Comment Set A6
California State Water Resources Control Board

Linda S. Adams
Secretary for Environmental Protection

State Water Resources Control Board

Division of Water Quality
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Arnold Schwarzenegger
Governor

June 19, 2006

Mr. Billie Blanchard
State of California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Dear Mr. Blanchard:

RESPONSE TO NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT FOR DEVERS-PALO VERDE NO. 2 TRANSMISSION LINE PROJECT A6-1

Thank you for the opportunity for the State Water Resources Control Board (State Water Board) to comment on Notice of Preparation (NOP) for the Devers-Palo Verde No. 2 Transmission Line Project (proposed project). The proposed project involves construction of an electric transmission line from Devers Substation located north of Palm Springs to the Harquahala Generating Substation in Arizona. The proposed project will also upgrade about 48 miles of transmission lines in Riverside and San Bernardino County.

Our comments are submitted in compliance with California Environmental Quality Act (CEQA) *Guidelines* §15096, which requires CEQA responsible agencies to specify the scope and content of the environmental information germane to their statutory responsibilities and lead agencies to include that information in their Environmental Impact Report (EIR) for the proposed project.

The State Water Board and the Regional Water Quality Control Boards (Regional Water Boards) regulate discharges which could affect the quality of waters of the State in order to protect the chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water. If the proposed project has any of the following discharges, the project proponent is required to obtain a permit from the State or Regional Water Boards:

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Discharge Type	Types of Permits involved
· Discharge of dredge and fill materials	- Clean Water Act (CWA) §401 water quality certification for federal waters; or Waste Discharge Requirements for non-federal waters.
· Wastewater discharges	- CWA §402 National Pollutant Discharge Elimination System permit, e.g., storm water permit.
· Other discharges	- Waste Discharge Requirements or other permits for discharges that may affect groundwater quality and other waters of the State, such as operation of proposed solid waste transfer facilities and other project activities.

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Because the proposed project will cross the jurisdictions of the Colorado River Basin and Santa Ana Regional Water Boards, the State Water Board will take the lead regulatory role for CWA §401 water quality certification. Please consult us during development of project-specific mitigation measures for impacts to State waters (such as wetlands, streams, creeks, and their riparian areas). We will coordinate closely with the Regional Water Boards during our review of the mitigation measures. To facilitate this coordination, please also include Mr. Kirk Larkin (klarkin@waterboards.ca.gov) of the Colorado River Basin Regional Water Board and Mr. Adam Fischer (afischer@waterboards.ca.gov) of the Santa Ana Regional Water Board and in all future correspondence (see cc list for mailing addresses). Early consultation is encouraged, as project reconfiguration may be required to avoid and minimize impacts to State waters.

Our comments focus primarily on discharges regulated under the CWA §401 program.

Identification of Affected Waters
In your EIR, please identify all waters of the State that will be affected by the proposed project and list them in appropriate tabular format, organized by water body type (e.g., at a minimum: river/streambed, lake/reservoir, ocean/estuary/bay, riparian area, or wetland type) and Regional Water Board's jurisdiction. Include riparian areas as

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defined by the National Academy of Sciences[1]. Please provide estimated affected acreage for each water body. Please also identify any "isolated" wetlands or other waters not subject to federal jurisdiction. A6-2 cont.

Potential Impact to Water Quality
In your EIR, please include analysis of potential direct and indirect impacts to water quality from discharges to waters of the State, including discharges of dredge and fill materials (such as pipeline crossing a stream or wetland). A6-3

The Certification and Wetlands Program at the State Water Board regulates discharges of dredge and fill material under CWA section 401 and the Porter-Cologne Water Quality Control Act. As a responsible agency, we will review the EIR to evaluate the water quality impacts from discharges of dredge and fill materials. Please use Enclosure 1 to this letter as a reference when you conduct this water quality analysis. Enclosure 1 includes a table that characterizes potential water quality impacts and the associated required analyses. Although specifically relevant to urban development, the table is generally applicable to construction projects.

Alternative Analysis
In your EIR, please include the alternative analysis required by CWA §404(b)(1) *Guidelines* as part of the alternative analysis in the EIR. A6-4

If the proposed project results in discharges of dredge and fill materials (e.g., installing a pipeline crossing a stream) to the waters of the State, the project proponent is required to obtain a CWA §401 Water Quality Certification from the State Water Board and a CWA §404 permit from the Army Corps of Engineers and will, therefore, need to conduct an alternative analysis consistent with the requirements of the federal CWA §404(b)(1) *Guidelines.* While these *Guidelines* are most directly incumbent on the Army Corps of Engineers, the principles of avoidance, which they articulate, are directly relevant to the State and Regional Water Boards' mandate of protecting water quality.

Habitat Connectivity
Riparian corridors and other waters within the regulatory purview of the State and Regional Water Boards can play important roles in maintaining habitat connectivity. Linear projects have a major potential to fragment habitat. Enclosure 2, *Terrestrial Habitat Connectivity Related To Wetland, Riparian, and Other Aquatic Resources*, A6-5

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[1] Riparian areas are transitional between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological process, and biota. They are areas through which surface and subsurface hydrology connect water bodies with their adjacent uplands. They include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). Riparian areas are adjacent to perennial, intermittent, and ephemeral streams, lakes, and estuarine-marine shorelines. (National Research Bureau of the National Academy of Sciences. 2002. *Riparian Areas: Functions and Strategies for Management.* National Academy Press, 2102 Constitution Avenue, N. W., Washington, D. C., 20418).

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provides information and references on this subject. In-water aquatic habitat may also be fragmented by impacts to streams or other water bodies. A6-5 cont.

In your EIR, please analyze the regional importance of movement corridors in and along water bodies potentially affected by the pipeline alignment, the potential effect of disrupting such corridors, and the potential for enhancing such corridors through mitigation measures. Include information regarding any sensitive plant and animal species that likely utilize the corridors.

In conducting these analyses, please consider the information and literature referenced in Enclosure 2, including recent data on the role of riparian corridors as movement corridors in California.

Please contact Jenny Chen, State Water Board Wetlands and Certification Unit, at 916-341-5570 (hjchen@wateboards.ca.gov) if you need further assistance. You may also contact Oscar Balaguer (obalaguer@waterboards.ca.gov), Chief of Wetlands and Certification Unit, at 916-341-5485.

Sincerely,

Elizabeth L Haven

Elizabeth L. Haven
Assistant Division Chief
Division of Water Quality

Enclosures (2)

cc: Mr. Andrew Rosenau, Chief
Regulatory Branch
U.S. Army Corps of Engineers
Sacramento District
1325 J Street, Room 1480
Sacramento, Ca 95814

Mr. David Castanon, Chief
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Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325

cc: (see continuation page)

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cc: (continuation page)

Mr. Curt Tancher, Regional Manager
California Department of Fish and Game, Region 6
3602 Inland Empire Blvd., Suite C-2200
Ontario, CA 91764

Mr. Larry Eng, Regional Manager
California Department of Fish and Game, Region 5
4949 Viewridge Ave.
San Diego, CA 92123

Mr. Kirk Larkin
Colorado River Basin Regional Water Board
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Palm Desert, CA 92260

Mr. Adam Fischer
Santa Ana Regional Water Board
3737 Main St., Suite 500
Riverside, CA 92501-3339

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Enclosure 1 A6-6

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Devers-Palo Verde No. 2 Transmission Project: Identification of Potential Water Quality Impacts and Required Analyses

Comments on Notice of Preparation: Devers-Palo Verde No.2 Transmission Line Project

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Urban Development:
Potential Water Quality Impacts and Required Analyses

The degraded character of urban streams does not result from any single factor, but rather from the interaction of a variety of detrimental effects.

Klein, 1979

Urban development degrades water quality through a complex of interrelated causes and effects which, unmanaged, ultimately destroy the physical, chemical, and biological integrity of the watersheds in which they occur. The primary adverse impacts of poorly planned development on water quality are:

- the direct impacts to aquatic, wetland, and riparian habitat and other beneficial uses;
- generation of construction-related and post-construction pollutants;
- alteration of flow regimes and groundwater recharge as a result of impervious surfaces and storm drain collection systems;
- disruption of watershed level aquatic functions, including pollutant removal, floodwater retention, and habitat connectivity.

These factors have historically resulted in a cycle of destabilized stream channels, poor water quality, fragmented aquatic and terrestrial habitat, and engineered solutions to disrupted flow patterns, culminating in loss of natural functions and societal values in the affected basins.

The number and variability of the pathways through which water quality degradation can occur complicates analysis, but understanding how these pathways operate within the specific context of each development is essential to effectively mitigating the adverse effects. Fortunately, avoidance or minimization of any causal link will obviate or reduce subsequent effects and needed analyses, and a relatively small number of key variables mediate most of the pathways causing water quality degradation.

