Technical Area: Air Quality
Author: William Walters

Operating Emissions Mitigation

BACKGROUND

The California Energy Commission (CEC) has created a mitigation condition for the Chula Vista project that it intends to apply to the Orange Grove Project, with project specific changes. The project specific changes would be the use of Orange Grove specific operating emission factors, inclusion of the two diesel engine emissions, inclusion of the chiller cooling tower emissions, and inclusion of the water trucking emissions. Staff also intends to maintain the assumed per turbine maximum 1,200 hour per year operating basis (modified slightly for this case to be based on 1,000 full load operating hours, 100 startup hours and 100 shutdown hours); and maintain the per ton cost factor ($16,000 ton per the current Carl Moyer Memorial Air Quality Standards Attainment Program cost effectiveness guidelines. The Carl Moyer Program was established by the California Air Resources Board in 1998 to provide funding for the incremental cost of cleaner-than-required engines, equipment, and emission reduction technologies. Since it is an incentive program, participation in the Carl Moyer Program is voluntary. The Carl Moyer Program plays a complementary role to California's regulatory program by funding emission reductions that are surplus, i.e., early and/or in excess of what is required by regulation. The program accelerates the turnover of old highly-polluting engines, reduces the costs to the regulated community, speeds the commercialization of advanced emission controls, and reduces air pollution impacts on environmental justice communities. Local air districts administer the program and select grant recipients.) plus the program administration fee of 20 percent. Staff needs to know if the applicant has any issues with this proposed mitigation.

DATA REQUEST

1. Please review staff's Chula Vista Preliminary Staff Assessment proposed Condition of Certification AQ-SC6, and provide any comments or questions regarding staff's mitigation proposal.

   RESPONSE

   The Chula Vista Condition of Certification AQ0SC6 reads:

   "The project owner shall provide emission reduction mitigation to offset the project's NOx, PM10, SOx, and VOC emission increases at a ratio of 1:1. These emission reductions are based on the following maximum annual emissions for the facility (tons/yr):

Emission Reduction Credits/Pollutant	***Tons/yr***
NOx	*7.35*
PM10	*3.60*
SOx	*0.40*
VOC	*1.43*
Total Tons	*10.86*

Emission reductions can be provided in any one of the following methods:

1. The project owner can fund emission reductions through the Carl Moyer Fund in the amount of $16,000/ton, or final 2008 ARB Carl Moyer Program Guideline cost effectiveness cap value, for the total ton quantity listed in the above table, minus any tons offset using Emission Reduction Credits (ERCs) listed in the SDAPCD ERC Bank, with an additional 20 percent administration fee to fund the City of Chula Vista and/or the SDAPCD to be used to find and fund local emission reduction projects to the extent feasible.

2. The project owner can fund other existing public agency regulated stationary or mobile source emission reduction programs or create a project specific fund to be administered through the SDAPCD or other local agency, which would provide surplus emission reductions. This funding shall include appropriate administrative fees as determined by the administering agency to obtain local emission reductions to the extent feasible. The project owner shall be responsible for demonstrating that the amount of such funding meets the emission reduction requirements of this condition.

3. ERC certificates from emission reductions occurring in the San Diego Air Basin can be used to offset each pollutant on a 1:1 offset ratio basis. ERCs can be used on an interpollutant basis for SOx for PM10, NOx for VOC, and VOC for NOx, where the project owner will provide a letter from the SDAPCD that indicates the District's allowed interpollutant offset ratio, or PM10 for SOx ERCs can be used on a 1:1 basis.

Carl Moyer or other emission reduction funding shall be provided to the responsible agencies prior to the initiation of on-site construction activities. The project owner shall work with the appropriate agencies to target emission reduction projects in the

project area to the extent feasible. Unused administrative fees shall be used for additional emission reduction program funding. ERC certificates, if used, will be surrendered prior to first turbine fire.

