

In the Matter of the Application of San Diego
Gas & Electric Company (U-902-E) for a
Certificate of Public Convenience and Necessity
For the Sunrise Powerlink Transmission Project

Application No. 06-08-010
Exhibit No.: _____

CHAPTER 1
OVERVIEW AND SUMMARY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

March 12, 2008
Updated April 15, 2008

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CHAPTER 1

OVERVIEW – WHAT SDG&E’S PHASE 2 TESTIMONY SHOWS

SDG&E proposes to construct the Sunrise Powerlink (“Sunrise”), a 500 kilovolt (“kV”) transmission line and associated upgrades to interconnect the Imperial Valley substation and load centers in the San Diego area. Sunrise will increase the load serving capability of the SDG&E system in the San Diego area.

Based upon projections of load growth in the San Diego area and the generation facilities expected to be available in the San Diego area in the future, Sunrise should have been operational by the end of 2010 to permit SDG&E to ensure reliable electric service in the San Diego area in compliance with applicable grid reliability criteria. Further, SDG&E needs Sunrise in order to deliver sufficient energy to meet the State’s renewable energy mandate. But as a result of various delays in this proceeding, the earliest date that Sunrise likely could be operational is now 2011, requiring additional measures to ensure grid reliability in the interim, such as extending RMR contracts that could have expired or adding additional peaking capacity to the grid.

This Phase 2 testimony responds to the issues set forth in the November 1, 2006 Scoping Memo and the presiding judge’s December 11, 2007 ruling. In addition, we address the issues set forth in the presiding judge’s rulings of January 9, 2008 and March 3, 2008.¹

SDG&E offers this overview of its Phase 2 testimony, which focuses on the cost, feasibility and ability to achieve project objectives of the alternatives set forth in the Sunrise

¹ Administrative Law Judge’s Ruling Granting UCAN’s Motion to Compel Additional SDG&E testimony Relating to Wildfires in Phase 2 of the Proceeding (January 9, 2008) and Administrative Law Judge’s Ruling Ordering SDG&E to Provide Additional Phase 2 Evidence (March 3, 2008).

Draft Environmental Impact Report/Environmental Impact Statement (“DEIR”).² And we introduce an Enhanced Northern Route³ to mitigate environmental concerns raised in the DEIR. We believe this Enhanced Northern Route, which offers some modifications to the Proposed Route to address concerns regarding the Anza-Borrego Desert State Park (“Park” or “ABDSP”), is the best option to meet the project objectives and satisfy state policy. In addition, the Enhanced Northern Route impacts less undisturbed lands than the DEIR’s southern routing alternatives, offers superior reliability, and is more certain to be constructed in a reasonable time frame to meet imminent reliability requirements and renewable energy mandates.

In sum, out of 97 alternatives analyzed, the DEIR ranked the Proposed Project sixth, without considering cost or weighing identified impacts. Moreover, the DEIR also concedes that it did not evaluate the feasibility of the higher-ranked alternatives after deciding to evaluate them during the CEQA process. Our Phase 2 testimony shows that:

- Sunrise remains the only option that meets the three stated primary objectives of improving reliability, providing direct access to renewable resources in Imperial Valley and reducing costs for customers;
- Sunrise supports important state energy and environmental policies such as the Renewable Portfolio Standard and AB 32 greenhouse gas (“GHG”) emission reduction mandate and provides the transmission capacity necessary for the development of the renewable resources in the Imperial Valley that California needs to address climate change. DEIR alternatives would frustrate these critical policies ~~and in many cases could prevent SDG&E from complying with state law;~~

² Issued January 3, 2008 by the Commission and the U.S. Department of Interior, Bureau of Land Management (“BLM”).

³ “Sunrise” or the “Project” as used herein refers generically to the concept of a 500 kV transmission interconnection between the Imperial Valley Substation and the San Diego load center. “Proposed Route” refers to the routing and plan of service for Sunrise proposed by SDG&E in its application. “Enhanced Northern Route” refers to the Proposed Route as modified to mitigate certain concerns identified in the DEIR. Later in this overview (at Section II), the mitigation re-routes to the Environmentally Superior (SWPL) Southern Route are described and introduced as the Modified Southern Route.

- The Proposed Project and Enhanced Northern Route cost substantially less than DEIR alternatives and provide over \$2 billion in additional economic benefits to SDG&E customers;
- The DEIR’s Southern Route is infeasible because it seeks to cross American Indian trust lands and the DEIR’s Northern Route is infeasible because it seeks to cross American Indian lands, construct Sunrise underground across active earthquake faults, and put Sunrise underground in a roadway too narrow to maintain required separation among the circuits; and
- The non-Sunrise DEIR alternatives are infeasible because they rely on projects that are hypothetical, stalled, abandoned or strongly opposed by communities and local government agencies, thereby increasing the uncertainty of project completion in time to meet local reliability requirements and renewable power mandates.

I. THE PHASE 1 RECORD SHOWS SUNRISE IS IN THE PUBLIC INTEREST

A. Phase 1 Evidence Establishes that Sunrise is the Best Alternative to Ensure Reliable Electric Service in San Diego, Enable SDG&E to Meet Renewable Portfolio Standard (“RPS”) Mandates, and Reduce Cost to California Electric Customers.

SDG&E presented an enormous amount of evidence to the Commission in Phase 1 demonstrating a compelling need for a 500 kV transmission line between the Imperial Valley and the SDG&E service area. This evidence shows that the Sunrise Powerlink is the best and most comprehensive solution to meet three vital purposes:⁴ (1) to maintain reliability, (2) to meet the state’s environmental mandates, and (3) to reduce electricity costs. Specifically, this evidence shows that:

1. Sunrise is needed in 2010 to provide reliable electric service to the San Diego area.
 - Without Sunrise in service in 2010, the San Diego area will suffer a deficiency of between 90 and 691 MW in meeting the CAISO’s G-1/N-1 reliability criterion.
 - San Diego is extremely underserved in terms of transmission interconnection to the rest of the grid. The two major utilities serving the Los Angeles area have more than thirty 500 kV AC transmission lines as well as two +/- 500 kV DC lines. Phoenix, America’s sixth largest city, has eight 500 kV and six 345 kV transmission lines. But San Diego has only one interconnection above 230 kV.

⁴ SDG&E’s analyses and resulting benefits are viewed from the perspective of electricity consumers within the CAISO control area, unless otherwise expressly stated.

- The CAISO confirms San Diego’s reliability need in 2010 and that Sunrise is the best alternative to meet this need, and it reached this conclusion in the context of a collaborative stakeholder process.
- SDG&E’s selection of Sunrise as the best alternative to meet this reliability need took place in the proper context of Commission long-term planning and collaborative, stakeholder studies.
- The reliability analysis supporting Sunrise uses conservative assumptions as to load growth based on California Energy Commission (“CEC”) -approved forecasts. In recent years, actual peaks loads in the San Diego area have substantially exceeded CEC forecasts for *future* years.
- The reliability analysis supporting Sunrise uses aggressive performance assumptions that tend to understate the project’s need. These assumptions are based on achieving goals in Commission-approved supply- and demand-side initiatives, such as energy efficiency, demand response (including AMI), and the California Solar Initiative.
- Reliance on in-area generation alternatives to meet San Diego’s reliability needs would adversely affect local air quality, and would commit SDG&E to a fossil generation future, jeopardizing SDG&E’s ability to meet the state’s mandated Renewable Portfolio Standard (“RPS”) and green house gas (“GHG”) goals.
- Sunrise offers other reliability benefits to San Diego’s electric system, including the flexibility to meet unexpected system contingencies, reduced vulnerability to fires by the addition of a second independent 500 kV interconnection corridor, opportunities for system expansion and future interconnection, more maintenance flexibility, and insurance against higher-than-expected load growth.

