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MEETING NOTICE AND AGENDA

ENERGY WORKING GROUP

The Energy Working Group may take action on any item appearing on this agenda.

MEMBER AGENCIES

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ADVISORY MEMBERS

Imperial County
 California Department
 of Transportation
 Metropolitan
 Transit System
 North San Diego County
 Transit Development Board
 United States
 Department of Defense
 San Diego
 Unified Port District
 San Diego County
 Water Authority
 Mexico

Wednesday, November 1, 2006

11:30 a.m. to 2 p.m.

SANDAG, 7th Floor Conference Room
 401 B Street, Suite 800
 San Diego, CA 92101-4231

Staff Contact: Susan Freedman
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AGENDA HIGHLIGHTS

- RESOURCES SUBCOMMITTEE RECOMMENDATION
ON THE SUNRISE POWERLINK TRANSMISSION PROJECT

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ENERGY WORKING GROUP (EWG)

Wednesday, November 1, 2006

ITEM #		RECOMMENDATION
1.	WELCOME AND INTRODUCTIONS	
+2.	SUMMARY FOR THE SEPTEMBER 28, 2006, EWG MEETING Please review the attached meeting summary and provide any comments.	APPROVE
3.	PUBLIC COMMENT AND COMMUNICATIONS Anyone who would like to address the EWG on a topic not on the agenda should do so at this time.	COMMENT
+4.	RESOURCES SUBCOMMITTEE RECOMMENDATION ON THE SUNRISE POWERLINK TRANSMISSION PROJECT The EWG Resources Subcommittee will present a recommendation on the Sunrise Powerlink to the EWG for discussion and approval. The subcommittee proposal and related background materials are attached.	RECOMMEND
+5.	EWG LEGISLATIVE FORUM WITH SENATOR KEHOE The EWG Policy Subcommittee is preparing for the 2006 Energy Legislative Forum to be held on November 29, 2006. Attached please find a 'Save the Date' flier. The subcommittee will meet on November 7, 2006, to evaluate possible legislative proposals to present at the forum.	INFORMATION
6.	SUGGESTED MEETING TOPICS FOR NEXT MEETING EWG members should suggest items to be discussed at the next or future meeting. At the next meeting we will address preparations for the EWG Legislative Forum. Staff will present an energy impacts white paper for the 2007 Regional Transportation Plan (RTP) in November or December.	INFORMATION
7.	ADJOURN The next EWG meeting is scheduled for November 16, 2006, from 11:30 a.m. to 2 p.m. The December EWG meeting is scheduled for December 21, 2006. Note that these are one week early due to holidays.	

+next to an item indicates an attachment

San Diego Association of Governments
ENERGY WORKING GROUP

November 1, 2006

AGENDA ITEM NO.: **2**

Action Requested: APPROVE

ENERGY WORKING GROUP DISCUSSIONS AND ACTIONS
MEETING OF SEPTEMBER 28, 2006

File Number 3003000

AGENDA ITEM #1: WELCOME AND INTRODUCTIONS

Co-Chair Henry Abarbanel called the meeting to order. The attendance sheet for the meeting is attached.

AGENDA ITEM #2: MEETING SUMMARY FOR THE AUGUST 4, 2006, MEETING

Dave Carey, Port of San Diego, asked to be added to those present.

The EWG approved the meeting summary with the addition of Mr. Carey to the attendees.

AGENDA ITEM #3: PUBLIC COMMENTS AND COMMUNICATIONS

There were no comments or communications related to items not on the agenda.

AGENDA ITEM #4: REPORTS FROM EWG SUBCOMMITTEES (INFORMATION)

▪ **Public Policy Subcommittee**

Susan Freedman reported that the Policy Subcommittee reviewed the status of energy bills passed by the legislature and ready for the Governor's signature. The 2nd annual Energy Legislative Forum and will be chaired by Senator Kehoe. Last year's forum resulted in Senator Kehoe introducing two bills of interest and concern to the EWG. Subsequent meetings will evaluate potential legislative proposals and develop the forum agenda and invites. The EWG will invite the entire San Diego delegation to participate.

One proposal the group discussed was a rate-basing policy reform initiative. This could direct the California Public Utilities Commission (CPUC) to refine its current investor-owned utility (IOU) rate-basing policies to better reflect and support the California State Energy Action Plan's loading order for new energy resources. The next Policy Subcommittee meeting is Wednesday, October 18, 2006, at Qualcomm.

- **Resource Subcommittee**

Chair Paul O'Neal stated the Resource Subcommittee will meet twice, October 9 and October 16, 2006, from 11 a.m. to 1 p.m. to formulate their recommendation on the Sunrise Powerlink.

Jennifer Porter, on behalf of the Resource Subcommittee, reported that the subcommittee was continuing its review of Sunrise and alternative measures to meet energy resource needs, e.g., generation, transmission, renewables, and energy efficiency. A focal area has been how the line and alternatives correlate with the Regional Energy Strategy (RES) 2030 and then against the California preferred resource loading order. Additional assessment factors include the risk of project completion and environmental considerations. The Resource Subcommittee will present a recommendation to the EWG at the next meeting.

Irene Stillings (SDREO) asked if the meetings were open to the public.

Chair Abarbanel answered that all meetings are open to the public and members of the EWG.

Ms. Porter replied that renewables is one of the alternatives being considered in order to meet the region's need.

- **Local Governments for Sustainability (ICLEI) Review Subcommittee**

Susan Freedman reported that at a previous meeting in July, Timothy Burrows of ICLEI presented on opportunities for local action to address climate change. As a follow-up, SANDAG staff met with Mr. Burroughs, Councilmember Castenada, and Chula Vista staff to discuss costs, benefits, and review what other wider regional groups had done regarding the subject and implementation of the plans. The subcommittee consisting of Mr. Castenada, Laura Hunter (Environmental Health Coalition) and Dave Carey (Port of San Diego) will bring a recommendation to the regularly scheduled November EWG meeting.

Laura Hunter requested that the EWG make a recommendation to SANDAG about pursuing a Clean Ports Plan. She added that the ICLEI may be a way of melding with the Clean Ports Plan.

AGENDA ITEM #5: PROPOSITION #87 – CALIFORNIA CLEAN ALTERNATIVE ENERGY INITIATIVE (DISCUSSION/APPROVAL)

The EWG heard pro and con presentations on Proposition 87 at its July 2006 meeting. EWG members Steve Zolezzi and Scott Anders were asked to evaluate the merits of Prop 87 and report their findings to the EWG. The two members reached differing conclusions on the Proposition: Mr. Zolezzi recommended it be opposed, and Mr. Anders recommended the EWG take no position.

Mr. Zolezzi explained that beginning in January 2007, the measure would impose a severance tax on oil production in California to generate revenues to fund \$4 billion in energy programs over time. The severance tax would not apply to Federal off-shore production beyond three miles from the coast. Producers would not be able to pass on the cost of this severance tax to customers through increased costs for oil, gas, or diesel fuel.

The legislative analysis stated it will be difficult to administratively enforce this provision. The severance tax would expire once the oversight agency has spent \$4 billion on any bonds issued or paid off. Depending upon built-in variables in the proposition, the terms of the tax would range from less than ten years to decades, while up to 2.5 percent of the funds' revenue would be available for general administration costs. The proposed new tax would be a burden on oil production in California. Producers could escape the extra costs by shutting down California production and purchasing oil from other cheaper sources which could lead to more dependence on foreign oil.

Mr. Zolezzi stated the proposition is poorly written and ambiguous, which would make it an invitation to endless litigation. Mr. Zolezzi recommends that the EWG either oppose or take no position on Proposition #87. He personally recommends that it be strongly opposed.

Scott Anders, Energy Policy Initiative Center (EPIC), recommended a neutral position due to some of the content, ambiguities and areas of uncertainty in the proposition. He questioned whether the goals could actually be achieved with the level and distribution of funding.

Another area of concern was that the Oversight agency will be able to issue bonds. If the bonds are issued ahead of time and the revenue isn't sufficiently collected, what happens to the differential? Would it be collected from the general fund revenue?

Alan Sweedler, San Diego State University (SDSU), asked if one of the positions of the supporters is that in other states, oil producers are already paying similar taxes. It was noted that in previous presentations, it was stated that this would make California's taxes one of the highest.

Mr. Zolezzi stated that there is the feeling that those who wrote and are presently funding the proposition are going to have a direct benefit. Mr. Zolezzi said that based on the merits of what the proposition says and what it is intended to do, it is not a good piece of legislation. He said the group will never have all the facts on any issue and that, at some point, the group had to be confident enough to make a decision.

Alan Sweedler asked if this is an example of something in principle the EWG would like to support, but this particular piece of potential legislation is so flawed that it undermines the basic principle.

