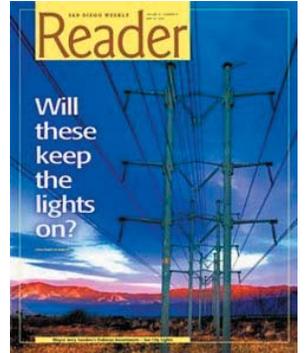




Will These Keep the Lights On?

By Joe Deegan



The Sunrise Powerlink gleamed for the first time in Sempra Energy's eye on November 1, 2002. At the company's San Diego headquarters, an energy-management expert from Shell Trading gave a PowerPoint presentation highlighting the potential transmission line. Nameless at first, the new line would run from the Imperial Valley, near the Mexican border, to Rainbow, northeast of Fallbrook.

According to the presentation that day, the transmission line would have two major advantages. It would connect the Southern California electricity grid to potential geothermal, wind, and solar energy sources in the Imperial Valley. And the line would be able to transmit power from two power generation plants in Mexicali.

The plan counted for its northern terminus on a new substation in Rainbow. The substation had already figured into another transmission project, proposed by the San Diego Gas & Electric Company as a way to link with Southern California Edison lines near Perris in Riverside County. But residents of southwestern Riverside County were fighting the plan vigorously. In 2003, the California Public Utilities Commission rejected that project and with it the Rainbow substation.

Today, SDG&E, a subsidiary of Sempra Energy, touts a new 150-mile Sunrise Powerlink as the way to "keep the lights on in San Diego," using largely solar power from the Imperial Valley, and to lower ratepayers' costs at the same time. The project's current estimated cost is \$1.5 billion. The line would run from near the Mexican border through Anza-Borrego Desert State Park to a substation near the west end of Los Peñasquitos Canyon Preserve.

Sunrise has also been SDG&E's solution to a 2006 California state law requiring investor-owned utilities to obtain at least 20 percent of their electricity from solar, wind, or geothermal sources by 2010.

A key component in the plan is the utility's contract with Stirling Energy Systems, a Phoenix company, to use its solar dish technology to produce the needed power. Critics note that to date only 7 prototypes of the technology have been manufactured. Stirling says it will need 12,000 dishes. Recently, however, an Irish company has agreed to invest \$100 million in Stirling.

An enormous amount of newspaper reportage has been devoted to the project so far. But the drip, drip, drip of stories detailing ever-new aspects of a growing Sunrise controversy makes it difficult to assess the project as a whole. Is Sunrise needed "to keep the lights on," as SDG&E claims? How much would it lower ratepayer costs, if at all? How soon could the powerlink deliver green energy? Can the damage Sunrise would cause the Anza-Borrego Desert State Park and other wild areas be justified? And would the powerlink add dangerous new fire risks to San Diego's backcountry?

How to Build Public Support

San Diego Gas & Electric often complains that San Diego has only one major connection to the California electricity grid. That is the 500-kilovolt Southwest Powerlink, running from Imperial Valley near and parallel to Interstate 8 to the Mount Miguel substation.

Having lost its bid in 2003 to link with the Southern California Edison grid, SDG&E began to contemplate

another approach. A fear of blackouts was still in the air from the California energy crisis of 2000/2001. On December 13, 2004, the public relations firm Southwest Strategies LLC moderated a focus-group conversation for SDG&E. In a memo to several SDG&E representatives three weeks later, Southwest principals Alan Ziegau and Chris Wahl described the meeting. “The purpose of the discussion,” they wrote in a printed summary, “was to gather input from trusted SDG&E allies about the company’s plans to build a major new transmission line in San Diego County.”

The session is worth a detailed look, since it shows how SDG&E determined a course of convincing the public of the need for the Sunrise Powerlink.

Eleven “opinion leaders” came to the two-hour discussion. They included San Diego City Council members Jim Madaffer and Michael Zucchet, Erik Bruvold of the San Diego Regional Economic Development Corporation, the Sycuan Resort’s Adam Day, Jerry Butkiewicz of the San Diego–Imperial Counties Labor Council, Mitch Mitchell of the San Diego Regional Chamber of Commerce, and the San Diego County Building and Construction Trades Council’s Kris Hartnett.

The first two questions Southwest Strategies raised in the meeting centered on coming challenges, especially in light of the California electric power crisis of 2000/2001. “There was near-unanimous consensus,” stated the Southwest Strategies memo, “that little progress has been made...to help avoid another energy crisis.” Energy independence and local control over energy were high priorities in the group. And “clearly, the group views building new power plants as the best way to achieve independence.”

Participants then listened to Dave Geier, SDG&E’s vice president for electric transmission and distribution, present the company’s “Long-Term Resource Plan.” This was their first hint that SDG&E might be planning new long-distance transmission lines. The subsequent discussion centered on ways SDG&E could improve power reliability. According to the Southwest Strategies analysis, participants revealed again the conviction that new local power plants could solve San Diego’s energy dilemmas. And it showed little faith in more transmission lines. In the words of Kris Hartnett, “You can build all the transmission lines you want, but until you generate more power, you’ve done nothing to solve the customer’s problem.”

