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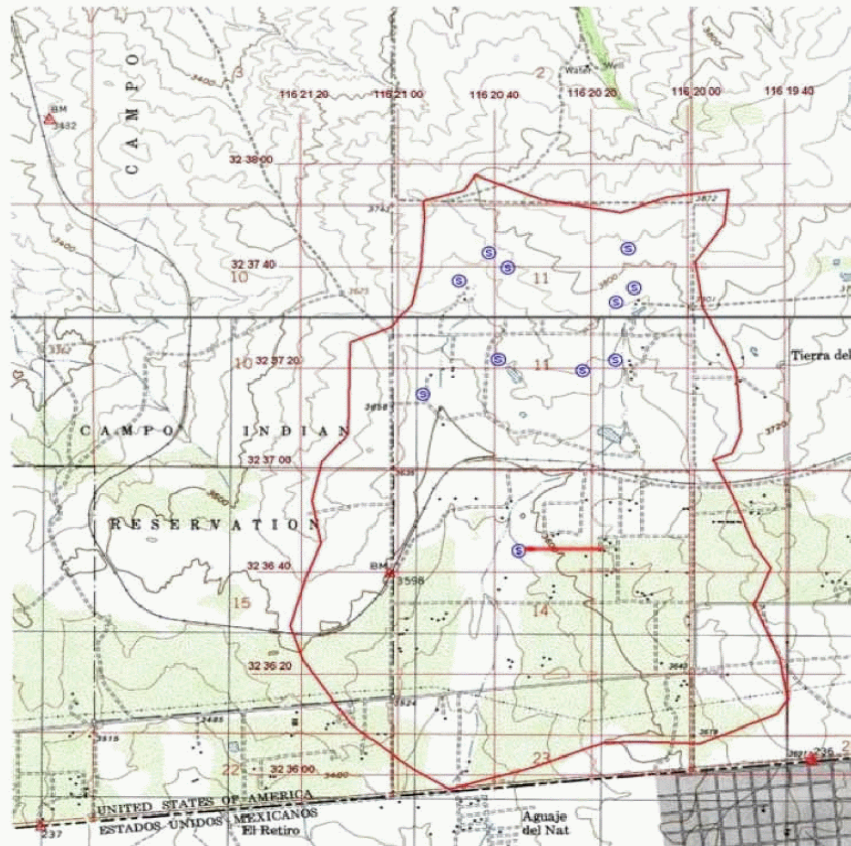


Fig. 21 Location of springs (S) in the Tierra del Sol watershed, with east-west trending major dike shown in red.

In Fig. 20, note that the southernmost spring is located precisely at the western extremity of the 1,465-ft dike shown in Fig. 10. This spring sustains a rather large isolated specimen of coast live oak (*Quercus agrifolia*), shown in Fig. 22. This tree appears in Fig. 19, at the western edge of the dike (compare Figs. 19 and 20). Although drought tolerant, a coast live oak requires some moisture for its normal development. Thus, the presence of an oak specimen near a spring in the Tierra del Sol watershed is further evidence of a hydraulic connection between surface water and groundwater.

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Fig. 22 A coast live oak near west end of southernmost spring in the Tierra del Sol watershed. Note the presence of substantial moisture on the ground.¹⁷

The springs lead to a network of small streams which collect to form two major tributary drainages. Eventually, the latter join to form the main channel of Tierra del Sol Creek, which flows southward to the Mexican border. The existing metallic fence along the border acts as an effective impediment to the flow, which results in considerable water ponding on the U.S. side during floods.

On the Mexican side of the border, within the confines of Roca Magisterial, there is physical evidence that prior to the late 1990s, before the installation of the metallic border fence, the infrequent floods were large enough to carve two gullies. Several springs originate in these gullies, and there is physical evidence (a well and a small concrete dam and associated pond) that this water has been or it is being utilized for human and animal consumption.¹⁸

• GROUNDWATER HYDRAULICS •

[Synthesis] [Conclusions] [Summary] [Endnotes] [References] [Reviewers] • [Top]
[Introduction] [Scope] [Hydrology] [Hydrogeology] [Hydroecology] [Stream morphology]

The siting of a landfill on top of a fractured-rock aquifer poses a serious threat to groundwater quality. Typically, fractured-rock aquifers are heterogeneous and anisotropic, i.e., their physical properties vary not only with location but also with direction, rendering the aquifer difficult to characterize (Fig. 23). Among hydrogeologic properties, the hydraulic conductivity and permeability describe the rate of groundwater movement. A number of case studies serves to illustrate the wide range of variability in hydraulic conductivity.

Hydraulic conductivity in fractured-rock aquifers. A comprehensive study of a fractured-rock aquifer in the Clare Valley, South Australia, revealed a variability in hydraulic conductivity of ten (10)

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orders of magnitude, from 10^2 m/day in aquifer pump tests to 10^{-8} m/day in tests on the rock cores (matrix flow) (Love *et al.*, 2001).

In Door County, Wisconsin, measurements of bulk hydraulic conductivity of a fractured-rock aquifer, using multiwell pumping tests, showed a narrow range of variability, less than two (2) orders of magnitude, from 1.7×10^{-4} ft/s to 4.9×10^{-6} ft/s, with a geometric mean of 7.5×10^{-6} ft/s (Muldoon, 1994). However, short-interval packer tests conducted over the fracture and matrix portions of the aquifer yielded a much wider range, in excess of six (6) orders of magnitude, from 1.4×10^{-2} ft/s to 2.3×10^{-8} ft/s, with a geometric mean of 9.5×10^{-6} ft/s, or 0.82 ft/day. Moreover, tracer tests yielded groundwater velocities on the order of 2.0×10^{-3} ft/s (173 ft/day), which is 211 times greater than the geometric mean of the packer tests. According to Muldoon (1994), the tracer results are consistent with the hydraulic conductivities derived from the packer tests and not with those derived from the pumping tests. Thus, the measured difference between fracture and matrix velocities in this fractured-rock aquifer was in excess of two (2) orders of magnitude.

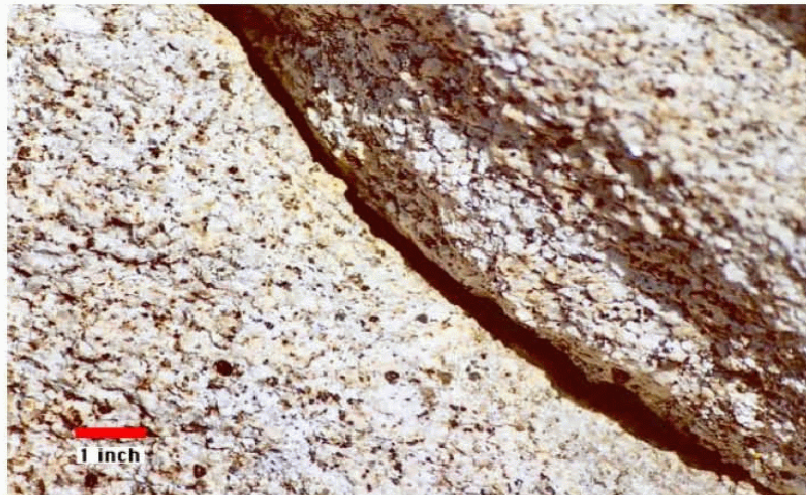


Fig. 23 Closeup of fracture in rock outcrop at Tierra del Sol.

In Manitoba, Canada, an extensive study of several fracture zones in crystalline rock at the Lac Du Bonnet batholith revealed a complex pattern of permeability within the fracture zone at the regional scale. Permeabilities ranged over six (6) orders of magnitude, with the higher permeabilities appearing to form distinctive large-scale channel-like patterns that were sized up to 1 km in areal extent. At the local scale, permeabilities were observed to change by as much as six (6) orders of magnitude over distances of a few meters within the fracture zone, and isolated pockets of high permeability were shown to reside within larger regions of low permeability. This case study highlights the difficulties that may arise in trying to interpret the hydrogeologic characteristics of fracture zones in situations where the exploratory boreholes are sparse (Davidson and Kozak, 1988).

These and other similar studies have shown conclusively that hydraulic conductivities are likely to vary over a wider range in fractured-rock aquifers than in comparable sedimentary or unconsolidated quaternary aquifers. In addition, anisotropy prevails in fractured rock, resulting in fracture velocities that could be two to three orders of magnitude greater than the matrix velocities (Davis and DeViest, 1966; Muldoon, 1994).

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A wide range of variability in hydraulic conductivity is likely to be the case in the Campo landfill-Tierra del Sol watershed. Local experience confirms the extreme anisotropy of the Campo-Tierra del Sol aquifer. As an example, during the Campo landfill site work in the early 1990s, a local well driller reported the following:

"...When we were washing wells on the northwest side, just north of the road and east of the railroad tracks, we dumped about 3,000 gallons of water down the well closest to the road. The water never came back and did not show up in the other two wells that were less than 20 ft away! We had another well on the West side that did the same thing..."¹⁹

Solute travel time. Fractures can cause markedly anisotropic behavior, particularly with regard to contaminant transport, which tends to be dominated by advection, with little diffusion of pollutant concentration (National Research Council, 2000). In principle, the flow direction in fractured-rock aquifers can differ from the direction of the prevailing hydraulic gradient by up to 90° (Love *et al.*, 2001). Therefore, preferred flow paths in fractured-rock aquifers may cross surficial watershed boundaries, defying conventional hydrological characterization.

Fractured-rock aquifers are particularly sensitive to contamination due to the rapid and somewhat unpredictable movement of contaminants through fractures. In sedimentary aquifers, strategies to protect water-supply wells usually employ a capture zone, the boundary of which is monitored for contamination. The travel time from the boundary of the capture zone to the well is usually taken as a constant, for example, 10 years (National Research Council, 1996).

Travel times from capture zone to nearby wells in the Tierra del Sol watershed, a distance of about 600 m, could be less than 1 day.

With estimated fractured-rock solute velocities comparable to the hydraulic conductivity of medium-sized gravel, estimated at 1 cm/s (864 m/day), advection-dominated travel times from capture zone to nearby wells in the Tierra del Sol watershed, a distance of about 600 m (2,000 ft), could be less than 1 day.

The potential for such a fast hydraulic connection is supported by accounts from local property owners, who describe the effects on their wells from extensive drilling, borehole washing, packer testing and other activities conducted on the landfill site in the early 1990s. Within a short time after the tests, water pumped from local wells was contaminated with sand and well-drilling debris. According to eyewitness accounts, the sand appeared (or disappeared) with concurrent activity (or nonactivity) on the landfill wells, suggesting the existence of an effective hydraulic connection between the landfill site and private domestic local wells.²⁰

Risk of groundwater contamination. Landfill monitoring to control contaminated plumes resulting from liner failure is difficult at best. This is due to the practical impossibility of accurately characterizing a complex fractured-rock aquifer system. Fracture size, density and orientation may vary spatially, and no reasonable monitoring well system may be able to account for the spatial variability.

Certain design features attempt to mitigate the difficulties inherent in monitoring landfills built on top of fractured-rock aquifers. For instance, a double-liner system is considered to be safer than a single-liner system. However, a double-liner system does not completely eliminate the possibility of groundwater contamination. The rationale for the double-liner system assumes that the primary liner, i.e., that closest to the landfill, will fail first, and the leachate will be recovered subsequently, before it is able to reach the secondary liner. However, there is the possibility that the secondary liner will fail first, with the breach remaining inactive until the primary liner fails.

The probability that the contaminant plumes will be missed by monitoring wells is high, since typically these wells are spaced at distances far exceeding the width of the plume (Note that the original design

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for the Campo landfill called for monitoring wells at an average distance of 500 ft apart). Haitjema (1991) has placed the matter in the proper perspective by observing that the design of monitoring-well systems in fractured-rock aquifers "is a nightmare and usually not more than a blind gamble." Although it is technically feasible to reduce the distance between monitoring wells to implement a line of defense resembling a picket fence, the cost would be prohibitively high. Moreover, such a high well density, if implemented, is likely to change the local hydraulics and do more harm than good in the long run. This is because a borehole acts as a high-permeability pathway that connects fractures which previously were unconnected (Shapiro, 2001).

The probability that the contaminant plumes will be missed by monitoring wells is high, since typically these wells are spaced at distances far exceeding the width of the plume.

By most accounts, the water pumped from wells in Tierra del Sol is of excellent quality.⁴⁻⁶ Thus, the landfill's presence will constitute a potential risk to this scarce natural resource. In the event of aquifer contamination, the spatial heterogeneity and anisotropy of the fractured-rock aquifer may render cleaning and/or remediation efforts impractical. It is noted that the Southwestern United States, and particularly the state of California, are poised to face significant water shortages as the 21st century sets in.

Solid-waste dry-tomb landfills lying on top of fractured-rock aquifers represent a significant threat to groundwater quality, particularly in areas where these aquifers have been designated as sole source. Given enough time, the plastic sheeting used in composite liners may deteriorate. Landfill covers may be unable to keep moisture out of the landfill for as long as the wastes represent a threat.

The crucial issue remains as to whether an effective leakage-monitoring system can be designed and implemented for a landfill lying on top of a fractured-rock aquifer such as Tierra del Sol's. A related concern is whether it is possible to operate and maintain the landfill facility for an indefinite period. The operation of the leakage-monitoring system would have to be guaranteed for a long time, since the mere closure of the landfill does not preclude the possibility of an eventual failure of the liner system.

• SYNTHESIS •

[Conclusions] [Summary] [Endnotes] [References] [Reviewers] • [Top] [Introduction]
[Scope] [Hydrology] [Hydrogeology] [Hydroecology] [Stream morphology] [Groundwater hydraulics]

The surface and groundwater hydrology of the Tierra del Sol watershed are shown to be connected through major fractures, springs, streams and wells. Annual pulses in precipitation are linked to annual pulses in well data, which confirms the existence of an active connection between surface water and groundwater. The underlying fractured-rock aquifer is heterogeneous and anisotropic, thereby defying hydrogeological characterization. Flow through fractured rock is dominated by advection, resulting in travel times that are typically several orders of magnitude greater than diffusion-dominated matrix flows.

The project seeks to place a major landfill on top of a fractured-rock aquifer. The rock is extensively fractured, as confirmed by geologic, photogeologic, ground, and other evidence. Unlike sedimentary aquifers, where diffusion is likely to prevail, in fractured-rock aquifers advection is the dominant mechanism. Therefore, the transport of flow and contaminants in the event of liner failure will be relatively fast, downgradient, through the fractures, and directly into adjacent surface-water and groundwater bodies. Solute travel times from capture zone to nearby wells could be less than one (1) day, counteracting the argument that leakage can be effectively controlled.

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In a properly sited landfill, the transport of water and contaminants occurs primarily by diffusion, rather than by advection.