Mr. Zolezzi replied that everything the EWG has done to date certainly supports alternative energy sources, and it is important to be clear in response to legislation. Co-Chair Madrid asked if the EWG should further analyze the issue, or table it, or not support it. Mr. Zolezzi replied that he would rather the EWG say no. That they are not against other sources, but are against this proposition.

Laura Hunter asked that the EWG be either in favor or neutral of the proposition, citing the endorsers of the proposition: American Lung Association, Sierra Club, Consumer Action Wildlife Foundation, San Francisco County Board of Supervisors, UC Irvine, UC Berkley, and UCAN. She asked that the EWG support the proposition.

Mr. Zolezzi motioned to oppose the bill; Mr. Hunter seconded the motion.

Alan Sweedler said he opposed the motion because it would send the wrong signal, and motioned to take no position on Proposition #87.

Dr. Sweedler offered that the EWG strongly support the continued and expanding funding of alternative and renewable energy in the State of California. However, this particular Proposition #87, as it is understood, the group takes no position on.

Chair Abarbanel asked again for a vote with raised hands.

Action: The EWG approved the motion to take no position, and it will be the recommendation to the Regional Planning Committee and the SANDAG Board of Directors.

6. SUNRISE TRANSMISSION PROJECT (DISCUSSION)

Chair Abarbanel explained that there would be two forms of public input: five speakers and then a discussion from within the group. The information will then be sent to the Resource Subcommittee for deliberation on October 9 and October 16, 2006. He also reminded the group of the brief meeting at SANDAG on October 30, at 11:30 a.m. to make a decision on a recommendation for the SANDAG Board of Directors.

Buz Schott, Four Square Productions and Creative Services, representing Stirling Energy Systems, gave a presentation on Stirling solar dishes. He explained the technology of the Stirling Dish. He added that the project in the Imperial Valley is a 20-year purchase power agreement approved by the Public Utilities Commission (PUC). Six hundred megawatts have been approved by the PUC, and another 300 MW is an option, and if it is successful, it can be expanded even more. It would use 24,000 Stirling dishes to generate the approved 600 megawatts. At full build-out (36,000 dishes), it would occupy approximately 5,000 square feet and completion of Phase I would be at the end of 2008. This project would create approximately 1,200 jobs in the Imperial Valley.

Mr. Schott stated that they are currently talking with the Bureau of Land Management about two sites and with the Imperial Irrigation District, who would like to create an Enterprise Zone in another area for renewable energy by the Salton Sea. Some of the sites being considered are close to existing transmission sites. The first 300 MW could be handled by existing transmission; however, the remaining 600 MW would require more transmission.

Ms. Hunter asked if efficiency was factored in and if there was a way some of the units could be located in San Diego County.

Mr. Schott said that efficiency had not been factored in; for the project to be cost-effective, it would be necessary to have approximately 12,000 dishes in an area.

Carolyn Morrow asked how the dishes could be produced in such a short time and requested an analysis of the plan. Mr. Schott replied that all the elements of the dishes are easily acquired.

Bill Powers, Border Power Plant Working Group said the issue is not reliability but how it will be done. Mr. Powers cited placement alternatives and solutions for the power lines and that the contract with Stirling will fail. San Diego Gas & Electric (SDG&E) has sent in their application that

will meet their Renewable Portfolio Standard (RPS) goal in 2010 without the Sunrise Powerlink, and SWPL can carry 1,900 MW; all of it can be renewables. Mr. Powers said current power on Southwest Powerlink (SWPL) is from combined recycled gas from Arizona and coal power from the Southwest.

Ms. Hunter stated that 32 percent of renewables contracts are failures.

Diane Conklin, Mossy Grade Road Alliance and Communities United for Sensible Power (CUSP), showed photos of the area affected by the power line. The power on the Powerlink may not bring renewables and may not be made in the United States. Sempra plans to supply energy produced by liquefied natural gas (LNG) from Mexican plants. She urged economic, technical and environmental accountability and to obtain the independent experts necessary to find out the true purpose and intentions of the Sunrise Powerlink.

Laura Copic, CUSP and member of the Carmel Valley Community Planning Board, did not think SDG&E answered questions posed by the EWG. She noted that other options to Sunrise are available that do not pass through state parks, such as expanding the SWPL line. She said this proposal maximizes SDG&E shareholder value. The CPUC Division of Ratepayer Advocates was one of the first parties to file a protest in this case. She urged an independent analysis and close examination of the project.

Carolyn Morrow, Boardmember of Community Alliance for Sensible Energy (CASE), stated there are viable alternatives to the Sunrise Powerlink that do not impact Anza Borrego State Park (ABSP) wilderness area, including big horn sheep, bald eagles, and campgrounds. ABSP and backcountry should not be destroyed to satisfy SDG&E shareholders and supply power to Los Angeles.

Chair Abarbanel noted that he was appreciative of SDG&E for addressing the questions asked of them; however, he was disappointed with California Independent System Operator (CAISO) for not answering the questions asked of them.

Dave Lawhead, California Department of Parks and Recreation, Colorado Desert District of State Parks headquartered in Borrego Springs, informed the group that the project has two components: the need for the project, and the route of the transmission line. He stated that the current proposal calls for 23 miles of lines that will pass through the ABSP. He believes the technical issues and alternatives analysis to be inadequate and flawed. The project has been selected for its expediency and benefits to SDG&E only. He asked that the EWG support the request for alternatives that avoid the ABSP altogether.

The proposed line is within the categories of land use impacts. Those impacts being:

- » Visual Impacts – one of the major benefits or features of the park is its panoramic views and vistas. This proposed project goes through the heart of the park and follows adjacent to State Highway 78. It would have a tremendous impact on the visual resources of the park and would change the basic nature of the park.
- » State Wilderness Impact – the proposed project requests changes in the alignment that would require a concurrence of the California State Park and Recreational Commission. They have never un-designated state wilderness lands in the state once they have been set up, and in doing that, would set a horrible precedent and put wilderness at risk everywhere.

- » Biological Resource – the power lines would cross the federally designated critical habitat of the big horn sheep. They have a memorandum of understanding (MOU) with state wildlife agencies to try to manage the Anza Borrego resources to match theirs for the recovery of the sheep. This could potentially conflict with the MOU. The lines also cross an important migratory route for the big horn sheep in an area called the “Narrows.” Other raptors, such as golden eagles have nesting sites, and the state-threatened Swensen’s hawk migrates through the valley every year. The lines not only are the cause of electrocutions, but are a major fire ignition source.
- » Cultural Resource – the existing line, which was installed in 1924, passes through the heart of a Native American village site. SDG&E proposes to avoid this site, however in doing this, they would impact state wilderness.
- » Recreational – there are two campgrounds that will be located adjacent to the proposed power line. This will be a significant degradation of the camping opportunities and affect the park’s revenues.

Mr. Lawhead recommended the EWG review the environmental impact report (EIR) before making a decision and hopes the EWG supports exploring all the options and avoiding the ABSP.

Commissioner Grueneich advised SDG&E to look at an alternate route that did not include the Anza Borrego State Park at the pre-hearing conference in Ramona.

Chair Abarbanel asked the SDG&E representatives to address questions on October 30, 2006.

Mr. Reed replied that they will.

Dr. Sweedler expressed his concern to the Chair about having the alternative analysis and the extra costs involved available to the EWG before they are asked to make a decision.

Denis Traficante (Santa Ysabel resident) informed the EWG that they did not have an exact time frame yet. They are required to provide additional analysis on the routes studies and were not carried forward. They did, however, study routes that go south around the park, and there is some baseline data. It is necessary to acquire additional data and in the near future, it will become public information.

Dr. Sweedler replied that this was too vague. It is a critical element for discussion and without the analysis before the decision, the EWG is unable to make a decision for lack of information.

Mr. Lawhead said that they have been told by CPUC consultants that they are not confined to what SDG&E has proposed.

Dr. Sweedler then suggested that the EWG not be rushed to judgment and they wait until they have the proper data in order to make a rational decision.

Irene Stillings, San Diego Regional Energy Office (SDREO), remarked that the process for making this decision is a year-long process. There is no urgency for the EWG to make a recommendation to the SANDAG Board.

Paul Blackburn, Sierra Club, said the draft EIR will be available probably spring or early summer.

Co-Chair Madrid stated there is no rush to judgment. The best thing to do is to make a presentation on the status of the work done thus far to the Board and, based on the data provided, it could be several more months before all data is received. It is important not to falsely encourage the Board that a recommendation can be made by October 30.

Chair Abarbanel agreed.

Mr. Blackburn spoke about the impacts on wilderness preservation, endangered species, global warming, and air pollution the proposed project would have. The California Energy Commission (CEC) doesn't think Stirling Energy Systems will be commercially viable until 2017. Mr. Blackburn told the group that the Sierra Club will continue to fight.