Nevertheless, after a lamentation about the rejection of SDG&E’s attempt to link with Southern California Edison, the moderator next sought participants’ “thoughts about what SDG&E could have done differently in order to be successful.” The prevailing answer: SDG&E “needed to provide clearer reasons why the project was needed.” Michael Zucchet, however, gave a blunter assessment. “He suggested,” according to the meeting summary, “that the company dishonestly attempted to position the line as an environmentally beneficial project when no such benefits existed.”

Next question: “At some point in the near future, SDG&E will again pursue the licensing and construction of a new transmission line.” Could the group suggest ways to “build support for such a project”? In response, participants “strongly advocated that SDG&E should engage in a comprehensive public education campaign about why a new line is so important.”

Jerry Butkiewicz argued, according to the memo, that “elected officials might not support a new transmission line for fear they might be defeated at the polls.” And Michael Zucchet commented again “on the importance of being honest about the merits of a project.” But at this point, most participants seemed to have dropped their earlier resistance to transmission lines.

As the discussion wound down, several participants noted “that the public generally looks at new transmission lines unfavorably.” Therefore, SDG&E should “make a case that transmission lines improve reliability,” especially that they would “prevent potential outages during emergency situations.”

Finally, the decisive question was put. “Suppose you knew that SDG&E could meet the state’s renewables mandate by 2010...if it were able to construct a major new transmission line that could access hard to reach renewables.... Would you be more inclined to support [it]?” The most prevalent response was “Yes, but education is needed to connect the ideas.” The minority view: “No, because reliability is a more salient message.” An education program needed to emphasize safety and affordability too. But Butkiewicz observed that “pro-environment messages resonated with important target audiences.”

On the basis of the focus group, Southwest Strategies recommended to SDG&E, among other things, that the company craft a convincing message about increasing local control in San Diego. “Undoubtedly, the group

believes that greater local control, through the construction of more power plants, by itself solves reliability issues.

“To address this misperception, SDG&E might consider educating the public and key leaders about how new transmission can also improve local control.” This should “help SDG&E reach its infrastructure goals more effectively.”

Opposition Groups Spring Up

Southwest Strategies suggested another tactic for making the Sunrise Powerlink sound reasonable to the public. SDG&E should include in its “public affairs plan” a “bottom up, or grass roots, approach.... This style of outreach would involve selling SDG&E’s Long-Term Resource Plan to community groups and activists who have influence with important elected officials. The [focus] group...suggested that elected officials might not support a new transmission line unless they believed ‘political cover’ existed to get behind such a project.”

Many politicians didn’t seem to worry about political cover, however. For example, San Diego mayor Jerry Sanders jumped on board Sunrise almost as soon as the proposal was announced, well before the start of the Public Utilities Commission process allowing ordinary citizens, concerned groups, and power-supply experts to be heard.

The Public Utilities review process consists of two phases. In Phase One, a single Public Utilities commissioner (there are five) holds “scoping” meetings, which are intended to allow public comment on what the commission should require a professional environmental inquiry to investigate about the proposed project. The commissioner assigned to the case and an administrative law judge then take testimony from SDG&E and “interveners.” (The commission grants intervener status to those it determines can provide technical, legal, or otherwise relevant information.) Phase Two comes after the environmental document has been written. (More about Phase Two below.)

The “grass roots” approach that Southwest Strategies suggested to SDG&E ran into much tougher sledding than the company’s apparent pitch to politicians. As soon as news got out about the Sunrise Powerlink, opposition groups sprung up along the line’s route. After leaving Anza-Borrego Desert State Park, the route would go west through Grapevine Canyon, south of Warner Springs, through the Santa Ysabel Valley, south of Ramona, and through Rancho Peñasquitos. It would end at an existing

substation near the west end of Los Peñasquitos Canyon Preserve, in San Diego’s Torrey Hills neighborhood. To date, there are at least nine opposition groups. Several of the community groups preexisted news of the Sunrise plan. But they have joined together in an umbrella organization called Communities United for Sensible Power.

Diane Conklin is president of the umbrella organization and of the Mussey Grade Road Alliance. Conklin lives with her husband near Kimball Valley, on the outskirts of Ramona. Conklin founded the Mussey Grade group in 1999 as a way to help protect the area. She feels that Sunrise is one of the greatest dangers her constituents face.

Conklin remembers reading about Sunrise for the first time in the Julian News in November 2005. “I learned later,” Conklin tells me, “that about that time SDG&E came to Ramona — it was really nefarious in my mind — to conduct little meetings, quietly, with people they considered to be opinion leaders. I believe they had to pay consultants a whole lot of money to tell them to hold these meetings and win over the hearts and minds of all these people, who are then going to sell the soap. I think they gathered together groups of 20 or so to sell the necessity of the transmission line, and they were also getting the people’s impressions.”

SDG&E filed its application for the Sunrise Powerlink with the Public Utilities Commission on December 14, 2005. Conklin says the company continued holding the meetings in Ramona, “but by that time people had caught on.”