Table 1. This Enclosure consists of a Table (Table 1) displaying and characterizing the factors potentially affecting water quality. Table 1 provides literature citations for each of the effects, and identifies for each effect the types of project-specific information needed to assess and mitigate each adverse impact to water quality.

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TABLE 1

Devers-Palo Verde No. 2 Transmission Line Project: Identification of Potential Water Quality Impacts and Required Analyses

CAUSE	EFFECT	NEEDED ANALYSES
1. FILL & EXCAVATION Fill or excavation in wetlands, riparian areas, or other waters of the state.	**A. Decreased Flood Storage.** Fill can impinge on the natural storage volume of ephemeral, intermittent, and perennial channels, backwaters, and wetlands, reducing capacity to retain runoff.[1]	1) Quantify reduced flood storage in each affected basin. 2) Identify mitigation.
	B. Change in Groundwater Storage. Fill and excavation can decrease groundwater recharge and cause lower water tables by changing soil percolation characteristics and reducing the area of standing water in recharge basins.[2] Linear excavation (e.g., for utility lines) can act as a conduit to drain groundwater and locally lower watertables.	1) Quantify groundwater response to changes in percolation. 2) Identify locations where linear alignments could act to dewater shallow aquifers. 3) Identify mitigation.
	C. Change in Wetland and Riparian Vegetation. Fill and excavation can bury or remove vegetation and can change site features to prevent reestablishment of characteristic species.	1) Identify and map types and areal extents of affected vegetation. 2) Identify mitigation.
	D. Impaired Beneficial Uses. Fill can directly impair beneficial uses by reducing water area and changing hydrology, geomorphology, substrate, and other waterbody characteristics. In addition, projects which fragment habitat and reduce wildlife movement along riparian and other corridors can degrade remaining patches of wetlands and other habitat by changing their physical characteristics and by isolating and exposing small populations of plants and animals, resulting in local or regional extinctions.[3]	1) Document types, areal extents, and (for drainage features) lengths of affected waters. 2) Characterize and map at project-area and regional scales existing wildlands, along with riparian corridors and other water features supporting habitat connectivity. 3) Identify effects of fill on terrestrial and aquatic habitat connectivity (refer to Enclosure 2). 4) Identify watershed-level effects on pollutant removal and flood retention. 5) Identify mitigation.
2A. CONSTRUCTION Clearing, grading, and construction of structures and facilities.	**A. Production of Urban Pollutants.** Construction can produce pollutants through improper use and disposal of toxic construction materials.	1) Identify mitigation for inclusion in stormwater pollution prevention plan.
	B. Change in Soil Erosion. Active construction can dramatically increase soil erosion by exposing and destabilizing soils. Erosion is compounded by the increased runoff typically accompanying construction.[6]	1) Identify location and extent of planned grading. Display proximity and slope relationships to receiving drainages. 2) Document erodibility of soils and subsoils in areas proposed for grading. 3) Quantify amount and duration of increased sediment loadings to each affected drainage. 4) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
	C. Increased Runoff. Construction can increase both the total and peak volume of stormwater runoff by removing vegetation, compacting soil, exposing dense subsoil, creating steep graded slopes, and eliminating terrain depressions and ephemeral and intermittent drainages that would naturally slow the movement of stormwater.[9]	1) Quantify total and peak volumes of increased runoff for each affected drainage 2) Identify mitigation.
	D. Impaired Beneficial Uses. Projects which fragment habitat and reduce wildlife movement along riparian and other corridors can degrade remaining patches of wetlands and other habitat by changing their physical characteristics and by isolating and exposing small populations of plants and animals, resulting in local or regional extinctions.[11]	1) Characterize and map at project-area and regional scales existing wildlands, along with riparian corridors and other water features supporting habitat connectivity. 2) Identify effects of construction on terrestrial and aquatic habitat connectivity (refer to Enclosure 2). 3) Identify mitigation.
2B. POST-CONSTRUCTION Ongoing effects of constructed environment.	**A. Dry weather discharge.** Construction can cause dry-season "nuisance" runoff from activities such as landscape irrigation[5], sidewalk and vehicle washing, and basement dewatering.	1) Characterize volumes, seasonality, and other pertinent characteristics of "nuisance" flows for each affected drainage.
	B. Increased Groundwater Pumping. Construction can cause increased groundwater pumping for domestic or landscape use.[4]	1) Quantify and map locations of increased pumping.
	C. Production of Urban Pollutants. After construction, urban areas can generate pesticides, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, bacteria, viruses, and other pollutants from activities such as landscape care and vehicle operation and maintenance.[7]	1) Quantify projected increase in pollution production in each affected basin. 2) Identify mitigation.
	D. Change in Soil Erosion. After construction, erosion can be reduced to below natural levels because soils are covered with buildings and pavement, and runoff is routed through storm drains.[8]	1) Quantify reduction of natural sediment delivery rates to each affected basin. 2) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
	E. Increased Runoff. After construction, maintained landscapes and impervious surfaces such as roofs and streets increase total and peak runoff. The increased flows move quickly over paved surfaces and are collected, concentrated, and further accelerated in stormdrain systems. The combination of increased flows and more efficient transport causes a higher, "flashy", more rapidly peaking and falling hydrograph, especially for smaller, more frequent floods.[10]	1) Quantify project-induced changes in total and peak runoff rates to each affected drainage. 2) Identify mitigation.
3. CHANNELIZATION Engineered changes in channel structure or morphology to stabilize banks, prevent flooding, or increase flow conveyance.	**A. Decreased Flood Storage.** Channelization can reduce flood storage within a basin by restricting flows to the active channel, thereby preventing detention of floodwater in backwaters and on the adjacent floodplain.[12]	1) Quantify and map reductions in flood storage in each affected basin. 2) Identify mitigation.
	B. Change in Groundwater Storage. Lining channel bottoms can change groundwater storage by reducing percolation and groundwater recharge.[13] Deepening natural channels can drain adjacent shallow water tables.[14]	1) Quantify and map locations of reduction in recharge rates. 2) Quantify effects on channelization on shallow water tables and associated wetlands. 3) Identify mitigation.
	C. Channel Destabilization. Channelization can cause channel destabilization by changing the balance between the stream's flow, sediment load, and channel form. Destabilization tends to affect entire stream systems. For example, channelization can concentrate and synchronize peak flows from tributary streams, causing increased channel erosion both above and below the channelized reach. The eroded sediment is then deposited downstream when the flow slows down, where it may initiate further destabilization.[15]	1) Quantify basin-level hydrologic and fluvial geomorphic effects of channelization in each affected drainage. 2) Identify mitigation.
	D. Increased Flooding Frequency. Constricted channels (e.g., in leveed sections) can cause water to back up, resulting in localized upstream flooding. Rapid passage of floodwaters through "improved" channels can increase flooding downstream by concentrating and synchronizing tributary peaks.[16]	1) Quantify basin-level hydrologic effect of channelization on each affected basin, including changes in flood return frequencies. 2) Identify mitigation.
	E. Decreased Pollutant Removal. Channelization can decrease natural pollutant removal by reducing instream structural complexity and turbulent-flow aeration, increasing flow velocity, reducing overbank flow, and by causing change in vegetation.[17]	1) Map waters lost to channelization in each affected drainage and characterize type, areal extent, and pollutant removal value. 2) Quantify affect on pollutant loadings to each affected waterbody and downstream receiving waters. 3) Identify mitigation.
	F. Change in Wetland and Riparian Vegetation. Channelization and associated maintenance can directly destroy wetland and riparian vegetation and can change site features to prevent reestablishment of characteristic species.[18]	1) Map and Identify types and areas of affected vegetation. 2) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
	G. Impaired Beneficial Uses. Channelization and associated maintenance can directly impair beneficial uses by reducing waterbody area; increasing stream velocity; disrupting riffle and pool sequences, cover, and other structural features; changing substrate; cutting off nutrient inputs to and from backwaters and riparian wetlands, dewatering upstream reaches, and reducing aesthetic and recreational value. Reduced overbank flooding can adversely affect reproduction of riparian vegetation and wetland and riparian functions.[19] Channelization can inhibit the movement of fish, other aquatic biota, and wildlife, and thus isolate and reduce the viability of populations up and downstream.[20] Construction of channels can introduce sediment, nutrients, and toxics into the water column.[21]	1) Identify direct and indirect effects of proposed channelization projects on beneficial uses. 2) Characterize and display at project-area and regional scales existing wildlands, along with riparian corridors and other water features supporting habitat connectivity. 3) Identify effects of channelization on terrestrial and aquatic habitat connectivity. 4) Identify mitigation.
4. DECREASED FLOOD STORAGE	**A. Increased Runoff.** Reduced flood storage on the floodplain and in channels, swales, wetlands, backwaters, and other natural depressions increases and accelerates runoff.[22]	1) Quantify total and peak volumes of increase runoff for each affected drainage. 2) Identify mitigation.
5. INCREASED GROUNDWATER PUMPING	**A. Change in Groundwater Storage.** Increased groundwater pumping can lower watertables locally or in distant donor basins.[23]	1) Quantify and map locations of project-induced changes in groundwater levels. 2) Identify mitigation.