Mr. Anders wanted to ask the presenter, Buz Schott, questions about the technology. Since Mr. Schott had left the meeting, Mr. Blackburn who was familiar with the technology provided answers. Mr. Anders asked what the current mean time was between failures on the engines. Mr. Blackburn replied that Stirling keeps that information confidential; however, the Sierra Club will subpoena the records. Chair Abarbanel said that the Renewable Group of the Resources Subcommittee estimates the time to be 200 hours presently at the Sandia test site, increasing possibly over time. Mr. Reed asked about the source of that information, and Chair Abarbanel mentioned the Renewables team.

Mr. Blackburn added that press releases from Sandia stated their goal to be between 4,000 to 5,000 hours.

Mr. Ball referred to Buz Schott's comment that the cost of generation is less than conventional generation and requested the basis on which the comment was made. Mr. Blackburn replied that it depends on the volume made; it goes down over time. The initial cost was about 40 cents.

Mr. Reed informed the group that the contract price is below the market price right now, and the market price is set at the price of fossil fuel.

Ms. Hunter commented that if the multi-billion dollar project hinges on the technology, then maybe we should look at technology.

Bill Reed reminded the group that the RES was agreed upon by the EWG. Goal five of the RES suggests new transmission. He asked the EWG whether it still supports new transmission.

Chair Abarbanel agreed that it should be discussed thoroughly by the Resource Subcommittee. He then introduced the public speakers.

Ellen Malin, Field Representative for Senator Hollingsworth, gave a brief statement regarding the Powerlink. Senator Hollingsworth related that the proposed route should minimize the impact on current property owners by utilizing existing rights-of-way on the existing lines. The use of public land should be maximized. To minimize the visual impact, underground lines should be utilized.

Denis Traficante from Santa Ysabel said that state parks are not intended to be land banks for future development. He was offended by SDG&E's claim that there will be no significant impacts due to the new power lines in the back country.

David Hicks, LS Power, made the point of SDG&E devaluing the value of Southbay, and they assume the retirement of Southbay in 2009. LS Power was the only one to apply to the CPUC to build a new replacement power plant in San Diego. SDG&E has decided to go forward with new transmission. He urged the group to consider SDG&E's strategy and what is best for the community. A serious cost analysis is necessary.

Jim Bell, Ecological Life Systems Institute, said the goal is energy price and supply security. He stated that if SDG&E only aggressively invested in efficiency improvement, it would eliminate everything else. Efficiency would bring the money back into the local economy and be used to research renewables.

Kurt Kammerer, KJK&A, stated that investors will invest when they have the power purchase agreement by SDG&E. The technology is risky and could be a bait and switch. Stirling technology will not be cost-effective for another 20 to 30 years.

Don Wood, C-3, believes one of the goals to be set in the process, if the need is found for a new power line, is to challenge SDG&E to find the route that stays out of the ABSP and wilderness areas, but also is outside the Multiple Species Conservation Program (MSCP) open space preserves in East County.

Laura Hunter, Environmental Health Coalition, asked how much 1,000 watts of rooftop solar would cost. The answers ranged from \$5 to \$9 per watt. Laura Hunter also asked the group to review the September issue of *National Geographic*.

7. ADJOURN

ATTENDANCE
ENERGY WORKING GROUP MEETING – SEPTEMBER 28, 2006

MEMBERS

Henry Abarbanel, Co-Chair, City of Del Mar, North County Coastal
 Art Madrid, Co-Chair, City of La Mesa, Eastern Suburban Communities
 Steve Castaneda, City of Chula Vista, South County
 Bill Reed, SDG&E
 Scott Anders, EPIC
 Laura Hunter, Environmental Health Coalition
 Paul Blackburn, Sierra Club
 Irene Stillings, San Diego Regional Energy Office
 Greg Parks, San Diego Chamber of Commerce
 Dave Weil, UCSD
 Marty Hunter, San Diego Labor Council
 Patti Krebs, IEA
 Paul O'Neal, SDNEDC
 David Carey, Port of San Diego
 Alan Sweedler, SDSU
 Steve Zolezzi, Food and Beverage Association, Small Business
 Alan Ball, Qualcomm, Large Business
 Sharon Cooney, MTS

OTHERS

Rob Rundle, SANDAG	Jim Bell, Ecological Life Systems
Susan Freedman, SANDAG	Jaleh Firooz, Adv. Energy Solutions
Carey Tover, SANDAG	Craig Rose, SD Union Tribune
Jennifer Porter, SDREO	Ellen Malin, Office of Senator Hollingsworth
Jim McCollum, IEA	Laura Copic, CUSP
Don Wood, C-3/PEPC	Charlie Johnson
Linda Wagner, City of Chula Vista	David Hicks, LS Power
David Lawhead, CA Dept. of Parks & Recreation	Mike Gearhart
Denis Trafecanty, Santa Ysabel resident	Ryan Amador, SDREO
Harvey Payne, Rancho Penasq. Concerned Citizens	Sephra Ninow, SDREO
Buz Schott, Stirling Energy	Andrew McAllister, SDREO
J.C. Thomas, SDG&E	Carolyn Morrow, CASE
Kurt Kammerer, KJK&A	Michael Calabrese, SD City Attorney
Al Figueroa, Eolution Consulting	Nicole Capretz, Councilmember Frye
Julie Gelfat, IBEW 569	Scott Crider, SDG&E
Alexandra Hart, IBEW 569	Diane Conklin, Mussey Grade Road Alliance
Bob Resly, Resley Consulting	

San Diego Association of Governments
ENERGY WORKING GROUP

November 1, 2006

AGENDA ITEM NO.: **4**

Action Requested: RECOMMEND

RESOURCES SUBCOMMITTEE RECOMMENDATION ON THE
SUNRISE POWERLINK TRANSMISSION PROJECT

File Number 3003000

Energy Working Group Resources Subcommittee

November 1, 2006

The Honorable Henry Abarbanel
The Honorable Art Madrid
Co-Chairmen, the SANDAG Energy Working Group

Dear Chairmen Abarbanel and Madrid:

The Energy Working Group (EWG) has been asked by the SANDAG Board of Directors to advise them on the Sunrise Powerlink (SPL) transmission project, as proposed by San Diego Gas and Electric (SDG&E). The Resources Subcommittee has been evaluating the SPL and other resource options as they correlate to the Regional Energy Strategy (RES) and state policies. The resource analysis has included review of transmission options, as well as in-county generation and renewable resources available both within the San Diego region and out of the county. We have also reviewed the viability of energy efficiency and demand response measures to curb future energy consumption.

The subcommittee has not taken this task lightly. The meetings have been many and have been marked at times by spirited debate. Assisted by energy experts, San Diego Regional Energy Office staff, SANDAG staff and community input, we have examined a large amount of project detail. Despite the analysis and expert examination, at this time the SPL project review has been marked by route uncertainty, no available environmental analysis, and no clear cost comparison with other option costs. The California Independent System Operator (CAISO) states that it has performed a cost analysis of the SPL, but despite assurances that they would provide copies of this public study to the EWG, they have declined to do so. Ultimately, the responsibility falls to the subcommittee to provide the EWG with direction that allows them to make a recommendation to the SANDAG Board of Directors that is honest and will not, in future years, bring doubt as to the wisdom of their position.

The Energy Resources Subcommittee recommends that ***taking a position on the transmission project at this time is premature***. Detailed information from the state review process will be forthcoming over the next 6 to 12 months. The California Public Utilities Commission (CPUC) process for the Sunrise Powerlink project has just now begun. At this early stage, there is no rush for supporting a project, nor a rush to oppose.

The subcommittee feels that we must be certain that the construction of additional electric transmission lines into the county is consistent with both the RES and with state law, embodied in the so-called "loading order." The loading order is clear that electric power demand be met first by efficiency, then reduction in demand, then by use of distributed generation, and if these efforts are not sufficient, then by conventional power plants, with transmission lines on the bottom of the order. Concurrently, state law requires SDG&E to acquire 20 percent of its generation from renewable resources in 2010.

The RES has a strong emphasis on renewable energy, and our subcommittee's renewables task force has determined that these goals cannot likely be met by in county generation alone. Thus, transmission from wind farms or solar installations out of our region may be necessary, be they from the north, south or east. At the same time, the RES asks that 65 percent of the power used here be generated in county. If transmission is seen, even if not for renewables, as displacing the need for new or replacement in-county generation, it is inconsistent with the RES.

Two transmission line projects we have studied, the SPL and the Lake Elsinore Advanced Pumped Storage (LEAPS) project, have significantly different cost estimates. LEAPS is a public-private partnership between the Nevada Hydro Company and the Elsinore Valley Municipal Water District and runs north-south connecting Southern California Edison to SDG&E. The cost estimate for the transmission portion of the LEAPS project is about \$350 million. Adding to that will be the cost of upgrading SDG&E infrastructure to accommodate the additional energy being delivered. The SPL is estimated to cost about \$1.3 billion. This estimate may vary because the CPUC suggested that other routes than the one proposed be examined as well.