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Landfill monitoring to prevent and control leachate leaks and groundwater contamination is difficult at best. Since liner failure can occur randomly at any place and at any time, a reasonable monitoring well density cannot completely eliminate the possibility of a leak gone undetected for a sufficiently long time. It is noted that in a properly sited landfill, the transport of water and contaminants occurs primarily by diffusion, rather than by advection. Diffusion serves to attenuate and mitigate the negative effects of contaminant plumes on nearby water supplies.

• **CONCLUSIONS** •

[Summary] [Endnotes] [References] [Reviewers] • [Top] [Introduction] [Scope] [Hydrology] [Hydrogeology] [Hydroecology] [Stream morphology] [Groundwater hydraulics] [Synthesis]

The following conclusions are derived from this study:

1. **Hydrology.** Based on the available evidence, it appears that the groundwater and surface water of the Tierra del Sol watershed are hydraulically connected. The presence of several springs and numerous rock fractures indicates that water flows readily from the fractured-rock aquifer to the wells, springs, creeks, and streams of Tierra del Sol watershed. The record of fifteen (15) years of precipitation and well data supports this statement.
2. **Hydrogeology.** Existing fracture maps reveal the extent to which the underlying aquifer is fractured. At least fourteen (14) major fractures cross the boundary between the Campo Indian reservation and adjacent private property in the Tierra del Sol watershed. Local well-drilling experience confirms the well yield and depth variability typical of fractured-rock aquifer systems. Eyewitness accounts provide anecdotal evidence of an effective and fast hydraulic connection between landfill capture zone and nearby wells.
3. **Hydroecology.** Specimens of blue elderberry (*Sambucus mexicana*) seem to align themselves along major fractures, where moisture can be potentially sustained for long periods. Thick stands of red shank (*Adenostoma sparsifolium*) constitute the predominant species in several of the lineaments identified in aerial images and confirmed by field inspection. Unlike the chamise (*Adenostoma fasciculatum*), its closely related and more widely distributed chaparral species, red shank is a tall arborescent shrub which thrives on more humid and fertile sites such as those that most likely prevail in the vicinity of the fractures. The spatial distribution of blue elderberry and red shank points to the existence of local subsurface moisture gradients which could be tied to the rock fractures.
4. **Stream morphology.** Springs in the Tierra del Sol watershed drain primarily slopes along its northern boundary. The lack of a substantial number of springs along the western boundary appears to indicate that the local drainage is primarily through the subsurface, from the fractures, downgradient to the Tierra del Sol drainage. The existence of a spring at the downstream end of a major geologic dike points to an effective hydraulic connection between surface water and groundwater.
5. **Groundwater hydraulics.** With estimated fractured-rock solute velocities comparable to the hydraulic conductivity of medium-sized gravel (1 cm/s, or 864 m/day), travel times from the landfill's capture zone to private domestic wells nearby in Tierra del Sol, which is a distance of

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approximately 600 m, could be less than 1 day. Anecdotal evidence indicates that the actual travel time may not be too far from this value.²⁰

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• SUMMARY •

[Endnotes] [References] [Reviewers] • [Top] [Introduction] [Scope] [Hydrology]
[Hydrogeology] [Hydroecology] [Stream morphology] [Groundwater hydraulics]
[Synthesis] [Conclusions]

The impact that the proposed Campo landfill will have on the surface water and groundwater of the Tierra del Sol watershed is examined from an interdisciplinary perspective. The proposed Campo landfill is located within the Campo Indian reservation, in East San Diego County, California, in the headwaters of Lower Campo Creek. The Tierra del Sol watershed is adjacent to the landfill site, immediately east of it. This study has examined the hydrology, hydrogeology, hydroecology, stream morphology, and groundwater hydraulics of the site and its vicinity.

The effectiveness of the connectivity between surface water and groundwater is assessed by documenting the timing response of the water-table elevation to precipitation. It is shown that annual upward pulses in precipitation produce corresponding annual upward pulses in groundwater level, confirming the existence of an active connection between surface water and groundwater in the vicinity of Tierra del Sol.

Existing fracture maps show the extent to which the underlying aquifer contains fractured rock that would render the aquifer difficult to characterize (Fig. 24). Fractured-rock aquifers of the type found in the Campo-Tierra del Sol site are heterogeneous and anisotropic. Hydraulic conductivities in fractured-rock aquifers can vary greatly, typically six (6) orders of magnitude, but could be vary up to ten (10) orders of magnitude in some instances.



Fig. 24 Fracture in rock outcrop in Tierra del Sol watershed.²¹

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Flow velocities and contaminant-transport rates in fractured rock can be high, resulting in early contaminant appearance at neighboring wells, springs, and streams. The flow direction in fractured-rock aquifers can differ from the direction of the prevailing hydraulic gradient by up to 90°. Thus, preferred flow paths in fractured-rock aquifers may cross surficial watershed boundaries.

Field inspections show that certain types of woody vegetation, especially those with documented moisture affinities, such as the blue elderberry tree (*Sambucus mexicana*), align themselves along seemingly longitudinal paths. In particular, the blue elderberry has a peculiar ecology; while structurally resembling a mesophyte, its water habits are similar to those of a hygrophyte. This fact strongly implies the existence of local moisture gradients, and, in the present context, fracture zones, which sustain the blue elderberries.

Observation of aerial images show that the Campo-Tierra del Sol site is transversed by several major lineaments. Ground-truth inspections have confirmed that many of these longitudinal vegetative associations are constituted by dense stands of red shank (*Adenostoma sparsifolium*). This is a chaparral-type arborescent tall shrub which thrives on more humid and mesic locations than its more common congener, the chamise (*Adenostoma fasciculatum*). The apparent connection between red shank and a sustained moisture source merits further study.

Springs in the Tierra del Sol watershed primarily drain its northern slopes (Fig. 25). The absence of major spring presence on the western slopes would seem to indicate that drainage across the Campo-Tierra del Sol watershed boundary is primarily through the subsurface, from the fractures to the streams. The presence of a large coast live oak (*Quercus agrifolia*) in the immediate vicinity of a spring (Fig. 21) is live evidence of an effective hydraulic connection between surface water and groundwater.



Fig. 25 Spring in rock outcrop in northern slope of Tierra del Sol watershed at N 32° 37' 21.6" and W 116° 20' 39".²¹

Siting a major landfill project on top of a fractured-rock aquifer such as Tierra del Sol's constitutes a veritable risk to the local population, on both sides of the U.S.-Mexico border. Moreover, it is a public-health hazard, since the Tierra del Sol aquifer is part of the federally designated Campo-Cottonwood

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Creek Sole Source Aquifer.¹ No reasonable mitigation program can substitute for the degradation of water quality in the event of liner failure.

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ENDNOTES

[References] [Reviewers] • [Top] [Introduction] [Scope] [Hydrology] [Hydrogeology]
[Hydroecology] [Stream morphology] [Groundwater hydraulics] [Synthesis] [Conclusions] [Summary]

- ¹ The Campo-Cottonwood Sole Source Aquifer was designated as such on May 5, 1993, under the authority of Section 1424(e) of the Safe Drinking Water Act (Federal Register Citation-49 FR 2948, January 24, 1984). An aquifer can be named a Sole Source Aquifer by the Administrator of the Environmental Protection Agency if the aquifer supplies 50% or more of the drinking water for an area and there are no reasonably available alternative sources should the aquifer become contaminated.
- ² Tonalites and granodiorites are similar in mineral composition. A tonalite is a plutonic (intrusive) rock where the percentage of plagioclase feldspar, relative to the combined content of alkali and plagioclase feldspars, is greater than 90; in a granodiorite, the percentage varies between 65 and 90 (American Geological Institute, 1997).
- ³ A geologic map of the La Posta pluton classifies the rocks of Tierra del Sol and vicinity as sphene-biotite granodiorites with both large- and small-biotite facies. The large-biotite facies is characterized by an abundance of large (up to 1 cm) pseudo-hexagonal blocks of biotite, which impart a distinct "salt and pepper" appearance to the outcrops (Valawender *et al.*, 1990).
- ⁴ Interview with Ed Tisdale, Tierra del Sol, February 9, 2006.
- ⁵ Interview with Sharon Madsen, Tierra del Sol, March 24, 2006.
- ⁶ Interview with Loma Jeffries, Tierra del Sol, April 8, 2006.
- ⁷ As written by James W. McGuffie (General Engineering "A", Water Well Development C-57, License #312853) in a letter to Mr. Harry Seraydarian, Director, Water Management Division, Environmental Protection Agency, San Francisco, California, dated February 26, 1992.
- ⁸ Photo date: April 25, 2006.
- ⁹ The lineaments shown in this figure are based on a preliminary fracture map prepared by Dames and Moore, Inc., the landfill's engineering consultant. This fracture map was released by Kent Atkins, Mid-American Waste Systems hydrogeologist, in a letter to Donna Tisdale dated March 11, 1991. It is noted that the fracture map included in the Final Environmental Impact Statement (FEIS), dated November 1992 (Fig. 3.1-10), shows only the longer or major lineaments. After inquiring about the difference between the two maps, Donna Tisdale was told that the preliminary fracture map had been "edited" by the Bureau of Indian Affairs for the FEIS release.
- ¹⁰ As written by Frank A. Murphy, of Murphy's Well Drilling (California Waterwell Drilling License #505834), in a letter to Mr. Harry Seraydarian, Director, Water Management Division, Environmental Protection Agency, San Francisco, California, dated March 4, 1992.
- ¹¹ Interview with JoEllen Hucker, Tierra del Sol, April 5, 2006.
- ¹² Photo date: May 11, 2006.
- ¹³ The position accuracy of the GPS Garmin model 76S used here is less than 3 m when receiving WASS corrections, i.e., in open land or marine applications. Accuracy can be reduced when trees and mountains obstruct the view of the horizon.
- ¹⁴ Image date: November 2004.
- ¹⁵ Image date: April 2000.
- ¹⁶ The Normalized Difference Vegetation Index (NDVI) enhances the contrast between vegetation and soil/rock. It is defined as $NDVI = (r_a - r_s) / (r_a + r_s)$, in which r_s is the reflectance in the red (630 to 690 nanometers) and r_a is the reflectance in the near visible infrared (760 to 900 nanometers).
- ¹⁷ Photo date: March 3, 2006.
- ¹⁸ On April 13, 2006, a field inspection revealed that there are two gullies just south of the border fence: a larger one averaging 4 ft deep and 16 ft wide, and a smaller one, about 3 ft deep and 6 ft wide. Each gully has at least one spring. At a short distance downstream, the gullies join to form a small stream. On the day of the inspection, the flow of this stream was estimated at 3-5 gpm.
- ¹⁹ As written by Ken Alquire, well drilling worker, in a letter to Mr. Harry Seraydarian, Director, Water Management Division, Environmental Protection Agency, San Francisco, California, dated March 30, 1992.

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²⁰ As reported in the *Alpine Sun* ("Landfill neighbors complain sand clogs their wells"), Alpine, San Diego County, on September 16, 1992.

²¹ Photo date: March 24, 2006.

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[Reviewers] • [Top] [Introduction] [Scope] [Hydrology] [Hydrogeology]
[Hydroecology] [Stream morphology] [Groundwater hydraulics] [Synthesis] [Conclusions]
[Summary] [Endnotes]

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Fig. 26 Fractured rock outcrop, Tierra del Sol watershed.

REVIEWERS

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[Stream morphology] [Groundwater hydraulics] [Synthesis] [Conclusions] [Summary] [Endnotes]

This web document was peer reviewed by Timothy Cass (hydroecology), Robert Curry (hydrology, stream morphology), and C. Monte Marshall (geology, geophysics).

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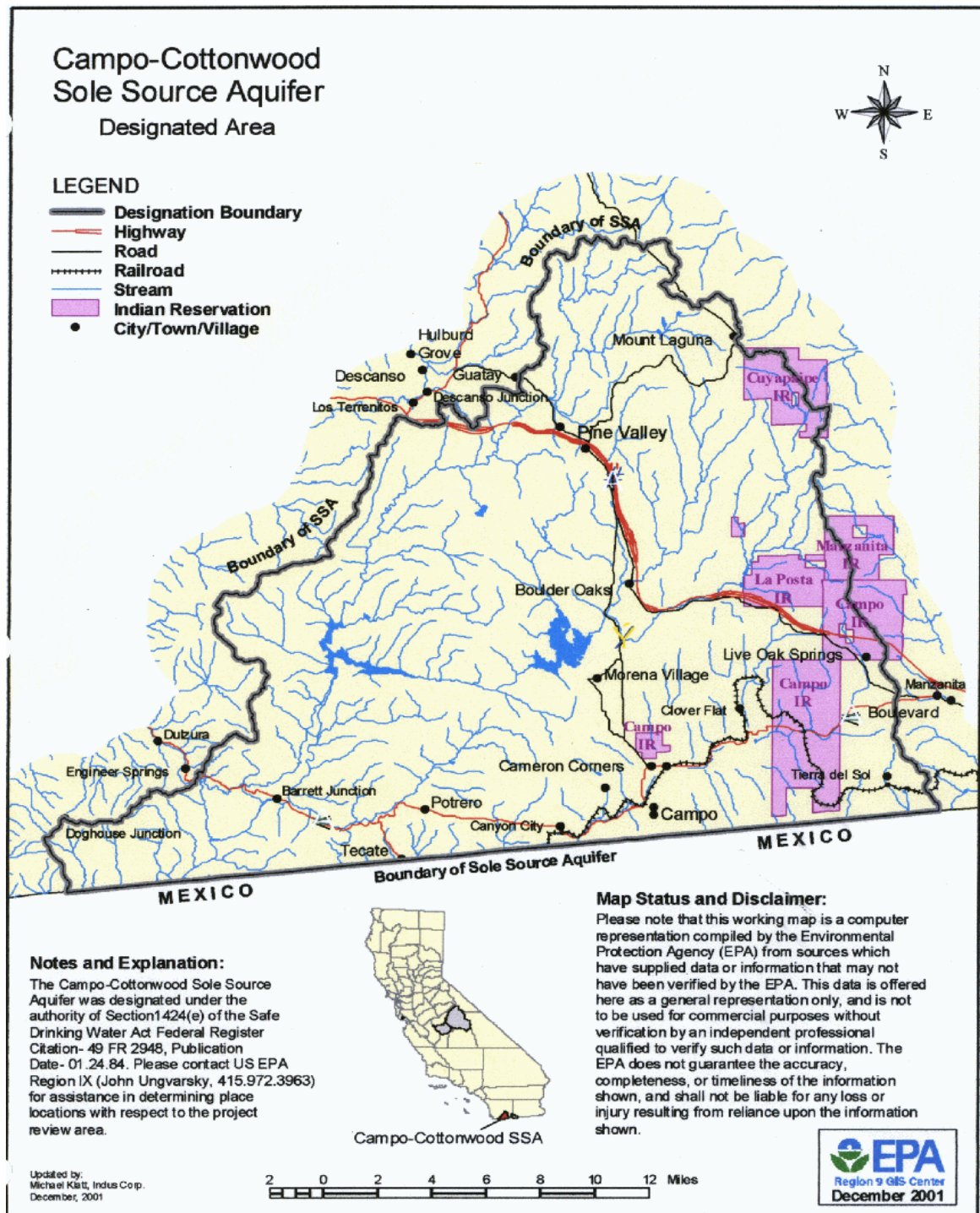
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Boulevard Planning Group

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Minister demands explanation for windmill collapse

B0002-116

The climate minister will begin an investigation into two separate cases of Vestas wind turbines collapsing within the past week.

