

**Testimony of Michael R. Niggli, Chief Operating Officer, Sempra Energy Utilities –
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**U.S. House Committee on Energy and Commerce –
Subcommittee on Energy and Mineral Resources**

Hearings on Solar Energy Development on Federal Lands: The Road to Consensus

May 11, 2009

EXECUTIVE SUMMARY

SDG&E's recent experience with the siting process for a 500 kV transmission line (the "Sunrise Powerlink" or "Sunrise") that would connect the vast renewable generation potential of the Imperial Valley region to the rest of the grid suggests the following:

A transmission grid is crucial to development of renewable generation: Many renewable resources are "intermittent" in nature. This fact requires a strong regional grid to facilitate bulk power transfers, to absorb energy supply deviations, and to enhance renewable development. It also establishes development of energy storage capabilities as a priority. We have observed robust and concrete developer interest appearing in the region to be served by Sunrise after SDG&E announced the project.

Transmission siting is needlessly duplicative: Transmission siting in the West typically requires several separate state and federal administrative siting processes, each subject to separate judicial appeals. All agencies, state and federal, must work cooperatively to streamline the overall process, agree on project scoping, utilize consistent data, and make timely decisions. Judicial appeals of many federal agency decisions, such as those of BLM and the U.S. Forest Service, begin at the federal district court level, giving opponents rights to two layers of judicial appeals, and adding years of uncertainty to a multi-year administrative permitting process.

Existing planning is balkanized: Today in the West, regional planning for transmission and renewables takes place in the context of Regional Transmission Organizations, regional reliability councils (such as the Western Electricity Coordinating Council, integrated resource planning processes supervised by state commissions, and certain *ad hoc* efforts to address siting issues associated with renewable development.

Congress can simplify and coordinate transmission siting: The federal government can facilitate regional planning and siting by vesting principal responsibility in regional planning organizations, working to ensure that other state and federal agencies give deference to these regional organizations, identifying federal lands that should be open to renewables development and transmission corridors, developing common siting principles for these lands, providing a single administrative forum for federal transmission line siting, including the right of affected federal agencies to participate, with appeals to the circuit courts of appeal; and mandating adherence to strict permitting deadlines. Such actions would vastly simplify the siting process, and provide a focus for all stakeholders, without compromising environmental regulation.

I. INTRODUCTION

Thank you for the opportunity to testify before the subcommittee. My name is Michael R. Niggli and I am the Chief Operating Officer for the utilities of Sempra Energy. The Sempra Energy companies develop energy infrastructure, operate utilities, and provide related products and services to more than 29 million consumers worldwide.

Our utilities are San Diego Gas & Electric Company (“SDG&E”) and Southern California Gas Company. SDG&E is a regulated public utility that serves 3.4 million consumers through 1.4 million electric meters and more than 840,000 natural gas meters in San Diego and southern Orange counties in California. The utility’s area spans 4,100 square miles. Southern California Gas Company is the nation’s largest natural gas distribution utility, providing safe and reliable energy to 20.5 million consumers through 5.7 million meters in more than 500 communities. The company’s service territory encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from Visalia to the Mexican border.

The Sempra Energy utilities are strongly interested in the development of a diverse supply of resources. We have already voluntarily committed to achieving 33% of our energy supply from renewables sources by 2020, and have achieved commitments and contracts to reach over 20% renewables within the next 2-3 years. Accordingly, the topic today – solar development on federal lands – is of considerable importance to us in meeting our goals, goals we believe are in common with the interests of our state, and our nation.

Achieving significant levels of renewables is a challenge because many of the best renewable energy resources depend heavily on location – wind energy must be sited where the wind blows; solar is best sited where solar insolation is at its greatest; geothermal can only be located where there are rich geothermal resources. Some of these technologies require significant amounts of land, and most of the optimal locations for renewables are in relatively remote areas, which require the availability of electric transmission to bring the energy to load centers.

My testimony today will discuss the issues we confront in siting new renewables and needed transmission, how we have dealt with those issues so far in the West, and some suggested approaches to consider.

II. RESOURCES IN THE WEST AND HOW TO ACCESS THEM

The Western U.S. has enormous renewable potential and much federal land

There is considerable demand in the Western states for renewables. Almost every one of the Western States has codified renewable portfolio standards (RPS). Some states, such as California, are looking to expand their RPS. And, of course, Congress is now exploring a national RPS.