A new 500 kV transmission line represents an infrastructure decision that will impact local residents, businesses, and members of SANDAG for decades into the future. With the EWG, SANDAG is in a position to join SDG&E and other agencies in making the choices which will be implemented for this region's benefit. ***We need to make this decision, as we would all others; carefully guided by the full facts of the specific projects as they are finally revealed.*** Accordingly, the Resources Subcommittee ***proposes the recommendation shown on the attached page.***

Sincerely,
Paul O'Neal
Chairman, Energy Working Group Resources Subcommittee

Resources Subcommittee Recommendation

The Resources Subcommittee has studied the proposed Sunrise Powerlink (SPL) transmission project and resource alternatives for several months with a goal of providing the Energy Working Group (EWG) with a recommendation on this project. Due to the lack of an environmental impact analysis or California Public Utilities Commission (CPUC) assessment of need, and probable application changes causing route uncertainty, it is imprudent at this time to recommend a support or oppose position to the EWG. In addition to the uncertainty of the project specifics for SPL, a competing project has been made public in the San Diego region. This is the Lake Elsinore Advanced Pump Storage (LEAPS) project.

Prior to stating a position relating to new electric transmission access into San Diego County, the EWG recommends that the following activities take place. The EWG should formally request that items one through four are incorporated in the CPUC's need and environmental impact report (EIR) assessments of the Sunrise Powerlink.

1. A thorough comparison of the environmental analysis of the LEAPS and the Sunrise Powerlink projects.
2. A thorough discussion of the cost and need analysis of both the LEAPS and Sunrise Powerlink projects.
3. A thorough discussion of the realistic ability of either the LEAPS or Sunrise projects, or other options, to deliver proposed renewable energy resources to the San Diego region.
4. A complete analysis of the ability for either project, or other options, to be permitted and constructed by 2010.
5. A thorough public vetting regarding the utilization of in-county generation either with new or re-powered resources and distributed power generation.
6. After the CPUC assessments have been made available to the public, the EWG should further evaluate the consistency of any project with all aspects of SANDAG's Regional Energy Strategy.

Attachments: 1. Report on EWG Assessment Process for the Sunrise Powerlink
2. EWG Resources Subcommittee Evaluation Materials

Key Staff Contact: Susan Freedman, (619) 699-7387, sfr@sandag.org

REPORT ON EWG ASSESSMENT PROCESS FOR THE SUNRISE POWERLINK (SPL)

Introduction

The SANDAG Board of Directors has requested that the Energy Working Group (EWG) provide a recommendation on the SPL Transmission project at the November meeting. The SPL, as proposed by San Diego Gas and Electric (SDG&E), would be a new 150-mile-long, 500 kV transmission line running east-west connecting the El Centro area of Imperial County and northwestern San Diego County. SDG&E filed an amended application for this project with the California Public Utilities Commission (CPUC) on August 4, 2006. The CPUC began its deliberation process for this project by holding a pre-hearing conference in Ramona on September 13, 2006. At this meeting, CPUC Commissioner Gruenich requested that SDG&E provide at least one alternate transmission route to what had originally been proposed in which a 500 kV line would not pass through the Anza Borrego State Park (ABSP). This alternate is to be evaluated by the state during its review of the proposed project. The proceeding is expected to last between one and two years.

The EWG Resources Subcommittee has discussed the Sunrise project in the context of the Regional Energy Strategy (RES) and assessed the viability of alternative resources to address the region's future capacity needs. The Subcommittee met on October 9 and 16, 2006, to evaluate energy resource options and develop a recommendation to bring to the full EWG on November 1, 2006. The EWG recommendation will be presented to the Regional Planning Committee for consideration on November 3, 2006. The recommendation will be presented to the SANDAG Board of Directors for consideration on November 17, 2006.

This report provides background on the CPUC review process for the SPL, the EWG and Resources Subcommittee decision-making process, how the SPL and other resource options correlate with the RES, and how the SPL correlates with state transmission policies, such as the preferred loading order, the transmission recommendations in the 2005 Integrated Energy Policy Report (IEPR), and the Energy Commission's views on southern California transmission needs in response to a federal transmission congestion study.

Discussion

Status of the CPUC Review Process

The state and federal review process for the SPL project started in September 2006 and will likely continue one to two years. Recent developments in the SPL proceeding include the following:

- A pre-hearing conference (PHC) was held by the CPUC on September 13, 2006, in Ramona to address procedural issues regarding the transmission application proceeding.
- At the PHC, CPUC Commissioner Gruenich requested that SDG&E present alternate transmission routes that avoid ABSP.

- Subsequent to the PHC, the CPUC will set the time line for the SPL application proceeding. This time line has not been determined yet, but will likely span one to two years.
- Environmental scoping meetings to develop joint state and federal Environmental Impact Report/Statement (EIR/EIS) began the first week of October. From those meetings, the CPUC will determine the scope and timeline for the EIR/EIS process.

During 2007 the following additional steps are anticipated:

- Draft and Final EIR and EIS to be made available,
- Evidentiary hearings will be held on the SPL project at the CPUC, and
- The CPUC Division of Ratepayer Advocates will release an analysis of need.

EWG Decision-Making Process

The EWG recognizes several questions that need to be answered before concluding that there is a need for a major transmission facility, like the SPL.

First, the Resources Subcommittee assessed energy resources available to meet energy demand in 2010, both committed and likely to be available. This assessment included reductions in peak demand from energy efficiency, demand response, distributed generation, and rooftop solar, all of which are priorities of the RES and the state-adopted resource loading order. In-region power plants and import capabilities from existing transmission were also evaluated.

From this assessment, the Resources Subcommittee agreed that there will be an overall resource deficiency in the region in 2010 and a deficiency in renewable energy resources to meet state requirements in 2010. The EWG chose 2010 as a horizon year because that is the year that SDG&E states there is a need for the SPL.

Second, the Resources Subcommittee assessed what options were available to address the resource gap anticipated in 2010. This assessment was not limited to transmission options alone. The subcommittee reviewed potential in-region generation options, increased penetration of renewables, demand response, and energy efficiency. The EWG also reviewed alternate transmission options.

The EWG's evaluation of each potential resource option considered:

- How it fit within the RES
- Actual or likely ability it could fill the year 2010 megawatt (MW) gap
- Whether it addressed state renewable portfolio standard requirements
- Whether it would meet greenhouse gas requirements
- Where it fit in the state-adopted resource loading order and other state policies
- Risk of project completion by 2010
- Associated costs and other issues

Multiple Transmission Options

There are several transmission resource options under development or review that could be of benefit to the region. There may be alternatives to the SPL project that could meet similar reliability needs and/or deliver renewable energy as effectively. One option under review by the EWG is by a public-private partnership between the Nevada Hydro Company and the Elsinore Valley Municipal Water District. This option is referred to as the Lake Elsinore Advanced Pumped Storage (LEAPS) project. The LEAPS transmission project would be a 30-mile, north-south 500 kV line that would connect Southern California Edison (SCE) and SDG&E. It follows the same path as the Valley-Rainbow transmission project that was previously proposed by SDG&E and was turned down by the CPUC in December 2002. The LEAPS project is currently under federal review by the Federal Energy Regulatory Commission (FERC). A completed assessment of this project is anticipated during summer 2007.

Regional Energy Strategy (RES)

The RES promotes a mix of power production from centralized and distributed generation resources. The RES recognizes the need for local and imported power, but calls for the majority of power used by San Diegans to be produced locally. The RES also gives highest priority to energy efficiency, renewable energy, and clean non-renewable distributed generation. Several goals in the RES address electricity supply and infrastructure capacity.

The RES includes a goal of increasing the total electricity supply from renewable resources to 15 percent by 2010, 25 percent by 2020, and 40 percent by 2030. Subsequent to adoption of the RES, more stringent state law has been adopted requiring 20 percent renewables by 2010. The Governor has also proposed an additional goal of 33 percent renewables by 2020. The use of transmission is needed to meet the renewables goal, but it is unclear whether this need could be met using existing or other new transmission options. Currently, there is no assurance that the SPL project will be used to deliver renewable power to the region. It should be noted that the RES goal also calls for an emphasis on in-region renewable installations.

Another goal of the RES is to promote the local production of cost-effective, environmentally sensitive energy to reduce dependence on imported energy. The proportion of local energy that is supplied from in-region sources directly reflects progress toward this goal. There are power generation assets in the region that if run 100 percent of the time, could produce approximately 60 percent of total capacity needs. At present, San Diego's in-region resources provide only about 25 percent of regional power needs. Reasons for this shortfall include the fact that some in-region resources are old and less efficient, or they are run part-time for air quality, high-fuel cost, and other reasons. One measure to increase the share of energy produced in the region would be to replace older, less-efficient resources.

