

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 09M-616E

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IN THE MATTER OF INTEGRATED PLANNING FOR CONSTRUCTION OF ELECTRIC  
TRANSMISSION FACILITIES PURSUANT TO § 40-4-117, C.R.S.

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**COMMENTS OF WESTERN RESOURCE ADVOCATES**

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Western Resource Advocates (WRA) appreciates this opportunity to provide the Colorado Public Utilities Commission (Commission) with these comments on the questions and *Transmission Planning Proposal (Proposal)* contained in Commission Decision No. R10-0083-I. WRA advocates for a balanced approach to transmission planning policy and urges the Commission to incorporate into transmission planning the important public interest policy goals of avoiding or delaying transmission projects through demand-side resources and distributed generation, promoting the development of renewable resources combined with energy storage, and defending the West's land, wildlife habitats and increasingly scarce water resources.

We appreciate the *Proposal's* inclusion of: the complexities of ever-changing technologies; the value of carbon reduction; the role to be played by state and federal renewable portfolio standards and carbon regulation; and the importance of public involvement. Additionally, the use of multiple time horizons make sense because certain variables carry more weight in a shorter time horizon, while others weigh more heavily over the long term.

These comments address the value to transmission planning of: 1) demand-side and distributed resources, and grid optimization; 2) the role of energy storage combined with renewable generation for reliable power delivery; 3) early incorporation of environmental issues; and 4) the availability of detailed resource maps.

## **I. Efficiency And Grid Optimization First**

While energy efficiency, load control programs, and other demand-side resources, as well as distributed generation are mentioned in the *Proposal*, they should not be secondary considerations. Indeed, these are the first, critical keystones in responsible transmission planning. While Colorado has been increasing its use of these resources, in light of the technical potential available today (not to mention 5 years from now), the available resources that have actually been tapped is small. The realization of the economic potential, or even the technically achievable potential, of these resources would be large quantities of megawatts of generation that would not need to be built and energy that would not need to be moved.

Likewise, a transmission plan should evaluate where the current system could be modernized, augmented, or otherwise optimized to increase its capacity. Efficiencies that can be realized in the existing grid, the incorporation of newer technologies as they become available, and performance improvements through grid operation could all obviate the need for some transmission build-out.

## **II. Energy Storage Technologies, Renewable Energy And Reliability**

Advancing a clean energy future and a transmission grid designed to operate under a different paradigm than a paradigm based on coal as the base load resource will require vision and creativity, but it is well within our technical expertise. Where a single resource, coal (with some gas, nuclear, and large hydro in the mix) now serves the predominance of the load, we are now in a position to use multiple renewable technologies and developing energy storage technologies to serve that same load. This public policy objective will require both the use of currently commercially accepted renewable resources, as well as enabling the deployment of newer technologies. The fact that multiple resources will augment traditional resources does not

inherently mean a loss in reliability. Indeed, the diversity of renewable resources, and their diversity of operating characteristics, coupled with developing energy storage technologies, could prove to be as reliable in the long run. A portfolio of renewable generation will supply Colorado's power needs without the fuel risk, the financial exposure to future carbon regulation compliance costs, human health consequences, or the global climate implications that accompany fossil fuel generation.

The *Proposal* incorrectly assumes that “renewable energy generation at [the] time of seasonal peak load will usually be minimal,”<sup>1</sup> While it is true that renewable generating technologies have different operating characteristics than traditional fossil generation, they also have different operating characteristics than each other, and that is one of their strengths. Geothermal generation provides base load power. Solar power is ideally suited to sunny summer peak-loads, and combined with storage technologies, could also be dispatched in a base load capacity. Wind's intermittency, while an issue, is an operating characteristic that will be more easily integrated as forecasting tools and interconnection coordination improve, geographic diversity increases, and storage technologies develop.

In planning for a transmission system to efficiently and reliably serve load, the variety of renewable resources available and their different operating characteristics are qualities to be embraced. Energy storage is a key component of this equation, and transmission should not be built where storage could meet either the energy or the capacity needs that the transmission line would have served. A transmission plan that does not incorporate and plan for the use of storage would be incomplete, and could result in overbuilding the transmission system. What might seem like an unfamiliar collection of pieces, with vision, experience and technical expertise, is already coalescing to be the future of Colorado's clean energy economy. Planning for and using

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<sup>1</sup> Docket No. 09M-616E. Decision No. R10-0083-I at 14.

energy storage technologies should be integral to the planning process, particularly if we are looking out 5 to 10 years.

### **III. Early Integration Of Environmental Impacts Is More Efficient**

To ensure the most efficient, cost-effective, and rapid deployment of renewable energy throughout Colorado, environmental factors must be included as early as possible in the planning process. Such early incorporation of these factors will aid the planning process by increasing the likelihood that existing corridors are used and early routing options remain viable, reducing the need for mid-stream rerouting and inviting early participation and support from more diverse stakeholders. Conversely, deferring consideration until later will guarantee delay, thereby costing regulatory agencies, stakeholders, customers, and transmission developers and operators a great deal of additional time and money.

### **IV. Information Clearinghouse Should Include Resource Maps**

The *Proposal's* plan for an information clearinghouse is a good one. It would provide a single go-to resource for transmission planners and developers, as well as other stakeholders. Additionally, it would provide a uniform, vetted foundation of information on which the numerous parties could rely. Consistent with WRA's recommendation that environmental concerns be integrated into the planning process as early as possible, we also recommend that the information clearinghouse make available resource maps of Colorado. These maps should contain information such as sensitive habitats and migration pathways (with information, where available, as to which species are impacted by what kinds of structures); cultural, historic, and archaeological sites; land ownership; designations such as wilderness recreational area, and

scenic highway; and other information that would facilitate the incorporation of environmental factors into early transmission planning.

These maps should be created and updated with input from interested stakeholders. Such maps would facilitate early and efficient public vetting of a proposed project, and could provide transmission planners with an accessible background of resource information from which to start.

#### **V. Specific Comments on the *Transmission Planning Proposal***

With the goal of increasing efficiency and cost-effectiveness, WRA's response to the questions for which the Commission requested input in Decision No. R10-0083-I is that the *Transmission Planning Proposal* should include more information on how transmission build-out can be reduced and on the environmental issues associated with transmission planning.

Specifically with regard to the first two questions, we recommend that each Transmission Study (5- and 10-year planning horizons) and Long-Range Conceptual Planning Study (20- and 30-year planning horizons) incorporate:

- (1) An evaluation of what would be needed to avoid, delay, or down-size additional transmission by using the acquisition of energy efficiency and other demand-side resources, distributed generation, and actions taken to optimize the existing grid and its operation.
- (2) A full description of the potential environmental and cultural impacts, including but not limited to the following: water, fish, wildlife and plant life; existing wilderness and scenic areas; historic, cultural, religious, or archaeological sites and structures; and recreational opportunities.
- (3) Documentation of the amount of the new transmission capacity required for renewable energy and energy storage, and the amount, if any, planned for traditionally generated energy.

This comprehensive planning approach will identify common issues that all interested stakeholders will face, and thus will facilitate common solutions. WRA fully endorses the Commission's commitment to responsibly planned transmission development. WRA looks forward to participating at the workshop scheduled for February 25, 2009, and contributing more at that time.

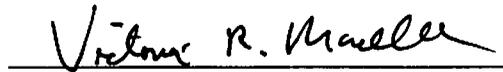
Dated this 19th day of February, 2010.

Respectfully submitted,

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