator interconnection agreement meet the first criterion. The energy deliverable to the system by renewable generation accompanied by these network upgrades and additions would count toward the annual 33 percent comprehensive transmission plan target, starting at an intermediate level that increases incrementally on an annual basis.2

2) Second Criterion — If transmission projects sufficient to provide delivery of the established intermediate level of renewable generation not identified pursuant to the first criterion, the evaluation would proceed to the potential renewable generation capacity that could be accessed by network upgrades in the second criterion. These projects would be network upgrades developed to connect serial study group and transition cluster generation projects that have posted the required financial security by December 1 and remain in the interconnection queue, but which have not executed interconnection agreements equal to the entire capacity of the project. In other words, the capacity of the projects approved under this criterion would exceed the capacity reflected in executed interconnection agreements. To be eligible for this criterion, the proposed projects must be up-front funded by the project proponent.

The ISO proposes to identify projects in the second criterion needed to reach the established intermediate level of RPS generation in accordance with the following criteria:

- The project must connect to generation in a RETI competitive renewable energy zone (CREZ) identified by the 33 percent technical studies as high priority and needed to achieve 33 percent by 2020;

- There must be commercial interest in the transmission project as evidenced by signed and approved power purchase agreements and/or interconnection agreements for at least 60 percent of the project’s capacity from generation projects proposing to interconnect to the grid from that renewable energy zone;

- Where there are competing projects, the recommended project must be more cost-beneficial compared to other alternatives in

2 For example, the intermediate schedule could be: in 2010, the target would be 27 percent RPS in 2015; for the 2011 study the target would be 30 percent by 2016 and the 2012 study would have a target of 33 percent in 2017. Clearly these targets are approximate and would depend upon several factors, particularly the amount of generation in specific locations.
the ISO queue for connecting renewable generation; and the identified potential for renewable resource development in the renewable energy zone (plus any other resources that would connect to the line) is equal to or greater than the proposed total capability of the network upgrade or expansion project.

Network upgrade or expansion projects meeting this second criterion would be eligible for final Board approval as part of the transmission planning process and comprise one type of project that falls under the new category of transmission projects that will be evaluated in the transmission planning process.

3) Third Criterion — Renewable generation that will be accessed by transmission projects meeting the first two criteria will be counted toward the established intermediate level of renewable generation. Transmission projects meeting the first two criteria are not sufficient to provide delivery of the established intermediate level of renewable generation, then the renewable generation capacity that would be accessed by other projects submitted through the request window would be considered applying the following criteria:

- The primary purpose of the project is to connect generation in a high priority renewable energy zone as identified by the 33 percent technical studies and needed to achieve the established intermediate level of renewable generation; and the energy zone must have some level of commercial interest (evidenced by signed purchase power agreements and/or LGIAs), but less than 60 percent renewable generation with signed power agreements, or;

- The project is proposed primarily to access renewable generation not located in an energy zone identified as high-ranking by the 33 percent technical studies.

Projects in this criterion will be identified for further study, in accordance with the transmission planning process, as part of the annual comprehensive 33% transmission plan. The ISO proposes to study these transmission projects as economic projects and as alternatives to each other, using a transparent economic evaluation methodology. The ISO will consider analytical approaches that will help in the evaluation of a large number of renewable projects in multiple locations. It is anticipated that new considerations will be more prominent, such as renewable integration requirements/costs and fixed costs of alternative renewable projects (renewable resource substitution benefits).
Projects in the third criterion deemed needed for achieving the annual target would be conditionally approved as projects that would be eligible for final approval and construction if found to meet the “triggers” discussed in the next section. Conditional approval would provide a signal to potential renewable generation developers that transmission development would not be a barrier to the development of renewable generation in a particular area. In addition, conditionally approved projects could move forward with permitting and other approvals but construction would not begin until the “triggers” are met.

V. **The Recalibration and Development of “Triggers” for Granting Final Approval of Conditionally Approved Projects**

A critical component of this proposal is the annual recalibration of the 33 percent transmission plan, which enables the ISO to reconsider previous plans and whether projects that were conditionally approved based on queue generation and information from prior periods are still required to meet the 33 percent portfolio target. The recalibrating activity considers, among other things, potential changes in the status and scope of conditionally approved projects based on new information or technological developments and input from sub-regional and regional planning groups. For example, input from the California Transmission Planning Group would inform the ISO’s economic analysis as would regional planning studies related to interstate projects formerly given conditional approval. Projects are eligible for final approval based on the results of this annual recalibration.

The ISO seeks stakeholder input in developing the applicable criteria for projects to meet to receive final project approval. Criteria that would “trigger” final approval to proceed with building a project might include capacity to be delivered by resources that have that been identified in the approved portfolios of load-serving entities in the California Public Utilities Commission’s Long Term Procurement Planning proceedings, a specified level of purchased power agreements approved by state regulators and local regulatory authorities, or other relevant triggers.

VI. **The 33 Percent Renewables Portfolio Standard Transmission Plan would be Updated Annually until Sufficient Infrastructure is Approved to Meet Goals**

The 33 percent transmission plan will be included as part of the 2010 transmission plan. Thereafter, annual updates will included in the ISO annual transmission plan and will inform the unified planning assumptions contained in the ISO annual study plan for all transmission planning studies. The 33 percent project evaluation process described above would be repeated annually until sufficient transmission infrastructure needed to achieve the 33 percent by 2020 goal has received final approval.
VII. Issues for Stakeholder Consideration and Comment

a. Is the proposed framework for the coordination of the ISO’s Transmission Planning Process and the LGIP/GIPR feasible?

b. Are the three proposed criteria for evaluating RPS transmission network upgrades reasonable and workable?

c. Should there be other categories of renewable transmission projects?

d. Should the three criteria be combined into two categories?

e. What is a reasonable intermediate level of RPS to use as a starting point for phasing in 33 percent by 2020 during the annual evaluation of RPS transmission projects?

f. With respect to the second criterion, should signed PPAs or LGIAs be used to determine the level of commercial interest in a proposed network upgrade? If so, is 60 percent of the capacity of the transmission line a reasonable criteria for approval of a project? If signed PPAs or LGIAs are not an appropriate indication of commercial interest, how should commercial interest be determined?

g. Are there other criteria for projects in the second criterion that should be met before the ISO can approve the project?

h. Should different levels of commercial interest be considered for projects that provide access to multiple energy zones (e.g. foundational transmission lines)?

i. With respect to the third criterion, should some level of commercial interest in a CREZ be required as a threshold requirement for evaluation in this category?

j. If so, should this level of interest be specified?

k. Should there be a commercial interest requirement for resource areas that are in a CREZ not identified in the 33 percent comprehensive transmission plan?

l. What criteria should trigger final approval of conditionally-approved projects?
m. Should conditional approval be given only for a limited period of time?

n. Is it feasible for conditionally-approved projects to proceed with licensing and permitting?

o. If a conditionally approved project moves forward with licensing and permitting but is not finally approved, is there a mechanism by which the costs associated with these activities can be recovered?

p. What assumptions and inputs should be included in the annual recalibration studies?

q. Where more than one project has been proposed to meet the same need identified in the ISO technical studies, what criteria should the ISO use to approve one instead of another?