Fortunately, the Western United States has significant levels of renewable opportunities. The attached table (Attachment 1) shows that the Western states have the potential for massive

amounts of renewables, especially from wind and solar resources. As illustrated, the West holds the potential for over a million megawatts of renewables, with over half of that contained in just the states of Arizona, Nevada, and Wyoming. This table does not include the substantial renewable potential in Mexico, if it can be integrated into the grid.

The challenge of developing and integrating renewable resources

The challenge we face in the West is how to identify the lowest cost opportunities, facilitate their development, and integrate those resources within the western grid. These are complex topics and they cannot be looked at in isolation.

Ideally, from a commercial standpoint, to optimize the use of these resources necessitates a free flow of commercial transactions among the states. To some degree, this will need to be facilitated by physical infrastructure – most notably, added transmission. But, it also can be enhanced by the development of commercial/regulatory structures such as regionally traded renewable energy credits. Through these combined structures, buyers of renewable energy can enhance their ability to obtain the lowest cost supplies of renewables from the vast resource potential in the West. To date, such commercial structures remain embryonic.

But, purchasers of renewable power cannot simply solicit bids from sellers and expect the power to be developed. Renewable resources must find land on which to develop. They require transmission facilities to connect to the regional grid, to bring the energy to load centers. And, where the resources generate intermittently, such as wind and solar, the largest potential sources of renewables, other resources must be available to firm the power and to allow the grid to continue to operate reliably.

Energy leaders in the Western United States have recognized this challenging task and have begun to work together to identify solutions. For example, the Western Electric Industry Leaders (WEIL) Group is comprised of Chief Executive Officers and executive leaders from investor owned utilities, municipalities, government agencies, and regional transmission operators, among others. This group has undertaken numerous studies to advise policymakers, such as the Western Governors Association, of the issues and challenges facing the development of renewable resources, particularly the technical issues associated with transmission planning and integration of renewable resources.

One element of these analyses has been to identify potential areas where renewables are most likely to develop, and consider “corridors” for the development of electric transmission to connect those renewable sources to the grid. The programmatic EIR provisions of the 2005 Energy Policy Act are a positive step in this direction for federal lands but do not go far enough. Moreover, this attempt to streamline the process was based on then-current uses for federal lands and not on potential renewable resource areas. The establishment of transmission corridors would facilitate regional transmission planning, which is a vital element to the development of widespread renewable supplies. This same kind of activity has proceeded in several other joint planning processes. The Western Governors Association and the United States Department of Energy launched the Western Renewable Energy Zones (WREZ) initiative in May, 2008. The WREZ seeks to identify those areas in the West with vast renewable resources to expedite the development and delivery of renewable energy to where it is needed. Renewable energy

resources are being analyzed within 11 states, two Canadian provinces, and areas in Mexico that are part of the Western Interconnection. Likewise, in California, various public agencies are supervising the Renewable Energy Transmission Initiative (RETI) to assess competitive renewable energy zones in California, and possibly also in neighboring states, that can provide significant electricity to California consumers by the year 2020. RETI is also intended to prepare detailed transmission plans for those zones identified for development.

Problems with existing planning and development processes

But these planning processes suffer from three significant problems: First, they are duplicative, and balkanized.

Second, their objectives are somewhat vague. For example, they do not have, as part of their design, any mechanism for improving the process that has become an impediment to adding new transmission. The region does not necessarily need more planning processes; it needs a well-coordinated one with clear objectives that will advance efforts in the region of adding new renewables and transmission.

Third, from a planning perspective, there is a “chicken-and-egg” issue – will transmission planning drive where renewables are developed, or will optimal renewable resources drive the location of transmission resources. SDG&E’s Sunrise experience shows that a public commitment to build transmission to an area identified with the potential for substantial and diverse renewable generation will inspire a robust quantity of concrete development proposals. After the Sunrise CPCN application before the CPUC, projects representing over 8800 MW of renewable generation applied to the California Independent System Operator Corporation (“CAISO”) and Imperial Irrigation District interconnection queues for projects to be located in the Imperial Valley and vicinity. And, to date, SDG&E and other utilities have executed purchased power agreements, including options, for over 1000 MW of renewable projects in the same region. Finally, renewable generation developers have told us that purchase power contracts and an assured transmission path for a project’s output are requirements for a project to obtain financing.

Ideally, we want renewables located where the total cost of the renewable plus any needed additional facilities is lowest. The only way we can move close to this ideal is by ensuring that lands for transmission and renewables are readily available. These planning processes do not address this problem. While these issues prevent the many planning processes from achieving all that they ought to, there are additional roadblocks to renewables development, which I discuss below.