6. DRY WEATHER DISCHARGE	**A. Change in Baseflow.** Dry weather runoff from urban activities can increase dry-period streamflows.[24]	1) Quantify hydrologic effects of dry weather flows on the baseflow of each affected drainage.
	B. Increased Pollutant Delivery. Dry weather runoff can carry the pollutants generated by the activity causing the flow, e.g., pesticides, nutrients, and petrochemicals from landscape maintenance and cleaning sidewalks and vehicles. Collection of polluted dry weather flows in catch basins may result in shock loadings when it is displaced by subsequent storm flows.[25]	1) Quantify and characterize pollutant loadings from activities generating dry weather runoff to each affected drainage. 2) Identify mitigation.
7. PRODUCTION OF URBAN POLLUTANTS	**A. Increased Pollutant Delivery.** Increased production of urban pollutants can cause increased delivery of pollutants to surface and groundwater.[26]	1) Quantify and characterize pollutant loadings from to each affected drainage. 2) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
8. CHANGE IN SOIL EROSION	**A. Channel Destabilization.** Changes in upland soil erosion can destabilize stream channels by changing the amount of sediment carried into the stream. The stream may then erode or aggrade its channel to balance its available energy with the changes in its sediment load. 1. Increased sediment from construction causes channel aggradation, changing stream cross sections and redirecting flows.[27] 2. Decreased sediment from a paved watershed can cause channel incision and/or side-cutting. The effect may be compounded by increased runoff from the paved watershed. Aggradation may occur downstream where the flow slows and deposits the eroded sediment, which may deflect flows against the channel banks and cause further bank erosion.[28]	1) Conduct geomorphologic analysis of channel response to increases in construction-related sediment. 2) Conduct geomorphologic analysis of channel response to long-term reductions in sediment delivery to each affected drainage. 3) Identify mitigation. <u>Note</u>: Sediment as a pollutant is considered in No. 7, "Production of Urban Pollutants".
9. INCREASED RUNOFF	**A. Change in Soil Erosion.** Increased runoff can dramatically increase soil erosion by causing greater runoff velocities which more effectively displace and carry soil particles. Construction-related soil destabilization can compound the effect.[29]	1) Quantify increases in sheet and gully erosion resulting from increased runoff. 2) Identify mitigation.
	B. Change in Groundwater Storage. Increased runoff can reduce groundwater recharge and lower water tables, since water draining from impervious surface is unable to percolate to groundwater at that location.[30]	1) Map locations of and quantify losses of recharge and water table response. 2) Identify mitigation.
	C. Channel Destabilization. Increased peak runoff can destabilize channels by increasing the flow velocity and erosive power of the stream. Head cutting, incision and/or widening of the channel, and associated sideslope failures can result. Reduced sediment input as a result of change in soil erosion rates can compound the effect.[31] In small streams, increased runoff may also dislodge logs and other channel features that help to define the channel.[32]	1) Quantify channel geomorphic response to increased runoff for each affected drainage. 2) Identify mitigation.
	D. Increased Pollutant Delivery. Increased runoff increases pollutant delivery because it can more effectively carry particulate and soluble pollutants to receiving waters. Increased flow velocity reduces contact time with soil and vegetation that might otherwise remove pollutants.[33]	1) Quantify types and quantities of increased pollutant loadings to each affected drainage. 2) Identify mitigation.
	E. Increased Flooding Frequency Increased runoff and greater transport efficiency result in higher peak flows from storms of a given return period.[34]	1) Quantify basin level hydrologic effect of increased runoff on each affected basin, including changes in flood return frequencies. 2) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
	F. Change in Water Temperature. Increased runoff from urban areas can raise the temperature of receiving waters because runoff from impervious surfaces is often warmer than runoff from pervious surfaces or subsurface flow.[35]	1) Model increase in water temperature along stream profile of each affected drainage. 2) Identify mitigation.
	G. Impaired Beneficial Uses. Increased runoff can impair habitat values by flushing fish and invertebrates out of streams,[36] increasing water level fluctuations and the velocity of flows entering wetlands,[37] and causing salinity changes in estuaries and other nearshore marine waters.[38]	1) Identify direct effects of increased flow on aquatic biota, hydrologic regimes of adjacent wetlands, and salinity of marine receiving waters for each affected drainage. 2) Identify mitigation.
10. CHANGE IN GROUNDWATER STORAGE	**A. Change in Baseflow.** Changes in watertable level can cause changes in the dry weather baseflow of streams fed by groundwater.[39]	1) Quantify for each affected drainage the changes in baseflow associated with lowered water tables and map locations. 2) Identify mitigation.
	B. Change in Wetland and Riparian Vegetation. A lowered watertable can dry up wetlands, stress or kill mature riparian vegetation, and reduce or eliminate seedling survival.[40]	1) Identify types and areas of wetlands and riparian areas that would be affected by expected lowering of shallow water tables and map locations. 2) Identify mitigation.
	C. Impaired Beneficial Uses. A lowered watertable can impair water supply and other beneficial uses which use groundwater. Seawater intrusion is possible in coastal areas.[41] Aquifer compaction and subsidence can also occur.[42] Wetland and riparian areas can be dewatered, harming associated vegetation and habitats.[43]	1) Identify affects of expected water table lowering on water supply and other beneficial uses and map locations. 2) Identify mitigation.
11. CHANNEL DESTABILIZATION	**A. Channelization.** Channel erosion can threaten property and structures, leading to placement of riprap or other engineered stabilization of critical sections.[45]	1) Identify stream reaches in which project-induced channel destabilization may require channelization. 2) Identify mitigation.
	B. Change in Groundwater Storage. Channel incision can dewater shallow aquifers adjacent to the channel.[46]	1) Identify and map stream reaches in which project-induced stream incision may dewater shallow aquifers. 2) Identify mitigation.
	C. Increased Pollutant Delivery. Channel erosion can result in increased suspended solids and turbidity in the water column.[47]	1) Identify and map stream reaches subject to project-induced destabilization, quantify changes in channel dimension, and volume of eroded material for each affected basin. 2) Identify mitigation.
	D. Increased Flooding Frequency. Channel aggradation can cause local flooding by diverting flows and decreasing a stream's flow capacity.[48]	1) Identify and map stream reaches in which project-induced channel destabilization may cause aggradation and associated flooding. 2) Identify mitigation.
	E. Change in Water Temperature. Bank erosion and aggradation can increase water temperature by creating a broader channel with shallow flows, increased water surface relative to flow volume, and a smaller proportion of shaded water surface. As a result, summer water temperatures and daily and seasonal temperature fluctuations tend to be greater.[49]	1) Identify and map stream reaches in which project-induced destabilization can increase water temperature. 2) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
	F. Change in Wetland and Riparian Vegetation. Channel destabilization can encroach on riparian wetlands and undermine streamside vegetation.[50]	1) Identify, characterize, and map wetland and riparian areas subject to encroachment by channel destabilization; . 2) Identify mitigation.
	G. Impaired Beneficial Uses. Channel destabilization can reduce or eliminate habitat, recreation, esthetic values, and other uses by affecting deep pools, pool-riffle ratios, undercut banks, substrate suitability, and other structural features.[51]	1) Identify, characterize, and map stream reaches in which channel destabilization can directly impair beneficial uses. 2) Identify mitigation.
	H. Increased Maintenance and Property Damage. Channel erosion can undermine streamside buildings, bridges, utility crossings, and other property. Aggradation can bury diversion structures and other infrastructure and may require removal to maintain flow capacity.	1) Identify and map stream reaches in which destabilization may cause increased maintenance and property damage. 2) Identify mitigation.
12. CHANGE IN BASEFLOW	**A. Change in Groundwater Storage.** Reduced stream baseflow can decrease groundwater recharge by reducing wetted area and the amount of water available for recharge in stream channels.[52]	1) Identify and map affected stream reaches. 2) Quantify losses of recharge and water table response. 3) Identify mitigation.
	B. Change in Water Temperature. Decreased baseflow, typically resulting from change in groundwater storage, can cause elevated and fluctuating stream temperature because groundwater usually enters the stream at cool, stable temperatures.[53]	1) Identify and map affected stream reaches; 2) Quantify temperature effects along stream profile. 3) Identify mitigation.
	C. Change in Wetland and Riparian Vegetation Decreased stream baseflow can cause riparian vegetation to shift to upland species.[54]	1) Characterize and map affected riparian areas. 2) Identify mitigation.
	D. Impaired Beneficial Uses. 1. Decreases in the amount or duration of baseflow can impair habitat quality by eliminating aquatic and riparian habitat area, reducing flow velocities, and otherwise disrupting the life cycles of plants and animals which are dependent on water.[55] 2. Increases in baseflow resulting from dry weather discharge can impair waterbodies such as seasonal wetlands, vernal pools, and intermittent streams which are naturally defined by seasonal water availability.	1) Identify and map affected waterbody segments. 2) Characterize and quantify changes in baseflow. 3) Identify direct effects on beneficial uses 4) Identify mitigation.
13. INCREASED POLLUTANT DELIVERY	**A. Impaired Beneficial Uses.** Urban pollutants can impair many beneficial uses, e.g., water supply, recreation, fish and wildlife habitat, and shellfish production.[56]	1) Identify direct effects of increased pollutant loadings on beneficial uses in each affected waterbody segment. 2) Identify mitigation.
14. INCREASED FLOODING FREQUENCY	**A. Channelization.** Increased flooding can lead to channelization of the critical section to more efficiently pass flood flows.[57]	1) Identify stream reaches in which project-induced flooding may require channelization. 2) Identify mitigation.