On Tuesday, January 31, 2006, according to Conklin, approximately 500 to 700 local residents came to a prehearing conference at a Ramona school in the middle of the day. “People couldn’t even get into the room, it was so crowded,” she tells me. “That’s when SDG&E began to understand that they had a big fight on their hands. Here they marshaled all their forces, with all the smartest people they could find, and rolled out a battle plan. Most of the communities, of course, were caught by surprise, because the company was working it in a nonpublic way, so that they could get a toehold. But it didn’t work.

“Then Greystone Consulting had what I call ‘bazaars.’ It’s a very interesting technique. Instead of having one person before a roomful of people, where everybody hears the same thing at the same time and can ask questions, they would divide the issues to be answered into separate

booths. People would go from booth to booth to get their information. But what most people did, because it's the natural thing, most people went and tried to find out if the line affected their land. So they had a long line of people where the maps were being produced. I even did that. I went over to find out where it was in relation to my home and other homes in the Kimball Valley and Mussey Grade area. So you're not getting the full information. It was almost as though Sunrise was a fait accompli, 'but we'll give you some information about how it's going to affect you.' In the long run, this didn't work either, because people gradually began to understand that the line itself was not a good idea," says Conklin.

Carolyn Morrow, a resident of Grapevine Canyon, near Ranchita, remembers a presentation SDG&E gave on Sunrise during a meeting at the Warner Springs high school. "It was a very complicated project," she says. "All of us, by now, have had different experiences with it and learned a lot in the process. It's a David and Goliath story.

"I have 160 acres in Grapevine Canyon, where I raise horses," Morrow continues. "It's in an agricultural preserve, which means we can't develop it or sell pieces of it off. Quite a few landowners out in this area have agricultural preserves. If Sunrise is allowed, they would be commercializing something that is not supposed to be commercialized. A 69-kilovolt line now runs right through our property. It's the same line that runs through Anza-Borrego Desert State Park. And that's the route they want to take for the Sunrise Powerlink."

I ask Morrow if her property would be subject to eminent domain.

"They only do eminent domain if you refuse to sell at a negotiated price. A real estate lawyer told me that SDG&E would have to buy our entire ranch, as the line would make it unusable. They want to put one of those awful towers right in the middle of my driveway."

Morrow is worried about the effects the powerlink would have on towns in east San Diego County. "Julian, Borrego Springs, Warner Springs, Santa Ysabel, and Ramona, all those towns are reliant on tourists. And if Sunrise goes through, with all the construction and disarray, those are going to be ghost towns, because the roads out here are two-lane. And they're going to construct not just the power line but 130 miles of access roads to support it.

"After the fires in October, when they were trying to remove trees that fell in the road and fix the telephone

and electricity wires between Santa Ysabel and Ramona, some days it would take two hours to get to Ramona. Normally it takes 40 minutes. That kind of thing is going to destroy the tourism out here. People aren't going to want to sit in those traffic jams that the construction is going to cause."

Morrow gained some notoriety after SDG&E workers started going onto her land. "I held them off," she says. "I made them take me to court last year. SDG&E's business and professional code says that if you deny them access, they have to take you to court.

"I don't want people chasing around my property. What if somebody gets hurt? You know I'd be liable. And I wanted to have it stated in the court papers that I would not be liable. I mean, we have wild animals out here; we have mountain lions and bobcats and deer. And my neighbor has cows. What if one of them got out, which happens all the time? We have dead wells and gullies on our land. People that aren't hikers could easily get hurt.

"The judge eventually allowed SDG&E workers access, but a very limited one. And they have to call and let me know in advance that they're going to be on the property. They can only do surveying; they can't displace any of the land. Before, they weren't even telling us they were there. We'd just see them, and they'd take off without even telling us who they were. That really upset the judge. So he gave them a bunch of rules they have to abide by — and covered my liability issue."

Have powerlink proponents accused Morrow of NIMBYism?

"Not anymore," she says. "Not since they found out how many of us there are." Morrow is a codirector of the "loosely knit" Community Alliance for Sensible Energy. The group has members from Ranchita, Warner Springs, Santa Ysabel, and Borrego Springs. She also works with Protect Our Communities Fund, which by now has raised \$1.2 million to fight Sunrise.

There is a "community" organization that supports Sunrise as well, but it's funded by SDG&E. The group is called Community Alliance for the Sunrise Powerlink. On its website, the organization lists numerous businesses, public agencies, politicians, and private individuals who back the project. The website offers playful videos portraying misguided alternative-energy solutions. The first shows two high school girls rubbing balloons on their clothing. The resultant static electricity turns on a bulb in one girl's mouth. The other video features a wild-

haired man chasing several weasels around a stage. He wants them, like hamsters in a wheel, to turn a generator belt attached to a juicer full of fruit.

On April 4, SDG&E's alliance announced it was starting a campaign to educate the public on the benefits of Sunrise. To find out about the education, I called former San Diego councilwoman Barbara Warden of the Downtown San Diego Partnership. The alliance identifies Warden as one of its directors.

Several days later I received a call from Jonathon Heller, who works for SDG&E's public relations firm Southwest Strategies. Heller asked what kind of information I wanted. He then promised to arrange for me an interview with a representative of the alliance. But he didn't call back.