2. Sunrise will more than pay for itself by providing economic benefits net of project costs under a robust range of assumptions.

- Compared to a gas turbine reference case – a reasonable proxy for planning without Sunrise - Sunrise yields \$142 million in annual benefits net of project costs.
- The CAISO’s independent analysis concludes that Sunrise provides net economic benefits of between \$44 million and \$226 million annually, depending on the comparison scenario assumptions. D.06-11-018, which confers a rebuttable presumption on the CAISO’s findings of economic benefits, should apply here.⁵

⁵ While this decision did not apply the rebuttable presumption to applications then on file, the decision issued eight months prior to Phase 1 evidentiary hearings in this case and two months before SDG&E submitted supplemental Phase 1 testimony as ordered. Parties had ample opportunity to develop their own affirmative cases – the purpose of this “grandfather clause” in

- Both SDG&E and CAISO analyses conclude that Sunrise shows economic benefits superior to any alternative offered in this proceeding.
- Sunrise economic benefits arise from (1) reduced cost of delivering energy from the desert southwest to California load centers, (2) reduced reliability-must-run (“RMR”) or other costs to maintaining reliability and mitigate generator market power in the constrained San Diego load area, and (3) avoiding the fixed cost of generation.
- Sunrise will hasten the retirement of older, inefficient in-basin generation.

3. Sunrise should be approved under ~~P.U. Code § 399.25~~ as facilitating renewable

development and access to renewables for California’s customers, based on:

- There is insufficient renewable potential in the San Diego basin to allow SDG&E to meet the state’s RPS goals.
- The Imperial Valley and adjacent regions hold enormous renewable resource potential for wind, solar and geothermal generation – potential that will not be developed absent new high voltage transmission.
- Since the Sunrise application was filed, more than 6600 MW of renewable generation has applied to the CAISO interconnection queue in the Imperial Valley, eastern San Diego county and adjacent northern Mexico that could be facilitated by Sunrise.⁶ In contrast, the Tehachapi transmission upgrades were justified and approved based on 4300 MW of generator interconnection requests
- SDG&E has received substantial bids for renewable resources that would be facilitated by the development of Sunrise, yet it has received no bids from the Tehachapi region in its last two renewables RFOs.
- An 1150 MW dispatch limit currently exists on the Southwest Powerlink between the Miguel Substation and the Imperial Valley Substation, potentially stranding thousands of MW’s of proposed new renewable generation. Thus, without Sunrise, the CAISO has determined that only a small fraction of the more than 7,000 MW of renewable generation that is currently in the CAISO queue could be developed and simultaneously dispatched.

the decision. Given this background, and that we are now submitting updated economics where the parties will have further opportunity to respond, the spirit of the decision suggests giving effect to the presumption here (CAISO also submitted Phase 1 supplemental testimony on January 26, 2007, and additional testimony on March 1, 2007, March 23, 2007, April 20, 2007, May 14, 2007, June 15, 2007 and June 25, 2007).

⁶ To date, roughly 6600 MW of renewable generation is in the CAISO queue that would benefit from the development of Sunrise. See Chapter 6.

- Given the existing system’s constraints and that SDG&E depends on Imperial Valley renewables to meet its RPS goals, SDG&E cannot deliver sufficient renewable energy to meet its RPS goals for 2010 without Sunrise.
- Sunrise will increase SDG&E’s import capability by 1,000 MW.

4. Sunrise is superior to other alternatives offered in this proceeding. It is the only project that can be justified on all three independent grounds (reliability, economics and access to renewables) used by the Commission to license transmission projects. All the other alternatives offered come up short in one or more of these aspects, and many appear purely hypothetical.

- UCAN’s “Mexico Lite,” SONGS/Path 44 upgrade alternatives offer only potential partial reliability fixes of dubious cost effectiveness and feasibility, require significant upgrades to the SDG&E system that have not been fully evaluated, lack a project sponsor or stakeholder support and do not access renewable energy.
- The TE/VS interconnection and the associated LEAPS pumped storage project is not cost-effective in terms of meeting the grid reliability needs of San Diego, and does not directly access renewables.
- SDG&E’s Sunrise analysis assumes robust penetration of rooftop solar in the San Diego region. Assertions by project opponents that more rooftop solar could replace Sunrise are not based on any specific or even proposed projects and are simply not realistic.
- In-basin generation alternatives are less economic than Sunrise, provide no access to new renewables, present substantial air quality issues, would frustrate the state’s RPS, GHG and Energy Action Plan (“EAP”) initiatives and are highly speculative with respect to siting and the prospects for actual development.
- Although the electrical performance of SDG&E’s Proposed Route and the southern routes are similar, the southern routes are substantially less reliable.

B. Project Opponents’ Phase 1 Evidence Does Not Offer Alternatives That Satisfy All of the Project Objectives or State Policy Goals and Mandates.

In the face of this evidence, no party disputes that SDG&E faces an imminent reliability deficiency, and the immediate need to address the state’s RPS goals is self-evident. Among the

active parties, only SDG&E and the CAISO⁷ share a duty to provide reliable and economical electric service to customers. Indeed, DRA’s policy expert said it best: SDG&E is “... the only entity with the obligation, motivation and financial wherewithal to take measures needed to maintain reliability.” Woodruff, Ex. D-66 at 5:11-12.⁸ Project opponents, in stark contrast, have no accountability if the lights go out, no accountability for SDG&E not meeting RPS mandates, and no accountability for the utilities to meet California’s laws regarding GHG reductions.

A look at a map displaying the Southern California electric grid reveals the issues and the solutions – San Diego lacks sufficient interconnections to the rest of the grid. And, given the RPS goals, the state has insufficient access to the Imperial Valley – a locale of well-documented renewable potential. The map also suggests that generators in San Diego have considerable market power and that a new transmission interconnection would have compelling economic benefits and have the potential to mitigate such market power. But instead of acknowledging the obvious, project opponents address this long-term infrastructure deficit with speculative half-measures and wishful thinking. And none grapple with the fundamental policy question – is the state serious about its RPS and GHG initiatives, and, if so, how can these goals be met without Sunrise? Unfortunately, as discussed below, the DEIR does not help answer how environmental mandates or local reliability requirements can realistically be met absent Sunrise.

The options available to meet San Diego area reliability needs and RPS requirements continue to dwindle. Since the project was originally proposed, the South Bay Replacement Project has withdrawn its permit application because of local opposition from area residents, the

⁷ Unless otherwise noted, SDG&E’s Phase 2 testimony will use the short-form party designations set forth in SDG&E’s Phase 1 opening brief. Citations to the Phase 2 testimony are to “Chapter [number] at” followed by the section and/or page numbers.

⁸ Record exhibits are cited “[witness surname, if applicable], Ex. [number] at [page(s):line(s) [if applicable]].” The record transcript is cited “[witness surname, if applicable], T. page(s):line(s).”

City of Chula Vista and Port of San Diego. The San Diego Community Power Project proposed by ENPEX Corp., which is strongly opposed by the City of Santee, has not even submitted an Application for Certification to the CEC, much less obtained CEC certification. The land required to site energy facilities is becoming more constrained and less available. The Campo tribe has made it clear that they will not allow a transmission line across their tribal lands. Renewable energy projects have not progressed while developers await approval of Sunrise before they finish permitting and begin construction. And, the WECC has confirmed that the southern routes provide a lower level of reliability to San Diego consumers.

The project is now scheduled to be in-service no sooner than 2011, thus requiring additional peakers to be located in the San Diego basin despite the fact that current projects are facing community opposition, project delays and significant cost pressures. Further delay in approving Sunrise may also result in the extension of contracts with aging, inefficient and often unwelcome power plants. The passage of time makes clear that Sunrise is needed now more than ever.