The RES includes a goal to increase the transmission system capacity as necessary to maintain required reliability and to promote better access to renewable resources and low-cost supply. This goal could be met through improvements to existing transmission infrastructure, from the SPL, or from other transmission options currently under review at the state and federal levels.

California State Policies regarding Electric Transmission

- *Preferred Loading Order*

In 2005, the CPUC and California Energy Commission (CEC) adopted the Energy Action Plan (EAP) II, which stressed the state's preferred loading order (first adopted in the 2003 Energy Action Plan). The loading order, as stated in EAP II, identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. After cost-effective efficiency and demand response, the state is to rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, clean and efficient fossil-fired generation is supported. Concurrently, the bulk electricity transmission grid and distribution facility infrastructure must be improved to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter.

- *2005 IEPR on Transmission Projects*

It should be noted that materials on the 2005 IEPR had not been presented to the Resources Subcommittee. The CEC addressed transmission constraints in its 2005 IEPR, which serves as the energy policy blueprint for California. The CEC also produced supplemental documents in the IEPR process that addressed state and regional transmission needs in greater detail: *Transmittal of 2005 Energy Report Range of Need and Policy Recommendations to the CPUC* and *Strategic Transmission Investment Plan*. Each identified potential benefits to San Diego of the SPL and other projects. The SPL project was one of five transmission projects that was identified in the IEPR as vital, near-term transmission additions critical to meeting California's rapidly growing transmission needs.

The CEC stated that the proposed 500 kV SPL project would provide significant near-term system reliability benefits to California, reduce system congestion and resultant congestion costs, and provide an interconnection to renewable resources located in the Imperial Valley and lower-cost, out-of-state generation. Without the proposed project, the CEC stated that it was unlikely that SDG&E will be able to meet the state's Renewable Portfolio Standard (RPS) goals, ensure system reliability, or reduce reliability must run (RMR) and congestion costs. Therefore, the CEC believes the proposed project offers significant benefits and recommends that the project be moved forward expeditiously so that the residents of San Diego and all of California can begin realizing these benefits by 2010.

See federal section below for CEC response to a national transmission congestion study.

Federal Transmission Policy

The U.S. Department of Energy (DOE) released for public comment, a *National Electric Transmission Congestion Study* in August 2006. The report concludes that Southern California needs new transmission capacity to reach generation sources outside the region for reliability, economics, and compliance with the state's renewable portfolio standard. Critical Congestion Areas are "those areas where it is critically important to remedy existing or growing congestion problems because the current and/or projected effects of the congestion are severe."

- *2006 CEC Response to U.S. DOE on Transmission Corridors*

It should be noted that this information became available after the Resources Subcommittee meetings were held. In October 2006, the CEC filed a response to the DOE Transmission Congestion Study. The CEC states that it agrees with DOE's classification of the Southern California region as a "Critical Congestion Area." The CEC notes that "the San Diego region's transmission problems are acute and graphically illustrate the importance of adequate transmission." (CEC IEPR 2005, p.92) The CEC in its response to DOE states that it "believes that SDG&E's transmission situation is very precarious and additional transmission infrastructure investments in the San Diego region are necessary." (CEC Response, p.3)

Next Steps

The EWG will hold its regular monthly meeting on November 1, 2006, to formulate recommendations to the Regional Planning Committee and Board of Directors regarding the proposed project. These recommendations will be presented to the Regional Planning Committee at its November 3, 2006, meeting.

EWG RESOURCES SUBCOMMITTEE EVALUATION MATERIALS

SUNRISE POWERLINK PROJECT OVERVIEW AND INFORMATION ON AVAILABLE RESOURCE CHOICES

These materials were used for discussion purposes at the EWG Resources Subcommittee meeting on October 16, 2006. This first section provides a narrative of the Sunrise Powerlink transmission project and alternative resource choices. It is followed by a set of tables depicting various resource scenarios.

Sunrise Powerlink Project Purpose

According to San Diego Gas & Electric (SDG&E), the proposed Sunrise Powerlink project is needed for three primary reasons:

1. Maintain reliability of service
2. Provide transmission capability for renewable resources
3. Reduce energy costs in the San Diego region

Additional reasons have been cited by SDG&E as well:

1. Ensure SDG&E's transmission systems satisfies minimum California Independent System Operator (CAISO), North American Electric Reliability Council (NERC), and Western Electricity Coordinating Council (WECC) reliability criteria throughout the planning horizon of SDG&E's Long-Term Resource Plan (LTRP) and beyond, including the requirement that there be no loss of load within the San Diego area under G-1/N-1 contingency conditions.
2. Provide transmission facilities with a voltage level and transfer capability that allows SDG&E to meet short- and long-term load growth through a total San Diego area import capability of at least 4,200, with 3500 MW N-1/G-1.
3. Provide transmission capability for Imperial Valley renewable resources to assist in meeting or exceeding California RPS goals.
4. Reduce the above-market costs associated with maintaining reliability in the San Diego area, while mitigating potential exercise of local market power, particularly costs associated with generators such as South Bay and Encina.
5. Improve regional transmission system infrastructure to provide for the delivery of adequate, reliable, and reasonably priced energy supplies and to implement the transmission elements of state and local energy plans.
6. Obtain electricity generated by diverse fuel sources and decrease dependence on natural gas.
7. Avoid to the extent feasible, the taking and relocation of homes, businesses, or industries, in the siting of the transmission line, substation, and associated facilities.

8. Minimize the need for new or expanded transmission line right-of-way (ROW) in urban or suburban areas of the SDG&E service territory already traversed by multiple, high-voltage transmission facilities and to the extent feasible, assist in implementing local land use goals.

SDG&E began their process with evaluation of alternatives to the proposed transmission size and route prior to studying transmission options or alternatives. According to their application Proponents Environmental Assessment (PEA), the following system alternatives were considered and eliminated:

- Energy efficiency
- Demand response
- In-area generation
- Distributed generation
- Rooftop solar
- Imperial Valley-Miguel 500 kV #2
- 230 kV CFE
- Four 230 kV circuits
- Full loop
- Lake Elsinore Advanced Pump Storage (LEAPS)

The SANDAG Board of Directors has requested an evaluation of the Sunrise Powerlink application and has asked the SANDAG EWG to forward a recommendation to them on whether or not the project is needed. The following is a breakdown of potential and online regional resources. Included are resource scenarios for:

- Mix of Resources Options
- SDG&E Proposed Transmission Resource
- Transmission Option 2 – Segment D (OUTSIDE Anza Borrego State Park)
- Transmission Option 3 – LEAPS (Talega-Escondido/Valley-Serrano)
- Generation Options
- Renewable + Energy Efficiency
- Demand Response and AMI
- Year 2010 Resource Base for Each Scenario

The scenarios include information on:

- a. Responsible oversight agency
- b. Project description
- c. Capacity
- d. Cost
- e. Status of project
- f. Environmental notes
- g. Fit with the Regional Energy Strategy (RES) 2030
- h. Fit with the State Loading Order

From this set of data, the SANDAG EWG and the SANDAG Board of Directors can review the benefits and detriments to each resource option and draw a conclusion.

Mix of Resources Options

A mix of resource measures could best address the RES’s Electricity Supply and Demand Goals.

RES Electricity Supply and Infrastructure Capacity Goals:

- GOAL 2: Achieve and maintain capacity to generate 65 percent of summer peak demand with in-county generation by 2010 and 75 percent by 2020.
- GOAL 3A: Increase the total electricity supply from renewable resources to 15 percent by 2010 (~740 MW), 25 percent by 2020 (~1,520 MW) and 40 percent by 2030 (~2,965 MW).
- GOAL 3B: Of these renewable resources, achieve 50 percent of total renewable resources from resources located within the County (~370 MW by 2010, ~760 MW by 2020, and ~1,483 MW by 2030).
- GOAL 4: Increase the total contribution of clean distributed generation resources (non-renewable) to 12 percent of peak demand by 2010 (~590 MW), 18 percent by 2020 (~1,100 MW) and 30 percent (~2,225 MW) by 2030.
- GOAL 5: Increase the transmission system capacity as necessary to maintain required reliability and to promote better access to renewable resources and low-cost supply.

RES Electricity Demand Goal

- GOAL 6: Reduce per-capita electricity peak demand and per-capita electricity consumption back to 1980 levels.

