

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 08M-521E

---

PUBLIC SERVICE COMPANY OF COLORADO SENATE BILL 07-100 DESIGNATION OF ENERGY RESOURCE ZONES AND TRANSMISSION PLANNING INFORMATIONAL REPORT

---

**COMMENTS OF WESTERN RESOURCE ADVOCATES**

---

I. Introduction

Western Resource Advocates (WRA) appreciates the opportunity to comment on Xcel Energy Co.'s Information Report updating its compliance in efforts in 2008 with Colorado SB 07-100. By way of background, WRA previously filed comments on Xcel's first SB 07-100 filing in December 2007 – CO PUC Docket No. 07M-446E – and incorporates those comments herein. See [www.dora.state.co.us/PUC/DocketsDecisions/DocketFilings/07M-446E/07M-446E\\_WRA12-17-07SB-100Comments.pdf](http://www.dora.state.co.us/PUC/DocketsDecisions/DocketFilings/07M-446E/07M-446E_WRA12-17-07SB-100Comments.pdf).

II. Background

Founded in 1989, Western Resources Advocates is a non-profit environmental law and policy organization dedicated to restoring and protecting the land, air, water and wildlife resources within the interior Western United States. Specifically, our team of lawyers, policy analysts and economists works to: (1) promote a clean energy future for the Interior West that reduces pollution and the threat of global warming; (2) restore degraded river systems and to encourage urban water providers to use existing water supplies more efficiently; and (3) protect public lands and wildlife throughout the region.

Implementing Senate Bill 100 brings all of these components under one umbrella: if sited and constructed improperly, electric transmission lines may have unacceptable impacts to sensitive land, water and wildlife resources; at the same time, new transmission lines are critical in bringing renewable energy resources like wind and solar online so that we may achieve a cleaner energy mix with greater price stability in Colorado. To this end, WRA has been actively involved in the SB 100 implementation process to ensure that the transmission projects necessary to link up renewable energy resources are developed, and that this development proceeds in a manner that avoids and mitigates impacts to Colorado's landscapes, wildlife and other natural resources.

WRA commends the Commission for opening the present docket that requires the follow-up Information Report and providing an opportunity to comment. This type of up-front attention is critical to guide the new transmission planning concepts contained within SB 07-100. This law represents a new paradigm for transmission planning – where power line investments necessary

for Colorado's new energy economy are directed to areas rich in renewable resources that in many cases lack major generation projects. This is a shift from traditional transmission planning that typically follows generation projects requesting grid interconnection. Consequently, Xcel, the Commission and other stakeholders must work to get this right from the very beginning to ensure the best outcomes. From WRA's perspective, this includes getting out in front of lands and wildlife concerns in this type of long-term planning process for resource zones, instead of traditional transmission processes that often consider these issues at the tail end of planning. This early-on awareness of wildlife and sensitive landscape concerns is essential in order to have a successful transmission build-out for renewable energy resources in Colorado.

### III. Smart Lines

Transitioning Colorado to a new energy economy based in large part on renewable energy sources will require significant expansion of the current transmission infrastructure. If the proper considerations for lands and wildlife protection are not taken into account, renewable energy transmission solutions will be impeded or unnecessarily delayed. In this sense, ensuring protection for Colorado's landscapes and wildlife is not only important for the continued vitality of these resources, but also critically important for the successful transition to Colorado's new energy economy. To this end, and working with transmission planning experts, the renewable energy industry and environmental groups, WRA developed its report *Smart Lines: Transmission for the Renewable Energy Economy* (attached and also available at [www.westernresourceadvocates.org/energy/pdf/SmartLines\\_Final.pdf](http://www.westernresourceadvocates.org/energy/pdf/SmartLines_Final.pdf)).

Smart Lines involves the following four transmission planning principles:

1. Efficiency first: Employ demand-side management to reduce the amount of energy, and therefore transmission, needed to import from outlying generation sources.
2. Maximize the existing grid through technical upgrades and utilizing existing power line, pipe line, railroad and transportation rights-of-way to minimize impacts.
3. Connect clean and renewable energy resources to move Colorado to a new energy economy.
4. Ensure long-lasting protection for public lands and wildlife resources. Early-on consideration of these factors, instead of at the end of transmission planning, is essential to direct projects to the best locations with least environmental impacts. Transmission planning must be integrated with utility resource planning over a long planning horizon (e.g., 10 year load forecasts) to ensure that transmission is built to accommodate the likely renewable energy build-out in zones over the long term, instead of traditional transmission planning that typically is designed at interconnecting one project at a time. Comprehensive and long-term transmission planning for renewables can minimize environmental impacts by avoiding duplicate power lines and/or rights-of-way interconnecting wind and solar-rich areas.