I Was Mad as Hell

In early 2006, the California Public Utilities Commission sent Sunrise back to the drawing board. In its application to have the project approved, SDG&E had not included a required Proponent's Environmental Assessment. It wasn't until August 4, 2006, that SDG&E was able to file its next application. Subsequently, the commission began holding scoping meetings.

Tim Stahl is a San Diego photographer who loves to spend time in Anza-Borrego Desert State Park. He used to do contract work for SDG&E. "One time, the company was sending me out to Coronado," he tells me. "I was supposed to take pictures where they planned to put underground power lines. Of course, the photos showed the overhead power lines still running in front of houses. I used Photoshop to take out the lines and power poles. Then the company could send out the shots and say, 'See how much better your neighborhood will look without the lines up above.'

"When I heard about the Sunrise Powerlink going through Borrego, I was mad as hell. I love the stark scenery in the park, and for years, I've gone out there to take photos. So I took some of my most beautiful shots of the desert and photoshopped in those huge, ugly [160-foot] towers with the lines on them."

Stahl blew up his photos and mounted them on sandwich boards. It was his contribution to the February 2007 scoping meetings in Borrego Springs and other sites. "When people saw my pictures," says Stahl, "they were horrified."

Could the Powerlink Cause the Next Mega-Fire?

The scoping meetings and Phase One of expert testimony on Sunrise occurred between the 2003 and 2007 fires in the San Diego backcountry. The draft environmental document (its full title is Draft Environmental Impact Report/Environmental Impact Statement/Land Use Plan) would eventually devote 300 pages to fire dangers that could arise from 230- and 500-kilovolt lines. But in the original discussions of the project, "fire was not on anybody's radar," says the Mussey Grade Road Alliance's Diane Conklin.

"The thing SDG&E doesn't want to talk about out here is fire," she says. "Oh, they're happy to talk about the danger of fire to their lines, especially the Southwest Powerlink. But I told the administrative law judge hearing the case that the issue is not 'to their lines'; the issue is what's going to happen to us from their lines."

Conklin and her husband Joe Mitchell became involved in resistance to the Sunrise Powerlink on account of their living through the Cedar Fire in 2003. "We didn't want to see anything like it again," says Conklin. The couple suspected that Sunrise was dangerous, that it could possibly spark catastrophic fires in the future. By the time they heard of Sunrise, Mitchell, a physicist, was already studying wildfires in the wake of the Cedar Fire. He started M-bar Technologies and Consulting in conjunction with his wind-enabled ember-dousing technique for protecting homes against wildfires. The method involves a specially designed sprinkler system that extinguishes firebrands in severe wind conditions.

Mitchell wrote Phase One testimony for the Mussey Grade Road Alliance, arguing that the powerlink could cause fires in San Diego's backcountry. In preparation, he was guided partly by the "Power Line Fire Prevention Field Guide," published by SDG&E and the California Department of Forestry and Fire Protection, or Cal Fire, among other agencies. "The potential exists," reads the guide, "that power line caused fires will become conflagrations during the long, hot and dry fire season commonly experienced in California. The very same weather conditions that contribute to power line faults also lead and contribute to the rapid spread of wildfire. The most critical of these weather factors is high wind, which is commonly accompanied by high temperatures and low humidity.

"High, gusty winds may cause vegetation to sway into power lines, break off limbs or fall into power lines.

High winds may also create vibrations in power lines that can lead to stress failures or cause loose connections to separate. Arcing usually accompanies such faults. Automatic [devices] re-energizing the line into the fault may cause repeated arcing and increase the probability of igniting vegetation.”

But SDG&E’s fire expert Hal Mortier testified that, while 69-kilovolt transmission lines do occasionally cause fires, lines of 230 and 500 kilovolts do not. Their insulation and the towers that support them are designed to prevent the equipment from starting fires.

Nevertheless, Mitchell discovered from SDG&E’s own records that 230-kilovolt transmission lines started two fires at Camp Pendleton, one in 2006 and the other on Stuart Mesa in 2007. Using statistical analysis, he went on to calculate that the Sunrise Powerlink would be likely to cause one catastrophic fire in San Diego’s backcountry every 15 years. Mitchell also testified that he’d found evidence in SDG&E’s own records that the rates of fires per mile of transmission lines were the same for 230-kilovolt lines as for 69-kilovolt lines.

After Phase One of the Sunrise hearings, while Conklin and Mitchell were preparing further testimony for Phase Two, the October 2007 fires raced through the backcountry, almost destroying their home. “We were writing our briefs,” says Conklin. “Suddenly we were surrounded by fire on three sides. I was up for 24 hours straight, because we were command central for the Mussey Grade Road area.”

Eighty thousand electricity customers lost power because of downed power lines.

SDG&E personnel observed the site of the Witch Creek Fire’s origins underneath power lines on a Santa Ysabel rancher’s property. In a press release in mid-November 2007, Cal Fire reported that the Witch Creek, Guejito, and Rice Canyon fires all started from power line malfunctions. SDG&E currently notes that Cal Fire has yet to publish its analysis of the fires’ causes. But if the verdict holds, that would be three out of the eight October 2007 fires started by power lines.