II. SDG&E' ENHANCED NORTHERN ROUTE AND PROPOSED ROUTE OFFER THE BEST WAY TO ACHIEVE PROJECT AND STATE OBJECTIVES

A. SDG&E's Northern Routes Are Superior to the DEIR's Infeasible Northern Route

The DEIR identifies three potential routes for Sunrise: the Proposed Project Route (the route originally proposed by SDG&E), an "Environmentally Superior Southern Route (SWPL) Alternative" ("Aspen's Southern Route")⁹ and an "Environmentally Superior Northern Route

⁹ Aspen's Southern Route consists of the Interstate 8 Alternative, with the Campo North Option across the Campo and La Posta Indian Reservations, the Modified D Alternative, the Star Valley Option and the Chocolate Canyon Option. (ES-55). Aspen's Northern Route consists of a 230 kV line underground through ABDSP and along Highway S2, crosses the Santa Ysabel Indian Reservation (All Underground Alternative) and a new substation adjacent to the existing San Felipe Substation to convert from 500 kV to 230 kV (ES-47 & 48). SDG&E's

Alternative” (“Aspen’s Northern Route”). As discussed herein, neither Aspen’s Northern Route nor Aspen’s Southern Route is feasible or, even if constructed, offers the same reliability benefit.

SDG&E’s testimony identifies an “Enhanced Northern Route” - essentially, the Proposed Project Route mitigated to address some of the State Parks’ concerns by constructing Sunrise through ABDSP within the existing corridor for the existing transmission line. The Enhanced Northern Route also would include an option to “work around” the Grapevine Canyon area where cultural artifacts may exist, if an appropriate route around that area can be agreed upon with State Parks. As discussed further *infra*, the Enhanced Northern Route does not include the 54 miles of underground transmission line required by Aspen’s Northern Route, which cross active earthquake faults and an Indian Reservation, at an additional ratepayer estimated cost of \$1.4 billion.

The Enhanced Northern Route is feasible to construct. SDG&E believes that regulatory approvals can be obtained for the Enhanced Northern Route, but not Aspen’s Northern Route.¹⁰ Even if Sunrise could be constructed along Aspen’s Northern Route, and the Commission orders it to be done despite the seismic risk, future expandability is very likely limited. And the substantial \$2.9 billion cost of Aspen’s Northern Route would likely render it uneconomic, thereby failing to meet the third primary objective of reducing costs for customers.

B. The Southern Routing Alternatives Present Feasibility, Reliability and Schedule Issues.

Proposed Route and Enhanced Northern Route do not cross any sovereign American Indian tribal lands.

¹⁰ For example, among other things, the Santa Ysabel Band of Diegueno Indians has declared its general opposition to the Sunrise Powerlink, making Aspen’s Northern Route infeasible across those lands. SDG&E’s Enhanced Northern Route and Proposed Route would avoid these sovereign Indian lands held in trust for the Tribe by the United States.

Aspen's Southern Route does not appear to be feasible for a number of reasons, including the known opposition of the Campo Band to Sunrise crossing reservation lands and the uncertain ability to cross other Indian Reservations.¹¹ SDG&E's testimony identifies a "Modified Southern Route," which avoids crossing reservation lands and reduces impacts to Cleveland National Forest. Even the Modified Southern Route faces regulatory obstacles and delays in crossing Cleveland National Forest and obtaining U.S. Department of Agriculture Forest Service approvals. However, should the Commission move forward with this alternative, it must do so with a clear understanding of the reliability risks and implications attendant with the Modified Southern Route, namely that roughly 20% of the San Diego region could be subject to load shedding under certain foreseeable grid conditions. Further, even the "Modified Southern Route" has significant project completion risks due to land designations and critical permitting concerns. Further engineering surveys and design work could reveal additional issues.

As detailed in SDG&E's Phase 2 testimony, even if feasible, the Modified Southern Route is still inferior to northern routes because of:

- (1) delays attendant to federal permitting,
- (2) more challenging engineering and construction,
- (3) necessity to clear-cut new right-of-way and access roads through a national forest,
- (4) more risk of common-mode failure with SWPL due to wildfires, lightning and flashovers,
- (5) unlike the northern routes, it may be necessary to relocate homes and businesses, and
- (6) the cost of expandability is higher, and of dubious feasibility.

Further, SDG&E's analysis concludes that selection of a southern route will likely delay the schedule an additional one to two years compared to the Enhanced Northern Route.

¹¹ The Campo Band is a sovereign nation under federal law which has a unilateral right to accept or deny access to its lands for the purposes of allowing a transmission corridor.

SDG&E's previous testimony confirmed that a delay of a single year would cost consumers approximately \$128 million.

Two items with respect to the Enhanced Southern Alternative – reliability and expandability – bear more discussion here.

1. The Southern Routes Are Less Reliable.

The Western Electricity Coordinating Council (“WECC”) Reliability Performance Evaluation Work Group (“Reliability Subcommittee”) has determined that Aspen’s Superior Route must meet stricter performance reliability criteria than the Proposed Project.¹² After careful independent review, the Reliability Performance Evaluation Work Group did not approve the southern route alternative for less stringent performance reliability criteria, based on analysis of the prospects for common mode failure. The Reliability Performance Evaluation Work Group determined that the southern route alternative would require the development of a system protection scheme (“SPS”) whereby up to 1000 MW of load in the San Diego area would be dropped automatically in the event both the SWPL and Sunrise are forced out of service simultaneously. If this were to occur during the system peak, approximately 20% of customers in San Diego could have their electric service curtailed. Such widespread load shedding would be unpalatable at any time, but would be particularly harmful given that annual peak loads are typically recorded during heat storms or other extreme conditions. SDG&E’s testimony demonstrates that this situation could saddle consumers with costs of a net present value exceeding \$1 billion. *See* Chapter 13. The Modified Southern Alternative, because it shares the

¹² WECC RPEWG Sunrise Powerlink recommendation 12-20-07
http://www.wecc.biz/documents/library/RPEWG/RPEWG%20Sunrise%20Powerlink%20recommendation_rev1.doc.

same proximity to SWPL that concerned the Reliability Subcommittee, would present this same shortcoming.

By contrast, the WECC's Reliability Performance Evaluation Work Group approved performance reliability criteria for the Proposed Project Route that will not require such a draconian protection scheme.¹³ The same conclusion would apply to the Enhanced Northern Route. A requirement to implement substantial load dropping would defeat a key purpose of building the Sunrise Powerlink – namely to improve service reliability for our customers.

2. The Southern Routes Do Not Support System Expandability.

“Expandability” is compromised with the Southern routes. SDG&E has shown that the potential expandability of this project is an important project objective, and that consideration of the extent to which a project can flexibly accommodate growth is part of prudent planning for future facilities. Expandability was identified as a project objective in the August 2006 PEA, Chapter 2, Section 2.2.4 at p. 2-21 under the section entitled Project Objectives, and in other conversations with the Commission.¹⁴ But inexplicably, the DEIR did not treat expandability as a project objective. SDG&E's Phase 1 testimony shows how the Sunrise Proposed Route can facilitate future system expansion, but that a southern route does not.¹⁵ Similarly, DRA

¹³ The WECC Board of Directors is expected to approve these findings this Spring.

¹⁴ Objective 2 states:

Provide transmission facilities with a voltage level and transfer capability that (a) allows for prudent system expandability to meet both anticipated short-term (2010) and long-term (2015 and beyond) load growth through a total San Diego area import capability of at least 4200 MW (all lines in service) and 3500 MW (under G-1/N-1 contingency conditions) and (b) supports regional expansion of the electric grid.