The climate minister, Connie Hedegaard, is calling for an investigation to determine the cause of two violent wind turbine collapses in Denmark in the past week.

Both of the windmills were produced by Vestas, and Hedegaard's request to the Energy Board comes after other breakdowns both here and abroad have been reported in the past two months.

'The problems with the turbines abroad have had to do with poor maintenance, and if that's the case here, then I expect a clear report on how we can ensure this problem is rectified,' Hedegaard told Berlingske Tidende newspaper.

Her comments come on the heels of the government's new energy agreement ratified by parliament last week, which calls for the country to have 20 percent of its energy produced by sustainable sources by 2011.

In first of the two collapses, near the city of Århus, a 10-year-old windmill began spinning out of control during high winds. A recording of the explosion-like collapse shows one of the wing blades breaking off, casting debris into the three other wings and shearing the 60-metre tower nearly in half.

Vestas itself will also now conduct an internal investigation to determine why the wind turbines have been breaking down.

'We've still got about 35,000 wind turbines across the globe that are operating fine,' said Peter Wenzel Kruse, Vestas's spokesperson. 'But they're not infallible. We're doing what we can and learning from our mistakes.'

Farmer Keld Boye, who lives in Vig where the latest incident occurred on Sunday, was clearly shaken by the wind turbine's implosion.

'I drive my tractor and my wife rides horses out there,' he said. 'Just think if we'd been out there when it happened.'

A recording of the collapse can be seen on [YouTube](#).

By The Copenhagen Post
Offentliggjort 25.02.08 kl. 00:00
<http://jp.dk/uknews/article1277616.ece>

<http://jp.dk/uknews/article1277616.ece?service=printversion>

4/15/2008

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Back Country Messenger

APRIL 2008

BOULEVARD - JACUMBA

Boulevard Fire Department News



By MICHELLE STRAND

Boulevard Seeks New Fire Chief

The search is on for a new Fire Chief to take the reins

of Boulevard Fire Department. We are a 100% volunteer fire department serving the backcountry community of Boulevard. Together, the current fire fighters, the Auxiliary, and the Board of Directors have worked very hard in the last year to improve many aspects of the fire department. Our biggest hurdle now is fire fighter staffing. A plan has now been implemented to recruit and retain fire fighters. If you know anyone, or if you have the ambition, experience, and desire to volunteer some time for this backcountry

fire department, please contact us immediately at 619-766-4633. You may also contact us via email at blvdfire91905@yahoo.com.

The Board of Directors wants to thank local fire fighter Bill Ybarra for stepping up to the plate to become the "Acting Chief". It's a big responsibility and we know Bill will do a fine job.

We would like to welcome Ed Wood to the Board of Directors. Ed attended the Board Meeting on March

15th and was appointed liaison officer by Chairman Carl Walker. Ed Wood and Carl Walker turned in their "letter of intent" to run officially on the ballot for the upcoming elections.

The CPR and first aid classes held by local fire fighter Ken Dabach were very well attended. If you are interested in attending a future class, please contact Judy Cochran at 619-808-5300. The fee is less than \$10 for materials and an official CPR card. It's a super value and could save someone's life.

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In The Know With Arlene



By ARLENE LENHART

First of all thank you to all who have sent me get well cards and for the prayers for healing. All are appreciated. I return to work March 31st at the conclusion of Spring break and continue to heal daily.

Our prayers are with the family and friends of Don Jon. He will be missed by many.

Friends of Jacumba Library thank all who baked and bought at their annual bake sale.

Continued get well wishes, too, to Pastor Dan Meier-Albott. Despite the crutches, he still conducted sunrise services in Jacumba on Easter Sunday.

Jacumba Community Women's Club will celebrate their 50th anniversary in April with an anniversary tea during their regular meeting. Although inactive, Jen Severance is our only remaining charter member. Anne Woenpfer has been a member since 1967 and I am the 2nd "oldest" remaining member on the club with just 14 years under my belt.

The Women's Club is not a well known organization, but for being a small club, the volunteer service hours and the program assistance provided by these less than 25 ladies is awesome.

We meet the 2nd Tuesday of each month, September through June, 11:30 at the Highland Seniors Building in Jacumba. If you'd like to know more about Women's Clubs and their role in service, and are computer lit, go to www.cfw.org for California info and www.gfwc.org for information about the entire Federation of Women's Clubs. There is a lot of great history!

Honored at the Feb & March Clover Flat awards assemblies for perfect homework and perfect attendance. Names will be followed by a B for homework and/or A for attendance.

Mrs. Clifton 2nd & 4th grade
Kenia Acevedo (A), Megan Breckenridge (H), Wyatt Collins (A), Jasmine Ramirez (A), Vinnie Torres (H), Alexis Troy (H), Sandra Bell (H), Trent Wilson (A), Jackie Luzzini (H), Thomas Taylor (H/A), Savannah Swafford (A), Sierra M. (H) & Alyssa (H).

Mr. Ferguson 3rd grade:
Hector Valencia (H/A), Melissa and Marissa Ramirez (H/A), Diana Ibarra (H/A), Amanda Fish (H/A), Anna Cruz (A), Daniel Alvarado (H), James Akintunde (H/A), Noelia Acevedo (H/A), Andrew Jones (H), Xadi Caldwell (H/A), Hailey Augustine (A), Cristina Rosado-Contreras (H/A), Mary Fisher (H), Ryan Willis (H).

Kody DeRagon (H), Casey Poore (A) & Kaitlyn Flores (H/A)

Miss Macrone 5th grade:
Maribel and Mayra Regalado (H/A), Carter Roberts (H), Lance Jacquet (H/A), Heather Bateman (H), Austin Frey (H/A), Jovan Parrnell (H/A), Caillee Gaskill (H), Jacob Willson (H/A), Anthony Puffer (H/A), Jennifer Humphries (H), Salmaiah Wealdand (A), Mariah Gomez (A), Mackenzie Briel (H/A), Woody Watkins (H).

Mrs. Wheaton 6th grade:
Zabrina Weisiger (H), Brian Terry (H), Jonathan Parnell (H/A), Sierra Momborg (H/A), Nick Flores-Blanks (H/A), Alisha Fish (H), Johana Barra (A), Jacinto Regalado (H/A), Eddie Notha (H/A), Amanda Kennum (A), Joaquin Giles (H), Giselle Linars (A).

Students of the Month:
Xadi Caldwell, Sierra M. (2nd grade), Melissa Ramirez, Amanda Kennum, Megan Breckenridge, Kaitlyn Flores and Heather Bateman.

Spotlight student awards were presented to Diana Ibarra, Ryan Willis, Hector Valencia, Jacob Willson, Alisha Fish, Jackie Luzzini, Hailey Augustine & Mariah Gomez.

I was both honored and completely taken aback, when the first spotlight award presented to an employee rather than a student was presented to yours truly, by Mrs. Wheaton, sixth grade teacher. I wish I wasn't so thankful! The certificate says "Thank you

for going the extra mile to make a difference in all of the students lives at Clover Flat Elementary."

A second award, and much deserved, was given to Susan Briel. Remember the Valentines Day storm? I was supposed to work split shift that day, and couldn't even get back down the hill after lunch. Our ASP coordinator, Erin, lives in Pine Valley, so you know what that commute was like. Susan not only stayed at the school until after 5 p.m. waiting for students to be picked up, but took 2 home with her, whose parents and grandparent were stuck on the highway. Special Kudos to Susan!

KEEP UP THE GOOD WORK EVERYONE!!

INCOME TAX & NOTARY by Mary "Shannon" Reed

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Responses to Comment Set B0002

Boulevard Planning Group

- B0002-1 The commenter's opposition to the Proposed Project and all the route alternatives is acknowledged. The commenter suggests that any increases in wind generation in the Campo Reservation or elsewhere can use the existing SWPL transmission line to import the energy to the City of San Diego and that the Proposed Project is not needed. Please see General Response GR-12 regarding the purpose and need for the Proposed Project, and GR-5 regarding the many potential renewable projects in the Imperial Valley, Eastern San Diego County, and Northern Mexico.
- B0002-2 The commenter suggests that upgrades to transmission lines within the IID system would allow for the export of renewable energy from the Salton Sea area. While the IID transmission system with the proposed upgrades may be able to export proposed renewable power, it would not support the other basic objectives of improving reliability and reducing congestion costs identified by the CPUC and BLM for the Sunrise Powerlink Project, because absent further transmission upgrades, no facilities would be provided to expand the deliverability of this power to load centers in San Diego County.
- B0002-3 The commenter is correct in stating that the Sempra Presidential Permit application of December 19, 2007 stated that the La Rumorosa Wind Energy Projects would interconnect with the existing SWPL transmission line. In March of 2008, Sempra submitted an Addendum for Baja Wind U.S. Transmission, LLC Application for Presidential permit, PP-334 which stated that since the time of the December application, CAISO indicated that the Sunrise Powerlink or other transmission upgrade would be necessary to deliver energy from the wind energy development in La Rumorosa, Mexico.¹ Please note that the analysis in the Draft EIR/EIS of the La Rumorosa Wind Development has been updated in the RDEIR/SDEIS to reflect the information from the Sempra Presidential Permit and addendum. Please see RDEIR/SDEIS Section 2 for a description of the Sempra project and impact analysis.
- B0002-4 The commenter suggests that the Proposed Project would impede some of the San Diego Regional Energy Strategy which calls for 75% in-county generation by 2020. As stated in Section A.4.2 in Volume 1 of the Draft EIR/EIS, SDG&E's estimate of peak load having a 10 percent chance of occurrence in 2010 is 5,038 MW (the 90/10 peak loads are shown in Appendix III of the December 2005 SRPL Purpose and Need). According to the Regional Energy Strategy Goal 2, Achieve and maintain capacity to generate 65% of summer peak demand with in-county generation by 2010 and 75% by 2020, the region would need to have in-county capacity to generate 3,275 MW. In order to meet this goal by 2010, available in-county generation must include operation of large generators that either do not exist today or are slated for retirement. The pending development of the Otay Mesa power plant and continued operation or re-powering of both South Bay and Encina power plants would be necessary to bring in-

¹ Sempra, Submittal of Addendum for Baja Wind U.S. Transmission, LLC: Application for Presidential Permit, PP-334. March 19, 2008.

county generation over 3,275 MW by 2010 (see Table III-4 of December 2005 SRPL Purpose and Need).

SDG&E states that the SRPL would aid delivery of 300 MW of solar thermal power presently under contract between SDG&E and Stirling Energy Systems, which would represent a substantial portion of the SDREO's 740 MW target, stated in goal 3A of the Regional Energy Strategy. Also, the SRPL project could facilitate future interconnection of renewable resources located east of the County or within central or eastern San Diego County, in accordance with goal 3B, to achieve 50% of total renewable resources from resources located within County. Additionally, the transmission line project would not prevent implementation of other regional energy strategies such as the CSI.

B0002-5 The commenter's support for the New In-Area All-Source Generation Alternative is acknowledged. The commenter suggests other renewable technologies, such as micro wind turbines, solar panels on existing structures, and combined heat and power projects should also be considered. These technologies are within the range of alternatives considered in the EIR/EIS. Specifically, the New In-Area Renewables Alternative considered various options for renewable resources including both rooftop solar PV on existing structures and wind projects. The reasons combined heat and power projects were not retained for full analysis are addressed in Section 4.10.4 (Non-Renewable Distributed Generation Alternative) in Appendix 1 of Volume 6 of the Draft EIR/EIS. Combined heat and power (CHP) applications are among the likely Distributed Generation technologies considered in the No Project Alternative (see Section C.6.2). An EIR is not required to consider every conceivable alternative. (CEQA Guidelines § 15126.6(a).) Therefore, the suggested alternative will not be incorporated in the EIR. Please note that many routes and generation alternatives were considered, as described in Draft EIR/EIS Appendix 1. The large number alternatives that were carried forward for detailed analysis in the EIR/EIS represent a reasonable range of alternatives and include those that are considered to have the least impacts two of which are in-county generation alternatives.

B0002-6 The commenter suggests an increase in energy efficiency can help reduce energy need and the need for the Proposed Project. An Energy Efficiency Alternative is discussed in Section 4.10.5 of Appendix 1 in Volume 6 of the Draft EIR/EIS. SDG&E is already required to achieve aggressive energy efficiency goals laid out by the CPUC in 2004 (D.04-09-060), with the aim of exceeding the maximum achievable potential energy savings defined at that time. Additional energy efficiency beyond that occurring in the baseline condition may be technically possible, but it is speculative to assume such a level of energy efficiency is achievable. Also please see General Response GR-12 regarding the purpose and need for the Proposed Project.

B0002-7 The commenter suggests there are many technologies that are environmentally friendly and would require less energy demand. An Energy Efficiency Alternative is discussed in Section 4.10.5 of Appendix 1 in Volume 6 of the Draft EIR/EIS. This alternative is unlikely to be technically feasible because SDG&E is already required to achieve aggressive energy efficiency goals laid out by the CPUC in 2004 (D.04-09-060). The commenter further suggests feed-in tariffs should be required as a means of ensuring the success of new renewable industries. SDG&E may use feed-in tariffs with water and wastewater energy providers.