All the land the Sunrise Powerlink would traverse in San Diego’s backcountry was burned in the 2003 and 2007 wildfires. One might say those lands are therefore unlikely to burn again soon. Of course, Sunrise is projected to be in service for 40 years. More ominous, say Conklin and Mitchell, is “type conversion,” a process whereby after repeated fires exotic weeds replace such indigenous vegetation as chaparral, which is less flammable. The

exotic weeds are fast growing and soon provide fuel for new fires.

The Path of Least Resistance Lies Through Protected Lands

“In a really disturbing trend,” says David Hogan, San Diego director of the Center for Biological Diversity, “we’re seeing public agencies, like SDG&E and the toll road agency in Orange County, pick state and other parklands to minimize public resistance to fulfilling their infrastructure projects. It’s obviously a lot harder to tell people that you have to take their homes than it is to use undeveloped parkland. But the impacts are just as serious. My heart would go out to anyone who has to lose their home to infrastructure. But these parklands are public resources that are there for millions of people to enjoy over the years to come.

“In Anza-Borrego state park they would have to remove land from designated wilderness, which is the strongest level of protection for land. That would set a precedent; it would be the first time ever that land is being removed from wilderness designation to accommodate a project like this in the State of California.”

Hogan believes that as important as Anza-Borrego Desert State Park is, what’s lost in discussing its fate is that the powerlink would damage many other protected natural areas, such as the Cleveland National Forest, many U.S. Bureau of Land Management lands, federal “areas of critical environmental concern,” and a number of Multiple Species Conservation Program preserves.

“If you look at the map and see the powerlink route,” Hogan tells me, “you realize that to avoid populated areas they picked these preserves on purpose. You can see where the powerlink seeks out those areas. They picked paths of least resistance. You’ve got San Felipe Wildlife Area, Santa Ysabel Open-Space Preserve, Mt. Gower Open Space, Barnett Ranch, Boulder Oaks, Sycamore Canyon, and on and on. All in all, Powerlink will run through and damage 15 protected areas besides Anza-Borrego.”

Several Multiple Species Conservation Program areas would be affected by Sunrise. The program is intended to preserve a network of habitat and open space while decreasing constraint on development. According to Hogan, “Sunrise would reduce the integrity of the Multiple Species Conservation Program, the only program that we have to allow reasonable development to occur in exchange for habitat protection elsewhere.”

But SDG&E's expert witnesses gave written testimony that the powerlink right-of-ways would protect Multiple Species Conservation areas from future backcountry development. The right-of-ways would also protect against "habitat fragmentation," in contrast to contrary claims by the Center for Biological Diversity.

Take the endangered peninsular bighorn sheep, whose habitat would be bisected by the area that Sunrise would remove from wilderness designation. "The sheep need a very quiet area with brief human intrusion," says Hogan. "They're easily scared off. Construction of the power line will result in a large amount of noise and disturbance. You'll see a lot of people running around doing stuff in the middle of the sheep's remote, pristine habitat. Over time, the sheep move away from areas where there is significant disturbance. That will result in habitat fragmentation."

But the sheep, argued the SDG&E expert witnesses, get used to power lines once they're up. Included in the witnesses' testimony were photos of the sheep standing underneath large transmission lines.

"Each tower will have its own access road," says Hogan, "so you can get in to repair them. Every one of those roads means a way for more motorheads to ride around in the desert, to get their motorcycles and quads into remote areas, for people to go in and have illegal campfires, to graffiti up the rocks, or do illegal dumping, all the things we don't want people doing.

"And the powerlink is going to result in tremendous impacts to oak woodlands, a native plant community, in the Cleveland National Forest. There are several different species of oak trees — Engelmann oak, coast live oak, canyon live oak, and black oak. Sunrise would require the cutting of probably thousands of mature oak trees. That would be a terrible tragedy, because oak trees provide so many wildlife values, habitats for bird nesting, cavities that have been hollowed out that animals make their homes in, woodpecker colonies where they stash acorns. These birds go back to the same trees that may be hundreds of years old, to the same groves of trees, generation after generation of woodpeckers," says Hogan.

A More Extensive Project Than Was First Thought

During the Phase One hearings in July 2007, SDG&E conceded that its calculations of the annual savings Sunrise would produce were wrong. Earlier that spring, the company had already confessed to two such mistakes. First, SDG&E lowered the powerlink's initial projected

annual savings of \$447 million to \$87 million. Then the company raised the figure to \$220 million. In July, during the Phase One hearings, the company revised the annual savings down to \$129 million.

On July 24, 2007, SDG&E confessed that Sunrise is a more extensive project than Dian Grueneich, the commissioner assigned to the case, and others had understood the project to be. It would develop more renewable energy sources in the Imperial Valley, build a new substation on its route's northernmost section, and probably construct new links for transmission into the Los Angeles market. Along with delays in the company's getting the annual savings straight, the new admissions prompted Grueneich to postpone completion of the Sunrise draft environmental document from August 2007 to January 2008.