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CAUSE	EFFECT	NEEDED ANALYSES
	B. Impaired Beneficial Uses. Increased flooding can impair habitat,[58] water supplies, navigation, and other beneficial uses.	1) Identify stream reaches in which project-induced flooding may impair beneficial uses. 2) Identify mitigation.
	C. Increased Maintenance and Property Damage. Increased flood frequency can result in more maintenance and flood damage.	1) Identify stream reaches in which project-induced flooding may increase maintenance and property damage. 2) Identify mitigation.
15. INCREASED WATER TEMPERATURE	**A. Impaired Beneficial Uses.** Increased water temperature can directly stress aquatic biota and can also affect other parameters associated with habitat quality, such as dissolved oxygen concentration and rate of chemical reactions.[59]	1) Identify and map affected waterbody segments. 2) Quantify temperature changes. 3) Characterize effects on beneficial uses. 4) Identify mitigation.
16. DECREASED POLLUTANT REMOVAL	**A. Increased Pollutant Delivery.** Less removal of pollutants by natural processes can result in greater concentrations of pollutants in receiving waters.[60]	1) Quantify effects to pollutant loadings for each affected waterbody. 2) Identify mitigation.
17. CHANGE IN WETLAND AND RIPARIAN VEGETATION	**A. Channel Destabilization.** Loss of vegetation and its associated anchoring root masses can destabilize channel banks and other geomorphic features.[61]	1) Characterize and map affected geomorphic features. 2) Identify mitigation.
	B. Change in Water Temperature. Loss of riparian vegetation can increase maximum water temperature by exposing more water surface to the sun. Daily and seasonal temperature fluctuations also tend to be greater.[62]	1) Identify and map stream reaches in which loss of riparian vegetation can increase water temperature. 2) Identify mitigation.
	C. Decreased Pollutant Removal. Removal of vegetation adjacent to a waterbody can reduce removal of pollutants from the waterbody and from the overland flow draining to the waterbody.[63]	1) Describe type, areal extent, and pollutant removal value of affected vegetation and map location. 2) Identify mitigation.
	D. Impaired Beneficial Uses. Loss of vegetation directly impairs the quality of aquatic and riparian habitat by reducing cover, structural diversity, and nutrient sources.[64] Removal of vegetation can also fragment and isolate remaining patches of habitat, resulting in decreased habitat value over large areas.[65]	1) Identify affected waterbody segments. 2) Characterize direct effects of vegetation loss on beneficial uses. 3) Characterize and display at project-area and regional scales existing wildlands, along with riparian corridors and other water features supporting habitat connectivity. 4) Identify effects of vegetation change on terrestrial and aquatic habitat connectivity. 5) Identify mitigation.

A6-6 cont.

Comment Set A6, cont.
California State Water Resources Control Board

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California State Water Resources Control Board

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California State Water Resources Control Board

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California State Water Resources Control Board

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California State Water Resources Control Board

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Comment Set A6, cont.
California State Water Resources Control Board

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Comment Set A6, cont.
California State Water Resources Control Board

Enclosure 2 A6-7

[State Water Resources Control Board]

Terrestrial Habitat Connectivity Related To Wetland, Riparian, and Other Aquatic Resources

Comments on Notice of Preparation:
Devers-Palo Verde No. 2 Transmission Line Project

June 19, 2006

Comment Set A6, cont.
California State Water Resources Control Board

A6-7 cont.

Terrestrial Habitat Connectivity Related To Wetland, Riparian, and Other Aquatic Resources,

"Habitat connectivity" refers to the need for plant and animal populations to have some mobility over the landscape, i.e., to avoid becoming "isolated" or "disjunct."[i] In recent decades a large body of research has demonstrated that such "isolated" populations face a high probability of eventual extinction, even if their immediate habitats are spared.[ii] In general, the smaller such an isolated population, the more quickly it will die out. Urban development typically fragments habitat by creating artificial landscapes which are movement barriers for most species. Unless mitigation measures are taken, isolated, non-viable populations are created as buildings, roads, and landscaping cut off lines of movement.

In the context of wetlands, "habitat connectivity" refers to three related phenomena:

1. The need of some animals to have access to both wetland and upland habitats at different parts of their life cycle. Some wetland animals, e.g., some amphibians and turtles, require access at different seasons and/or at different life stages to both wetland and to nearby upland. Preserving the wetland but not access to upland habitat will locally exterminate such species.[iii]
2. The ecological relationship between separate wetlands. Some wetland communities and their associated species comprise networks of "patches" throughout a landscape. Wetland plants and animals are adapted to the presence of wetland complexes within a watershed and are dependent on moving among the wetlands within the complex, either regularly or in response to environmental stressors such as flood or drought, local food shortage, predator pressure, or influx of pollution. Removing one such water from the complex will reduce the biological quality of the rest, and, at some point the simplified wetland complex will be incapable of supporting at least some of the species, even though some wetlands remain.[iv]
3. The role wetlands and riparian corridors play in allowing larger-scale movements. Some strategically located wetlands and especially continuous strips of riparian habitat along streams facilitate connectivity at watershed and regional scales for terrestrial as well as aquatic and amphibious species.

As noted above, habitat connectivity is critical to biodiversity maintenance and will become more so because of global warming. Significant range shifts and other responses to global warming have already occurred. The ability of biotic populations to move across the landscape may be critical to their survival in coming decades.[v]

Comment Set A6, cont.
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A6-7 cont.

[i] Such mobility may occur at the level of the individual organism (e.g., a bird or turtle travelling between separated wetlands) and/or of the population (e.g., a plant species colonizing a new wetland through seed dispersal); and over different time scales.

[ii] For the effects of habitat fragmentation and population isolation on the survival of plants and animals, see for example:

K. L. Knutson and V.L. Naef, *Management Recommendations for Washington's Priority Habitats: Riparian*, Washington Dept. of Fish and Wildlife, Olympia, WA, December 1997, p. 71.

R.F Noss and A.Y Cooperrider, *Saving Nature's Legacy; Protecting and Restoring Biodiversity,* Washington, D.C., Island Press, 1994, pp. 33-34, 50-54, 59-62, 61-62.

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United States Federal Interagency Stream Restoration Working Group, *Stream Corridor Restoration: Principles, Practices, and Processes*, October 1998, [Online]. Available from: http://www.usda.gov/stream_restoration. Printed copy available from: National Technical Information Service (NTIS), Springfield, VA, pp. 2-80, 2-82.

[iii] Regarding the relationship between wetland/riparian and upland habitats, see for example:

Vincent J. Burke and J. Whitfield Gibbons, "Terrestrial Buffer Zones and Wetland Conservation: A Case Study of Freshwater Turtles in a Carolina Bay," *Conservation Biology* 9(6), 1995, pp. 1365-1369;

C. Kenneth Dodd , Jr. and Brian S. Cade, "Movement Patterns and the Conservation of Amphibians Breeding in Small Temporary Wetlands," *Conservation Biology* 12(2), 1998, pp. 331-339;

Raymond D. Semlitsch, "Biological Delineation of Terrestrial Buffer Zones for Pond Breeding Salamanders," *Conservation Biology* 12(4), 1997, pp. 1113-1119.

Hilty, J. A. and Merenlender, A. M. Use of Riparian Corridors and Vineyards by Mammalian Predators in Northern California. Conservation Biology 18(1) 126-135; 2004 February.