¹⁵ SDG&E's August 4, 2006 testimony specifically discussed the study of the potential to complete the so-called “Northern Loop” from Central to SCE's Serrano substation (Ex. SD-6 at VI-3-5,12-15); it also observed that a “second SWPL” alternative lacks expandability (*id.* at VI-5). The CAISO's CSRTP report (July 2006) specifically cites the potential for future

recognized expandability as an important benefit of Sunrise. DRA Opening Brief at 71. In sum, SDG&E's Phase 1 evidence shows that (1) the Sunrise Proposed Route offers the potential of future interconnection to SCE at 500 kV or 230 kV; (2) the new Central substation design provides for future additional circuits and transformers at 500 and/or 230 kV; and (3) other routes or alternatives under consideration do not offer the future expandability potential of the Proposed Route.

SDG&E's Phase 2 testimony also addresses this issue, and shows that the Enhanced Northern Alternative also supports expandability. And it shows that for the southern alternatives to support expandability, they must overcome potentially fatal routing constraints, especially through developed areas of San Diego County and National Forest. Future circuits to serve load centers in San Diego's northern county where the transmission system is mostly 69 kV must traverse long distances to reach those load centers adding cost and environmental impacts.

SDG&E's Phase 2 testimony concludes that the Enhanced Northern Route is also more cost-effective than any southern route in the long run. Future upgrades necessary to increase delivery capacity of the transmission system would cost considerably less for the Enhanced Northern Route than any southern option. This is particularly important should the state move to a more aggressive RPS mandate above and beyond the current 20% requirement, an action currently contemplated by this Commission, the Legislature and other stakeholders. Independent analysis presented in SDG&E's Phase 2 testimony estimates that the value of this expandability benefit could exceed \$1 billion, a figure which may be understated given the feasibility concerns,

expandability as a "non-quantified benefit" of Sunrise (Ex. SD-5, Appendix I-1 at 68). *See also*, Sparks, Ex. I-1 at 52:18-21. And, SDG&E's December 14, 2005 testimony discussed expandability of Sunrise in several contexts: the "full loop: interconnection with SCE (Brown, Ex. SD-2 at II-3, VI-12-15, Appendix II, Figure II-1, Appendix VI-iii), as one of the economic scenarios (Strack, Ex. SD-2 at V-29), and the expandability of the Central substation at 500 and 230 kV (Brown, Ex. SD-2 at II-4).

likelihood of delay and growing land use constraints associated with the southern route alternatives.¹⁶

III. THE DEIR’S CHOICE AND RANKING OF ALTERNATIVES IS FUNDAMENTALLY FLAWED

While the DEIR adequately identifies the “worst case” environmental impacts of the Proposed Route, and examines a reasonable range of alternatives, it does not offer useful guidance for critical aspects of the Commission’s decision on this Application for four reasons.

First, the DEIR’s top-ranking alternatives give short shrift to project objectives. The DEIR does not undertake to determine the extent to which the alternative satisfies the project objectives, other than conclusory assertion. Moreover, it omits some objectives entirely, without supporting explanation. Expandability is an important planning consideration, is part of a long standing and accepted practice in the electric utility industry, and is consistent with various infrastructure siting principles, as discussed in more detail in Chapters 5, Section II.D and 6, Section II.E. The DEIR admits that certain alternatives, for example, non-Sunrise alternatives fail to meet the project objective of obtaining access to renewables in Imperial Valley.

Second, the DEIR fails to consider how the alternatives meet or advance the state energy and environmental mandates, laws and policies that guide utility operations and investments, in particular, renewable development, GHG emission reductions, and resource procurement.

Third, the DEIR identifies various purportedly “environmentally superior” alternatives to the project in the face of evidence before the Commission and in the DEIR itself that shows that such alternatives are, at best, speculative, hypothetical and/or infeasible. The DEIR admits that it did not evaluate the feasibility of the alternatives after selecting which proposed options should be given full evaluation. Had the DEIR done so, or complied with Commission precedent for

¹⁶ See Chapter 13. This Chapter was prepared by Strategic Decision Group (“SDG”), retained by SDG&E to advise it on its process for choosing among the DEIR alternatives and other options.

determining the need for transmission lines, the non-Sunrise alternatives would have been rejected on feasibility grounds.

Fourth, the DEIR stacks the deck by overstating Sunrise impacts and costs which affect the comparison, screening and “ranking” of some alternatives against the Proposed Project.

These specific shortcomings must be seen in light of the DEIR's limited focus on environmental effects. All electricity users, generation suppliers and citizens in the San Diego basin have high and enduring social and economic stakes in the Sunrise decision. Additionally, 37 million Californians have a stake in the potential consequences of the Sunrise decision on California's renewable energy and greenhouse gas emission goals. But the DEIR does not address (because that is not its purpose) the value of delivered electricity or the social and economic consequences of chronic shortages and acute interruptions of electricity service.

The following sections give an overview of the shortcomings of generation alternatives that the DEIR ranks higher than the Proposed Project, the DEIR's “superior” routing alternatives, and the DEIR's “no-project” alternative. These shortcomings are treated in more detail in SDG&E's Phase 2 testimony sponsored by other witnesses.

A. The Alternatives Developed in the DEIR Fall Short of Meeting Key Project Objectives and State Mandates, Laws and Policies.

The DEIR identifies three alternatives as “environmentally superior” to any permutation of Sunrise: (1) New In-Area, All-Source Generation; (2) New In-Area Renewable Generation; and (3) LEAPS Transmission-Only Alternative. The DEIR (at ES-4) says these options are “reasonably expected to occur in the future” if Sunrise is not approved. In addition, the DEIR ranks two routing alternatives above the Proposed Project – “Aspen's Northern Route” – which includes an 54 miles of underground dual circuit 230 kV line – and “Aspen's Southern Route” -

which avoids the ABDSP by following a path along the existing SWPL near the Mexico border and I-8 for much of its length and crosses multiple Indian Reservations..

B. The New In-Area All-Source Generation Alternative is, at Best, Speculative, and Frustrates Project Objectives and State and Federal Mandates, Laws and Policies.

The New In-Area All-Source Generation Alternative, selected as the environmentally superior alternative, calls for a hypothetical new 620 MW base load power plant, several smaller “peaker” plants totaling about 250 MW, and 203 MW of dependable renewable resources. Eighty-two percent of the generation counted for reliability purposes proposed for this alternative would burn fossil fuels. Accordingly, this alternative not only fails to meet most of the project objectives identified by SDG&E, but also conflicts with the policy decisions of Governor Schwarzenegger and the California Legislature mandating greater use of renewable resources and less fossil fuel to meet our customers’ energy needs.

By building substantially more fossil generation in lieu of Sunrise (which would import up to 1,000 MW of renewable resources) this alternative will frustrate SDG&E’s ability to meet the state’s RPS and AB 32 GHG emission reduction targets.¹⁷

The 203 MW of renewable projects identified for this alternative – even if they were all economically or technically feasible – fall far short of what SDG&E needs to comply with state RPS mandates. More importantly, no developer will believe the state is serious about renewable

¹⁷ In September, 2006, the Governor signed three significant bills that reinforce the State’s commitment to reducing GHG emissions. The first was SB 107, which required load-serving entities to increase the share of renewable energy in their respective portfolios to 20% by 2010. SB 107 recognizes the importance of renewables in the State’s GHG emissions reductions objective by encouraging the Commission to “ensure that the most cost-effective and efficient investments in renewable energy resources are vigorously pursued” (SB 107, page 10, section 25740.5 (a)). SB 1368, the second bill encourages lower GHG emissions through the use of renewable energy and low-emitting fossil generation. The third GHG-related bill signed was AB 32, aimed at reducing statewide GHG emissions to 1990 levels by 2020. AB 32 is intended to place California “at the forefront of national and international efforts to reduce emissions of greenhouse gases” (AB 32, page 2, section 38501(c)).

energy generation development when an important tool they need to be successful – new transmission capacity – is tossed aside in favor of fossil generation. And, adoption of this alternative will substantially impede efforts to develop the renewable power supplies in the Imperial Valley – the very resources the State of California is counting on to battle climate change.