When the document appeared in January, it had five other plans for dealing with San Diego's energy needs as less environmentally damaging than the Sunrise Powerlink. Phase Two in the Public Utilities Commission's evaluation of the project is now underway. The commission is seeking responses to the environmental document's first draft from SDG&E, intervener organizations, and the public. After the responses have been registered, a final draft is scheduled to appear in June. Then the administrative law judge, Steven Weissman, will issue a preliminary decision about SDG&E's application for Sunrise. The Public Utilities Commission is scheduled to vote up or down on the project by August.

One of the environmental document's preferred alternatives is a southern route near the existing Southwest Powerlink. But three others didn't involve importing electricity into the county at all. So what is it, I wonder, that makes long-distance transmission lines the magic solution?"

The Profit Is in Transmission Lines

Ole Ben Franklin showed us we might capture electricity for good use one day. Remember the kite and key in his thunderstorm laboratory? And let's not disregard the wet string that linked the experiment's two ends. Besides its role in making the event happen, that string portended dollars: the profits of today's electric power industry.

String was surely the cheapest item in Franklin's repertoire that 1752 afternoon. A utility company's transmission lines are another matter, however. They weigh on your electric bills. Not only do the bills reflect the amount of electricity you consume each month, but the rate at which you pay for it. Using transmission assets as its measure,

the Federal Energy Regulatory Commission helps set the “rate base” for all investor-owned utilities, including the San Diego Gas & Electric Company. Local electricity bills also cover power plants, substations, and distribution lines, whose value in the rate base is determined by the state’s Public Utilities Commission.

So forgive a few skeptics of SDG&E’s pitch to build the 150-mile Sunrise Powerlink from Imperial County to San Diego. In the company’s view, the project will guarantee reliability of the power supply, reduce electricity costs, and make optimum use of renewable-energy sources. That comforting prognosis doesn’t convince Michael Shames, cofounder and executive director of the Utility Consumers’ Action Network, who warns, “Don’t judge a book by its cover.”

Shames tells me that SDG&E is investing in natural-gas power plants in the San Diego region. “SDG&E purchased and has rate-based the Palomar Plant that Sempra Energy built. They’re going to purchase and rate-base the power plant that Calpine is building down in South Bay. But power plants are riskier propositions, because ten years from now the energy might not be needed. And they’re not guaranteed a return on those investments if the power isn’t needed.”

Given San Diego’s growth, it’s hard to imagine the energy not being required in the future. But what if too many plants are built? Or growth slows? And suppose demands for in-county solar and other renewable-energy sources start lowering the need for fossil-fuel power plants.

In contrast to power plants, says Shames, “transmission lines, once they’re up, they’re rate-based, and it’s 40 years’ guaranteed profit. They’re easier to build, easier to maintain, and things can’t go wrong as easily. The profit on them is huge, because the Federal Energy Regulatory Commission sets a higher profit margin for them than for power plants. SDG&E would have to build two or three major power plants in order to add the kind of rate base that one line, Sunrise Powerlink, will provide.”

In early March, when I spoke to Shames, SDG&E was projecting the cost of Sunrise at \$1.26 billion. That figure has gone up to \$1.5 billion (over \$7 billion after financing over 40 years), thanks mainly, says the company, to costs it is incurring from the application process dragging on. “But it will be closer to \$1.7, \$1.8 billion, maybe \$2 billion, by the time everything is said and done,” says Shames. “It costs \$600 million to build a power plant. SDG&E’s rate base balloons far more if they’re able to build the power line. It’s a lot of money. We calculated

the profits. It’s sweet: \$780 million [over 40 years]. And it will be more than that, because the cost of the line will be more expensive than the company is now saying.”

Enter Photovoltaics

On March 27, Southern California Edison announced that at a cost of \$875 million it would install enough units of photovoltaic solar equipment on commercial-building rooftops in Southern California to produce 250 megawatts of electricity, enough to power 162,000 homes. The decision is part of Southern California Edison’s effort to reach the state’s 20 percent renewable energy mandate. Edison said its move was possible because the cost of the solar technology had recently been cut in half.

Bill Powers is an electricity-provision expert and a member of the Regional Energy Working Group formed to advise the San Diego Association of Governments. Last fall, on behalf of the Sierra Club, Powers wrote “San Diego Smart Energy 2020: The 21st Century Alternative.” The plan deemphasizes importing electric power into San Diego in favor of “distributed generation” of electricity across San Diego County, including substantial reliance on solar and wind energy.

“What’s happened here,” says Powers, “is that for the last 30 years, the photovoltaic technology in use has used crystalline silicon, the little individual cells. The new alternative is thin-film photovoltaics, which is what’s bringing the cost down.”

I ask Powers if Southern California Edison will rate-base its new photovoltaic equipment.

“Yes,” he says.

“Then couldn’t SDG&E rate-base solar equipment in San Diego and make a good profit that way?”

“If they installed enough,” Powers tells me, “they could make almost as much as they will make with their big transmission line. SDG&E has always argued that photovoltaic technology is too expensive. Now it’s half what it used to be.”