[iv] Regarding the ecological relationship between separated wetlands, see for example:

C. Scott Findley and Jeff Houlahan, "Anthropogenic Correlates of Species Richness in Southeastern Ontario Wetlands, *Conservation Biology* 11(4), 1997, pp. 1000-1009;

Lisa A. Joyal, Mark McCollough, and Malcom L. Hunter, Jr., "Landscape Ecology Approaches to Wetland Species Conservation: A Case Study of Two Turtle Species in Southern Maine," *Conservation Biology* 15(6), 2001, pp. 1755-1762;

Raymond D. Semlitsch and J. Russell Bodie, "Are Small, Isolated Wetlands Expendable?" *Conservation Biology 12(5),* 1998, pp.1129-1133;

National Research Council, *op. cit.,* 2001, p. 42;

Nature Conservancy, *op. cit.*, July 2000, p. 10.

[v] Recent reports comprehensively review observed effects of global change on plant and animal range shifts, advancement of spring events, and other responses. See:

Comment Set A6, cont.
California State Water Resources Control Board

Terry L. Root, Jeff T. Price, Kimberly R. Hall, Stephen H. Schnieder, Cynthia Rosenzweig, and Alan Pounds, "Fingerprints of Global warming on Wild Animals and Plants," *Science* 421:2, January 2003, pp. 57-60.

Camille Parmesan and Gary Yohe, "A Globally Coherent Fingerprint of Climate Change Impacts cross Natural Systems," *Science* 421:2, January 2003, pp. 37-42.

Thomas, et al. "Extinction risk from climate change", *Nature* 427, January 2004, pp. 145-148

A6-7 cont.

Responses to Comment Set A6
California State Water Resources Control Board

A6-1 Please refer to Response A4-1 which addresses the requirement that SCE obtain discharge permits from the Regional Water Quality Control Board. It has been noted that the State Water Board will take the lead role for Clean Water Act 401 water quality certification, because the project will cross the jurisdictions of the Colorado River Basin and Santa Ana Regional Water Boards. The Clean Water Act, including discharge requirements, is discussed under Sections D.2.4 (Biological Resources, Applicable Regulations, Plans, and Standards) and D.12.4 (Hydrology and Water Quality, Applicable Regulations, Plans, and Standards) in the Draft EIR/EIS as it relates to the Proposed Project.

A6-2 All surface water crossings, including mileposts and descriptions, are listed in Tables D.12-1 and D.12-2 in Hydrology and Water Quality Sections D.12.2 and D.12.3 of the Draft EIR/EIS. Riparian habitat is discussed under Biological Resources in Section D.2 of the Draft EIR/EIS. Implementation of APM B-7 (No Activities Should Occur in Wetlands) and APM B-21 (No Clearing or Disturbance to Riparian Habitats) would reduce impacts to riparian and wetland vegetation. Although formal jurisdictional wetland delineations were not conducted for the 300 mile transmission line route, numerous desert washes and ephemeral drainages are present in the desert portion of the Proposed Project (e.g., from Harquahala Switchyard to Midpoint Substation). In addition, jurisdictional drainages and intermittent creeks were noted throughout the western portion of the Proposed Project. Wetlands that fall under the jurisdiction of the ACOE and CDFG were noted in the Draft EIR/EIS during the biological reconnaissance surveys of the segment along the Colorado River and potentially in some of the irrigation channels located throughout the Palo Verde Valley. Prior to conducting any activities, SCE would obtain authorization from the Regional Water Quality Control Board via a Clean Water Act 401 Water Quality Certification, ACOE Clean Water Act 404 permit, and CDFG Section 1602 Streambed Alteration Agreement.

Impacts to wetlands and Jurisdictional Waters are discussed under Impact B-10 (the Proposed Project would result in adverse effects to Jurisdictional Waters and Wetlands) in Section D.2.6.1.9 (State and Federal Jurisdictional Habitats) of the Draft EIR/EIS. Any removal of habitat in desert washes or construction impacts in desert washes, the Whitewater River, the San Gorgonio River, or their tributaries would be considered a significant but mitigable impact (Class II). Impacts to Jurisdictional Waters and Wetlands would be reduced to a less than significant level with the implementation of Mitigation Measure B-1a (Prepare and implement a Habitat Restoration/Compensation Plan) in addition to the APMs.

A6-3 Impacts to water quality are discussed in Section D.12.6 (Hydrology and Water Quality) in the Draft EIR/EIS and include the following specific impacts to water quality: Impact H-1 (Construction activity could degrade water quality due to erosion and sedimentation), Impact H-2 (Degradation of water quality through spill of potentially harmful materials used in construction), Impact H-4 (Water quality degradation caused by accidental releases of oil from project facilities), and Impact H-5 (Excavation could degrade groundwater quality). With the implementation of the proposed mitigation measures (see Table D.7-8 in Section D.12.11 of the Draft EIR/EIS) all impacts to water quality would be reduced to less than significant levels.

Enclosure 1, submitted with this comment letter, is noted and is discussed in Response A6-6 below.

A6-4 The Clean Water Act, including discharge requirements, is discussed under Sections D.2.4 (Biological Resources, Applicable Regulations, Plans, and Standards) and D.12.4 (Hydrology and Water Quality, Applicable Regulations, Plans, and Standards) in the Draft EIR/EIS as it relates to the Proposed Project. The proposed project is an overhead transmission project and therefore all stream crossing would be overhead, almost always spanning watercourses. Regardless, the EIR/EIS includes a comprehensive alternatives analysis (see Appendix 1 and Section C of the Draft EIR/EIS).

A6-5 Impact B-12 (Construction activities would result in adverse effects to linkages and wildlife movement corridors) in Section D.2.6.1.10 discusses the impact of the proposed transmission line on linkages or corridors, including riparian corridors. Section D.2 also discusses the sensitive plant and animal species in the project area and those that would use the corridor. The EIR/EIS concludes that there would be no permanent impacts to wildlife movement corridors. The disturbance associated with project construction would result in temporary impacts to wildlife utilizing the waterways (e.g., Colorado River, San Gorgonio River, and San Timoteo Creek) and adjacent habitat as a movement corridor. A temporary increase in traffic and activities in these areas would not impede the movement of wildlife and would not affect the nocturnal movement of wildlife. Therefore, impacts to wildlife movement corridors would be considered adverse but less than significant (Class III). Impacts to streams and water bodies were found to be less than significant because the overhead transmission line would be able to span any watercourse (see Section D.12, Hydrology and Water Quality). Enclosure 2 (see Response A6-7) has been noted.

A6-6 The contents of Enclosure 1 have already been addressed in various sections of the Draft EIR/EIS. Impacts to hydrology and water quality, including floodplains and channel destabilization, are discussed in Section D.12. Impacts to riparian habitat and wetlands are addressed in Section D.2 (Biological Resources). Erosion and soils are discussed in Section D.13 (see Impact G-1, Construction could accelerate erosion). Finally, contamination and pollutants are addressed in Section D.10 (Public Health and Safety).

A6-7 Please refer to Responses A6-5 and C8-2.

Comment Set A7
Arizona Game and Fish Department

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD
PHOENIX, AZ 85023-4399
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BOB HERNBRODE, TUCSON
W. HAYS GILSTRAP, PHOENIX
DIRECTOR
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DEPUTY DIRECTOR
STEVE K. FERRELL

June 21, 2006

John Kalish
BLM EIR/EIS Project Manager
C/o Aspen Environmental Group
235 Montgomery Street, Suite 935
San Francisco CA 94104

Re: Draft Environmental Impact Report/Environmental Impact Statement for Devers Palo Verde No. 2 Transmission Line Project

Dear Mr. Salzmann:

The Arizona Game and Fish Department (Department) has reviewed the above-referenced Draft Environmental Impact Report/Environmental Impact Statement (DEIS)for the Devers-Palo Verde No. 2 Transmission Line Project (DPV2). The following comments are provided for your consideration. A7-1

The Department understands that the Southern California Edison (SCE) proposes to construct a 500 kV electrical transmission line from the Harquahala Generating Station Switchyard to the Devers Substation. The proposed route exits the Switchyard, parallels the existing Harquahala-Hassayampa 500 kV line to the existing Palo Verde Devers Transmission Right of Way (ROW). The route continues within the existing ROW and adjacent to the existing Palo Verde-Devers Transmission Line No. 1 to the California border.

The Department notes that proposed route is within an existing ROW and Bureau of Land Management utility corridor, is adjacent to the existing Palo Verde-Devers Transmission Line No. 1 and that existing access roads will be used to maximum extent possible. We further note that the application includes best management practices and mitigation to minimize potential impacts to biological resources. For these reasons the Department does not anticipate that the proposed route will result in significant adverse impacts to wildlife and wildlife habitats.