	RES 2030	LOADING ORDER	RISK OF COMPLETION	COST	ENVIRONMENT
SDG&E Proposed Transmission					
Transmission #2					
LEAPS Transmission					
Generation Option					
Renewable +Energy Efficiency					

General Comments on the Transmission Resources

- SDG&E listed 18 alternates studied in their Certificate of Public Convenience and Necessity (CPCN) application to the CPUC on August 4.
- CAISO performed a Transmission Comparison Study of 24 transmission options, and all but 4 routing options were eliminated.
 - » At the end of the study, the CAISO found that, based on the information presented to them, the Sunrise Powerlink was economically viable, provided reliability and provided access to renewables in order to meet the RPS. They stated this in their *CAISO South Regional Transmission Plan for 2006: Findings and Findings and Recommendations on the SunPath Project*.
 - » The CAISO study only provided an economic analysis of four routing options. The EWG requested the economic analysis of the rejected transmission options from the CAISO on August 24, 2006, and was told we would receive that information. After multiple requests, the EWG has been told that that analysis of the other transmission options was not completed and would not be made available due to time constraints.
 - » The CAISO study did not address non-transmission-related alternatives.
 - » Stakeholder groups including Utility Consumers' Action Network (UCAN) have disputed the four options chosen for full analysis by the CAISO.
- The alternate transmission options were studied by the Southwest Transmission Expansion Plan (STEP) group, which includes representatives from CAISO, California Energy Commission (CEC), SDG&E, Southern California Edison (SCE), Imperial Irrigation District (IID), Comisión Federal de Electricidad (CFE), Arizona Public Service, Lake Elsinore Advanced Pump Storage (LEAPS), Intergen and Coral Power.

SDG&E Proposed Transmission Resource

- a. Process overseen by CPUC (reviewed and supported by CAISO but not regulated by them).
- b. Length: 150-mile total project (92-mile SDG&E component) 500 kV line connecting IV and beyond resources to San Diego substations.
- c. 1000 MW design capacity.
- d. Cost: \$1.265 billion.
- e. Status: Certificate of Public Convenience and Necessity filed with CPUC August 4, 2006. Scoping meetings.
- f. Environmental notes: According to the State Parks staff, the Anza Borrego State Park (ABSP) General Plan would have to be amended to accommodate the Sunrise Powerlink as proposed. In the SDG&E PEA, however, they state the ABDSP General Plan would not need to be modified. This proposal would cross 328 acres of state land and 410 acres of state parks. It would also cross substation special species status habitat, as well as federal and state sensitive management areas and existing proposed state park wilderness areas and agricultural land.
- g. RES GOAL 5: Increase the transmission system capacity as necessary to maintain required reliability and to promote better access to renewable resources and low-cost supply.

- h. Loading Order: Added transmission ranks low on the state's loading order, after energy efficiency, renewables, and distributed generation. If transmission is necessary to meet higher state requirements like the RPS, then that should also be taken into consideration.

Transmission Option 2-Segment D (OUTSIDE Anza Borrego State Park)

Three "out of Anza Borrego State Park" alternatives were considered by SDG&E in their PEA and rejected on the basis of additional impacts they would cause over the preferred route. Of the three alternatives, Segment D was the most viable of the three and is discussed further.

- a. Process overseen by CPUC (would be reviewed by CAISO ,as well as input to CPUC process).
- b. 106-mile 500 kV line connecting IV and beyond resources to San Diego substations.
- c. 1000 MW design capacity.
- d. Cost: unknown (not listed) but expected to be more expensive than Sunrise Powerlink because of terrain crossed (hills, many additional turns over Sunrise Powerlink).
- e. Status: not developed, not in progress.
- f. Environmental notes: According to SDG&E's PEA, Segment D would cross State Route 79 and S1, which provide access to Cuyamaca Rancho State Park and Laguna Mountains Recreation Area. A portion of Segment D would traverse the Cleveland National Forest (CNF) (248 acres) where current 69kV lines currently exist; the ROW would have to be expanded, however. The current 69kV lines are not currently designated as utility corridors in the approved CNF Management Plan. Therefore, the CNF Forest Plan would have to be amended to accommodate this line. Segment D would also result in higher direct impacts to residential communities than the Sunrise Powerlink, according to SDG&E (98 acres as opposed to 25 w/Sunrise Powerlink). Federal Wilderness Land (27 acres) and Indian land (34 acres), areas where the Sunrise Powerlink would not cross. It would also cross special species status habitat, as well as federal and state sensitive management areas.
- g. RES GOAL 5: Increase the transmission system capacity as necessary to maintain required reliability and to promote better access to renewable resources and low-cost supply.
- h. Loading Order: Added transmission ranks low on the state's loading order, after energy efficiency, renewables, and distributed generation. If transmission is necessary to meet higher state requirements like the RPS, then that should also be taken into consideration.

Transmission Option 3 – LEAPS (Talega-Escondido/Valley-Serrano)

- a. Process overseen by FERC (instead of California regulators).
- b. 28.5 mile 500 kV line connecting existing SCE and SDG&E transmission lines.
- c. 1000 MW design capacity.
- d. Cost: \$350 million (additional cost to state for transmission upgrades).
- e. Status: Elsinore Valley Municipal Water District filed interconnection application with CAISO 3-05. An environmental impact study (EIS) was completed in February 2006. Of note, in their EIS, the co-applicants (Nevada Hydro Company and Elsinore Valley Municipal Water District) state that this line will ultimately (pending completion of Green Path or other line from IV) connect Imperial Valley and east resources to SCE resources and transmission. "SDG&E's long-

term plan is to identify a way to connect the western end of the Imperial Valley-San Diego Expansion Plan transmission line with the southern end of the Talega-Escondido/Valley-Serrano transmission line, creating one continuous path.”¹ This full-loop option was not included in SDG&E’s application because of cost; however, if the full loop is completed, that path could move electricity from the Talega-Escondido substation to SCE territory and vice versa.

- f. Environmental concerns: The transmission portion of the project will require upgrades of existing 230 kV lines for north and south connections to this line. The co-applicants applied for U.S. Forestry Service approval (July 2003) for right of way in national forest land.
- g. RES GOAL 5: Increase the transmission system capacity as necessary to maintain required reliability and to promote better access to renewable resources and low-cost supply.
- h. Loading Order: Added transmission ranks low on the state’s loading order, after energy efficiency, renewables, and distributed generation. If transmission is necessary to meet higher state requirements like the RPS, then that should also be taken into consideration.

Generation Options

Several generation proposals have been presented to the EWG resources subcommittee. They are:

- 1. San Diego Community Power Project (Enpex)
- 2. South Bay Replacement Project (LS Power)
- 3. Encina Replacement Project (NRG)

❖ Enpex’s Project, the San Diego Community Power Project

- a. Privately funded by ENPEX
- b. Up to 1500 MW (750 initially)
- c. Location: within San Diego County (Miramar)-in negotiations with MCAS Miramar
- d. Cost: \$600/installed kW (in 2003)
- e. Status: The interconnection for the project is being studied (Sycamore Canyon) by the CAISO, #7 in queue. The project has been announced to the CEC (no formal proposal for one-year review, however)
- f. Environmental notes: air-cooled, combined cycle
- g. RES GOAL 2: Achieve and maintain capacity to generate 65 percent of summer peak demand with in-county generation by 2010 and 75 percent by 2020
- h. Loading Order: Conventional power plants are at low end of the loading order

¹ Draft Environmental Impact Statement (DEIS) of Lake Elsinore Advanced Pumped Storage (LEAPS) February 2006

❖ ***South Bay Power Station Replacement Project***

- a. Funded by LS Power
- b. 620 MW
- c. Location: within San Diego County, on Port of San Diego property leased to LS Power, smaller scale than existing plant
- d. Cost:
- e. Status: The project is being studied by the CEC as of June 2006, #27 on CAISO's generation interconnect queue (expected to be online 1-1-10 according to CAISO queue)
- f. Environmental notes: air-cooled, combined cycle. Expect to meet new GHG requirements because this plant would replace older, more polluting plant
- g. RES GOAL 2: Achieve and maintain capacity to generate 65 percent of summer peak demand with in-county generation by 2010 and 75 percent by 2020
- h. Loading Order: Conventional power plants are at low end of the loading order

Additional comments on South Bay and concerns with Sunrise Powerlink application and analysis thus far:

LS Power has indicated to both the CEC and CPUC its intention to replace the existing plant with a 620 MW combined cycle plant circa 2010. The proposed plant is under review at the CEC and in the CAISO interconnection queue. SDG&E's Sunrise Powerlink application assumes the existing South Bay generation will be retired, but not replaced.