As discussed on the CPUC's website,

*The small renewable generator feed-in tariffs available as of today provide a 10, 15, or 20-year fixed-price, non-negotiable contract to participating small renewable generators, sized up to 1.5 MW. Customers can sell renewable power under the feed-in tariff terms to Southern California Edison, Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric Company, PacifiCorp, Sierra Pacific Power Company, Bear Valley Electric Service Division of Golden State Water Company, and Mountain Utilities. Any customer may sell to Edison or PG&E, but the feed-in tariffs are limited to water and waste water customers in the other four utilities.*²

- B0002-8 The detailed list of seismic activity near the Calexico, California region is acknowledged. SDG&E indicates in the PEA that project structures would be designed to withstand geologically induced stresses and that appropriate tower design accounting for lateral wind loads and conductor loads would likely exceed any creditable seismic loading, minimizing potential damage to tower structures from groundshaking. Moderate to strong groundshaking is expected within the Imperial County alignment of the Interstate 8 Alternative and moderate to severe groundshaking is expected in the event of an earthquake on the faults in the Imperial Valley Link area. To ensure that project structures are not damaged by strong to severe groundshaking causing injury to nearby people, Mitigation Measure G-4a, Reduce effects of groundshaking, would be required for both the Interstate 8 Alternative and the Imperial Valley Link of the Proposed Project to reduce impacts to less than significant.
- B0002-9 Please see Response to Comment B0002-3 regarding the Semptra Presidential Permit.
- B0002-10 Please see General Response GR-12 regarding the purpose and need for the Proposed Project and the cost-benefit of the Proposed Project.
- B0002-11 Impact AQ-4 in Section D.11.13.3 in Volume 3 of the Draft EIR/EIS analyzes how project activities would cause a net increase of greenhouse gas emissions and concludes this would be a significant and unmitigable impact. Also, please see General Response GR-7 regarding the Sunrise Powerlink Project potential connection to Mexican power generation including LNG.
- B0002-12 The commenter suggests there may be unknown costs related to remote energy projects, including the cost of water requirements and fossil fuels. Please see General Response GR-12 regarding the cost-benefit of the Proposed Project. Water requirements and impacts of the connected actions, including the Stirling Solar Energy Systems Projects and the Esmeralda-San Felipe Geothermal Project in Imperial are analyzed in Section D.12.12 in Volume 3 of the Draft EIR/EIS. Cost of these projects is unknown.
- B0002-13 The commenter suggest the Proposed Project would not increase reliability because it would be dependent on the Imperial Valley Substation and vulnerable to any extreme event (natural or otherwise) that occurred at this one point. Impact PS-5 in Section D.10.25 in Volume 3 of the Draft EIR/EIS analyzes the impact that would occur if the Sunrise Powerlink transmission line or a substation along the transmission line were

² "CPUC approves feed-in tariffs to support development of onsite renewable generation." CPUC, February 14, 2008. http://docs.cpuc.ca.gov/PUBLISHED/NEWS_RELEASE/78824.htm Accessed March, 2008.

damaged (e.g., from terrorism or a major wildfire) and this resulted in a power outage and concludes this would be less than significant because SDG&E would reroute electricity using other components of the regional transmission system. During the fires of October 2007, the SWPL was shut down and SDG&E was able to continue providing electrical service by using in-area generation and transmission lines serving San Diego from the north.

B0002-14 The commenter suggests San Diego should focus on in-basin renewable generation including solar rooftop photovoltaic energy, energy efficiency, and combined heat and power projects. Please note the New In-Area All-Source Generation Alternative and the New In-Area Renewable Generation Alternative include in-basin renewable generation components. Please see General Response GR-1 and General Response GR-2 regarding the non-wires alternatives.

B0002-15 Please see General Response GR-9 regarding fire risk and the comparison of alternatives. Please see Response to Comment B0002-21 for specific details regarding wind turbine fires.

B0002-16 The Boulevard Planning Group has commented that the EIR/EIS Geology section erroneously dismisses earthquake impacts as Class III and less than significant and does not discuss the potential earthquake impacts on the Imperial Valley Substation. The commenter is concerned that an earthquake on one of the nearby faults (San Andreas, Laguna Salada, Imperial Valley, Brawley Seismic Zone, San Jacinto Fault Zone, etc.) could cause significant damage to the substation resulting in disruption of service. The impacts identified in the analysis of Geology, Mineral Resources, and Soils do not dismiss earthquake impacts as Class III (less than significant), see Section D.13 in Volume 3 of the Draft EIR/EIS. The EIR/EIS recognizes that earthquake-related impacts are significant. These impacts include Impact G-4 (Project would expose people or structures to potential substantial adverse effects as a result of seismically induced groundshaking and/or ground failure) and Impact G-5 (Project would expose people or structures to potential substantial adverse effects as a result of seismically induced groundshaking and/or ground failure). Both are classified as significant, and mitigation is recommended that would reduce the impacts to a less than significant level (Class II).

The setting for the Imperial Valley Substation is equivalent to that discussed for the proposed transmission line at its start (MP-0). This area has potential for moderate to strong groundshaking (PGA of 0.4-0.5 g), but would not be susceptible to liquefaction or slope failures due to the deep groundwater in the area and the flat terrain, respectively. Work for the Proposed Project at the Imperial Valley Substation would consist only of adding new equipment for installation of the new 500 kV line in the existing fenced substation yard. This equipment would be similar to that already installed at the substation and would add any new potential seismic impacts to the already existing facility. Text has been added to the Impact discussion in Section D.13.5 (Modifications to Imperial Valley Substation) to clarify that although there are indeed seismic risks at the substation, the potential for these risks has not changed, as follows:

Operational Impacts from Modifications to Imperial Valley Substation

Although the Imperial Valley Substation is subject to seismic risks related to groundshaking from the nearby active San Andreas and San Jacinto fault zones, and the

Brawley seismic zone. No new geologic or seismic impacts would result at the existing Imperial Valley Substation due to the operation of new line structures and equipment similar to the respective structures already in place within the existing fenced area of the substation.

B0002-17 The commenter suggests that the vulnerability of the Imperial Valley Substation and to the transmission lines that originate at this substation is great, especially considering its location near the U.S.-Mexico border. Impact PS-5 in Section D.10.25 in Volume 3 of the Draft EIR/EIS analyzes the impact that would occur if the Sunrise Powerlink transmission line or a substation along the transmission line were damaged (e.g., from terrorism or a major wildfire) and this resulted in a power outage and concludes this would be less than significant not because the threat of an outage is not real, but because SDG&E would reroute electricity using other components of the regional transmission system in the case of such an outage.

The ability of the transmission grid to operate in emergency situations was demonstrated during the October 2007 wildfires, when the 500 kV Southwest Powerlink was out of service for several days due to the proximity of the Harris Fire. Even though this transmission line generally imports the majority of San Diego's power, SDG&E was able to maintain service (to areas not directly burned) by rerouting electricity to lines that connect its system to the Southern California Edison system. The regional transmission system is interconnected in such a way that it is not possible to say that a single line outage would cause an outage at a specific hospital, airport, security facility, etc. In addition, although most facilities of this type may receive power from the SDG&E transmission system supplied by the proposed Sunrise line, major facilities would also have back up power/generators to prevent electricity interruptions in the event of an outage. Clark W. Gellings, vice president of the Electric Power Research Institute, an industry research organization, also believes the U.S. grid is an unlikely target of terrorism for this same reason. "It's not terribly sensational," he explains, "The system could overcome an attack in hours, or at worst, days."³

B0002-18 Please see General Response GR-5 regarding the status of renewable energy in Imperial Valley. Please see General Response GR-2 regarding the feasibility of the solar component of the New In-Area Renewable Generation Alternative including a discussion of the SCE rooftop solar proposal.

B0002-19 Please see General Response GR-12 regarding the cost-benefit of the Proposed Project. The commenter is correct in stating that should the Sunrise Powerlink Project be built, there will be no guarantee what type, renewable or conventional, of energy is transmitted over the transmission line. Basic Project Objective 3, however, of the Proposed Project is to accommodate the delivery of renewable energy to meet State and federal renewable energy goals from geothermal and solar resources in the Imperial Valley and wind and other sources in San Diego County.

Water requirements and impacts of the connected actions, including the Stirling Solar Energy Systems Projects and the Esmeralda-San Felipe Geothermal Project in Imperial

³ Kaplan, Eben. *America's Vulnerable Energy Grid*. Council on Foreign Relations, April 24, 2007. http://www.cfr.org/publication/13153/americas_vulnerable_energy_grid.html in May, 2008.

are analyzed in Section D.12.12 in Volume 3 of the Draft EIR/EIS. Cost of these projects is unknown.

B0002-20 The commenter states that the Draft EIR/EIS did not analyze the cumulative impact of wind projects in the Crestwood/Boulevard/Jacumba/La Rumorosa area and the associated transmission interconnections.

On December 20, 2007, when the Draft EIR/EIS was being printed, Sempra Generation filed a Presidential Application detailing the components of the Baja Wind U.S. Transmission, LLC project designed to connect the La Rumorosa wind farm with the existing Southwest Powerlink (SWPL) transmission line and on March 19, 2008 Sempra Generation filed a Supplement to the Presidential Application. These filings expanded the size of the project from 250 MW to 1250 MW and changed the location of some of the original project components as described in Section 2 of the RDEIR/SDEIS. The La Rumorosa Wind Area is described in the cumulative impact analysis of the Draft EIR/EIS in Section G. Table G-1 of Section G.2.1 in Volume 5 of the Draft EIR/EIS as:

Potential development of over 1000 MW of wind generation south of Jacumba area.
Possible transmission connection to Imperial Valley Substation or SWPL.

Therefore, the cumulative impact analysis in the Draft EIR/EIS did consider the larger wind development, as described in Sempra's December 2007 and March 2008 filings with DOE. Although the proposed location of the wind generation area and the substation are slightly different than what was assumed in the Draft EIR/EIS, the cumulative impacts (including those to peninsular big horn sheep and wilderness areas) remain significant and unmitigable (Class I) as stated in Section G.3 in Volume 5 of the Draft EIR/EIS. Please see Response B0002-3 regarding the analysis of Sempra's wind project in the Final EIR/EIS.

The California Independent System Operator's interconnection queue identifies four wind projects in the Crestwood area. One of these (Kumeyaay) is operational, two others have been withdrawn (117 and 36 MW), and one has an active application for 201 MW (CAISO, 2008).⁴ A description of the proposed wind project has been added to Table G-3 as follows, and the analysis of cumulative impacts has been modified throughout Section G.4.2 to include consideration of the wind project.

<u>CRESTWOOD WIND PROJECT:</u>	<u>Public</u>	<u>Crestwood/Boulevard</u>	<u>In planning</u>	<u>N/A</u>
<u>Development of up to 791 MW of</u>	<u>Facilities</u>	<u>/McCain Valley area;</u>	<u>(Iberdrola Project is</u>	
<u>wind generation. Possible</u>	<u>and Utilities</u>	<u>San Diego County</u>	<u>in monitoring and</u>	
<u>transmission connection via the</u>			<u>testing. ROW issued</u>	
<u>Boulevard-Crestwood 69 kV</u>			<u>9/15/04, renewed 3</u>	
<u>transmission line or existing SWPL</u>			<u>hrs 1/08 with</u>	
<u>(this would include the 17,000-acre</u>			<u>submission of POD)</u>	
<u>PACIFIC WIND IBERDROLA</u>				
<u>PROJECT in McCain Valley)</u>				

Impacts of the Interstate 8 and BCD Alternatives would combine with similar impacts from other past present and reasonably foreseeable energy generation and transmission

⁴ CAISO 2008. The California ISO Controlled Grid Generation Queue as of May 16, 2008. Accessed: June 2, 2008. <http://www.caiso.com/14e9/14e9ddda1ebf0.pdf>

projects (e.g., the SWPL transmission line, Kumeyaay wind project, Stirling Energy Project, and the Imperial Valley Substation expansion), including the Crestwood-area wind project. However, the impact determinations remain significant and unmitigable (Class I) for affected biological, visual, and recreation impacts, as described in the Draft EIR/EIS.

Additionally, the impacts of wind generation were analyzed as a component of the New In-Area Renewable Generation Alternative. The wind component area comprised McCain Valley and portions of the Manzanita and Campo reservations. This impact analysis was presented in Section E.5 in Volume 4 of the Draft EIR/EIS.

B0002-21 Wind turbine fire risk was not specifically discussed in the Draft EIR/EIS, nor was mitigation specific to wind turbine ignitions developed. Potential ignitions can occur due to power collection line failure, turbine malfunction or mechanical failure, and bird-related incidents. Numerous wind turbine fires have been reported in the United States, Australia, Europe, and Asia. Some of these have ignited wildfires. The extreme height of wind turbines makes extinguishing fires nearly impossible, and wind turbine fires are often left to burn out. In 1993, a 220-acre fire in the Antelope Valley, Kern County, California was ignited by a wind turbine, and in 2006, wind turbines ignited a 200,000-acre fire in Australia and an 800-acre fire in Tehachapi, California. Impact F-2 has been revised to incorporate a more specific accounting of fire risk associated with wind turbines in Section 2 of the RDEIR/SDEIS (Fire and Fuels Management for La Rumorosa Wind Project) and Section E.5.15 (Fire and Fuels Management Impacts for Wind) of Volume 4 of the Draft EIR/EIS. A new mitigation measure is developed to reduce the severity of the potential impact. Impact F-2 (Presence of the overhead transmission line would increase the probability of a wildfire) would remain significant despite mitigation in both cases.

The first paragraph of Impact F-2 in Section E.5.15, under Fire and Fuels Management Impacts for Wind, has been modified as follows:

The presence of the overhead transmission line would create an ongoing source of potential wildfire ignitions for the life of the project. Line faults can be caused by such unpredictable events as conductor contact by floating debris, gun shots, and helicopter collisions; these events are rare but would be unavoidable. The wind component would traverse extremely high fire risk landscapes, and any line faults that create sparks or ignite nearby vegetation could result in a large and catastrophic wildfire, putting many acres and many homes at risk if transmission line ignitions were to occur during extreme weather conditions. Wind turbines can also be the source of wildfire ignitions due to power collection line failure, turbine malfunction or mechanical failure, and lightning- and bird-related incidents. When mechanical or electrical failures cause turbines to catch fire, they may burn for many hours due to the limited ability of fire suppression crews to effectively fight fires hundreds of feet above the ground. Wind-blown flaming debris from a turbine fire can ignite vegetation in the surrounding area.

A fourth paragraph has been added as follows:

Mitigation Measure F-2d, Install wind turbine protection system, would reduce the risk of a turbine-related wildfire ignition.

And the final paragraph has been modified as follows:

This impact is thus considered significant and unavoidable (Class I). Mitigation Measures F-2a, Complete and implement SDG&E Draft Fire Plan, ~~and~~ F-2b, Prepare and implement a Multi-agency Fire Prevention MOU, and F-2d, Install wind turbine protection system, are required to prevent wildfires to the extent possible, and to aid in the suppression of all fires within the project influence area.

Finally, Mitigation Measure F-2d has been imposed for the wind component of the New In-Area Renewable Generation Alternative in Section E.5.15 of the Draft EIR/EIS.