Thank you for the opportunity to provide comments on this DEIS.. If you have any questions, please contact me at 928-341-4047.

Comment Set A7, cont.
Arizona Game and Fish Department

John Kalish
June 2, 2006
2

Sincerely,

William C. Knowles
Habitat Specialist
Region IV, Yuma

cc: Russell Engel, Habitat Program Manager, Region IV
Rebecca Davidson, Proj. Eval. Prog. Supervisor, Habitat Branch

AGFD # M06-05221312

Responses to Comment Set A7
Arizona Game and Fish Department

A7-1 The commenter's description of the Proposed Project is correct. It is noted that Arizona Game & Fish Department does not anticipate that the Proposed Project would result in significant adverse impacts to wildlife and wildlife habitats.

Comment Set A8
Palo Verde Irrigation District

PALO VERDE IRRIGATION DISTRICT
180 WEST 14TH AVENUE - BLYTHE, CALIFORNIA 92225-2714
TELEPHONE (760) 922-3144 - FAX (760) 922-8294

June 27, 2006

CPUC/BLM
c/o Aspen Environmental Group
235 Montgomery Street, Suite 935
San Francisco, CA 94104

Re: Devers-Palo Verde No. 2 Transmission Project Draft EIR/EIS, SCH #2005101104

Dear Aspen Environmental Group:

Thank you for the opportunity to comment on your Draft EIR/EIS for the Devers-Palo Verde No. 2 Transmission Project . Palo Verde Irrigation District provides irrigation water to the farmed land in the Palo Verde Valley in eastern Riverside County and in the northeastern corner of Imperial County in California west of the Colorado River. The following comments are provided: A8-1

1] An agreement will be needed to cross our facilities prior to construction (see Attachment).
2] Contractor will need to post a deposit, sign a hold harmless agreement, and meet requirements to use PVID's canal and drain bank access roads while working in the Palo Verde Valley in California.
3] Due to the lack of adequate crossings of PVID facilities, the proposed access road along the proposed power line for the Palo Verde Valley CA section can not be as depicted in Maps 17 to 19 of 36 in Book 3, Appendix 10. A8-2
4] As presently planned, about 1.25 miles of canal and 1.25 miles of drainage channel will lie between the two lines. This may create maintenance problems for PVID when operating long reach excavators or draglines between the two lines. This concern was not addressed in the EIR. Discussing using higher towers or wider spacing between the two lines or other means of eliminating these newly created maintenance problems for PVID should have been discussed and so marked on appropriate drawings. A8-3
5] For this Project, there is the Palo Verde area in Arizona and the Palo Verde area in California. The Report does not make the distinction between the two. It is left up to the reader to figure out where the report is talking about. Adding CA or AZ after Palo Verde would have avoided the confusion. A8-4
6] For dust control in the Palo Verde Valley, CA, on access roads, canal banks and drain banks, contractor should be required to use a chemical additive with water instead of just water. A8-5
7] On the Arizona maps, the town of Quartzsite needs an 's'. A8-6

Comment Set A8, cont.
Palo Verde Irrigation District

8] On the maps showing the Colorado River southern alternate route, the River shown is pre 1970. The River was re-channelized and moved into Arizona in the early 1970's. Did the southern alternative take this into account? A8-7

9] The safety issue of aerial applicators flying the Palo Verde Valley at night having another line to watch out for was not discussed. A8-8

10] Volume 1, page B-13, B.2.2.2, last sentence: Refers to Appendix 3, existing towers. I could not get the station to match the tower numbers and elevation for their crossing the Palo Verde Valley. What basis is used for the tower heights of the new line crossing Palo Verde Valley, CA when the existing height information is not in the table? A8-9

11] Volume 1, part D.2 and rest of Report: The text misrepresents Palo Verde Irrigation District canal and drains and improperly identifies a drain as a canal. Irrigation canals generally hold water above adjacent ground levels with very little side brush and no cattails or tulles. Irrigation drainage ditches carry groundwater from adjacent property, has a water level 8 to 15 feet below adjacent farmland, and cattails, reeds, tulles, quail bush, arrow weeds, salt cedar, etc are allowed to grow as long as the drain operates satisfactorily. A8-10

13] Volume 2, page D12-4, Table D.12-1: Needs corrections. See attached sheet for location and name of PVID facility being crossed in Palo Verde Valley. A8-11

13] Volume 2, page D14.5, Table D.14-6: For the Palo Verde Valley, CA., we are over 145 driving miles east of the boundary for East Municipal Water District. For the Palo Verde Valley area, county residences get water from shallow wells. City of Blythe has their own wells to provide water to their customers. East Blythe County Water District was taken over by the City of Blythe in the 1990's I believe. See attached revised Table D.12-1 for power line crossings of PVID facilities. PVID can enter into an agreement to provide dust control water at any of the crossings while in the Palo Verde Valley. A8-12

14] Volume 2, page D.14-29, last paragraph: delete references to Eastern Municipal Water District and replace with PVID. The .5 acre feet of water needed will have no impact on PVID's use of water for farming operations. For the stretches of line between Palo Verde Valley CA and Banning, agencies other than Eastern Municipal Water District will probably provide water for dust control. A8-13

15] Volume 3, Section 10, map sheet 18 of 39: Existing tower ¼ mile west of Defrain Blvd. has numbers reversed, should be 4742 not 4724. A8-14

If you have any questions, please call me at 760-22-3144.

Sincerely

Roger Henning

Roger Henning
Chief Engineer

Attachment

Page 2 of 2

Comment Set A8, cont.
Palo Verde Irrigation District

A8-15

PALO VERDE NO.2 TRANSMISSION LINE PROJECT
POTENTIAL PVID FACILITIES CROSSINGS

PVID REFERENCE NUMBER	PVID STRUCTURE NAME	PVID ESTIMATED LOCATION	LOCATION IN TABLE D.12-1.
1	Colorado River	Same	E102.2 to E102.4
2	D10-11-2 (formerly F Canal)	Same	E102.9
3	D10-11 (formerly F Canal)	103.81	E103.8
4	D-23 Canal	104.4	E104.3
5	Eastside Drain	15.0	E105.1
6	D or D-28 Canal	15.9	E106.0
7	Lovekin Drain	105.9	E106.0
8	C Canal	105.9	E106.9
9	Central Drain	Same	E107.4
10	C-13 Canal	107.58	E107.7
11	C-05 Canal	Same	E108.6
12	Fisher Drain	107.92 to 108.95	
13	WC-2 Canal	108.7	
14	Westside Drain	108.95	E109.0
15	C-03 Canal	Same	E109.9
16	C-03-25 Canal	109.95	
17	C-03-11 Canal	110.45	E110.5
18	Keim Drain	110.7 to 110.92	E111.0
19	Rannells Drain	Same	E111.4
20	C-03-11-4 Canal	111.92 to 112.44	E112.0
21	Palo Verde Drain	112.45	E112.5
22	Desert Wash	Same	E112.7

Responses to Comment Set A8
Palo Verde Irrigation District

A8-1 The requirement for SCE to develop an agreement with Palo Verde Irrigation District (PVID) to cross PVID facilities has been noted. This comment is referred to SCE for compliance with the District's permitting requirements. Table A-4 (Permits or Other Actions Required Prior to Construction of the DPV2 in Arizona and California) in Section A.3.5 of this EIR/EIS notes that the PVID will have permitting authority for crossings of PVID irrigation/drainage channels, which would require an encroachment/crossing permit. It should be noted that where Irrigation Districts have a ROW on public lands, the District may not charge rent.

A8-2 In the Palo Verde Valley (CA) and the Blythe agricultural area, SCE would use existing access roads and irrigation canal roads, and would build spur roads to the new towers. The exact locations of the spur roads will depend on tower placement, which would be determined during final engineering after negotiations with agricultural landowners and PVID (see Mitigation Measures AG-1a [Establish agreement and coordinate construction activities with agricultural landowners] and AG-4a [Locate transmission towers and pulling/splicing stations to avoid agricultural operations]). Therefore, it is correct that no proposed new access roads are depicted on Maps 17 to 19 of 36 in Appendix 10 of the Draft EIR/EIS. Because the locations of the spur roads will be determined in final engineering, they have not been depicted either.