III. ROADBLOCKS TO RENEWABLES DEVELOPMENT:

The planning and siting process is duplicative and balkanized:

The interest in developing renewable supplies is a regional interest in support of national objectives. However, one of the main roadblocks to the development of renewable energy in the West is achieving local or state siting approvals for renewable generation and needed transmission. Parochial local interests sometimes use current processes to delay, and, in some

cases, prevent altogether the development of generation or transmission. California has seen this arise repeatedly. When a California utility sought to site a transmission line through Arizona, the State of Arizona rejected the request because the proposed facility did not meet the needs of Arizona and Arizona ratepayers. Recently, in California, we engaged in a lengthy process to site new transmission in Southern California to facilitate access to new renewables. Again, local interests opposed this effort mainly because they did not want transmission sited near them.

In addition to parochialism, conflicting jurisdictions and the resultant overlapping planning processes lead to the identification of duplicative or competing projects. Potential transmission developers include investor-owned utilities, government-owned utilities, and independent transmission providers. But responsibility for planning varies depending on the location of the project (*i.e.*, what state(s), and whether it is on federal land), and whether the developer is a private or a government-owned entity. And, for a given project, there is nothing to require one entity (*e.g.*, a state commission) to honor or defer to the planning determination of another entity (*e.g.*, a regional transmission organization).

In addition to planning duplication and overlap, siting approval for transmission in the west is typically subject to the approval of each state touched by the project, in addition to one or more federal agencies if the project touches federal land.

We illustrate these process problems in the next section in the context of SDG&E's Sunrise Powerlink transmission project.

SDG&E's Sunrise project illustrates the planning and siting problems

SDG&E's Sunrise project is a 123 mile 500 kV transmission line to connect the San Diego load center with the Imperial Valley substation. Originally proposed for operation in 2010, SDG&E now anticipates that the line will be completed in June, 2012.

We expect that much transmission siting in the West will face a process similar to that applied to Sunrise. The Sunrise project requires separate state and federal administrative siting processes, each subject to separate judicial appeals. For Sunrise, state approval is required from the CPUC, which approval is subject to administrative rehearing and appeals before the state courts of appeal and the California Supreme Court. SDG&E first applied to the CPUC for Sunrise approval in December, 2005. The CPUC granted the Sunrise CPCN in December 2008, and a CPUC decision on rehearing is expected this month. The state judicial appeals could take until mid-2010 to resolve.

On the federal side, required discretionary approvals include the U.S. Department of Interior, Bureau of Land Management ("BLM") and the U.S. Forest Service (USFS) under the U.S. Department of Agriculture. The Sunrise application for BLM approval was filed August 4, 2006. We acknowledge and appreciate the efforts of both agencies to process the Sunrise application. BLM, for example, completed a thorough and detailed environmental review in close coordination with the state that has helped advance the project. But the fact remains that the law provides parties with separate administrative appeal rights for each agency. All signs are that project opponents will avail themselves of all appeal rights. And, after the administrative

appeals process, any judicial appeals of BLM and the USFS decisions begin at the federal district court level, giving opponents rights to two layers of judicial appeals (the second layer is to the circuit courts of appeal), adding years of uncertainty to a multi-year administrative permitting process. We expect any appeals of the two federal agency decisions to be resolved no earlier than March, 2013. In contrast, FERC decisions licensing natural gas transmission are subject to only one level of judicial appeal rights – to the circuit courts of appeal.

Other projects in the West will endure planning conflicts similar to that faced by Sunrise. The CPUC had identified a need for a project like Sunrise in a December 16, 2004 decision on resource planning. After an extensive study with substantial stakeholder input, the CAISO, California's FERC-regulated regional transmission organization, formally found a need for Sunrise in August, 2006. But no weight or deference was given to these prior determinations in either the state or federal environmental reviews of Sunrise that followed, even though both earlier need findings included robust consideration of alternatives. This forced SDG&E and regulators to commit substantial time and resources to re-visit (and indeed, re-litigate) need several times.

In the end, renewables development will not occur to any significant degree if strictly parochial interests are allowed to govern siting decisions.

The siting process has become cumbersome and balkanized, leaving open the potential for considering the same issues multiple times. Deadlines for prompt resolution either do not exist, or are generally ignored. In the Sunrise process, in spite of what may be recited in regulations, we found no enforceable deadlines that appeared to constrain the timing of agency disposition of the several Sunrise applications. Congress could help here by mandating adherence to strict permitting guidelines, with common deadlines for final project decisions.