Mitigation Measures for Impact F-2: Presence of the overhead transmission line would increase the probability of a wildfire

F-2a **Establish and maintain adequate line clearances.**

F-2d **Install wind turbine protection system.**

F-1e **Contribute to defensible space grants fund.**

Groundwater contamination through malfunctions and explosions of turbines and transformers would be extremely unlikely to occur. No further changes to the text have been made.

B0002-22 The commenter is correct in stating that per the Sempra Presidential Application from December 20, 2007 and the Supplemental Application from March 19, 2008 the location of the Jacumba Substation has moved approximately 4 miles southeast of the location identified in the Draft EIR/EIS. The resulting increase in length of the 230 kV transmission line from the New In-Area Renewable Resource wind component would remain within the existing SWPL corridor the impacts of this additional 4 miles are analyzed in Section E.5 of the Final EIR/EIS. As stated in Section E.5.1.4, the Jacumba Substation is only one possibility for a loop-in substation, another possibility would be on the Campo Reservation. In response to the new information in the Presidential Permit Application, the EIR/EIS has been recirculated in order to analyze the effects that will result from the modified description of Sempra's project.

The commenter suggests renewable projects on closed landfills and military bases would cause fewer impacts to the environment. Please see Response to Comment C0139-3 regarding siting renewable energy projects on military land. An EIR is not required under CEQA to consider every conceivable alternative (CEQA Guidelines § 15126.6(a)). Similarly, the Council on Environmental Quality's (CEQ) NEPA Regulations provide that "[w]hen there are potentially a very large spectrum of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS." (CEQ 40 FAQs, No. 1b.) This EIR/EIS includes a comprehensive alternatives analysis, as documented in Appendix 1, of a reasonable range of alternatives that meet the CEQA and NEPA screening criteria by meeting the basic project objectives and reducing the environmental impacts of the Proposed Project (see CEQA Guidelines Section 15126 (a)). Renewable projects on closed landfills and military bases are within the range of alternatives already considered in the EIR/EIS.

B0002-23 The commenter is correct in stating that the Campo Band, in its comments on the Draft EIR/EIS, objected to any route through Campo tribal lands. As stated in Section H.4.2.2 in Volume 5 of the Draft EIR/EIS, the Interstate 8 Alternative, including the Campo North Option, would pass through reservation lands of the Campo and La Posta Bands

of Kumeyaay Indians, and tribal lands would be avoided by the BCD Alternative with the BCD South Option. These tribes retain sovereign rights to determine whether they would negotiate easements for SDG&E to construct and operate transmission lines across their lands. As stated in Section 5 of the RDEIR/SDEIS, the segment of the Interstate 8 Alternative between McCain Valley Road and La Posta Road (MP I8-40 to I8-51) has been replaced by the BCD/BCD South Option Reroute. The Environmentally Superior Southern Route would no longer affect tribal lands.

B0002-24 Although it is not anticipated that blasting would be required to install tower foundations along the Modified Route D Alternative, the Planning Group and several individuals have raised an important concern about maintaining the integrity of groundwater wells, especially in sole-source aquifers, should blasting be required. It should be noted that, in comments submitted on the Draft EIR/EIS, SDG&E voluntarily augmented item 4 of WQ-APM-6 as follows:

4. SDG&E will negotiate with affected landowners to provide alternative water supplies in the event a supply well or springs dry up directly caused by project activities. Negotiation shall be by either a remedial cash payment to the landowner or by SDG&E contracting for the drilling of a replacement well.

However, a significant impact could still occur as a result of blasting or drilling for the placement of towers or roads. Impact H-4 (Groundwater dewatering for project construction could deplete local water supplies) has been modified throughout the Water Resources sections of the Draft EIR/EIS to be a Class II (significant, mitigable) impact as a result of the potential effect on groundwater wells, and Mitigation Measure H-4b has been added to ensure that impacts to groundwater wells would be less than significant. The full text of Mitigation Measure H-4b follows.

H-4b Avoid blasting where damage to groundwater wells or springs could occur.
Blasting shall be managed with a Blasting Plan for each site. The Plan shall include the blasting methods, distance calculations to estimate the area of effect of the blasting, and surveys for wells and springs within the blast influence area. Blasting shall not be allowed where damage to wells or springs could occur, and a rock anchoring or mini-pile system shall be used if these resources could be damaged as a result of blasting or any earthworking method used as an alternative to blasting. Where inadvertent damage to wells within an EPA-designated Sole Source Aquifer occur as a result of earthwork, the Applicant shall compensate the landowner in the form of well repair or replacement, and shall provide the landowner with a water storage tank and sufficient potable water within 48 hours and throughout the interim between damage and repair or replacement. Where inadvertent damage to other wells or springs occurs as a result of earthwork, the Applicant shall compensate the landowner in the form of remedial cash payment, repair, or replacement, as appropriate. The burden of proof of no impact shall rest with the Applicant.

B0002-25 The commenter is correct in noting that the San Diego County construction and demolition debris ordinance, effective April 27, 2007 was not referred to in the text of the Draft EIR/EIS. The text of Section D.14.3 (Applicable Regulations, Plans, and Standards: Local) has been amended to include:

San Diego County Construction and Demolition Debris Ordinance

The San Diego County construction and demolition debris ordinance, effective April 21, 2007, is designed to divert debris from construction and demolition projects away from landfill disposal in the unincorporated County of San Diego. The ordinance requires that 90 percent of inerts (non-biodegradable products) and 70 percent of all other materials must be recycled. The ordinance applies to all construction, demolition, or renovation projects 40,000 square feet or greater. The Applicant must submit a Construction and Demolition Debris Management Plan and refundable Performance Guarantee prior to building permit issuance.

Additionally, the text of Mitigation Measure S-3a has been amended to include the San Diego County construction and demolition ordinance requirements as follows:

S-3a Recycle construction waste. To comply with the Integrated Waste Management Act of 1989, during project construction SDG&E and/or its construction contractor shall recycle a minimum of 50 percent of the waste generated during construction activities. In unincorporated San Diego County, to comply with the construction and demolition debris ordinance, SDG&E and/or its construction contractor shall recycle a minimum of 90 percent of inerts and 70 percent of all other materials, and submit all applicable plans and documentation. Following the completion of construction activities, SDG&E shall provide the CPUC and BLM with documentation from the recycling and landfill facilities used to show that the amount of waste recycled was 50 percent or more in Imperial Valley and incorporated San Diego County, and 90 percent of inerts and 70 percent of all other materials in unincorporated San Diego County.

B0002-26 Extensive vegetation management and the extensive use of herbicide treatments is not anticipated, and would not be required by the revised mitigation measures as presented in Section D.15 of the Final EIR/EIS. As a result, groundwater contamination is unlikely to result, and would remain a less than significant impact, as presented in Section D.12 of the Draft EIR/EIS.

B0002-27 Section D.12.12.1 in Volume 3 of the Draft EIR/EIS states that the three phases of the SES project would require approximately 36,000 solar concentrating dishes, the mirrored surfaces of which would require routine washing that would consume 4.4 gallons of water per Megawatt-hour (MWh) of electricity produced (Stirling, 2007a). At an annual output of 60 MWh per dish (Stirling, 2007a), the wash water requirement of the three-phased project would be approximately 9.5 million gallons per year (30 acre-feet per year [Stirling, 2007b]). This volume of water represents 0.03 percent of the total average annual quantity of water delivered to non-agricultural uses in the IID service area (IID, 2007). Washing would be required for the mirrored surfaces of the solar-concentrating dishes, utilize de-mineralized water, and would occur an estimated maximum of 11 times per year. Section D.14.12.1 in Volume 3 of the Draft EIR/EIS further states that although impacts to the regional water supply would not be significant and no mitigation measure is required, Mitigation Measure S-3b (Use reclaimed water) would be recommended for implementation to reduce water usage for construction to further reduce adverse effects of the cumulative volume of water from all of the SES project. The water required for washing the mirrors would be de-mineralized onsite

using a pumped filtration system that would require electricity to run (Stirling, 2007b). Neither the cost of using IID water, recycled or not, is not known at this time, nor is the cost of the SES project known at this time.

A 50 MW Esmeralda–San Felipe Geothermal Project would use approximately 79 acre-feet per year on average but could require up to 267 acre-feet per year if brine salinity increases up to 25 percent.⁵ Some of the cooling tower water demand could be satisfied by the condensate from steam extracted from the geothermal brine. This volume of water required represents less than 0.2 percent of the total average annual quantity of water delivered to non-agricultural uses in the IID service area (IID, 2007). Neither the cost of using IID water, recycled or not, is not known at this time, nor is the cost of the geothermal project known at this time. Section D.14 of the Draft EIR/EIS states under Impact S-3 (Project construction and operation would increase the need for public services and facilities) that given the low quality of nearby groundwater, if onsite wells were used then the impact on water supply would potentially be significant and unmitigable during operation (Class I).

B0002-28 Please see Response to Comment A0010-7 and Response to Comment A0010-8 regarding the IID investment in its transmission system upgrades.

B0002-29 The commenter is correct in stating that per the Sempra Presidential Application from December 20, 2007 the La Rumorosa Wind Energy Projects is greater than previously stated and in a more westerly location. Additionally, the location of the Jacumba Substation has moved approximately 4 miles southeast of the location identified in the Draft EIR/EIS. This new information was incorporated into the La Rumorosa Wind Energy Projects in Section 2 of the RDEIR/SDEIS.

B0002-30 Since the issuance of the Draft EIR/EIS, the Sempra La Rumorosa wind development project has been redefined based on Sempra's application for Presidential Permit. The visual analysis has been updated and is provided in the RDEIR/SDEIS Section 2.3

B0002-31 The commenter suggests the Jacumba Substation, the La Rumorosa Wind Energy Projects, and the southern route alternatives would impact all the bi-national wildlife corridors such as the Las Californias and Parque to Park initiatives involving Baja California and the State of California. The Las Californias Binational Conservation Initiative has been described as “a shared vision for landscape-scale conservation strategies, sustainable land use planning, and workable long-term management programs in the center of hotspot of biodiversity and cultures.”⁶ According to the Las Californias Binational Conservation Initiative, 61 percent of public land in the border region has been set aside as open space and is administered by federal, state, and local government agencies. The Park-to-Parque Linkage (Montane cross-border linkage) is one of the primary linkages identified by the Las Californias Binational Conservation Initiative that would include a

⁵ This water estimate is based on the amount of water required for the Santon Sea Geothermal Power Plant, a 185 MW geothermal plant located in the Salton Basin. Final Staff Assessment for the Salton Sea Geothermal Unit #6 Power Project, Application for Certification (02-AFC-2) August 2003. http://www.energy.ca.gov/sitingcases/saltonsea/documents/2003-08-05_FSA_1.PDF in August 2008.

⁶ http://64.233.167.104/search?q=cache:pZFXtMMMJCkJ:www.consbio.org/cbi/cbi_at_work/work_in_progress.htm+las+californias+Binational+Conservation+Initiative&hl=en&ct=clnk&cd=1&gl=us

new trans-boundary conservation area linking Anza-Borrego Desert State Park with Parque Nacional Constitución de 1857 in Baja California.⁷ While the CPUC and BLM acknowledge the Las Californias Binational Conservation Initiative, they are not obligated under CEQA, NEPA or any other law to analyze the implications of projects on non-governmental conservation efforts. Further, to the extent any of the 61 percent of land referenced above is within the Cleveland National Forest or ABDSP, impacts to these lands were accounted for in the Draft EIR/EIS, and authorizations for the project are required in many cases for it to affect these lands (e.g., special use authorization from the USFS for impacts to National Forest lands).

For La Rumorosa, the specific location and design of the wind farm had not been disclosed by Sempra, Cannon, or SCE prior to publication of the Draft EIR/EIS. In order to evaluate the potential effects of the project, a hypothetical description was developed for the Draft EIR/EIS. The RDEIR/SDEIS presented an updated description (based on the Presidential Permit Application) and revised impact analysis of the La Rumorosa Wind Energy Projects.

It is possible that two goals of the Las Californias initiative would be affected by development of wind at La Rumorosa: (1) work toward creation of a binational park that links Parque Constitución de 1857 in the Sierra Juárez in Baja California with Bureau of Land Management wilderness areas, Cleveland National Forest, and Anza-Borrego Desert State Park wilderness areas in San Diego County; and (2) provide technical support to Mexican partners in conserving large, intact natural areas and working landscapes within Baja California.

B0002-32 As stated in Section C.2.1.3 in Volume 1 of the Draft EIR/EIS, Table C-1 presents a summary of the potential significant effects of the Proposed Project. As discussed in the Draft EIR/EIS, this impact summary was prepared prior to completion of the EIR/EIS analysis to provide an initial identification of potentially significant impacts, so it may not be complete in comparison to the detailed analysis now presented in Section D of this EIR/EIS. However, the impacts in the table are representative of those resulting from preliminary EIR/EIS preparation and were therefore used to determine whether an alternative met this CEQA requirement. A full analysis of the impacts of each alternative is provided in the sections dedicated to those alternatives.

B0002-33 Noise impacts associated with the indirect effects of SCE's La Rumorosa Wind Project in Mexico are discussed in the Draft EIR/EIS on p. D.8-51 and on page 2-157 of the Recirculated Draft EIR and were found to be a Class II impact. The Draft EIR/EIS New In-Area Renewables Alternative also describes and analyzes the noise from the turbines themselves (Impact N-3, pages E.5-178 to E.5-179, including Mitigation Measure N-3b [Perform Operational Noise Study]) including the rotation of the blades and operation of the generator. Wind turbine generator noise would be minimized through the use of current industry standard turbine technology. Generally, the three-blade upwind orientation and lower rotational speeds of new turbines create less noise than older turbine systems. The "upwind" configuration, i.e., the blades spin on the upwind side minimizes the low frequency noise by eliminating the wind shadow "thumping"

⁷ California Biodiversity Council. 2006. "Biodiversity Along the Border Committee: Strategies for Consideration." <http://biodiversity.ca.gov/Meetings/AlongtheBorder/finalreport.pdf> in August 2008.

and vibration caused by blades passing behind the tower, which was common on many older downwind machines. Regardless operational noise from the wind turbines would cause a significant noise impact to the neighboring residents and residents within the reservations. Mitigation Measure N-3b (Perform Operational Noise Study) would reduce the operational noise impact experienced by residences. However, as shown in Tables G-13 and G-14 in Section G.4.3 of the Draft EIR/EIS, Impact N-3 (Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components) is already considered to be a cumulatively significant and unavoidable impact (Class I) with regards to the non-wires alternatives.

B0002-34 The commenter suggests that SDG&E announced a power purchase agreement for an additional 10 MW of biomass in November of 2007. Such new biomass purchase agreements are evidence of the potential feasibility of the renewable projects. The Draft EIR/EIS provides decision-makers with an analysis of the environmental impacts of these components as part of Non-Wires Alternatives, but no revision is needed because the Draft EIR/EIS it is not intended for use as the CEQA or NEPA document that would allow approval of any specific biomass project.