Moreover, this alternative is not feasible as it relies on several proposed generation facilities that are uncertain or have been completely abandoned by developers because of strong local opposition, as well as on the unproven ability to greatly expand solar photovoltaic generating capability. Strack, Ex. SD-06 at VI-29-30. The DEIR also correctly notes that several regulatory challenges with this option could lead to major schedule delays.

For instance, the DEIR fully analyzes the South Bay Replacement Project on the City of Chula Vista’s bay front as a possible candidate for the new base load power plant despite the applicant, LS Power, having withdrawn its application from the CEC due to opposition from the City of Chula Vista and the Port of San Diego, the landowner and lessor. The DEIR (at E.6-5) states in pertinent part:

Decisions in February and March 2007 by the City of Chula Vista and the Port of San Diego indicate that the power plant faces opposition. In October 2007, the Applicant withdrew the AFC in the CEC proceeding [E.6-5].... it now appears that a new power plant will not be constructed at the Chula Vista site. [E.6-10]

The DEIR analyzes a second base load power plant called the San Diego Community Power Project (“SDCPP”) proposed near the City of Santee¹⁸ and concludes (at E.6-11):

The SDCPP’s development status is unclear...The SDCPP has not submitted an application for certification (AFC) to the CEC.¹⁹

¹⁸ SDG&E’s Phase 1 testimony evaluated this option under the name of “Enpex.” See, e.g., Strack, Ex. SD-26 at 39-40.

¹⁹ City of Santee opposes the proposed Enpex project.
<http://www.ci.santee.ca.us/Modules/ShowDocument.aspx?documentid=628>.

The DEIR (at C-80) admits that any fossil generation alternative like this faces other challenges, including the lack of emission offsets and potential schedule delays:

Generation projects are subject to various regulatory processes that can delay the project schedule...obtaining offsets would be a challenge because of the lack of available offsets in the San Diego basin (Eastman, 2006). Even if the CEC were to approve the project, the decision could contain conditions that would make development impractical.

There is no factual basis for the DEIR to have identified this menu of generation options as the “environmentally superior” alternative when there is no definitive project analyzed. The use of hypothetical elements and stalled or abandoned projects as the basis for the alternative does not provide a true comparison to the Proposed Project. The DEIR lacks any useful discussion of timing, the CAISO interconnection queue, permitting challenges (including community opposition), or land acquisition issues. Moreover, Commission decisions and the CAISO transmission planning guidelines recognize that it is inappropriate to rely on generation for transmission planning purposes within a 10-year planning horizon unless the generation has received regulatory approval or is under construction.²⁰ And, because the DEIR focuses (as it must) on environmental impacts, the Commission must address such fundamental issues as the San Diego area’s real and imminent need for reliability improvements. Our customers deserve solutions that are real and feasible.

The CAISO and SDG&E have an obligation under FERC transmission tariffs to connect all generators that request interconnection to the grid. This requirement is clearly frustrated when sufficient transmission is not permitted to allow such generation access to the grid. This

²⁰ *In re Valley Rainbow Transmission Interconnection*, D.02-12-066 at 16-17; *In re Jefferson-Martin*, D.04-08-046 at 43-44; CAISO Grid Planning Generation Assumptions, April 16, 2004, <http://www.caiso.com/docs/2001/06/25/20010625134406100.pdf>.

fact is especially notable when over 6600 MW of new generation interconnect requests have been received from developers that could benefit from Sunrise.

C. The New In-Area Renewable Generation Alternative is Infeasible and Cannot Fill the Reliability Deficit.

The New In-Area Renewable Generation Alternative calls for 1,027 MW of installed capacity from wind, solar thermal, solar photovoltaics and biomass/biogas to be constructed in San Diego County. SDG&E disagrees with the DEIR's assertion (at ES-64) that this option would meet the major project objectives of reducing costs and improving reliability. In fact, the facts assumed in the DEIR are clear evidence that the alternative is highly uneconomic for ratepayers, falls short of filling the reliability deficit, and could not be implemented in time to meet the reliability deficiency forecast for 2010. And, as with the New In-Area Generation Alternative, this alternative lacks any indication of feasibility beyond hypothesis, there being no project sponsor(s) and no regulatory applications. Nor (since this is an environmental document) is there any useful discussion of timing, the CAISO interconnection queue, or permitting challenges (including community opposition).

The centerpiece of this option is a hypothetical 2.3 square mile, 232 MW solar thermal project in Borrego Springs. As the DEIR (at E.5.1.1) points out, "... no developers have identified sites in Borrego Springs for such a large solar thermal project..." The DEIR estimates (at C-75) that such a project would not be developed until 2016, despite the need to address a reliability deficiency in 2010. Moreover, this project alone would require significant transmission upgrades to SDG&E's system.

Surprisingly, the DEIR proposes such a solar thermal project even though it would require construction of a new 36-mile transmission line through the community of Borrego Springs and the ABDSP. DEIR at E.5-6. Given that Aspen's proposal is supposed to be an

alternative to Sunrise, it is quite surprising for just one component of this option to require a transmission line that is essentially the same as a segment of Sunrise that has aroused vigorous opposition. Moreover, these upgrades would fail to deliver any of the import capability offered by Sunrise.

The option also counts on 105 MW (firm on-peak) from solar photovoltaics by 2010, requiring more than 20,000 residential and 85 commercial installations per year over the next three years, or 60,000 new residential solar photovoltaic installations. (DEIR at E-5.12). This is in addition to the photovoltaic systems expected to be installed even without the project, such as those resulting from the California Solar Initiative (*id.* at E.5-12). It is significant to note that only 1,000 photovoltaic systems were installed in SDG&E's service territory in 2007 for a total of 4.35 MW (firm on-peak).²¹

The DEIR acknowledges that such a massive expansion of rooftop photovoltaics is unlikely in the short term:

The cost to achieve the anticipated levels of PV installation related to hundreds of individual PV systems would also likely be prohibitive [*id.*, at C-74] Economic, legal, and technical feasibility challenges would need to be overcome in order to develop numerous individual PV installations throughout San Diego County [*id.*, at C-75].

The DEIR also recognizes that closure of older, more polluting gas-fired power plants – and the associated reductions in greenhouse gas emissions – would not occur under this alternative (H-137).

In sum, both of the DEIR's in-area generation alternatives do not further state environmental policy and are infeasible. Both alternatives ignore the state's and this

²¹ SDG&E's Phase 1 testimony details the dubious feasibility of achieving rooftop solar penetration in San Diego County substantially beyond the optimistic CSI projections in its Phase 1 need showing. Strack, Ex. SD-6 at VI-29-30.

Commission’s resource procurement policy, which is based on a defined loading order, market-based procurement, and a presumption against utility ownership of generation.²² In contrast, the DEIR assumes that its monolithic non-wires alternatives will magically arise in the market and fit the procurement policy. Basing San Diego’s future on projects that are hypothetical and technically infeasible is dangerous and puts our customers’ energy reliability at risk. The Sunrise Powerlink, on the other hand, meets the purported intent of this alternative – namely increased use of clean, renewable resources – while ensuring the reliability of the grid.

D. The LEAPS Transmission-Only Alternative is Speculative and Won’t Promote Renewable Energy Development or Fully Resolve the Region’s Reliability Shortfall.

The LEAPS Transmission-Only Alternative, as described in the DEIR, is a 32-mile 500 kV line connecting the SDG&E and Southern California Edison (“SCE”) grids, a 48-mile 230 kV line in San Diego and a new 500/230 kV substation. SDG&E disagrees with the DEIR that this option would meet the major project objectives of reducing costs, improving reliability, and providing access to renewables allowing SDG&E to meet its RPS mandates. More fundamentally, the DEIR overlooks a project sponsorship issue and the reality that this project requires a hydroelectric project to make it go commercially, which calls into question both the feasibility and the cost of this alternative.