A8-3 The Applicant Proposed Measure (APMs) and additional mitigation measures proposed in the EIR/EIS address potential impacts to agricultural resources and operation in the Palo Verde Valley (CA) area. As discussed in APM L-4, the proposed route would line up the existing towers with the new ones to match tower spans where feasible. Specifically APM L-6 states that "in the agricultural area of the Palo Verde Valley [CA], towers would be located to allow for canal dredging by the Palo Verde Irrigation District. This also could include canal modifications" (see Table B-17 in Section B.5 of this EIR/EIS). As discussed in Response A8-1, SCE would need to obtain PVID approval for the crossing of any PVID irrigation/drainage channel. As a component of this approval and as stated in APM L-6, maintenance issues could be discussed and resolved prior to final design and towers could be located accordingly. Please refer to Response A8-8 for text incorporated in Mitigation Measure AG-4a (Locate transmission towers and pulling/splicing stations to avoid agricultural operations) that would require SCE to consult with PVID regarding tower placement to minimize disruption to PVID facilities.

A8-4 While it is true that there is a Palo Verde area in both Arizona and California and the comment has been noted, the context of each reference it is evident to which area a statement is directed. For instance, in each issue area in Section D, the environmental setting and potential impacts of the Devers-Harquahala route are divided into segments, one of which is the Palo Verde Valley, which explicitly states that this area is west from the Colorado River to Midpoint Substation. The sections further describe the Palo Verde Valley area as being in California, in Riverside County, and south of the City of Blythe. Likewise, when the EIR/EIS describes the Palo Verde area in Arizona, there are there are other clear State, county, or geographical markers included in the context of the sentence, heading, or paragraph that alert the reader to the location. While adding a "CA" or "AZ" after each use of Palo Verde would further clarify the issue, the entire EIR/EIS has not been reprinted and these changes are not considered to be required to clarify the text of the document.

A8-5 Applicant Proposed Measures (APMs) A-2, A-3, and A-4 (see Table D.11-13 in Section D.11.3.2) refer to dust control and would be applicable to the Palo Verde Valley (CA), which is located in the Mojave Desert Air Quality Control District. APM A-2 requires use of water or a chemical dust suppressant on unstabilized disturbed areas and/or unpaved roadways; APM A-3 requires use of water or water-based chemical additives for dust control on unpaved access roads (water, organic polymers, lignin compounds, or conifer resin compounds would be used depending on availability, cost, and soil type); and APM A-4 requires that surfaces permanently disturbed by construction activities would be covered or treated with a dust suppressant.

As stated in the Mojave Desert Air Quality Management District impact analysis in Section D.11.4.3 in this EIR/EIS, Mitigation Measure AQ-1a (Develop and Implement a Fugitive Dust Emission Control Plan) would replace and strengthen the required APMs with even more enforceable and stringent requirements. For instance, part of Mitigation Measure AQ-1a (see Table D.11-29 in Section D.11.8) would require application of CARB certified non-toxic soil binders to all active unpaved roadways, unpaved staging areas, and unpaved parking area(s) in amounts meeting manufacturer's recommendations to meet the CARB certification fugitive dust reduction efficiency of 84 percent. Another part of the mitigation measure would require that disturbed areas where CARB certified soil binders were not applied would be watered at least three times a day during construction. As such, use of a chemical additive would already be required in the Palo Verde Valley (CA) with the implementation of Mitigation Measure AQ-1a and no additional mitigation is necessary.

A8-6 The spelling correction for the Town of Quartzsite is noted. However, because the entire Final EIR/EIS will not be reprinted, corrected color maps have not been presented here since the aforementioned spelling edit does not affect the impact analysis within this EIR/EIS. The EIR/EIS maps will not be used for construction as SCE will develop detailed maps during the final engineering stage.

A8-7 As discussed in Appendix 1, Section 4.2.8 and Section C.5.2.5, SCE's South of Blythe Alternative was eliminated from full consideration during the alternatives screening process. The South of Blythe Alternative was first considered in the 1985 DPV2 Project in response to concerns regarding agricultural impacts in the Blythe area and it was also included in SCE's 2005 Proponent's Environmental Assessment as Subalternate 3. Figure Ap.1-4, which depicts the route uses GIS data post-1970 and therefore, should depict the re-channelized River.

Regardless, the current location of the Colorado River would not affect the outcome of the alternative evaluation. The EIR/EIS concluded that the overall impact resulting from ground disturbance would be greater with SCE's South of Blythe Alternative and the route would establish a new transmission corridor. As stated in Section 4.2.8 of Appendix 1 of the Draft EIR/EIS, the route would traverse much more sensitive biological habitat near the Colorado River and Cibola Wildlife Refuge, cause greater visual impacts and have a much higher cultural sensitivity than the proposed route. Therefore, the alternative route was eliminated due to much greater visual, land use, biological resources, recreation, and cultural resources impacts than the Proposed Project.

A8-8 There are no local, State, or federal regulations with specific limits on placement of transmission line towers in farmlands. However, text has been added on page D.10-33 in Section D.10.12.2 (Other Field-Related Public Concerns) regarding the safety concerns related to aerial applicators:

Safety Concerns Related to Agricultural Aerial Applicators

In agricultural areas, aerial spraying (crop dusting) is used to control insects, weeds, and diseases. Where transmission lines exist in an agricultural area, pilots fly over, beside, and even under transmission lines to spray agricultural land with various products (usually pesticides). Aerial applicators fly at low levels, sometimes at speeds in excess of 100 miles per hour. High numbers of fatalities associated with aerial applicators can partly be attributed to flying at these low altitudes and speeds with the additional possibility of crashing into power lines, trees, towers, and sometimes buildings and mountainsides within the flight area. Many aerial applicator accidents are not reported unless they resulted in an injury or fatality. Of the crashes reported between 1992 and 1998, 33 percent were as a result of having struck a power line, tree, or tower (Suarezi, 2000). Transmission line towers present a substantial obstacle to avoid, and therefore require additional attention from the pilots.

The following reference has also been added to the references section in Section D.10.14:

Suarezi, Peggy. 2000. Compensation and Working Conditions, Flying Too High: Worker Fatalities in the Aeronautics Field. Volume 5, No.1, Spring 2000.

An additional impact has been added to Section D.10.12.2 (Environmental Impacts and Mitigation Measures for the Proposed Transmission Line) on page D.10-57:

Impact PS-5: Transmission Lines in Agricultural Areas Present a Safety Hazard to Aerial Applicators (Class III)

Transmission lines and towers can be safety hazards for aerial applicators because they present additional obstacles for pilots to avoid. Transmission lines are especially hazardous when:

- Lines are diagonally oriented, relative to field boundaries
- Multiple lines exist side-by-side
- Change in direction (angle) is created along the corridor
- New transmission lines and towers are installed
- Towers and lines are not clearly visible.

In the Palo Verde Valley (CA), pilots are now aware of the presence of the DPV1 transmission line, which has been in place since 1982. Some pilots may periodically fly over fields that they haven't been to in six months or longer. In those cases, pilots may have no knowledge that new transmission lines and towers may have been constructed during their absence, which creates an increased potentially significant danger for pilots in the agricultural areas in the Palo Verde Valley (CA). This impact is considered to be adverse but less than significant (Class III), impact due to the existence of the DPV1 towers and conductors immediately adjacent to the new line. However, as a part of Mitigation Measure AG-1a (Establish agreement and coordinate construction activities with agricultural landowners), SCE would establish agreements with and coordinate construction activities with agricultural landowners and thus they would be aware of the construction of the new Devers-Harquahala line and could warn aerial applicator pilots. By matching towers and spans as is specified in Mitigation Measure AG-4a (Locate transmission towers and pulling/splicing stations to avoid agricultural operations), the new DPV2 500 kV line would be immediately adjacent to the existing DPV1 500 kV line and the incremental impact of a new line would not create a new significant impact on flight patterns of aerial applicators flying in the Palo Verde

Valley. Mitigation Measure AG-4a has been modified to state that SCE shall locate towers in agricultural areas to incorporate the concerns regarding safety issues of aerial applicators flying in the Palo Verde Valley at night. This impact would be less than significant (Class III) and further reduced with the incorporated Agricultural Resources mitigation measures (see Section D.6).

Mitigation Measure for Impact PS-5 (Transmission Lines in Agricultural Areas Present a Safety Hazard to Aerial Applicators)

AG-1a Establish agreement and coordinate construction activities with agricultural landowners.

AG-4a Locate transmission towers and pulling/splicing stations to avoid agricultural operations. SCE shall site transmission towers and pulling/splicing stations in locations that minimize impacts to active agricultural operations. Specifically, SCE shall comply with the following measures when siting transmission towers and splicing/pulling stations within areas where active cultivated farmland would be removed through the presence of structures:

- SCE shall avoid orchards, vineyards, row crops, and furrow-irrigated crops where towers would interfere with irrigation and harvest activities.
- SCE shall avoid irrigation canals and ditches.
- SCE shall align towers adjacent to field boundaries and parallel to rows (if located in row crops), and shall avoid diagonal orientations and angular alignments within agricultural land.
- SCE shall match tower spans with existing DPV1 towers within agricultural land.
- SCE shall construct towers with heights and spacing to minimize safety hazards to aerial applicators flying in the Palo Verde Valley (CA) and other agricultural areas;

SCE shall consult with the Palo Verde Irrigation District (PVID) regarding tower placement to minimize disruption to PVID facilities.