B0002-35 As the commenter notes, the wind component of the New In-Area Renewable Generation Alternative is sited on reservation and BLM land. As such it is not subject to San Diego County zoning ordinance regulations. For a discussion on the feasibility of the wind component of the New In-Area Renewable Generation Alternative please see General Response GR-2. Additionally, the potential project locations are described in Section E.5.1 in the Draft EIR/EIS to the extent possible, but as not all these potential projects have been proposed at these locations by a specific applicant, the analysis of their environmental effects is based on reasonable assumptions about what could be developed. The renewable generation projects would also be required to undergo their own CEQA and potentially NEPA review before being developed.

B0002-36 The commenter states the Interstate 8 Alternative and Jacumba Substation are counter-productive to the goals of conservation and protection in the East San Diego County's Draft MSCP. The commenter is correct in noting that the Jacumba Substation footprint has been revised. As stated in Section 2.1 of the RDEIR/SDEIS, the SDG&E Jacumba Substation would encompass 62 acres, although the construction of the substation would disturb a total of approximately 85 acres. Impacts of the SDG&E Jacumba Substation on Quino Checkerspot Butterfly and Peninsular bighorn sheep are addressed in Section 2.2 of the RDEIR/SDEIS. See General Response GR-17 regarding consistency with draft and existing regional conservation plans Appendix 8O, Consistency with Existing and Draft Regional Conservation in the Final EIR/EIS, provides the acreages of temporary and permanent impacts within the preserve areas for the Environmentally Superior Southern Route Alternative.

The commenter notes that the BCD Alternative would impact the 2001 Specific Plan for Big Country Ranch in McCain Valley. See Response to Comment B0002-55.

The commenter also notes the presence of various sensitive species on the 2,276-acre Big Country Ranch property. The Draft EIR/EIS incorporated known location data of sensitive species for the BCD Alternative. Coast (San Diego) horned lizard, Cooper's hawk, San Diego black-tailed jackrabbit, western spadefoot, two-striped garter snake,

and Jacumba milk-vetch were considered to have a moderate to high potential to occur along the BCD Alternative. Tri-colored blackbird was considered to have a low potential to occur because suitable breeding habitat is not present along this alternative. Desert beauty and sticky geraea were observed along the BCD Alternative. Fremont barberry (= Higgin's barberry) and Parish's larkspur were not considered special status (sensitive) species as defined on page E.1.2-1 of the Draft EIR/EIS.

B0002-37 Comment noted. Any questions or comments pertaining to the proposed change in VRM classification (which is not part of this present study) should be directed to the Bureau of Land Management El Centro Field Office. Cumulative visual impacts of the Southern Route Alternatives are addressed in Section G.4.2 in Volume 5 of the Draft EIR/EIS, and include inconsistency with Interim BLM VRM Class III management objective.

B0002-38 With respect to a cumulative analysis of any future wind projects in the McCain Valley area, Table G-3 Project Alternatives Cumulative Project List for the BCD Alternative has been changed as follows:

CRESTWOOD WIND PROJECT: <u>Development of up to 791 MW of wind generation. Possible transmission connection via the Boulevard-Crestwood 69 kV transmission line or existing SWPL (this would include the 17,000-acre PACIFIC WIND IBERDROLA PROJECT in McCain Valley)</u>	Public Facilities and Utilities	Crestwood/Boulevard /McCain Valley area; San Diego County	In planning (Iberdrola Project is in monitoring and testing, ROW issued 9/15/04, renewed 3 yrs 1/08 with submission of POD)	N/A
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Changes have been made to Section G.4.2.2 of the Draft EIR/EIS to specifically discuss the Pacific Wind Iberdrola Project as follows:

Other than the roads listed in Table E.2.9-1 in Section E.2.9 (Transportation and Traffic), the lands crossed by the BCD Alternative are vacant and undeveloped. Besides the existing roads, wind development by Pacific Wind (Iberdrola) has been identified in the McCain Valley as a reasonably foreseeable project along this alternative route~~no past, present, or reasonably foreseeable projects have been identified along this alternative route.~~ The geographic extent of the cumulative analysis and existing cumulative conditions for each issue area for the BCD Alternative would be the same as those identified for the I-8 Alternative in Section G.4.2.1, with the following exceptions:

- The Dart and Volli Residential Developments would not be within close enough proximity to this route to be affected by it.
- The Campo, La Posta, and Manzanita Reservations would not be traversed by this route.
- The Active Agricultural Operations land between MP I8-51 and MP I8-52 would not be affected.
- Permanent conversion of 88.689.4 acres of Williamson Act lands.
- Pacific Wind (Iberdrola) wind project within the McCain Valley would be within close enough proximity to the BCD Alternative to be affected by it.

- B0002-39 Please see Response to Comment B0002-24.
- B0002-40 Please see Response to Comment B0002-63.
- B0002-41 Please see Response to Comment B0002-20.
- B0002-42 The commenter states that the Mountain Empire Subregional Plan is addressed only in passing in Section D.4-12-13. However, Appendix 2, Policy Screening Report, and Section D.16, Policy Consistency, provide a thorough evaluation of applicable policies from this Plan. Section D.16 identified inconsistencies with Industrial Goal – Policy 6 and with Scenic Highway – Policy 1. Please refer to these sections of the EIR/EIS for more information on how the policies were addressed and evaluated for this Plan.

Although the policy analysis identified inconsistencies with two policies of the Mountain Empire Subregional Plan, no local discretionary permits (e.g., Conditional Use Permits or Specific Plan approval) or local plan consistency evaluation is required for the Proposed Project or the project alternatives as the CPUC has preemptive jurisdiction over the construction, maintenance, and operation of public utilities. However, SDG&E would be required to obtain all ministerial building and encroachment permits from local jurisdictions.

- B0002-43 As the commenter notes, the SDG&E press release concerning an additional 40 MW power purchase agreement with the Esmeralda–San Felipe Geothermal facilities was released in February of 2008 after the publication of the Draft EIR/EIS. However, as the Truckhaven Geothermal Leasing Final EIS states, under the maximum expected development scenario for the Truckhaven area, there would be two 25 MW power plants built. As the Sunrise Draft EIR/EIS analyzed up to 50 MW of geothermal energy in the Truckhaven area, the impact analysis for the Esmeralda–San Felipe Geothermal facilities would not change. For informational purposes only, the additional 40 MW power purchase agreement between SDG&E and Esmeralda Truckhaven has been incorporated into the Project Description in Section B.6.1.2 (Section B.6.1.3 of the Draft EIR/EIS) as follows:

Esmeralda has secured a Power Purchase Agreement (PPA) with SDG&E for 20 MW of geothermal power that would likely be developed within Truckhaven. In March 2007, the CPUC approved this renewable contract. The project that would develop the 20 MW of geothermal resources at Truckhaven is referred to as the Esmeralda–San Felipe Geothermal Project. Geothermal energy uses heat from the earth, extracted through geothermal wells in the form of steam or brine, which is then transported via pipeline and used to drive turbines, which drive electricity generation. In February 2008, SDG&E announced a 40 MW power-purchase agreement with Esmeralda Truckhaven bringing SDG&E's total geothermal energy supply from the Esmeralda facilities to 60 MW. This agreement has yet to be approved by the CPUC. Additionally, as the Truckhaven Geothermal Leasing Final EIS states that under the maximum expected development scenario for the Truckhaven area, there would be a total of 50 MW.

Impacts to water resources are discussed in Section D.12 (Water Resources) and under Impact S-3 (Project construction and operation would increase the need for public services and facilities) in Section D.14 (Socioeconomics, Services and Utilities) of the EIR/EIS. The Draft EIR/EIS states under Impact S-3 that given the low quality of

nearby groundwater, if onsite wells were used then the impact on water supply would potentially be significant and unmitigable during operation (Class I). In addition, see Response to Comment B0002-27.

B0002-44 The commenter states that the analysis of the Jacumba Substation expansion and the SCE La Rumorosa Wind Project should be revised to reflect Semptra's recent filing with DOE, which increased the size and location of these projects. Please refer to Response to Comment B0002-29.

B0002-45 Table D.7-1 refers only to the transmission portion of the Sunrise Powerlink Project; it does not include the Connected Actions or Indirect Effects, including the Jacumba Substation. Please see Section 2 of the RDEIR/SDEIS for a revised analysis of the SDG&E Jacumba Substation.

B0002-46 Please see Response to Comment B0002-17 regarding impacts on transmission lines and or substations from terrorist activities.

B0002-47 Section E.5.10 Public Health and Safety: Wind of the Draft EIR/EIS has been amended to state:

Field-Related Public Concerns. As described in Sections D.10.23 through D.10.25, there are five impacts related to electric and magnetic fields. The impact discussions for these issues presented in for the Proposed Project would apply equally to the renewable alternatives, because all involve transmission lines. Those impacts and relevant mitigation measures are presented for the solar thermal component above; for additional discussion, please see Sections D.10.23 to D.10.25. Concern regarding the interference of radar caused by wind farms has also been considered. As the U.S. Department of Energy's Frequently Asked Question about Wind and Radar states, the Department of Defense has direct experience with wind energy projects and successful radar operations on several domestic and overseas facilities. Wind projects are currently operating safely at military bases in Wyoming, California, Cuba and Ascension Island, all in close proximity to various forms of military and civilian radar (DOE, 2007). The DOE further states that there are a number of technical mitigation options available today, including software upgrades to existing radar, processing filters related to signature identification, replacing aging radar, and potentially more. The Department of Energy is currently working with radar system experts across the country and overseas to catalogue known mitigation experiences, most promising options that exist, and those that are worth of developing in the future.⁸ As such, the interference of radar by wind farms will not be considered further.

As stated by the DOE, wind turbines can sometimes cause electromagnetic interference affecting TV and radio reception. Such interference can typically be mitigated by using satellite TV or wireless cable TV. Instances of TV or radio interference

⁸ DOE, 2007. Frequently Asked Questions about Wind and Radar. http://www1.eere.energy.gov/windandhydro/federalwindsiting/radar_faqs.html#1 in May 2008.

DOE, 2007b. Wind and Hydropower Technologies Program - Wind Powering America. http://www.eere.energy.gov/windandhydro/windpoweringamerica/ne_issues_interference.asp?&print in May 2008.

are infrequent. Mitigation Measures PS-1a and PS-1b are recommended to reduce the potential impact of interference (Class II) (DOE, 2007b).

- B0002-48 The commenter outlines concerns regarding wind turbines and effects, and the role of the FAA. Wind farms in the Boulevard region would be required to comply with FAA regulations. Wind farms in Mexico are outside of the FAA jurisdiction and would be subject to Mexican laws regulating potential impacts to aeronautics. Impact T-11 in Section 2.9 of the RDEIR/SDEIS addresses potential impacts of the Rumorosa Wind Energy Projects on low flying aircraft along the border region. Please also see Response B0002-47.
- B0002-49 The commenter's opposition to future transmission expansions in the Boulevard region is acknowledged. Impacts of future transmission expansions for the southern route alternatives were analyzed in the E Sections of the Draft EIR/EIS.
- B0002-50 Please see Response to Comment B0002-20 regarding cumulative impacts of the wind farms in the Boulevard and La Rumorosa region.
- B0002-51 Key viewpoints are selected to be representative of different types of viewing opportunities and to capture a variety of effected landscapes. As stated in the Draft EIR/EIS, Key Viewpoint 58 was identified as generally representative of Interstate 8 views along the Campo North Option, a relatively short route segment along the north side of I-8 in the vicinity of the Golden Acorn Casino. See also Response to Comment B0002-37 regarding the proposed change to the VRM classification in McCain Valley.
- B0002-52 The commenter is correct in noting that the California Botanical Habitat filed a late motion for party status to the Sunrise CPCN proceeding. The status was denied by the CPUC on June 20, 2008 as it did not identify any direct involvement it would have in developing the record in the Scoping Ruling. Visual Impacts of the Interstate 8 Alternative were analyzed in the Section E.1.3 in Volume 4 of the Draft EIR/EIS.
- B0002-53 Key Viewpoint 50 is considered representative of views of the I-8 Alternative from I-8. The BCD South Option (in combination with the BCD Alternative and the Modified Route D Alternative) is considered an alternative to the I-8 Alternative and not just the Campo North Option. The BCD South Option along with the BCD Alternative, from the point of diversion from I-8 at McCain Valley to the span of I-8 in La Posta Valley, would be substantially greater in length relative to the corresponding I-8 Alternative segment. However, compared to the longer and more remote BCD South Option, the shorter I-8 Alternative would be substantially more visible to greater numbers of viewers due to the route's immediate proximity to I-8.
- B0002-54 The commenter notes that the Draft EIR/EIS does not describe all surface waters in the Bankhead Springs, Boulevard, Manzanita, McCain Valley, Live Oak Springs, and La Posta. All surface waters including springs, seeps, and meadows were not identified in the Draft EIR/EIS. Only streams were identified for all alternatives. Wetlands are covered in the Biological Resources Sections E.1.2, E.2.2, E.3.2, and E.4.2 for the SWPL Alternatives. Please see Response to Comment B0002-55. No changes to the document have been made.

B0002-55 The commenter states that the BCD Alternative would impact groundwater resources (e.g., freshwater seeps, open water, freshwater marsh, coast live oak woodland, southern riparian forest, and Waters of the U.S.) on the 2,200-acre Big Country Ranch. The commenter also states that the Grizzle subdivision and the Erdman parcel contain wetlands, which may be impacted by the Interstate 8 and BCD Alternatives. Construction of the Interstate 8 and BCD Alternatives would impact groundwater resources and jurisdictional resources. If either of these alternatives is selected to be built, a jurisdictional delineation would be completed to determine impacts to jurisdictional habitats (see General Response GR-15).

The commenter states that there are open space easements for Big Country Ranch, the Grizzle subdivision, and Erdman parcel. It is acknowledged that there are open space easements on file with the County's Department of Planning and Land Use. Sensitive biological resources will be avoided to the extent practicable during final engineering (see BIO-APM-8 and BIO-APM-18).

The commenter also states the Grizzle subdivision contains cultural and historical resources in the portion of the property bisected by the Interstate 8 Alternative. Please refer to Response to Comment B0002-102.

B0002-56 Impacts to surface water along the Modified Route D Alternative are identified in Section E.4.12.2 of Volume 4 of the Draft EIR/EIS, and Impacts H-1, H-2, and H-6 are considered significant without mitigation. The mitigation measures identified for these impacts would ensure less than significant impacts would occur to surface waters along the Modified Route D Alternative. Similarly, impacts to surface water along the BCD South Option are identified in Section E.2.12.3 of Volume 4 of the Draft EIR/EIS, and Impacts H-1, H-2, and H-6 are considered significant without mitigation. The mitigation measures identified for these impacts would ensure less than significant impacts would occur to surface waters along the BCD South Option.