Specifically, the DEIR ignores that The Nevada Hydro Company (“TNHC”), and the Elsinore Valley Municipal Water District (“EVMWD”) as co-applicants, have applied to FERC pursuant to Part I of the Federal Power Act for a hydroelectric siting and operating license²³ for a combined generation/transmission project consisting of: 1) a pumped storage facility that includes two advanced pumped storage generators (the Lake Elsinore Advanced Pumped Storage

²² See D.04-12-014 and D.07-12-052 which direct the IOUs to prioritize their resource procurements following the EAP and EAP II’s directives.

²³ See FERC Project No. P-11858.

project, or “LEAPS”) and 2) the 500 kV transmission line that appears to be the DEIR’s LEAPS Transmission-only Alternative.

TNHC has filed a CPCN application with this Commission, but only for the transmission line that supports the presence of the pumped storage unit.²⁴ TNHC has filed this application as a “backstop” in the event the FERC fails to license LEAPS, including the TE/VS transmission line.²⁵ TNHC’s Proponent’s Environmental Assessment (“PEA”) accompanying the CPCN application describes the combined project. Elsewhere, TNHC has made statements that it does not plan to build the transmission line without the pumped storage component.²⁶ Yet the DEIR recognized (at ES-62, 4) that the LEAPS Transmission and Generation Alternative has far more significant environmental impacts and thus is “ranked” environmentally inferior to the Sunrise Project.

This alternative relies, yet again, on what the DEIR describes as a “hypothetical project” (E.7-1) that is not even supported by either of the co-applicants for the LEAPS project at the FERC.²⁷ Recent comments in *The Press Enterprise* on November 9, 2007 by an EVMWD spokesperson sum it up best:

²⁴ A.07-10-005. The other sponsor and partner in the LEAPS-TE/VS project, the EVMWD, did not join in this CPCN application.

²⁵ This application (at 2) suggests that TNHC applies to the Commission for a CPCN as a backstop *in case* the FERC does not issue the requested license, or if TNHC cannot resolve a dispute with the EVMWD at FERC. It therefore appears that A.07-10-005 is not ripe for adjudication, given that EVMWD appears to be an indispensable party, and that the FERC application is pending and has been submitted to that agency for decision – a decision which, if it grants TNHC’s application, will moot TNHC’s solo application before this Commission.

²⁶ Ex. SD-15 at 44; Ex. SD-26 at 24.

²⁷ In *Jefferson-Martin*, the Commission also recognized that it is not appropriate to assume new transmission will be available to solve reliability needs where it is only hypothetical. D.04-08-046 at 43.

‘The PUC should not be getting involved with the project because it is not a power-lines project,’ water district spokesman Greg Morrison said.²⁸

EVMWD has also submitted formal comments to the FERC (December 16, 2006, in Project No. P-11858) that objected to the issuance of a hydroelectric license that would treat the TE/VS interconnection as a separate project.²⁹ EVMWD recently filed a Notice of Ex Parte Communication stating that the pumped storage project and the TE/VS Interconnect should be considered together. To SDG&E’s knowledge, neither sponsor intends to pursue a transmission-only project without the pumped storage component. But the DEIR doesn’t explain why it offers such a phantom alternative.

Moreover, the LEAPS Transmission-Only Alternative also fails to meet the critical project objective of providing direct access to renewable resources in the Imperial Valley as acknowledged by TNHC during the Phase 1 hearing process (TNHC Opening Brief at 16). The DEIR agrees (at C-69):

.... it would be less likely to meet objectives related to delivery of renewable energy.

The DEIR goes on to say this alternative would provide access to wind resources in Tehachapi and San Geronio (at E.7-7). SDG&E issues Request for Offers (“RFOs”) for green energy resources each year to renewable developers. Since 2005, SDG&E has received limited offers

²⁸ See also the November 5, 2007, *North County Times* article at http://www.nctimes.com/articles/2007/11/06/news/californian/lake_elsinore/20_26_0011_5_07.txt. According to the article, “... [TNHC] and its partners in the project, which include the Elsinore Valley Municipal Water District, would not build the 30-mile [transmission] link without the pumping-generating station....”

²⁹ EVMWD just issued an *ex parte* notice in A.07-10-005, wherein EVMWD pointed out that TE/VS and the pumped storage generation should be treated as one project in the Commission’s CEQA analysis for that application. In addition, TNHC has filed an application with the FERC for incentive rate treatment for the combined project, including a specific and unprecedented request to roll-in the cost of the LEAPS generation facilities into transmission rates to be paid by CAISO consumers. FERC Docket No. ER06-278-000, *et al.* This request is pending before the FERC.

for renewable resources located north of San Diego County that meet the “Least-Cost, Best-Fit” screening criteria established by this Commission. However, as demonstrated in the Phase 1 record, there is substantial developer interest in the Imperial Valley region, evidenced by the roughly 6600 MW of renewable projects that are now in the California Independent System Operator interconnection queue.

San Diego needs direct transmission access to the Imperial Valley to reach the region’s best potential source for renewable energy. The Imperial Valley region is very unique in that it offers a full range of renewable technologies and resource types, including solar, wind and geothermal. Direct access is not provided by the LEAPS Transmission-Only Alternative.

According to the California Energy Commission:

Achieving Renewable Portfolio Standard goals is hampered by the lack of adequate transmission to access important renewable resources in ... the Imperial Valley³⁰

Without new transmission capacity to this region, proposed renewable projects in the region that are counting on the Sunrise Powerlink and any future contracts that would access a new transmission connection to the San Diego area will likely fail or be delayed.

The LEAPS Transmission-Only Alternative, even if the line could be licensed and built absent the pumped storage component, also fails to meet the objective of reducing costs for customers and increasing the import capability into the San Diego area that is needed to address the reliability deficiency SDG&E and the CAISO forecast. Additionally, substantial transmission upgrades within SDG&E’s systems needed to provide a meaningful contribution to the San Diego area reliability requirements. SDG&E’s Phase 1 evidence suggests it would take well over \$1 billion in additional transmission upgrades to make 795 MW of capacity available

³⁰ 2006 Integrated Energy Policy Report Update at E-3.
http://www.energy.ca.gov/2006_policy_update/index/html

to the San Diego area. Brown, Ex. SD-26, Table 6 at 23; Brown, Ex. SD-15 at 46. The project proponent, TNHC, has repeated several times during the discovery process that they have not developed any cost estimates for the project. As set forth herein, it appears that the LEAPS Transmission-Only Alternative, including necessary SDG&E upgrades, will cost around \$3 billion.

In addition, there are other critical feasibility and timing concerns with this option, specifically, routing issues, including land acquisition, community opposition, and other agency permits and approvals. Indeed, this alternative assumes a new substation on the Camp Pendleton Marine Corps Base – at minimum, a very challenging proposition.

E. The “No Project Alternative” is Meaningless.

The DEIR’s No Project Alternative overstates the “reasonably expected” result should the Sunrise Project not be built. For the No Project Alternative, the DEIR assumes some selection of peakers, Mexico Lite, SONGS/Path 44 upgrades, etc., which have no sponsors to support them.

In contrast, SDG&E in Phase 1 analyzed a “no project” alternative consisting of a build-out of gas turbine generation. This was selected because such generation can be added in small increments, on relatively short notice, and is easier to site than combined cycle generation (although relying on this alternative would present substantial siting and emissions issues). SDG&E found that this alternative was not cost-effective, and did little to access renewables or to further the state’s environmental mandates, laws and policies. And the Phase 1 record showed that the DEIR’s menu of “No Project” options offer only reliability fixes of dubious cost effectiveness and feasibility, lack stakeholder support and do not access renewable energy. DRA agrees that the Mexico Lite alternative should not be considered as a transmission alternative to Sunrise. Zaininger, Ex. D-19 at 11. And the CAISO questions this alternative and

its feasibility, (Sparks, Ex. I-6 at 46:1-17) as well as that of Path 44. *Id.* at 47:3-13. In sum, except for bald assertion, the DEIR offers no factual basis to state that its “No Project” Alternatives are reasonably expected.