WRA reviewed Xcel's 2008 Information Report and SB 07-100 compliance efforts in light of these Smart Line principles, with particular attention to planning steps and consultation efforts to ensure that Colorado's lands and wildlife resources are protected.

#### IV. Specific Comments on Xcel's Nov. 24, 2008 Informational Report

WRA's specific comments correspond to the four main sections outlined in Xcel's Information Report (Nov. 24, 2008).

##### A. 2008 Stakeholder Process (pp. 3-4)

Overall, WRA commends Xcel for its inclusive and thorough stakeholder process that continued from 2007 into 2008. Xcel had regular and well-publicized meetings to update stakeholders as well as opportunities for public comment. In particular, WRA is pleased that Xcel invited The Nature Conservancy to present at one of the SB 07-100 meetings to inform Xcel transmission planners and other interested parties of the wildlife and landscape concerns in eastern Colorado and how to properly account for them in transmission planning. Finally, while the stakeholder process has been commendable, WRA is still concerned that Xcel has yet to incorporate the key substantive points raised during the SB 07-100 meetings in its proposed plans and applications for CPCNs before the Commission. WRA looks forward to Xcel's next SB 07-100 filing in 2009 to ascertain the extent to which stakeholder comments are meaningfully considered and incorporated into transmission planning for energy resource zones.

##### B. Energy Resource Zones (pp. 4-8)

In its 2007 filing, Xcel identified four energy resource zones in Colorado. We raised concerns before the Commission that the zones were too large to be meaningful (covering approximately 40% of the state) and weren't narrowly focused on areas with the best wind and solar potential to allow for optimal transmission planning. In 2008, Xcel incorporated information from the CO SB 07-091 renewable energy mapping effort that identified "Generation Development Areas" and added Zone 5, which consists of the Wind #8 and Pueblo-area Solar GDAs from the SB 07-091 effort. Already existing Zone 4 (solar in San Louis Valley) and Zone 3 (southeastern CO wind) were slightly reduced in size as portions were absorbed into new Zone 5.

While the addition of Zone 5 and slight refinement of Zones 3 and 4 is an improvement to the zones identified in its 2007 filing, WRA still has many of the same concerns. First, merely dividing large blocks of Colorado and identifying them as "energy resource zones" is insufficient to ensure that more narrowly-focused and high renewable resource areas will receive a direct transmission boost in the foreseeable future. For example, instead of lumping together into Zone 3 all or parts of Baca, Prowers, Kiowa, Crowley, Otero, Bent, Las Animas and Pueblo Counties – this is after the refinement accomplished through the addition of new Zone 5 – a different and perhaps better approach would have been to identify the portion of Baca County with very high-class wind resources as a separate zone – e.g., making the SB 07-091 Wind GDA #6 its own "zone" for SB 07-100 purposes. This would ensure that new transmission would be required to specifically reach into this area that has so much renewable energy potential. Indeed, Wind GDA # 6 has 37,000 MW of wind potential, and including more geographic area and more wind resource outside of this GDA will only make focused and narrowly-tailored transmission solutions more difficult to achieve. Consequently, identifying such vast areas as "zones" may tend to delay transmission to the more outlying areas that have very little access to existing transmission.

A related concern is that the identification of large zones allows Xcel to satisfy SB 07-100 requirements by submitting transmission expansion plans or upgrades that it was already planning on, with or without SB 07-100 being in place. While these backbone transmission upgrades will beef up the overall carrying capacity of the grid system and are therefore important for future expansion into outlying areas, these improvements alone offer little immediate transmission relief that would prompt the development of outlying renewable energy sources. While WRA appreciates the addition of Zone 5, Xcel should re-examine Zones 1-5 for more targeted areas that are both rich in renewable resources and also in most need of transmission access.

C. Transmission Planning (pp. 8-12)

Through our involvement in Xcel's 2008 resource planning docket, we are pleased with the aggressive yet achievable energy efficiency goals set for Xcel. Efficiency and other DSM measures, as well as the use of local power sources that do not need long-distance HV transmission, reduce the need for new transmission investments, the line-losses associated with long-distance power lines and the environmental impacts associated with transmission rights-of-way. In the future, we encourage the Commission to incorporate demand-reduction efforts as the first step in long-term transmission planning, including a consideration of this nexus when CPCNs are requested for new transmission facilities.