B0002-57 The incorrect notation on Figure E.2.15-4 was a typographical error, and the figure has been modified as suggested.

B0002-58 Please see Response to Comment B0002-20 regarding cumulative impacts of wind farms in the Boulevard region. Please see Section G.4.2 for the cumulative analysis of the southern route alternatives.

B0002-59 The commenter suggests the wind farms in the McCain Valley could cause electromagnetic interference impacting television and radio. Please see Response B0002-47.

B0002-60 It is unlikely that the EMF generated by wind turbines would interfere with radio communications of firefighters because as the DOE states, instances of electromagnetic interference caused by wind turbines are infrequent.⁹ Additionally, Mitigation Measures PS-1a and PS-1b are designed to limit and address any radio interference. With regard to the presence of wind generation facilities interfering with firefighting operations due to their height and extent, because wind farms are not linear facilities, they would not pose significant impacts to firefighting operations because the firefighters would be able to

⁹ DOE, 2007.

go around and avoid the wind project. No changes to the text of the Draft EIR/EIS have been made.

B0002-61 When the original alignment for Modified Route D passed through Cameron Valley, a viewpoint was established on Cameron Truck Trail. However, once Modified Route D was relocated to the hills along the eastern perimeter of the valley, thereby reducing the visual prominence of the route within the valley (portions of some of the structures would be screened by terrain), and the route would no longer obscure views of the valley from Old Highway 80 or I-8, a new key viewpoint was established on South Buckman Springs Road. The new Key Viewpoint 67 captures the view of the route as it exits the hills south of Cameron Valley and converges on Buckman Springs Road. Furthermore, as stated in the discussion of Impact V-82 (significant [Class I] visual impact), the Key Viewpoint 67 impact analysis presented on pages E.4.3-11 and E.4.3-12 *“...is considered representative of project views from and in the vicinity of South Buckman Springs Road, Cameron Truck Trail, and nearby residences.”*

B0002-62 The Modified Route D Alternative does indeed cross the Campo Valley Groundwater Basin and the Potrero Valley Groundwater Basin, both of which are within the EPA-designated Campo-Cottonwood Sole Source Aquifer recharge area, and the erroneous statement in the first paragraph of Section E.4.12.1 of Volume 4 of the Draft EIR/EIS has been corrected as follows:

This alternative route crosses ~~no designated groundwater basin~~ the Campo Valley Groundwater Basin and the Potrero Valley Groundwater Basin. These groundwater basins are within the EPA-designated Campo-Cottonwood Sole Source Aquifer recharge area. This means the aquifer supplies more than 50 percent of a community’s drinking water. Any project which is financially assisted by federal grants or federal loan guarantees, and which has the potential to contaminate a sole source aquifer, should be modified to reduce or eliminate the risk (USEPA, 2007; <http://epa.gov/region09/water/groundwater/ssa-pdfs/ssafact.pdf>).

B0002-63 The mitigation measures identified for Impact H-2 (Construction activity could degrade water quality through spills of potentially harmful materials) are sufficient to ensure that groundwater would not be contaminated as a result of construction activities along the Modified Route D Alternative. Mitigation Measure H-2b specifically prohibits storage of fuels and hazardous materials within 200 feet of groundwater supply wells, and Mitigation Measure H-2c specifically prohibits disposal of hazardous materials onto the ground, the underlying groundwater, or any surface water. In the event of a spill, this measure requires immediate cleanup. Because of the limited amount of hazardous materials that would be used and stored at construction sites in addition to Mitigation Measure H-2b and H-2c, it is extremely unlikely that a spill of hazardous materials would contaminate the Campo-Cottonwood aquifer. No changes to the impact class determination of Impact H-2 have been made.

With regard to impacts from blasting, please see Response to Comment B0002-24.

B0002-64 Please see Response to Comment B0002-24.

B0002-65 Senate Bills 610 and 221 do not apply to transmission lines or the associated facilities. Water for the Proposed Project will be purchased from municipal vendors. This pur-

chase would be a one time event as the maintenance of the transmission lines and substations does not require large amounts of water. Water would likely be obtained from SDCWA from the Morena Reservoir (owned by the City of San Diego), Barrett Lake (owned by the City of San Diego), Loveland Reservoir (owned by Sweetwater Authority), and/or El Capitan Reservoir (owned by the City of San Diego). Water use during project construction would be a comparatively small fraction of the total water supply for the jurisdictions affected by the Modified Route D Alternative and would not change the ability of the water suppliers identified in Section D.14.2 in the Draft EIR/EIS to serve the alternative area demands.

B0002-66 The Campo opposition was to any alternative of the Proposed Project that would cross Campo lands; the opposition was not to further development of wind projects on Campo lands. Please see Comment Set A0006 for the specific wording of the Campo Band comments on the Proposed Project. The Jacumba Substation has moved approximately 4 miles southeast of the location identified in the Draft EIR/EIS. Section 2 of the RDEIR/SDEIS analyses the updated SDG&E Jacumba Substation site. The resulting increase in length of the 230 kV transmission line from the New In-Area Renewable Resource wind component would remain within the existing SWPL corridor and the impacts of this additional 4 miles are analyzed in Section E.5 of the Final EIR/EIS. Please see Response to Comment B0002-20 regarding cumulative impacts of the wind projects in the Campo region.

B0002-67 The commenter states that the Section E.5.1.4, Wind Component Area Siting is deficient because wind energy conflicts with the Mountain Empire Subregional Plan.

The discussion in this Section acknowledges that the landforms of the region are an important resource that should be respected and summarizes key information from the Plan. The discussion does not specifically address policy issues of the plan, however. This discussion is found in Appendix 2, Policy Screening Report, and Section D.16, Policy Consistency. These sections of the EIR/EIS provide a thorough evaluation of applicable policies from this Plan. Section D.16 identified inconsistencies with Industrial Goal – Policy 6 and with Scenic Highway – Policy 1. Please refer to these sections of the Draft EIR/EIS for more information on how the policies were addressed and evaluated for this Plan. Also refer to Response to Comment B0002-42.

B0002-68 Please see Response to Comment B0002-66. The commenter notes that PPM Energy is working toward gaining easements for access to its potential wind turbine site in the McCain Valley as its construction equipment and turbines may not fit under the I-8 overpass on McCain Valley Road. This information is beyond the scope of the Sunrise Powerlink EIR/EIS. Please see General Response GR-2 on the feasibility of the wind component of the New In-Area Renewable Generation Alternative.

B0002-69 The Draft EIR/EIS acknowledges the difficulty in restoring pre-construction vegetated conditions in the discussion of Visual Resources Impact V-2 (*Long-term visibility of land scars and vegetation clearance in arid and semi-arid landscapes*) presented on page D.3-49. However, effective implementation of Mitigation Measures V-2a through V-2d (discussed on pages D.3-49 and D.3-50) would reduce the visual impact to a level that would be less than significant.

- B0002-70 Please see Response to Comment B0002-20 regarding cumulative impacts of the wind projects in the McCain Valley and in the La Rumorosa region.
- B0002-71 The commenter is correct in noting that the southern end of the Campo Reservation is not north of Interstate 8, but rather south of I-8 near the U.S.-Mexico border. Section E.5.1.4: Wind Facility Design has been revised as follows:
- In addition to the turbine structures, the following facilities would also be required:
- A new **switchyard** would need to be constructed as part of the wind component ~~at the southern end of the Campo Reservation~~ north of Interstate 8. The exact siting of the switchyard would be dependent upon final design of the wind component.
- This change would not affect the impact analysis as it was assumed in the analysis that the switchyard was sited within the wind farm itself, north of Interstate 8.
- B0002-72 Impact V-NW6 in Section E.5.3 in Volume 4 of the Draft EIR/EIS analyzes how increased structure contrast, industrial character, view blockage, and skylining would occur when viewing the wind component turbines and associated facilities from nearby residences and public roads and concludes this would be a significant and unmitigable impact. The specific roads mentioned in the comment are not mentioned in the Impact discussion, because the analysis is general to all nearby public roads.
- Since the issuance of the Draft EIR/EIS, the Sempra La Rumorosa wind development project has been redefined based on Sempra's application for Presidential Permit. The visual analysis has been updated with regards to this indirect action. The new visual analysis is provided in the RDEIR/SDEIS in Section 2.3.
- B0002-73 Comment noted. Any questions or comments pertaining to the proposed change in VRM classification (which is not part of this present study) should be directed to the Bureau of Land Management El Centro Field Office.
- The commenter states that Carrizo Gorge Wilderness Areas is not identified in surrounding land uses.
- There is a cross reference to Section E.5.5 in the land use discussion. Please refer to Section E.5.5 of the Draft EIR/EIS, Wilderness and Recreation. The wilderness is discussed under the subsection "Wilderness and Recreation Setting for Wind" and in the analysis following.
- B0002-74 The commenter states that Carrizo Gorge Wilderness Areas is not identified in surrounding land uses.
- There is a cross reference to Section E.5.5 in the land use discussion. Please refer to Section E.5.5 of the Draft EIR/EIS (Wilderness and Recreation) for a discussion of impacts to the Carrizo Gorge Wilderness Area. The wilderness is discussed under the subsection "Wilderness and Recreation Setting for Wind" and in the analysis following.
- B0002-75 The commenter states that McCain Valley Road cannot be used for construction access due to height limitations under I-8.

Please see Response to Comment B0002-66.

- B0002-76 The Draft EIR/EIS (Impact N-3, pages E.5-178 to E.5-179 including Mitigation Measure N-3b) describes and analyzes the noise from the turbines themselves including the rotation of the blades and operation of the generator.
- B0002-77 The commenter notes opposition from the Campo tribe that may negate the location of a wind substation, and that the Jacumba Substation has moved several miles to the south-east. Please see Response to Comment B0002-66.
- B0002-78 The commenter states that additional roads need to be added to Table E.5.9-1 because McCain Valley Road would be unavailable for access and because the Jacumba Substation has moved. No data are available on the referenced roads. Section 2.9 of the RDEIR/SDEIS addresses impacts to Old Highway 80 and Carrizo Creek Road due to the new location of the Jacumba Substation.
- B0002-79 The commenter states that the public health and safety analysis in Section E.5 (page E.5-204) is deficient because it does not analyze groundwater impacts from drilling of turbine footings (using chemical drilling muds — a potential contaminant), and changes in groundwater flow dynamics and surface water runoff. A large wind tower foundation would likely require four or five drilled piers to resist the wind load (overturning). It is conceivable that each pier would be 2 feet in diameter and 20 to 25 feet deep. The proposed wind farm area within the Campo Reservation is underlain by granitic bedrock. Piers in hard rock would likely be drilled by air-percussion equipment and may use small amounts of water, and possibly additives such as foam, to aid with the cuttings removal. Any additives to the air “fluid” should be the same as used in the water well drilling industry and would not have adverse affects to the bedrock aquifers in the area.

The Boulevard Planning Group also states in this comment that potential leaks or spills of transformer oil could occur at the wind farm facilities and result in groundwater contamination. An example is described where oil leaked from a transformer and resulted in contamination of a residential well. The example is an incident that occurred at the Maple Ridge Wind Farm in New York state (Watertown Daily times 12-29-07) where an explosion caused release of a significant amount of oil from a transformer. Transformer oil is mineral oil, and the operator provided a quick response and clean-up, and only one of 15 nearby water wells had oil contamination. The proposed wind farm facility will be operated under a SPCC Plan to properly contain and quickly respond to cleanup any chemical leaks and spills during operation and maintenance of the wind turbines, substation, and associated facilities. Prompt action will reduce the potential for contamination of soil and groundwater resources.

Encroachment of alternative tower/turbine structures or associated facilities into a flow path or floodplain could result in flooding of or erosion damage to the encroaching structure, diversion of flows and increased flood risk for adjacent property, or increased erosion on adjacent property (Impact H-6 in Section E.5.12 of the Draft EIR/EIS). This impact is likely to occur only where wind towers or other permanent project features are constructed in or closely adjacent to a watercourse. Placement of towers in watercourses is unlikely for the reason that wind tower/turbines would be sited along hill tops and ridges where optimum wind conditions exist. However, alternative access roads

could traverse a flow path or floodplain. Implementation of mitigation measures presented below would reduce this impact to less than significant levels (Class II).

The hilltop locations would make the wind turbine unlikely to interfere with ground-water flow, which would be beneath the depth of the turbine. However, the Planning Group and several individuals have raised an important concern about maintaining the integrity of groundwater wells, especially in sole-source aquifers, should blasting be required. Please refer to Response to Comment B0002-24 for a revised discussion of Impact H-4 (Groundwater dewatering for project construction could deplete local water supplies) and Mitigation Measure H-4b (Avoid blasting where damage to groundwater wells or springs could occur) throughout the Water Resources sections of the Draft EIR/EIS. Likewise the text in Section E.5.12 in the Draft EIR/EIS has been modified as follows:

Impact H-4: Groundwater dewatering for project construction could deplete local water supplies (~~No Impact for the wind component; Class II for transmission line~~)

The wind component areas north of Interstate 8 border the western and northern boundaries of the Cottonwood Valley Groundwater Basin and the Campo Valley Groundwater Basin is located to the south of Interstate 8. The potential SDG&E Jacumba Substation site would be located in border the Coyote Wells Jacumba Valley Groundwater Basin and the 230 kV transmission line would cross the Jacumba Valley Groundwater Basin. Since the depth to groundwater in these basins exceeds 50 feet, which is below the maximum depth of tower construction, there is no need to dewater excavations so that construction can proceed. As a result, no depletion of local groundwater would occur. However, blasting and drilling for turbine foundations, should it be required, could reduce water flows in wells and springs, and a portion of the alternative transmission line traverses the Campo Valley Groundwater Basin where the depth to groundwater may be as shallow as 15 feet. Dewatering for transmission line construction in the Campo Valley Groundwater Basin could result in a local and temporary drawdown of groundwater levels which could temporarily reduce the yield of nearby water supply wells, and blasting for turbine foundations could temporarily or permanently reduce flows in wells and springs, resulting in a significant impact without mitigation.

Implementation of Mitigation Measure H-4a, which requires identification of wells and provision of alternate water supplies during the period of depletion, and Mitigation Measure H-4b, which requires avoidance of blasting where damage to wells or springs could occur, would reduce this impact to a less than significant level (Class II.)