Environmental impact reports can be immense, and could benefit from deference and/or incorporation by reference of determinations of other agencies. As it is, duplicative siting and relitigation of previously decided issues further drag out the time and cost to complete a siting process. For instance, the official Sunrise record (Environmental Impact Report/Environmental Impact Statement, evidence, hearing transcripts, etc., stretched to over 25,000 pages). Indeed, it is well known that some use the siting process not to engage in a fair consideration of the issues, but to drag things out long enough to force project proponents to abandon their projects or to pursue inferior alternatives. The prospect of such impediments and the risk of losing millions of dollars on an abandoned a project, manifestly chills the development of renewables.

Finding Development Sites is difficult

We do understand the concerns about siting facilities in sensitive environmental areas, and we, of course, recognize the interest of minimizing the environmental impact of renewables and transmission. But, it is important to understand the difficulty of finding any land at all to develop renewables and transmission. The attached map (Attachment 2) illustrates the types of potential constraints to developing renewables and transmission in Southern California, including the area traversed by Sunrise. This map shows a broad range of environmentally sensitive areas. On top of these, potential transmission or renewables developers must also consider state parks and

forests, military lands, and tribal lands, which could include sensitive archaeological sites) as further potential areas where development may be limited or proscribed. With all of the areas that are off limits, we must understand in assessing the potential that many of the options for renewable production are in fact already off the table. So, it is even more important that we plan in a manner to facilitate the development of the sites that remain. This map also demonstrates the extent of the jurisdictional balkanization that adds extra administrative hurdles in developing linear facilities like transmission lines.

IV. How Congress Can Help

These are not simple issues and the solutions to them are not going to be without controversy. The suggestions I offer today are likely not to be the universe of good actions, but they offer some additional perspective on the areas we believe need to be addressed.

We suggest that Congress look to the following actions to improve the development of renewables and supporting transmission:

1. Encourage and incentivize States to coordinate on regional transmission plans that access areas of potential renewables development, but avoid duplicative processes. Planning processes that are too narrow encourage parochialism.
2. Identify federal lands that may be open to renewables development and encourage use of specific and clearly identified federal lands for transmission corridors, congruent with or adjacent to areas where renewables may develop.
3. Encourage the trading of verified renewable energy credits.
4. Entrust regional transmission organizations with the primary responsibility for regional planning, and provide that such determinations must be given deference by other state and federal agencies.
5. Develop common siting principles that must be honored, such as those that follow existing corridors and other linear features such as roads, and that otherwise focus on previously disturbed areas. Where existing corridors are too small, it is likely that expansion of those corridors will be the least impacting option, and should be considered among these common siting principles.
- 6.. A single federal administrative forum for federal transmission line siting applications, including the right of affected federal agencies to participate, would vastly simplify the siting process, and provide a focus for all stakeholders, without compromising environmental regulations. Provide for judicial review of this forum's decisions at the circuit courts of appeal.
7. Streamline and facilitate siting of transmission by mandating adherence to strict permitting guidelines, with common deadlines for final project decisions.

8. Encourage the “supersizing” of new transmission facilities to maximize efficient energy delivery, minimize environmental impacts, optimize corridor utilization, and to strengthen the grid to permit regional bulk power transfers of renewable energy.

The Sempra Energy utilities appreciate the opportunity to participate in this proceeding and we stand ready to assist in the deliberation of these issues and the development of effective solutions.