IV. THE PROPOSED PROJECT AND ENHANCED NORTHERN ROUTE ARE MORE COST-EFFECTIVE THAN OTHER RANKED ALTERNATIVES

SDG&E’s Phase 2 testimony provides cost estimates for the DEIR’s routing alternatives per the Scoping memo and the presiding judge’s December 11, 2007 ruling. Our Phase 2 testimony supports the conclusion that the Proposed Project remains the superior and most cost-effective alternatives that provides the greatest reliability and access to renewables for our customers. SDG&E has also quantified the economic benefits associated with improved reliability and the value of expandability, and the cost of delay. Improved reliability and future expandability could provide over \$2 billion in economic value to our customers. *See* Chapter 13. On the other hand, based on SDG&E’s Phase 1 evidence, costs will increase by \$128 million if the project is delayed by one year. Strack, Ex. SD-27 at 20, Table 5. In addition, as detailed below, SDG&E introduces the Enhanced Northern Route. Consistent with CEQA, the DEIR does not attempt to address the economics of the alternatives it identifies, nor does it provide for an economic comparison of alternatives.

A. Summary of SDG&E’s Phase 1 Economic Testimony.

As established by the Phase 1 record, Sunrise economic benefits arise from (1) reduced cost of delivering energy from the desert southwest to California load centers, (2) reduced reliability-must-run (“RMR”) or other costs to maintaining reliability and mitigate generator market power in the constrained San Diego load area, and (3) avoiding the fixed cost of generation. In this latter regard, Sunrise will hasten the retirement of older, inefficient in-basin generation.

SDG&E's evidence showed that, compared to a gas turbine reference case – a reasonable proxy for planning without Sunrise, Sunrise yields \$142 million in annual benefits net of project costs. Strack, Ex. SD-26 at Errata Exh. H, Table H-17. The CAISO's independent analysis concludes that Sunrise provides net economic benefits of between \$44 million and \$226 million annually, depending on the comparison scenario assumptions.³¹ Both SDG&E and CAISO analyses conclude that Sunrise shows economic benefits superior to any alternative offered in this proceeding.

As noted in the previous section, SDG&E also provided a deferral analysis in Phase 1, to show how delay in the Sunrise in-service date would affect the project economics. This analysis concluded any near-term savings would be lost as the costs of delay exceed the benefits. *See* Strack, Ex. SD-27 at 20, Table 5.

B. Sunrise Remains the Most Cost-Effective Alternative When Compared to the DEIR Alternatives.

Accounting for the cost of outages, that could occur as a result of the load shedding scheme that would be required for the DEIR's "Environmentally Superior Southern Route," the proposed project and SDG&E's Enhanced Northern route are the most cost-effective alternatives among those included in the DEIR. The table produced by Strategic Decisions Group that portrays "the social and economic value that is traded off for the unmitigatable environmental impact in the immediate footprint of the Project," reflects an expected \$1.3 billion outage cost to customers were the Environmentally Superior Southern Route actually built. If the benefits of the Environmentally Superior Southern Route are reduced by this cost, the economic results

³¹ D.06-11-018 confers a rebuttable presumption on the CAISO's findings of economic benefits.

shown on Table 11-6 clearly demonstrate the proposed project and SDG&E's Enhanced Northern Route are the economically superior alternatives.

V. IN RANKING ITS SOUTHERN ROUTE OVER THE PROPOSED PROJECT, THE DEIR SIMPLY SHIFTS ENVIRONMENTAL IMPACTS FROM AN EXISTING TRANSMISSION CORRIDOR IN ABDSP TO UNDISTURBED LANDS IN THE CLEVELAND NATIONAL FOREST

As set forth in more detail in SDG&E's testimony, the Sunrise Powerlink's environmental impacts are no greater than and often less than the non-Sunrise options. SDG&E's Enhanced Northern Route impacts less undisturbed lands than the Southern Routes. Although there may be similar construction impacts associated with the various options, the long-term effects of Sunrise on SDG&E's Northern routes are either less or comparable to those of the other ranked alternatives. The DEIR overstated various resources impacts including those associated with the connected actions and indirect effects of the project and, thus, mandated excessive mitigation. SDG&E believes that the impacts are less than those described in the DEIR and thus the mitigation (and cost) is disproportional to the project's effects.

As set forth in further detail in Chapter 5 of SDG&E's testimony, the DEIR does not adequately assess the fire risks to Sunrise compared to the fire risks to alternatives ranked by Aspen as "environmentally superior" to Sunrise. The DEIR overstates fire risks from and to transmission lines. The risk of fire to California and SDG&E's service territory is not attributable to high voltage transmission lines, but rather to a number of other factors unassociated with the construction, design, maintenance or operation of such lines. Power lines cause few fires within wildland urban interface areas, and the risk of a 230 kV or 500 kV transmission line in particular causing a fire is negligible. Even when power lines have been associated with fires, they typically result from distribution rather than transmission lines such as

those proposed for the Sunrise project, since a number of engineering characteristics of 230 kV and 500 kV transmission lines make them extremely unlikely to cause fires.

Although the risk of fires to transmission lines also is insignificant, such risks can help inform route selection. Based upon SDG&E's analysis, it is clear that the proposed northern route alternatives (*i.e.*, SDG&E's Enhanced Northern Route, SDG&E's Proposed Route and the Aspen Northern Alternative) are the best options from a fire occurrence and reliability perspective. Historically, fire risk is greater in the south county and in the border area in general. The southern route alternatives therefore present a much higher risk of fire than the northern routes. Moreover, as discussed in further detail in Chapter 6, Section II(C), the Enhanced Northern Route and the Proposed Route are more reliable than the southern routes. Because the southern routes are adjacent to SWPL for longer distances than the northern routes, the exposure of the southern routes to natural disasters such as fires that have the potential to simultaneously take out both the proposed and existing 500 kV line is greater than the northern routes.

VI. THE PROPOSED PROJECT WILL RESULT IN LOWER GHG EMISSIONS WHEN COMPARED TO THE ALTERNATIVES

The Commission's recently issued 2008 Update to the Energy Action Plan ("EAP") emphasizes the primacy of greenhouse gas ("GHG") reductions in state energy policy.³² Both the EAP and SDG&E's testimony draw upon the several pieces of landmark legislation mandating GHG reductions and setting a course to achieve those reductions through market mechanisms and the renewable energy portfolio standard.³³ SDG&E is fully committed to

³² http://www.cpuc.ca.gov/NR/rdonlyres/58ADCD6A-7FE6-4B32-8C70-7C85CB31EBE7/0/2008_EAP_UPDATE.PDF.

³³ AB 32, Stats. 2005-2006, Ch. 488 (Cal. 2006); SB 107, Stats. 2005-2006, Ch. 464 (Cal. 2006); SB 1368, Stats. 2005-2006, Ch. 598 (Cal. 2006).

achieving the state’s GHG and renewable energy mandates, laws and policies, but it must be given the tools to meet these objectives. The Sunrise Powerlink is an indispensable tool.

The DEIR analysis attributes a “net negative” GHG impact to the Proposed Project based on a “worst case” calculation of 109,000 tons of GHG emissions during its two year construction. SDG&E does not agree that construction emissions will reach that level, but such emissions are inconsequential in light of the long term benefit of displacing fossil fuel-fire power plants with renewable power. As stated in Chapter 4, the emissions of a natural gas fired power plant meeting the Commission’s Emission Performance Standard exceed the DEIR’s estimated Sunrise construction emissions in eleven days. As set forth in Chapter 4, even using the CAISO analysis and its underlying assumptions: “[F]or illustrative purposes, it is of interest to compare the emissions associated over a design life of 40 years. In this period, the proposed Sunrise project will reduce CO2 emissions by approximately 8.8 million tons compared to the “New In-Area All-Source Generation Alternative” and reduce CO2 emissions by 4.9 million tons compared to the “LEAPS Generation and Transmission Alternative.” Chapter 4 at Section I.F.