Powers is skeptical of the thermal-solar project SDG&E wants in the Imperial County desert. (The Stirling dish technology works by concentrating the sun’s energy to move pistons that run generators.) “The technology is eventually supposed to produce 900 megawatts of electricity,” he says, “and that works out to a cost of \$6.7 billion, a figure which includes the price of Sunrise to transmit the power. If Southern California Edison were to install 900 megawatts of photovoltaic equipment for

its system, it would cost \$3.5 billion. So we in San Diego would go out to the desert for solar when we could get it right here for half price? That makes no sense at all. The dish technology they want to use out there may work someday, but it requires all these little machines it must coordinate,” says Powers, whose original training was in mechanical engineering. “Photovoltaics converts sunlight directly into electricity. It has no moving parts.”

* * *

Powers is fond of quoting a statement by John Geesman, a former member of the California Energy Commission. “There’s an ongoing schizophrenia in state energy policy,” reads the statement, “between what we say we want to do and what we actually allow to happen.”

“I love that quote,” Powers tells me, “because we do have great policy in California. The policy says: first comes energy efficiency; second, demand response (how you keep the load down on peak days); third, we’re going to use lots of renewable energy; fourth, we’re going to do distributed generation [of solar and other renewable sources at highly efficient plants, such as hospitals and some manufacturing campuses]. And then and only then are we going to build these big central power plants that historically have been all that we’ve done [for generation]. Lastly, we will look at adding transmission. That’s what you want to do. It’s a great plan.”

The plan is what California energy policy calls “the loading order.”

“But on the ground,” continues Powers, “it’s always hard to apply the loading order to individual projects when the project proponent wants to do something else. And for the last century, the utilities have made their money on the steel they put in the ground. If you don’t change that system, you can have as many highfalutin words as you want about efficiency and renewables, they’re not going to happen. The utilities will find a way to stall you, not because they’re inherently evil people, but their profit’s getting cut off, and you haven’t put a bread-and-butter substitute on the table that is palatable to them. The highest-profit-margin ticket item they’ve got are the transmission lines.

“How can you not pursue the \$700 million-plus of guaranteed profit over 40 years that Sunrise will earn? There have been some interesting developments discussed recently in proceedings of the California Public Utilities Commission, where if a utility gets very aggressive in energy efficiency, their profit will approach the profit they get from transmission lines. The problem

with it is that it’s voluntary, and the companies will have to work very hard at it. Whereas, on the other hand, all they need is one commission to make one decision and that \$700 million just rolls in. And it doesn’t matter if a single kilowatt-hour of juice flows on that line over the 40 years. There’s no requirement to use it. All you’ve got to do is build it and then collect the money.

“It’s insane in 2008,” says Powers, “but in 1908, when we didn’t have [the infrastructure], it made great sense. You had to put the infrastructure in, yet people didn’t want to invest in it unless they knew they were going to get their money back. You don’t know the future: you start putting lines out there and you don’t know if you’re going to have any customers. So we’ll spread the load out among everybody else. Then eventually you hit a point where you’re relatively saturated. But that’s still how you make your money.”

San Diego’s a Sideshow, L.A.’s the Real Market

“In our little neck of the woods,” Powers tells me, “one guy is calling all the shots. That’s the CEO of Sempra Energy, Don Felsing. SDG&E gets its marching orders from Sempra.

“And the real market for the Sunrise Powerlink is not San Diego. The market is Los Angeles.”

Sempra Energy is not a regulated utility. It makes its money by generating, buying, and selling energy, moving it around, and investing in such public utilities as SDG&E and Southern California Gas Company, which are regulated.

Earlier this month, Sempra completed a liquefied natural gas terminal at Costa Azul in Baja California. The gas is to come from Indonesia, where it will be cryogenically liquefied into a low volume and put on oceangoing tankers. Once Sempra LNG unloads and reheats the gas in Costa Azul, another affiliate, Sempra Pipelines and Storage, will pipe it to Mexicali, where it will fuel two power plants, one owned by Sempra Generation. Already the Mexicali plants send power across the border to the Imperial Valley substation, where it then travels to San Diego on the Southwest Powerlink. According to Bill Powers and others who have been watching the situation unfold, Sempra would like to send its liquefied-natural-gas-fueled power along the Sunrise Powerlink to Los Angeles. “San Diego’s power needs,” says Powers, “are a sideshow.”

In this version of the future, Costa Azul and the Los Angeles power market, with its millions of homes and

businesses both large and small, would be bookends to the Sunrise Powerlink. On the Sunrise Powerlink website, however, SDG&E denies the accusation. “The electricity from [the Mexicali power plants] is already being delivered to California using existing transmission lines. These plants don’t need the Sunrise Powerlink. If power producers in Mexico want access to the Los Angeles area, they could use the proposed Green Path North transmission line that will run from Imperial Valley directly to Los Angeles.”

The key word here is “proposed.” The Green Path North project is facing, before its destiny with the Public Utilities Commission, the same kinds of criticism as Sunrise.

In hearings held thus far on the Sunrise Powerlink, the company has been pressed about why the preferred route for the line goes so far north before heading west. While trying to keep their emphasis on “the best possible route,” several company officials have admitted that SDG&E envisions an expansion of Sunrise toward the Los Angeles power grid.