Attachment 1

Renewable Capacity Available to Western United States

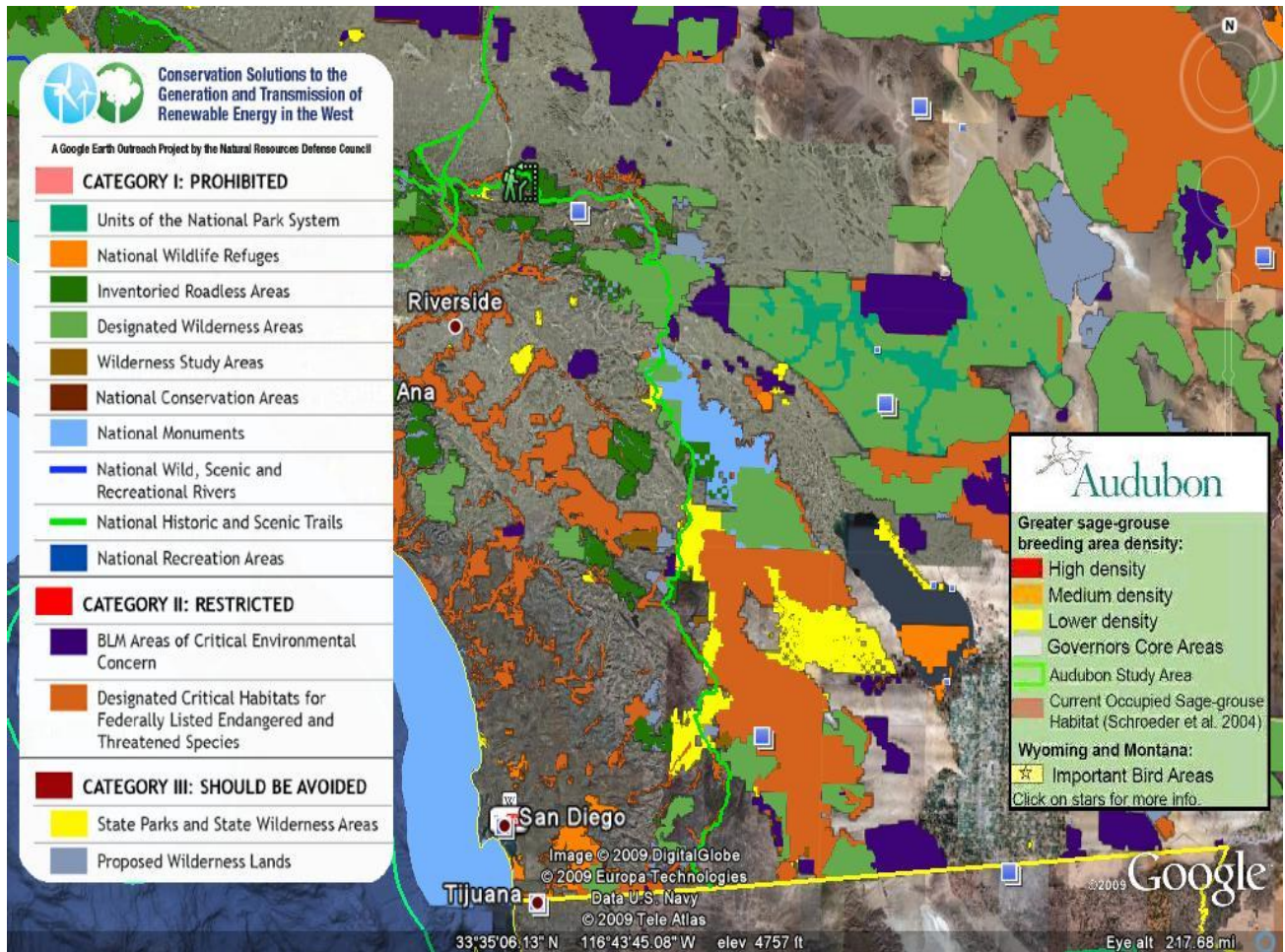
Total Renewable Resource Availability by Region (MW)

	Biogas	Biomass	Geo-thermal	Small Hydro	Solar Thermal	Wind	Total
Alberta	-	-	-	100	-	11,999	12,099
Arizona-Southern Nevada	33	43	-	-	141,243	1,809	143,129
British Columbia	50	208	185	1,521	-	4,601	6,565
California	300	600	3,063	221	310,133	23,762	338,080
Colorado	59	44	20	-	18,050	5,138	23,310
Montana	5	162	-	37	-	54,542	54,745
New Mexico	18	26	80	-	66,897	11,066	78,087
Northern Nevada	15	15	1,281	10	150,062	5,523	156,906
Northwest	88	1,060	335	230	-	17,039	18,753
Utah-Southern Idaho	21	181	1,040	221	43,153	2,805	47,421
Wyoming	2	22	-	17	-	138,721	138,762
WECC Total	592	2,361	6,004	2,356	729,538	277,005	1,017,856

Source: *Energy and Environmental Economics, Inc. on behalf of the Western Electric Industry Leaders (WEIL) Group*, from page 22. Available on the internet at --
http://www.weilgroup.org/E3_WEIL_Complete_Study_2008_082508.pdf

Attachment 2

Map of Areas Potentially Restricted to Renewables and Transmission Development



Source: "Toward 2020", Committee on Regional Electric Power Cooperation April 8 – 9, 2009, page 10, Western Electric Industry Leaders Group - Strategic Thoughts

Attachment 3

Disclosure Form Required by House Rule XI, clause 2(g) and Rules of the Committee on Resources