SCE shall document and provide proof of compliance with the above listed items 90 days prior to the start of Proposed Project construction. This documentation shall be submitted to the CPUC and the BLM for review and approval prior to the start of construction, and reviewed with affected landowners during coordination presented in Mitigation Measure AG-1a (Establish agreement and coordinate construction activities with agricultural landowners).

A8-9 The height and elevation data was taken from preliminary DPV2 engineering drawings developed approximately 20 years ago and provided by SCE to the CPUC. The tables indicate conductor height, so the maximum tower height would be approximately 25-30 feet higher. The title of Table 3 has been corrected and a footnote has been added to Table 1 in Appendix 3 of the Draft EIR/EIS for clarification, as follows:

Table 1. ~~Existing~~ Proposed Tower Heights[1] along the Devers-Harquahala Alignment – Line 1

[1] The heights listed in the table are calculated from the ground elevation to the point of support (i.e., conductor height). For a single-circuit 500 kV lattice, tubular steel pole, or "H frame" tower, the top of the entire structure would be approximately 25-30 feet above the conductor height. The top of a double-circuit 500 kV lattice tower would be approximately 56 feet taller than the highest conductor height. Please refer to Figures B-8, B-9, and B-10 in Section B for diagrams of typical 500 kV structures.

A8-10 The difference between irrigation canals and irrigation drainage ditches has been noted and it is acknowledged that this wording should be corrected in Section D.2 and other EIR/EIS sections. The text in Section D.2.2.4 under Plant Communities and Sensitive Habitats on page D.2-56 has been updated as follows:

> The agricultural areas in this segment are generally located between MPs E102.3 and E112.6, and consist of scattered residences and fields that are crossed by irrigation canals and drainage ditches. These agricultural areas are dominated by what appears to be row crops, hay, cotton, and some fallow fields. The irrigation canals are generally channelized and hold water above adjacent ground levels with very little side brush and no cattails or tulles. Irrigation drainage ditches carry groundwater from adjacent properties, have a water level 8 to 15 feet below adjacent farmland, and cattails, reeds, tulles, quail bush, arrow weeds, salt cedar, etc. are allowed to grow as long as the drain operates satisfactorily. ~~with sparse to fairly dense vegetation along the edges.~~ These vegetated areas tend to be dominated by non-native and weedy species of plants.

In addition the paragraph on "Agricultural, Pastureland, and Windfarms" (Section D.2.1.1.1, Vegetation Overview) on page D.2-15 has been updated as follows:

> In some areas, the large extensive agricultural areas are crisscrossed by an extensive array of irrigation canals and drainage ditches. The banks of these canals generally exhibit little or no vegetation, although those drainage ditches that do support vegetation are primarily covered by non-native weedy plant species. Small farms, plant nurseries, and horse stables also comprise a portion of the agricultural and/or pasturelands located along the ROW.

The paragraph on "Agricultural Areas, Pasturelands, and Windfarms" (Section D.2.1.1.2, Wildlife Overview) has similarly been corrected on page D.2-19 as follows:

> Suitable habitat for denning and nesting for such species generally occurs along the weedy edges of fields and irrigation drainage ditches ~~canals~~ as well as in the poorly maintained or fallow fields. Agricultural areas can provide a year-round water source for wildlife.

A8-11 The text in Table D.12-1 (Surface Water Crossings – Devers-Harquahala) in Section D.12.2 of this EIR/EIS has been updated for the Palo Verde Valley as follows:

Table D.12-1. Surface Water Crossings – Devers-Harquahala

Milepost	Description
Kofa National Wildlife Refuge to Colorado River	
E82.6	Tyson Wash (desert valley wash)
E82.8	Tyson Wash Braid (desert valley wash)
E85.3	desert wash
E88.7	desert wash
E90.4	La Paz Arroyo (desert valley wash)
E91.5	La Paz Arroyo (desert valley wash)
E93.6 to E93.7	desert wash
E94.1	desert wash
E95.3 to E95.5	Ehrenberg Wash (desert valley wash)
E96.5	desert wash
E97.3	Limekiln Wash (desert valley wash)
E96	desert wash
E98.9	desert valley wash
E99.0 to E99.1	desert valley wash
E101.5 to E102.2	Colorado River

Milepost	Description
Palo Verde Valley	
E102.2 to E102.4	Colorado River
E102.9	D10-11-2 (formerly F Canal)
E~~103.8~~103.81	D10-11 (formerly F Canal)
E~~104.3~~104.4	D-23 canal
E~~105.1~~105.0	Eastside Drain
E~~106.0~~105.9	D or D-28 canal
E105.9	Lovekin Drain
E~~106.9~~105.9	C Canal
E107.4	Central Drain ~~canal~~
E~~107.7~~107.58	C-13 canal
E108.6	C-05 Canal
E107.92 to 108.95	Fisher Drain
E108.7	WC-2 Canal
E~~109.0~~108.95	Westside Drain
E109.9	C-03 Canal
E~~110.5~~110.45	C-03-11 canal
E~~111.0~~110.7 to 110.92	Keim Drain ~~canal~~
E111.4	Rannells Drain
E~~112.0~~1.92 to 112.44	C-03-11-4 ~~canal~~
E~~112.5~~112.45	Palo Verde Drain ~~canal~~
E112.7	desert wash

A8-12 The revisions to Table D.12-1 have been noted and are incorporated into this Final EIR/EIS (see Response A7-11). It is noted that PVID can enter into an agreement to provide dust control water at any of the crossings in the Palo Verde Valley. Please also refer to Response A8-5 for a discussion regarding dust control.

Table D.14-6 (Utility and Service Providers by Jurisdiction – Palo Verde Valley (Colorado River to Midpoint Substation) Segment) in Section D.14.2.4 in this EIR/EIS has been updated as follows:

Table D.14-6. Utility and Service Providers by Jurisdiction – Palo Verde Valley (Colorado River to Midpoint Substation) Segment

Riverside County	
Natural gas & electricity – SCE, Southwest Gas Corporation	Solid Waste (Landfills) – Riverside County Waste Management Department
Water – ~~Eastern Municipal Water District~~ Residential wells; Palo Verde Irrigation District	Fire protection – Riverside County Fire Department
Wastewater – Eastern Municipal Water District	Police protection – Riverside County Sheriff's Department
Telecommunications – Verizon, SBC	Schools within One Mile of Proposed Project – None

City of Blythe (Riverside County)	
Natural Gas & Electricity – SCE, Southwest Gas Corporation	Solid Waste (Landfills) – Blythe Sanitary Landfill
Water – City of Blythe ~~East Blythe County Water District~~	Fire Protection – Blythe Fire Department, Riverside County Fire Department
Wastewater – Blythe Regional Wastewater Authority	Police Protection – Blythe Police Department, Riverside County Sheriff's Department
Telecommunications – Verizon, SBC	Schools within One Mile of Proposed Project – None

A8-13 Section D.14, page D.14-29 has been updated as follows:

> As identified in Table D.14-6, Utility and Service Providers by Jurisdiction – Palo Verde Valley (Colorado River to Midpoint Substation) Segment, when water is required, this segment of the project route is served by the Palo Verde Irrigation District (PVID). PVID has stated that the 0.5 af of water required for the Proposed Project would have no impact to PVID's use of water for farming operations. ~~Eastern Municipal Water District within Riverside County, which gets its water from the Metropolitan Water District of Southern California (MWD). In 2005, the MWD had an available water supply of 1.7 million af of water annually. Based on the MWD capacity, construction of this segment would use approximately 0.00002 percent of the available annual water supply of the MWD. This minute fraction is not anticipated to place demands on the MWD available water supply resulting in significant impacts or require the need for new or expanded water facilities.~~ Consequently, water demands of the Proposed Project would have a less than significant impact with no mitigation required (Class III).

A8-14 The correction has been noted and the tower number #4742 should be corrected on Map Sheet 18 of 39 in Appendix 10 of this EIR/EIS. However, because the entire Draft EIR/EIS has not been reprinted, the corrected map of Sheet 18 of 39 has not been reprinted here since the spelling correction does not affect the impact analysis within the EIR/EIS. This map will not be used for construction as SCE will develop detailed maps during the final engineering stage.

A8-15 The attachment containing a table of Potential PVID Facilities Crossings has been noted and the text in Table D.12-1 has been updated (see Response A8-11). Please refer to Response A8-1 as well.