❖ ***Encina Power Station replacement project***

- a. Funded by NRG Energy
- b. 400 MW
- c. Location: same site as present (coastal Carlsbad NRG property)
- d. Cost: \$425-500/kW
- e. Status: Estimated filing date with CEC 3-07
- f. Environmental notes: using recycled water. Will receive RECs from existing plant
- g. RES GOAL 2: Achieve and maintain capacity to generate 65 percent of summer peak demand with in-county generation by 2010 and 75 percent by 2020
- h. Loading Order: Conventional power plants are at low end of the loading order

Renewable + Energy Efficiency

The renewables subgroup has compiled a presentation of the technical potential for renewables in the region. This information was garnered from the Potential for Renewables Study, written in 2005.

The renewables subgroup found that most of the renewable potential in San Diego is in the east part of the county (geothermal, solar, and wind).

Solar: They determined that the large-scale Stirling project may be difficult to complete by 2010 as 4 engines/year is the current rate of production, and 12K will need to be produced to reach 300 MW. Dish Stirling/SDG&E are in negotiations currently to acquire land from The Bureau of Land Management (BLM) and IID. Note: If this resource cannot provide enough output to meet SDG&E's RPS goals, it is important to understand where the renewable MW will come from.

Wind: Large-scale wind production would require a transmission upgrade and backup storage to employ. Wind has low-capacity credit, but there are no additional costs once the turbine is built other than maintenance.

The renewables subgroup recommended

- Solar Power Parks should be built in San Diego and Imperial Counties
- Values beyond least cost of generation should be addressed when determining need in region, e.g., local energy availability, global warming, local air pollution, job creation, and energy security
- Develop local incentive to procure renewables above fossil-based generation
- Support federal state and local incentives to reduce first cost of renewable power systems
- Build the new or enhanced transmission capabilities to access renewable resources
 - a. Approval of renewables is reviewed and approved by SDG&E through a request for offer (RFO) process and then approved by the CPUC
 - b. Stirling Solar=300 MW
Tehachapi Wind=400 MW
Imperial Valley Geothermal=645 MW
Rooftop solar=~170 MW in 2017 (It is still unknown if this technology will be counted toward the RPS. A current CPUC proceeding will determine this)
 - c. Location: The questions that are unanswered for each of these project are
 - » Is the land available to build this project?
 - » Is there community support for the project at the proposed location?
 - » What transmission is required to interconnect this project?
 - d. Cost : Projected cost for ~2017:
 - » Wind: \$1,000/kW
 - » Concentrating Solar \$3,000/kW
 - » Geothermal \$2,400/kW
 - e. Status: Concentrating Solar Power: 6 Stirling engines currently completed, location for engines has not been determined
 - f. Environmental Notes: Most renewable resources are not around-the-clock resources; therefore, they must have another source to complement their output. The cost for complementary resources must be taken into account. An alternate plan is to store energy produced, and the cost for storage must be included in the option's overall costs.

- g. RES 2030 GOAL 3: Increase the total electricity supply from renewable resources to 15 percent by 2010, 25 percent by 2020, and 40 percent by 2030. Of these goals, achieve 50 percent with in-county resources.
- h. Fit in the state loading order: Renewables rank in the middle of the loading order, after effective energy efficiency and demand response are developed.

Demand Response and AMI

- a. Responsible oversight agency: CPUC oversight, funded by SDG&E ratepayers

Project description: Advanced Metering Infrastructure (AMI) collects, transmits, and distributes energy use information. Using a secure network that allows for two-way communication between SDG&E and its customers, AMI can virtually eliminate the need for reading meters in-person, while providing more accurate energy use information for billing and customer service. Full deployment of AMI will serve approximately 1.4 million SDG&E customers; SDG&E will have improved resolution of the loading on its system at all times.

AMI Already In Use: SDG&E already has advanced meters at about 7,200 businesses. These meters allow customers to take part in programs to cut costs by shifting some energy use to off-peak periods. In addition, during 2003-2004 a statewide pilot program tested similar meters and electric rates. It showed that more than 2,500 residential and commercial customers used an average of 14 percent less electricity during critical peak periods when they were provided the information about their energy use and costs through the AMI-like system.

- b. Capacity: 160 MW in 2011 and 250 MW in 2015
- c. Cost: SDG&E estimates the up-front capital expense of the overall system at about \$450 million, with overall savings to customers outweighing costs over the 32-year life of AMI by \$60 to \$65 million. The peak impact on the average residential customer bill occurs in 2010. The increase is less than \$3.00 per month on an average electrical and gas bill.
- d. Status of project: Under AMI program, meter installation begins in 2008 and is set to complete in 4th quarter 2010.
- e. Environmental notes
- f. Fit with the Regional Energy Strategy 2030 (RES): GOAL 6: Reduce per-capita electricity peak demand and per-capita electricity consumption back to 1980 levels.
- g. Fit with the State Loading Order: The State's energy policy goals, as articulated in the Energy Action Plan (EAP), state a clear policy preference in the "loading order" of resource additions to meet the future energy needs of California. It calls for aggressive pursuit of energy efficiency and demand response as the State's preferred means of meeting growing energy needs, prior to consideration of supply-side resources.

AMI Benefits on T&D:

Table PL 4-1²
Transmission and Distribution Benefits (\$ thousands)

	Net Benefits (not loaded, not escalated)				
	2008	2009	2010	2011-2022	2023-2038
Total T&D Capital Item Net Benefits	0	0	2,819	11,703	3,347
Total T&D O&M Item Net Benefits	0	0	513	6,154	8,205

The benefits of implementing AMI on the Transmission and Distribution (T&D) systems can be grouped into three categories: 1) demand reduction benefits; 2) outage management benefits; and 3) significant other efficiencies and related benefits, including providing foundational technology for projects such as system automation and the smart grid concept. T&D demand reduction benefits include the deferral of transmission line projects, the deferral of distribution capacity projects, and avoided distribution capacity additions. The T&D outage management benefits include a reduction in labor associated with the response to customer outage calls, automatic outage 1 analysis, crew deployment improvements, and emergency and planned switching support. The outage management benefits included here are for normal and storm operations. The other efficiencies and related benefits include the improvement of load forecast accuracy, elimination of drag hand reads, and elimination of transformer load reads. SDG&E expects improvements in the optimization of capital expenditures due to improved accuracy and resolution of customer load data, but such improvements are difficult to quantify and have not been included in T&D benefit estimates. Table PL 4-1 provides a summary and description of T&D benefits.

T&D Capital Deferral Benefits of AMI

SDG&E estimates potential savings associated with the deferral of transmission capital projects by using CRA-predicted peak demand load reductions and reviewing planned projects. According to the timing and magnitude of projected demand reduction in future years, a number of transmission projects between 2011 and 2020 were targeted for deferral. SDG&E also estimates potential savings associated with the deferral of distribution capacity capital projects by applying CRA-predicted peak demand load reductions to expected future distribution capacity projects.

² SDG&E AMI Filing, Chapter 4, March 2006.

Risk: AMI PROJECT RISKS AND SDG&E MITIGATION EFFORTS

To defer the transmission and distribution capital expenditures outlined in this chapter, demand response must be geographically located in the right areas that potentially need transmission or distribution capacity projects. The customers' demand response must be of the right magnitude so as to reduce the peak load that creates the need for the transmission or distribution capacity project. The demand response must also be available at the right time and provide physical assurance of performance so that the construction of that project can be deferred. To mitigate the risk associated with customers' demand response SDG&E eschewed an econometric approach to calculating the impact of demand response on the load forecast and based its calculations on historical capital projects on the distribution system and load flow simulations on the transmission system. For distribution SDG&E determined the number of projects and corresponding overloads that could have been deferred by the demand response as a percentage of system peak. The transmission values were calculated based on a load flow analysis of SDG&E's system load forecast with and without the AMI demand response number.

YEAR 2010 RESOURCE BASE FOR EACH SCENARIO

NEED FOR 2010	5100 MW	
ENERGY EFFICIENCY REDUCTION	86	Can this take greater role?
Customer DG (Non QF)	11	Can this take greater role?
CSI ROOFTOP SOLAR	10	Can this take greater role?
RESOURCE NEED AFTER REDUCTIONS FOR EE, DG, CSI	5000 MW	
Resource	MW	
Palomar	540	SDG&E Owned
SDGE Miramar GT	46	
Otay Mesa Combined Cycle	560	Owner?
QF AEI MCRD Steam Turbine	2	Qualifying Facilities
QF AEI/32 nd St Naval Stn	47	
QF AEI/North Island Cogen	33	
QF AEI/NTC/MCRD	22	
QF CP-Kelco	11	
QF Goal Line LP	48	
QF Subtotal	163	
North City Gen. Facility	1	Renewable
Miramar Landfill	3.1	
Pt. Loma Sewage Treatment #2	2.9	
Otay Landfill 1	1.5	
Otay Landfill 2	1.3	
Sycamore Landfill	1	
Sycamore Landfill 2	1.6	
Alvarado Hydro	0.2	
Badger Filtration Plant	0.4	
Olivenhain Municipal Water District	0.3	
San Francisco Peak Hydro	0.1	
Bear Valley Hydro Plant	0.9	
San Marcos Landfill	1.1	
Prima Deshecha Landfill	3.3	
Kumeyaay Wind	10	
SDCWA- Rancho Penasquitos	4.5	
Bull Moose (Biomass)	20	
Lake Hodges Pump Storage Hydro	40	
Renewable Subtotal	93.5	
RESOURCE SUBTOTAL	1400	(1396.5)
Resources via existing transmission	2500	
SUBTOTAL	3900	
RESOURCE GAP FOR 2010	1100	
<i>3 DWR Contracts</i>	<i>126</i>	<i>Expire 2012 (not included here)</i>

2010 RPS Requirement: 1000 MW
Current RPS Resources: 245 MW
Renewable Resource Gap for 2010: 755 MW

RESOURCE OPTION: VARYING PENETRATION FROM TOP OF LOADING ORDER

How much of an impact could changes in energy efficiency (EE), distributed generation (DG), and rooftop solar from California Solar Initiative (CSI) have on San Diego's resource needs?