“Sempra wants a separate substation that is outside the urban area of San Diego,” says Powers, “so they can have a straight shot up to Los Angeles. They don’t want to be forced into a southern route preferred in the draft environmental document because then Sunrise will only serve San Diego. And if they try to move power north through San Diego, they could quickly overload the infrastructure. So what they want is a substation outside the urban core.”

But “Sempra right now doesn’t have the wherewithal to pay for the Sunrise Powerlink,” Powers tells me. “They have to get their utility to do it, and the state’s electricity customers will pay for that. At this moment in the corporate chess game, SDG&E is the crucial player. The Stirling contract will be dead on arrival. It will never happen in the 2010 timeline that will meet this contract. That was the whole reason SDG&E signed up with Stirling in the first place. Then SDG&E will tell the state that Stirling is responsible for the 20 percent-renewable-energy mandate not being reached on time. And SDG&E will be free to start contracting with other energy sellers, including the Mexicali power plants.

“The moment that the Sunrise line is approved, the other Sempra affiliates are the ones that will get the biggest benefits. Of course, SDG&E gets the lasting benefit of being able to rate-base Sunrise for 40 years, even if it becomes a clothesline. But SDG&E’s role ends the

moment Sempra gets the line. They won’t care if SDG&E ever runs a single kilowatt-hour over Sunrise. The utility can then build as many solar panels in downtown San Diego as it wants. SDG&E can rate-base those too. That would be cream on top of the transmission line. So that’s the game. It’s very cynical.”

And Powers calls SDG&E’s emphasis on Sunrise’s environmental benefits “greenwash.” In fact, if he is correct about the real function of Sunrise, then the overall plan would increase greenhouse gases in Indonesia and Mexicali alone well beyond what the utility says it will reduce in San Diego. The plan would further pollute already-compromised Mexicali and Calexico. The cities now suffer from fossil-fuel-plant emissions and from dust storms. Childhood asthma is rampant in nearby El Centro school districts.

Though Sempra Energy’s CEO Don Felsing has subsequently softened his position, he stated in 2005 that he doesn’t believe in global warming. That convinces many critics that his companies’ green-marketing rhetoric is bad faith.

A Three-Point Shot’s Chance of Defeating Sunrise

“How did we get into a situation where a holding company can play chess master?” asks Powers. “It’s got all the pieces and is moving them around. It’s just extraordinary that in 2008, one guy, Don Felsing, can say that San Diego is going in this direction for the next two, three, four decades.”

The Phases One and Two of the Sunrise hearings have been great, according to Powers, because they force SDG&E, as well as its opponents, to back up their claims with evidence. Powers also believes that as the Phase Two hearings progressed during April and May, SDG&E’s excuses for not generating more power locally became “lamer and lamer.” One excuse has been the company’s criticisms of photovoltaic technology as idealistic and out of touch with financial reality.

“Then, in a gift of timing,” says Powers, “Southern California Edison announces [that it would be installing the 250 megawatts of rooftop photovoltaics]. Apparently, for the biggest utility in the state, not only are solar panels not quixotic but they’re going to cost half the price of the dishes in the desert. That announcement changed the ball game.”

When the hearings are over and the final environmental document is released, Judge Weissman will write a decision on whether Sunrise should be approved.

“But commissioners have the right to produce a counterdecision,” Powers tells me. “They can put relatively little effort into an alternative after we’ve worked on this case for two years and racked up volumes of testimony. We have a judge who’s been working on Sunrise the whole time and will write a well-prepared decision. All that work, and they can throw it in the trash the next day. All the commissioners have been appointed by Schwarzenegger, who has written them a letter of support of this line.”

In 2004, Schwarzenegger returned a \$50,000 political donation from Sempra Energy because the state attorney general was suing the company for its role in the California energy crisis. But last year, the governor’s inaugural committee accepted \$25,000 from Sempra. On April 25, the energy giant donated \$50,000 to the committee backing California Voters First, a redistricting-reform initiative. Schwarzenegger donated \$2.1 million from his own fund-raising monies to support the initiative.

“What chance,” I ask, “do the critics of Sunrise have when it’s time for the Public Utilities Commission to make the decision?”

“About a three-point shot,” says Powers, who thinks that SDG&E recently has fought back frantically. “But the company never thought it would be in a position where even a long shot might beat them.”

Watts and Volts

Long-distance power lines carrying 69 kilovolts or more are called transmission lines. Transmission lines run to distribution substations, where voltage is stepped down, usually to 12 kilovolts. The 12-kilovolt substations supply the distribution lines that run through city streets. Transformers on poles in front of people’s homes and businesses drop the voltage from 12 kilovolts to 480 volts or 120 volts.

A kilovolt is a thousand volts; a megawatt is one million watts. Volts multiplied by amps (or current) equal watts. Volts measure the force that pushes electrons forward. Volts may be understood as analogous to water pressure in a pipe, where current is the volume of water. To continue the analogy, if the pipe led to a turbine that the water was turning, the work would be measured in watts.

To operate, electric machines and lights pull the current that is available to them from distribution lines. A 60-watt lightbulb left on for an hour uses 60 watt-hours. A kilowatt-hour is a thousand watts used for one hour and is the standard measure on utility bills for how much electricity you use in your home.