Mitigation Measures for Impact H-4: Groundwater dewatering for project construction could deplete local water supplies

H-4a Avoid using source water and provide alternative sources where avoidance is not possible. [WQ-APM-6]

H-4b Avoid blasting where damage to groundwater wells or springs could occur.

B0002-80 Please see Response to Comment B0002-21.

B0002-81 The Planning Group is correct that the Jacumba Substation is located in the Jacumba Valley Groundwater Basin not the Coyote Wells Valley Groundwater Basin as stated in the Draft EIR/EIS. This inaccuracy has been corrected throughout Section E.5.12.

- B0002-82 Impact H-7 is, in fact, listed as a Class II impact, not a Class III impact as suggested by the Planning Group. However, Impact H-3 has been modified as suggested due to the possibility of shallow groundwater at the site of the wind component of the New In-Area Renewable Generation Alternative. Impact H-3 has been modified in Section E.5.12 of the Draft EIR/EIS as follows:

Impact H-3: Excavation could degrade groundwater quality in areas of shallow groundwater (~~No Impact for wind component; Class II for transmission line~~)

The wind component areas north of Interstate 8 border the western and northern boundaries of the Cottonwood Valley Groundwater Basin and the Campo Valley Groundwater Basin is located to the south of Interstate 8. The potential SDG&E Jacumba Substation site would border the Coyote Wells Valley Groundwater Basin~~be located in the Coyote Wells Valley Groundwater Basin~~ and the 230 kV transmission line would cross the Jacumba Valley Groundwater Basin. Since the depth to groundwater in these basins generally exceeds 50 feet, which is below the maximum depth of tower construction, there is ~~no~~ only a small possibility of encountering and degrading groundwater during construction. However, a portion of the wind component transmission line traverses the Campo Valley Groundwater Basin where the depth to groundwater may be as shallow as 15 feet.

~~In the Campo Valley Groundwater Basin, d~~Degradation of groundwater quality would be a significant impact without mitigation (Class II). Mitigation Measures H-1c, H-1d, H-2b, H-2c, and H-1h are recommended.

- B0002-83 Impacts to groundwater as a result of the construction of the wind component of the New In-Area Renewable Generation Alternative is adequately addressed under Impacts H-2 and H-3 in Section E.5.12 of Volume 4 of the Draft EIR/EIS. In addition, Impact H-4 for the wind component has been modified as is shown in Response to Comment B0002-79 above, and Mitigation Measure H-4b (Avoid blasting where damage to groundwater wells or springs could occur) has been added as is shown in Response to Comment B0002-24.

- B0002-84 The commenter notes that when the 69 kV line was reconductored (to accommodate the new energy generated by the Kumeyaay wind facility), Boulevard, Jacumba, and several tribal neighborhoods were taken off grid and had to rely on SDG&E emergency generators. The wind component in the New In-Area Renewable Generation would not require reconductoring of existing lines as it is assumed to provide its power into a new 230/500 kV substation, the Jacumba Substation or a substation located on Campo tribal land. The power would then loop in to the existing SWPL 500 kV transmission line.

- B0002-85 Please see Response to Comment B0002-21 for modifications to the text of Impact F-2 (Presence of the overhead transmission line would increase the probability of a wildfire) in Section E.5.15 of the Draft EIR/EIS.

- B0002-86 A very small portion of the wind facility is located in the Boulevard Fireshed as noted. The text of Section E.5.15, Fire and Fuels Management for Wind, first paragraph, has been modified as follows:

The wind facilities, including turbines, access and spur roads, ~~40~~15-mile 230 kV transmission line, and switching station would be located within the La Posta Fireshed, and a very small portion of the facility would be located in the Boulevard Fireshed, both described in Section E.1.15.

- B0002-87 Table E.8-1 of the Draft EIR/EIS explains that the discussion of impacts related to the renewable generation components of the No Project/No Action Alternative are described elsewhere in the Draft EIR/EIS (see Impact N-3, pages E.5-178 to E.5-179 including Mitigation Measure N-3b for the noise from the wind turbines).
- B0002-88 The commenter states that the noise from wind generation in the Crestwood area could impact wildlife. Potential impacts to wildlife due to noise associated with the wind generation project are addressed in Section E.5.2 (pages E.5-87 and E.5-91 of the Draft EIR/EIS). The wind generation project's impacts on biological resources are summarized on pages E.8-24 through E.8-26 of the Draft EIR/EIS.
- B0002-89 The commenter describes on- and off-ramps to I-8 and notes traffic delays when lanes or roads are closed for construction. Please refer to Section E.1.9 for a discussion of traffic impacts and associated mitigation measures to offset the impacts associated with the Interstate 8 Alternative. In addition, there a casinos whose patrons use the same traffic routes. The comment has been noted and there is no response needed.
- B0002-90 Please see Response to Comment B0002-20.
- B0002-91 The commenter states that the cumulative impacts associated with the loss of native vegetation for the Interstate 8 Alternative will be even greater with the increased size and scale of the La Rumorosa Wind Energy Projects. The La Rumorosa Wind Energy Projects is considered an Indirect Effect associated with the Proposed Project and its cumulative impact analysis is included with the analysis on page G-34 of the Draft EIR/EIS. It is acknowledged that the increased size and scale of the La Rumorosa Wind Energy Projects would result in greater cumulative impacts. However, loss of native vegetation is already considered a Class I significant and unmitigable impact (see page G-34 of the Draft EIR/EIS). The La Rumorosa Wind Energy Projects as defined by Sempra in the December 20, 2007 and March 19, 2008 Presidential Permit application is analyzed in Section 2 of the RDEIR/SDEIS.
- The commenter states that the cumulative impacts associated with the loss of native vegetation for the Interstate 8 Alternative will be even greater in response to the 2007 fires. It is assumed that the commenter is referring to the potential for stricter requirements and/or regulations related to vegetation/fuels management. The project's vegetation management standards did not change following the 2007 fires in San Diego County; as a result, the Interstate 8 Alternative's vegetation/fuels management is not expected to increase.
- B0002-92 The commenter states that the Jacumba Substation, La Rumorosa project, and BCD South I-8 Alternative would impact the Las Californias wildlife corridors. See Response to Comment B0002-31.
- B0002-93 The discussion of geographic extent of cumulative impacts for visual resources (regarding the SWPL Alternatives on page G-121 of the Draft EIR/EIS) does not state that nothing will be visible beyond two miles. The discussion correctly points out that:
- “...most cumulative visual impacts would occur within two miles [of the I-8 Alternative]. Beyond two miles, structures become less distinct or even not visible if they blend sufficiently with background forms, colors, and textures. Also,

beyond two miles it is likely that sightlines will become impaired or blocked by intervening terrain and vegetation. In some cases, the expansiveness or openness of a landscape or the availability of vista viewpoints and overlooks greatly expand the viewshed for a portion of the project to distances of five miles or more. From these locations, the geographic scope of the cumulative analysis would increase commensurately.”

- B0002-94 It is agreed that the more extensive the La Rumorosa wind development area is, the more extensive and visible will be the associated land scarring given the arid conditions of the development area. Impact V-2 in Section 2.3 of the RDEIR/SDEIS addresses land scars and vegetation clearance and concludes this would be a significant and unmitigable impact (Class I).
- B0002-95 Please see Response to Comment B0002-47.
- B0002-96 Please see Response to Comment B0002-24.
- B0002-97 Please see Response to Comment B0002-41.
- B0002-98 Please see Response to Comment B0002-20 regarding wind project and cumulative impacts. The development of the Big Country Ranch estate has been considered in the cumulative analysis (see Table G-3).
- B0002-99 Please see Response to Comment B0002-20.
- B0002-100 The commenter suggests that Impact P-1 (Soil or groundwater contamination results due to improper handling and/or storage of hazardous materials during construction activities) in Table H-27 should be changed to significant and unmitigable (Class I) because the construction would occur in a region that has a sole source aquifer. Impact P-1 as analyzed in Section E.5.12 in Volume 4 of the Draft EIR/EIS is significant, but is mitigable to less than significant levels with implementation of mitigation that includes implementing an Environmental Monitoring Program, maintaining emergency spill supplies and equipment, proper storage and disposal of waste, no storage of fuels and hazardous materials near sensitive water resources, and proper disposal and clean-up of hazardous materials. The Environmental Monitoring Program also includes preparing environmental safety plans including a spill prevention and response plan and that the Applicant would designate an Environmental Field Representative who would be onsite to observe, enforce, and document adherence to the plans for the construction activities. Such mitigation would allow for prompt action in the case of any chemical leaks and spills, and prompt action would reduce the potential for contamination of soil and groundwater resources to a less than significant level. The likelihood of aquifer contamination would be highly unlikely with implementation of these mitigation measures.
- B0002-101 A fifth bullet point has been added under the environmental disadvantages of wind in Section 4.10.2 of Appendix 1, Alternatives Screening Report, as follows:
- Wind turbines can also be the source of wildfire ignitions due to power collection line failure, turbine malfunction or mechanical failure, and lightning- and bird-related incidents. When mechanical or electrical failures cause turbines to catch fire, they may burn for many hours due to the limited ability of fire suppression

crews to effectively fight fires hundreds of feet above the ground. Wind-blown flaming debris from a turbine fire can ignite vegetation in the surrounding area.

- B0002-102 The presence of the old McCain family ranch house on the Lansing private parcel (APN #61303035) is noted. Portions of this parcel would be used for a temporary staging-fly yard for the I-8 and BCD Alternative Routes. This private parcel was not inspected during the 30 percent survey of the alternatives, nor did the McCain Ranch House show up on lists of historical properties. Nonetheless, as noted in this comment, the house may be eligible for listing on the state or national registers. This potential would be evaluated as part of the Section 106 process for the National Historic Preservation Act if the I-8 or BCD Alternatives are selected to be built. Generally for a temporary staging area, standing structures will be protected from direct impacts. Further, because the staging use would be temporary, visual impacts to historic resources would be temporary, as well, and considered to be less than significant.
- The commenter states that the Interstate 8 and BCD Alternatives would impact wetland habitat and historical and cultural resources on the Grizzle subdivision site. See Response to Comment B0002-55. Impacts to wildlife species, including bats and raptors, along the Interstate 8 Alternative and the BCD Alternative were considered in Section E.1.2 and Section E.4.2 respectively in Volume 4 of the Draft EIR/EIS.
- B0002-103 It is acknowledged that the staging area-fly yard shown on Figure Ap.11C-45 would be highly visible to travelers on Old Highway 80 and Interstate 8. However, as discussed on page D.3-47, the short-term visibility of construction, storage, and fly yards would be significant but mitigable to a level that would be less than significant (Class II). Mitigation Measure V-1a requires the location of staging areas and fly yards away from areas of high public visibility. Where such facilities are proposed to be located near public roads or residential areas (such as the staging area-fly yard shown on Figure Ap.11C-45), the facilities are to be screened from view during the term of construction.
- B0002-104 The Boulevard Planning Group states that the surfactant that shall be added to the herbicide mixture (discussed in Appendix 12, page Ap.12-109) can cause contaminants to more easily travel through the vadose zone and reach the water table, resulting in the potential for groundwater contamination and that this should be considered a Class I impact. SDG&E follows a strict Herbicide Application Protocol (summarized in Table D.10-8 of the EIR/EIS) which requires herbicides use to be limited to targeted areas, not sprayed during periods of potential runoff or in areas of potential runoff, and prohibits application in the vicinity of wells. Additionally, SDG&E's policy (as stated in its Herbicide Application Protocol) is not to apply herbicide in areas where the landowners, homeowners, or land managers have expressed concerns over groundwater contamination.
- B0002-105 The exhibit list for the Boulevard Planning Group is acknowledged.
- B0002-106 The articles regarding the U.S.-Mexico border are acknowledged.
- B0002-107 The articles regarding the SCE solar project initiative are acknowledged. Please see General Response GR-2, which addresses this project.
- B0002-108 The article "Wind Farm Oil Taints West Martinsburg Well" is acknowledged.

B0002-109 The commenter provides a series of photos of wind turbine accidents, including fires, broken blades, tower collapse, etc. Please see Responses to Comments B0002-21 and B0002-85 regarding fire impacts and wind turbines.

Turbines, which are typically shipped as three separate components and assembled on site, can weigh an average of about 65 tons. The space required to transport a typical turbine is about 13 times the volume of an ordinary tractor-trailer rig. Towers and bases are also exceptionally heavy. Blades are relatively lightweight but unusually long, some longer than 120 yards.¹⁰ Thus, the size and the weight of a wind turbine require special transportation equipment.

The International Electrotechnical Commission (IEC), a recognized international body for standards development activities, developed international standards for wind turbines. The American Wind Energy Association (AWEA) is the recognized U.S. industry organization for standards development and works with IEC to develop safety requirements for large wind turbines.¹¹ Additionally, any large wind project would be required to apply for applicable county land use permits, which would ensure public health, safety, and welfare.¹²

B0002-110 The photos of the drilling rig used for constructing wind turbines are acknowledged.

B0002-111 The Sempra Presidential Permit Application for the Baja Wind U.S. Transmission, LLC is acknowledged. The Draft EIR/EIS has been recirculated to address the data contained in this Presidential Permit Application.

B0002-112 The Boulevard Planning Group opposition to the Baja Wind U.S. Transmission, LLC is acknowledged. The Center for Biological Diversity protest to the Baja Wind U.S. Transmission, LLC is acknowledged.

B0002-113 Sections 1380, 6156, 6158, 6950, and 6951 of the Zoning Ordinance: San Diego County are acknowledged.

B0002-114 The San Diego State University report is acknowledged, including reference to ground-water levels at less than 5 feet below ground surface. Unconfined shallow groundwater is included in the impact analysis in both Section E.1.12 and E.4.12 in Volume 4 of the Draft EIR/EIS.

B0002-115 The EPA map of the Campo-Cottonwood Sole Source Aquifer is acknowledged. The EPA map of the Campo-Cottonwood Sole Source Aquifer was taken into consideration in the impact analysis.

¹⁰ Korpella, Robert J. 2008. Arkansas Researchers Study Wind Turbine Transportation Issues. Online at http://www.freshare.net/article/arkansas_researchers_study_wind_turbine_transportation_issues/. Dated January 18. Accessed on September 25.

¹¹ AWEA. 1996. "iec wind turbine standards." http://www.awea.org/standards/iec_stds.html in August 2008.

¹² Contra Costa. 1998 "Project Description" EIR for Repowering a Portion of the Altamont Pass Wind Resource Area, 1998.

- B0002-116 The article “Minister Demands Explanation for Windmill Collapse” is acknowledged. Wind turbine standards are set by the International Electrotechnical Commission with the involvement of the American Wind Energy Association.
- B0002-117 The Boulevard Planning Group’s submission of an article about the Boulevard Fire Department is acknowledged.

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