The proposed Sunrise Powerlink is part of an effort to increase the use of renewable electricity generation and reduce GHG emissions in California energy production. Although the project does not have non-zero emissions associated with construction, these are trivial when compared to the emissions associated with the operation of fossil fuel power plants and are vastly outweighed by the GHG reductions that will result from operations.

In any event, if there is any net negative GHG emissions from Sunrise’s construction, SDG&E can and will purchase carbon credits approved pursuant to California Climate Action Registry protocols that have been accepted by either the Commission or the California Air Resources Board, first seeking to purchase credits generated by projects in California. However,

because SDG&E believes that Sunrise will lead to GHG emission reductions attributable to SDG&E's retail sales of electricity that vastly exceed Sunrise's temporary construction emissions, SDG&E will purchase such credits only if the Commission instructs it to do so.

VII. SDG&E'S RESPONSE TO RULINGS

SDG&E's testimony addresses issues raised in the presiding judge's December 11, 2007 ruling. The testimony is organized as follows:

1. This addresses the issues raised in the Scheduling Order

Comparison of different reliability and economic modeling efforts as informed by the proposed alternatives and mitigation measures in the DEIR/DEIS (scoping memo issue # 1) (Chapter 11).

Cost-benefit analyses of the proposed project and project alternatives as informed by the proposed alternatives mitigation measures in the DEIR/DEIS, and by the different modeling efforts (scoping memo issue # 2) (Chapters 3, 6-11, 13).

Material factual inaccuracies or deficiencies in the DEIR/DEIS (scoping memo issue # 3) (Chapters 2, 5-10, 13).

The effect of project alternatives on system reliability and the ability to deliver renewable energy to SDG&E customers (scoping memo issue # 4) (Chapters 2, 5-10, 13).

The adequacy of SDG&E's electromagnetic field mitigation plan (scoping memo issue # 5) (Chapter 15).

The project cost cap (scoping memo issue # 6) (Chapter 14).

2. Addresses issues in the presiding judge's January 9, 2008 ruling directing fire testimony (Chapter 5).

VIII. IID'S WITHDRAWAL DOES NOT AFFECT SDG&E'S PROPOSAL

Pursuant to paragraph 2 of the presiding judge's March 3, 2008 ruling, the following addresses the impact of the Imperial Irrigation District's ("IID's") withdrawal from participating in the Sunrise Powerlink.

SDG&E is committed to the development of the Sunrise Powerlink with or without IID. While SDG&E has addressed the IID's potential participation in the project in testimony beginning with its December 14, 2005 application, SDG&E has maintained throughout Phase 1 that its affirmative case assumed that SDG&E was pursuing the project on a stand-alone basis without IID, and that SDG&E would develop this project with or without IID.³⁴ Nothing has changed in that regard since the initial application. This testimony also noted that IID might decline to pursue participation from the time of the original application.

With respect to the specific questions put forth by the presiding judge's ruling, SDG&E responds as follows:

a. There is no effect on project description or on project cost. The August 4, 2006 amended application in this proceeding, while acknowledging a potential joint venture with IID and Citizens Energy, provided a project scope and cost in supporting testimony premised on SDG&E developing this project on a stand-alone basis. Avery, Ex. SD-05 at I-22-23.

b. Whether or not IID participates in the Sunrise Powerlink does not impact the deliverability of renewables over the proposed line. The original application for a CPCN contemplated that renewable energy would be delivered at the Imperial Valley substation and at other locations. SDG&E's Memorandum of Understanding with IID³⁵ did contemplate that, if demand warranted, IID could build a new substation at San Felipe or Bannister to deliver renewable energy to the Sunrise Powerlink directly. In the event demand dictates that there are sufficient renewables in that region of the Imperial Valley, IID or others could still decide to pursue such an interconnection, whether or not IID participates in the Sunrise Powerlink.

³⁴ Ex. SD-4 at 9; SD-5 at I-25.

³⁵ Dated March 16, 2006, Exhibit SD-05 at I-22-23; SD-06 at IV-10-11.

In addition, as noted in Chapter 8, what could affect the deliverability of renewables is the route selected for Sunrise and any upgrades that IID may pursue on its own. For renewable generation that is dependent on upgrades to IID's transmission system, route selection could impact their deliverability to the CAISO controlled transmission system; however, it depends on which upgrades IID pursues on its own. IID currently has one 230 kV connection to the Imperial Valley substation with limited capacity. In order to increase the outlet capability from IID to access the capacity that Sunrise will provide, IID will need to increase their export capacity into Imperial Valley substation or increase their export capability via new interconnections directly to the Sunrise Powerlink. SDG&E's Proposed Route lies in close proximity to planned IID substations. If one of the southern routes is constructed, there would be no easy connections to IID's transmission system based on its currently published plans, and energy exports that will use the capacity made available by the Sunrise Powerlink, would occur only at Imperial Valley substation

c. There should be no impact on the supply of renewables to the CAISO grid. For the most part, renewables in and around the region of Imperial Valley have filed applications to connect directly to the CAISO grid and therefore, and for these projects, IID's election not to participate in the Sunrise Powerlink would have no impact.³⁶ Also note that IID's election not to participate in the Sunrise Powerlink has no impact on the ability of renewable resource developers to interconnect within the IID control area and to transmit their energy to the CAISO grid by way of the IID system. As noted in the subsections above and below, however, the supply of renewable energy to the CAISO grid could be impacted by the route selection for the

³⁶ The CAISO interconnection queue as of March 11, 2008:
<http://www.caiso.com/14e9/14e9ddda1ebf0.pdf> IID's system current system status:
<http://www.iidenergy.com/status.asp>

Sunrise Powerlink. A Southern Route is likely to lead to more upgrades on IID's system to export capacity to the Imperial Valley Substation and to the Devers Substation resulting in more costs that renewable generators will need to bear to interconnect within the IID control area, more environmental impacts, and less certainty of development.

d. SDG&E understands that the Green Path North project is still under consideration by IID, Citizens Energy and LADWP. As demonstrated in Phase 1 of these proceedings, LADWP is pursuing this project to facilitate their delivery of renewable resources for its use and therefore, their ultimate decision to move forward with this project will not impact SDG&E.³⁷ Further, as documented in Phase 1, LADWP has determined that the Green Path North project is being developed to meet its needs and therefore should not be considered as an alternative for Sunrise. Avery, Ex. SD-05 at I-22-23.

IX. CONCLUSION

To credit Aspen's analysis, without examining the considerations discussed above and in our testimony, would effectively foreclose the transmission interconnection option for the San Diego region forever, and commit the region to a permanent "cul-de-sac" status. Sunrise provides certainty of reliable electric service for SDG&E's customers once it is constructed, whereas the Non-Sunrise options are speculative or hypothetical at best, if not downright infeasible. The DEIR's alternatives fall short of meeting key project objectives. Pursuing such alternatives run contrary to key state energy and environmental policies, such as GHG and RPS, are costly, or both. And, most importantly, the non-Sunrise options compromise reliability. The

³⁷ Access to the Green Path North project is not certain at this point as illustrated by the recent filing at FERC by Citizens Energy Corporation. <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11595719>. It appears from that filing that the parties to the Green Path North project have not been able to fully resolve control issues and the participation of Citizens Energy.

outcomes represented by the DEIR alternatives are not appropriate for the second largest city in the earth's eighth largest economy.