RESOURCE NEED ⇒	CHANGE	INCREMENTAL MW	TOTAL MW
INCREASE EE PENETRATION (86 MW already assumed)	10% increase	9	95
	20% increase	17	103
	25% increase	22	108
	50% increase	43	129
INCREASE DG PENETRATION (11 MW already assumed)	10% increase	1	12
	20% increase	2	13
	25% increase	3	14
	50% increase	6	17
INCREASE CSI PENETRATION (10 MW already assumed)	10% increase	1	11
	20% increase	2	12
	25% increase	3	13
	50% increase	5	15
LOW END INCREASE (10%)		11	118
HIGH END INCREASE (50%)		54	161
DECREASE EE PENETRATION (86 MW already assumed)	10% decrease	9	77
	20% decrease	17	69
	25% decrease	22	64
	50% decrease	43	43
DECREASE DG PENETRATION (11 MW already assumed)	10% decrease	1	10
	20% decrease	2	9
	25% decrease	3	8
	50% decrease	6	5
DECREASE CSI PENETRATION (10 MW already assumed)	10% decrease	1	9
	20% decrease	2	8
	25% decrease	3	7
	50% decrease	5	5
LOW END DECREASE (10%)		11	96
HIGH END DECREASE (50%)		54	53
AMI PENETRATION	SDGE AMI Filing		161 in 2011
			250 in 2015

**This table was not filled in completely. It served as a framework for discussion.*

10% variation in penetration of EE, DG and CSI could yield ~ 100 MW difference. From AMI in 2011 SDG&E forecasts a 90 percent chance of obtaining a demand reduction of 160 MW or more, with an expected demand reduction of 203 MW

RESOURCE OPTION: IN-REGION LARGE-SCALE GENERATION (Various Combinations)

RESOURCE NEED ⇒	1100 MW	Fills Gap? and Comments
A.		
Existing South Bay remains	706	Would have to run at reduced rate re: air quality
Existing Encina remains	971	
Total	1677	Yes
B.		
Existing South Bay remains	706	
Existing Encina remains	971	
Enpex Addition	750	
Total	2427	Yes
C.		
South Bay Replacement	620	CEC permit process ongoing
Existing Encina remains	971	
Total	1591	Yes
D.		
Existing South Bay remains	706	
Encina Replacement	340	
Total	1046	No
E.		
South Bay Replacement	620	
Encina Replacement	340	
No Enpex Addition	0	
Total	960	No
F.		
South Bay Replacement	620	
No Encina Replacement	0	
Enpex	750	
Total	1370	Yes
G.		
No South Bay Replacement	0	
Encina Replacement	340	
Enpex Addition	750	
Total	1090	No
H.		
Alt. South Bay Replacement	60-400	
Encina Replacement	340	
Enpex Addition	750	
Total	1150	Yes

**This table was not filled in completely. It served as a framework for discussion.*

NEXT LEVEL OF CRITERIA:

- Does this meet new greenhouse gas requirements? Replacements Yes, Existing No
- Does this address RPS needs:
 - As is? No
 - If shift resources coming from existing transmission? Maybe
- Where does this fit in the loading order? Lower end of loading order
- Where does this fit in RES? RES calls for in-region generation.

RESOURCE OPTION: RENEWABLES

RESOURCE NEED ⇒	1100 MW	Fills Gap?
Rooftop solar	150-300	
Hydro		
Landfill	100	
CSP		
Wind		
Geothermal		
Total		
TRANSMISSION DEPENDENT		
Stirling Energy System	300	
Tehachapi Wind	400	CAISO lists 4500
Imperial Valley Geothermal	645	CAISO lists 445
		Yes
RECS		
Could cap purchases at 25%, 50% or other for IOU to apply to RPS	TBD	TBD

**This table was not filled in completely. It served as a framework for discussion.*

CONCERNS: Competing entities for available and developing renewables. What is likelihood of SDG&E obtaining geothermal (>25 MW) or other resources? Competition with other California IOUs plus increasing demand in Arizona, Nevada and Mexico.

Can all, most, not much of available renewable resources outside of the region come to San Diego via existing transmission capacity?

If not, can it be addressed with upgrades/enhancements to existing transmission?

RESOURCE OPTION: ALTERNATIVE TRANSMISSION OPTIONS (in progress)

RESOURCE NEED ⇒	1100 MW	Fills Gap?
A.		
LEAPS 500 kV	1000	Yes
B.		
Alternate Sunrise Route D	1000	No
500 kV		

**This table was not filled in completely. It served as a framework for discussion.*

- Meet new greenhouse gas requirements: Yes
- Address RPS needs: Yes
- Where does this fit in the loading order: Lower end of loading order. If committed as means to provide renewable energy to San Diego, high in loading order.

- SDG&E may purchase the El Dorado plant in Nevada 480 MW. (Can it use existing transmission to bring power here?)

**RESOURCE OPTION: MIX OF ABOVE SCENARIOS TO MEET PEAK DEMAND and RPS
(in progress)**

RESOURCE NEED ⇒	1100 MW	Comments
Aggressive energy efficiency	10	
^Increased DG & solar roofs		
AMI		
Peakers		
In region renewables		
New in-region powerplant	340 – 750 MW	
Out of region renewables		
Via existing transmission		
Via new transmission		
Min. REC purchases to cover RPS		
Max. REC purchases to cover RPS		
Out of region conventional power		

**This table was not filled in completely. It served as a framework for discussion.*

MORE CONSIDERATIONS:

2015 Overall Peak Demand NEED: 5700 MW
2015 NEED after EE, DG, and Solar Roofs: 5200 MW

(~200 MW more than our 2010 base case)

10/15/06

San Diego Association of Governments
ENERGY WORKING GROUP

November 1, 2006

AGENDA ITEM NO.: **5**

Action Requested: INFORMATION

EWG LEGISLATIVE FORUM WITH SENATOR KEHOE

File Number 3003000

The EWG Policy Subcommittee is preparing for the 2006 Energy Legislative Forum to be held on November 29, 2006. The subcommittee will meet on November 7, 2006, to evaluate possible legislative proposals to present at the forum.

Attachments: 1. 'Save the Date' Flier

Key Staff Contact: Susan Freedman, (619) 699-7387, sfr@sandag.org



SAVE THE DATE

Legislative Forum on Energy with Senator Christine Kehoe

November 29, 2006, from 9 a.m. to 12 noon
SANDAG — Board of Directors Meeting Room (7th floor)
401 B Street, San Diego, CA 92101

The SANDAG Energy Working Group (EWG) is pleased to host this forum to discuss key regional energy issues with local elected officials, state legislators and their staff and to gain their perspective on energy policies for the 2007 legislative session. This workshop will be chaired by Senator Christine Kehoe, who has been named as Chair of the Senate Energy, Utilities and Communications Committee for 2007.

The overall goal of the event is to proactively develop legislative initiatives that support the region's energy planning activities prior to the 2007 legislative session. Through the Energy Working Group, the San Diego region is actively engaged in determining its energy future by broad consultation and planning among all stakeholders. This workshop is one of many designed to encourage this planning and provide a firm, unified basis for conveying our goals to the legislature, the Governor, and the California Public Utilities and Energy Commissions.

The forum will include:

- » Outcomes of the 2006 legislative session and perspectives on the 2007 legislative landscape from our state legislators,
- » Outcomes stemming from the 2006 SANDAG EWG Legislative Forum,
- » Policy initiatives proposed by the SANDAG EWG for 2007, and
- » Discussion.

If you have any questions about the event, you wish to suggest a topic for discussion or to RSVP, please contact Susan Freedman at 619-699-7387 or sfr@sandag.org. This event will be open to the general public, who also will have opportunity to provide comment.

Please save the date! We hope to see you there for this important regional event!