WRA remains concerned that Xcel is not working on developing a long-term comprehensive transmission build-out strategy using the same the planning horizon that it is using to make its generation acquisitions. In 2007, WRA commented as follows on this point:

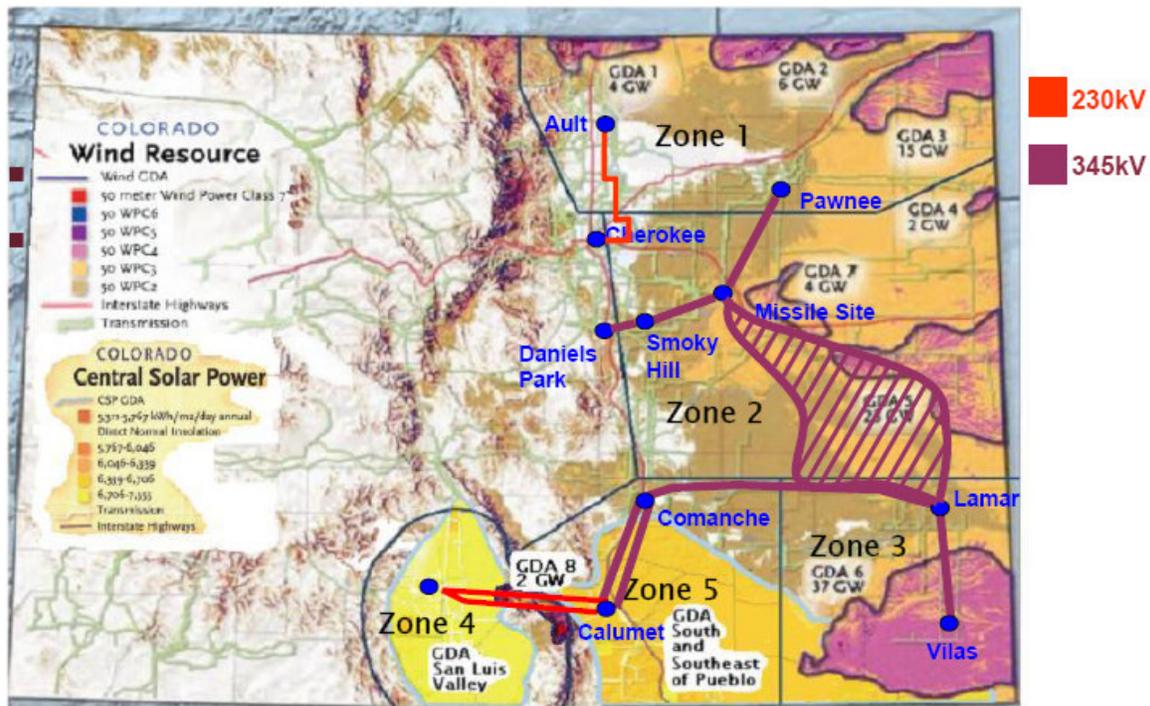
WRA further contends that compliance with SB 100 can be improved by looking at transmission build-out scenarios holistically over a 10-year time frame. Xcel is presently forecasting its load needs and the percentages required to come from renewable resources over a decade time frame; it only makes sense then to approach transmission expansion in the same manner. Instead, the current filing is framed in terms of meeting immediate needs in zone 1 and some intermediate concerns in other zones. Understanding the relatively short time frame to put together its first report to the PUC in 2007, WRA suggests that Xcel begin working now with respect to its 2009 obligations and develop a likely renewable build-out scenario for properly identified resource zones over the next decade. The 2009 filing is an opportunity for a master renewable transmission plan to be developed. In 2009 and subsequent filings, Xcel can then apply for CPCNs to implement the plan according to a comprehensive vision, which would also allow for adaptations along the way for unforeseen developments. Otherwise, filing every two years for CPCNs that are mostly tailored to immediate transmission needs for specific projects may lose out on economies of scale and/or lead to duplicate power lines and rights-of-way than if energy zones had been planned for transmission build-out in a comprehensive fashion.

In addition, WRA contends that more needs to be done to coordinate Xcel’s transmission planning with Tri-State’s and other Colorado utilities. While most Colorado transmission owners are participating in the CCPG sub-regional planning forum, WRA encourages the utilities and other transmission owners to work more closely together on long-term and comprehensive transmission strategies for Colorado. This type of transmission planning would include a detailed assessment of all existing high voltage (110k and higher) grid assets in Colorado, and an engineering analysis of technical upgrades that could be applied for these assets to transfer more electricity. In addition, comprehensive planning would map all existing rights-of-way (power line, pipeline, rail, transportation) for opportunities to co-locate new power lines within these already-impacted linear features to reduce environmental impacts.

D. Transmission Plans For Zones 1-5 (pp. 12-22)

Xcel’s main focus for transmission investments in Zones 1-5 are “backbone” additions in the zones that they consider “high priority.” Radial lines that would collect or feed into backbone power lines were given lower priority. See slide 27 of Xcel’s Dec. 18, 2008 PowerPoint Presentation:

## SB-100 Overall Transmission Plan



WRA agrees that a backbone plus radial offshoot design is appropriate for accessing renewable energy in the identified resource zones and further agrees that the backbone investments must logically come first prior to planning smaller radial lines into more focused renewable energy areas. However, Xcel’s “Overall Transmission Plan” that includes three high priority backbone lines (San Luis – Calumet – Comanche 230/345 kV; a new 345/230 kV switching station at

Missile Site; and Lamar – Comanche 345 kV) and two medium priority backbone lines (Pawnee – Daniels Park 345 kV line and Ault – Cherokee 230 kV line) are not demonstrably part of a comprehensive and long-term plan that, among other factors, matches up against and incorporates long-term resource planning needs.

For example, WRA is concerned that Xcel’s “Overall Transmission Plan” – as evidenced by its own map shown above – does not have at least a preliminary strategy to access almost all of the wind GDAs identified in CO SB 07-091. Indeed, the one transmission line directly into a very high wind resource area (Lamar – Vilas) is ranked a “low” priority. WRA recognizes that a comprehensive plan providing backbone transmission access for all of the high class Colorado wind and solar areas, and strategic collector or radial lines into resource-rich locations, would be difficult to design with exact precision given the many unknown factors at this point in time. However, as described above, Xcel, working with other utilities in the state, should be encouraged to develop a long-term and comprehensive transmission strategy for Colorado – this is particularly true since Xcel has a reasonable load forecast through 2015, knows how much outlying generation it will need to meet future load, knows how much renewable generation is required to meet minimum state RPS requirements and knows where current grid assets are including how much transfer capacity is available. Through SB 07-91 and other data, it also knows where the likely renewable energy projects will emerge. This type of information allows for a comprehensive and long-term transmission strategy to be developed now. The Commission should require Xcel to develop this type of master transmission plan for Colorado that would include both backbone and radial lines. Subsequent SB 07-100 filings could then implement the high priority items of this type of a long-term plan. Adaptations to the “master plan” could be made over the years as new information arises, e.g., an existing backbone line reaching congestion levels because of unanticipated wind development in a particular area.

WRA also notes that the backbone lines are proposed at 230kv and 345 kV in order to serve transmission needs for near-term renewable energy build-out scenarios. Xcel should consider planning transmission so that it can be readily upgraded in future years to accommodate more renewable energy projects as they arise – examples include planning and energizing a power line for 500 kV and operating it at a lower voltage until needs change and/or building transmission towers that can accommodate additional circuits in the future. There are potentially three major benefits from such an approach: (1) economic efficiencies of one larger line v. several smaller ones; (2) environmental benefits from one power line and right-of-way into a sensitive area instead of several; and (3) time savings – transmission takes 7-10 years to plan, design, permit and construct – Colorado’s vast renewable energy resources will come on line more quickly if this lengthy process is done once to access renewable resources in a given location instead of multiple times. The Commission should consider how cost recovery for these types of transmission systems can be handled, as well as conditioning CPCNs on new transmission capacity being utilized for clean and renewable energy resources. On this latter point, there is precedent in other states where PUCs have related the grant of a CPCN to the obligation to fulfill a state’s renewable portfolio standards.

Finally, Xcel’s Information Report is silent regarding how it will incorporate wildlife and sensitive landscape information early-on into its planning process for the identified high, medium and low priority backbone lines. While Xcel has maintained an open and inclusive

stakeholder process, including presentations from The Nature Conservancy, the Commission should consider how Xcel might appropriately consult the Colorado Division of Wildlife and environmental groups to best address these concerns. One idea is to require Xcel to develop conceptual transmission corridors of a broad width to allow for optimum siting and electrical configurations and start preliminary screening in these corridors so that eventual transmission rights-of-way avoid our state's most treasured landscapes and important wildlife areas.

V. Conclusion

WRA appreciates the opportunity to provide comments on the implementation of Colorado SB 07-100 and Excel Energy's 2008 Informational Report that details its compliance efforts to date. Addressing the comments of WRA, as well as those raised by the others in this docket, will increase the likelihood that Colorado will be able to quickly and smoothly transition to an energy economy that is based on increased percentages of renewable and clean energy sources while preserving Colorado's outstanding wildlife, scenery and other natural resources.

Respectfully submitted,

---

Tom Darin, Energy Transmission Attorney (Co. Bar No. 24988)  
John Nielsen, Energy Program Director  
Victoria R. Mandell, Senior Staff Attorney (Co. Bar No. 17900)  
Western Resource Advocates  
2260 Baseline Rd., Suite 200  
Boulder, CO 80302  
303-444-1188

January 8, 2009