Verification: *The project owner shall submit to the CPM confirmation that the appropriate quantity of Carl Moyer Project or other emission reduction program funding and/or ERCs have been provided prior to initiation of on-site construction activities for emission reduction program funding and at least 30 days prior turbine first fire for ERCs. The project owner shall provide confirmation that the level of emission reduction program funding will meet the emission reduction requirements of this condition."*

Orange Grove Energy accepts this mitigation proposal and requests that the wording in "method 1" be changed from "the City of Chula Vista" to "San Diego County communities within 25 miles of the Project site." Emissions for Orange Grove Energy have been calculated as shown in Exhibit 1-1. Note that the hours of operation presented in this table reflect the expected hours of operation as described in Background for CEC's Data Request 1, and do not represent the permitted operational hours.

Water Trucking Emissions Estimate

BACKGROUND

The applicant's water trucking emission estimate uses conservative tailpipe emission factors, does not include fugitive dust emissions, and does not use the same round trip distances noted in the project description. Since these emissions are to be included in the mitigated emissions totals, staff recommends, that the applicant revise the tailpipe emissions to reflect new trucks (as have been stipulated to be used) versus the fleet average emission factors used in the emission estimate. Also, for the emission estimate to be complete the paved road dust PM10 (particulate matter 10 microns or smaller) emissions need to be added to the total trucking emissions. Therefore, staff is requesting a revision to the trucking emissions estimate.

DATA REQUEST

2. Please revise the water trucking tailpipe emissions, if desired, based on new truck emission factors from EMFAC2007.

RESPONSE

The water trucking tailpipe emissions have been revised.

DATA REQUEST

3. Please revise the water trucking emission to include paved road PM10 emissions.

RESPONSE

The estimated fugitive PM10 emissions from water trucks traveling on paved roadways are presented in Exhibit 3-1, "Offsite On-Road Fugitive Dust Emission Summary, Delivery of Water for Operations."

DATA REQUEST

4. Please revise the water trucking emission calculations to use a round trip distance for reclaimed water trucking trips of 31.2 miles.

RESPONSE

Exhibit 4-1, "Offsite On-Road Emission Summary, Delivery of Water for Operations" presents revised emission estimates. The emission estimates are now based on a round trip distance of 31.2 miles for the delivery of reclaim water and the revised emission factors.

Emissions Dispersion Modeling

BACKGROUND

The modeling files have differences in the inputs from the last modeling runs performed for the project during the Small Power Plant Exception (SPPE) process. The locations of the modeled construction emission sources and receptors have moved approximately 80 meters to the west and 200 meters to the north from previous modeling runs. Staff needs more information to understand the changes to the locations of the sources and receptors.

DATA REQUEST

5. Please confirm that the corrections to the emission source and receptor locations were made to correct the coordinates of the site area.

RESPONSE

The previous SPPE model runs used a NAD27 UTM Zone 11 Meters coordinate system based on a georeferenced plot plan in Google Earth with visually estimated anchor points. The revised AFC model runs use NAD83 UTM Zone 11 Meters, based on a georeferenced plot plan in ArcGIS using precise anchor points. The change in coordinate system accounts for the majority of the numerical change in the coordinate values, while the higher accuracy anchor points account for the balance.

Gas Turbine Best Available Control Technology (BACT) Levels for Volatile Organic Compounds (VOC)

BACKGROUND

The response to round two Data Request 112 of the SPPE case indicated that the proposed BACT VOC emissions concentration would be 2.0 ppm, and that the applicant would forego the expected reduction from the oxidation catalyst for permitting purposes. The emissions estimate in the AFC still includes the oxidation catalyst assumed VOC emission reduction. Staff needs to confirm that the permitted emission basis is 2.0 ppm and 1.25 lbs/hour and not the reduced emission value of 0.42 lbs/hour shown in the Appendix 6.2-C Table 6.2C-12.

DATA REQUEST

6. Please confirm that the BACT VOC emission basis for permitting is 2.0 ppm and 1.25 lb/hr.

RESPONSE

A review of the GE provided data shows that VOC emission concentration at the turbine exit is 2 ppm, corresponding to an emission rate of 1.25 lbs/hr. The Project anticipates that a large fraction of the turbine VOC will be destroyed by the oxidation catalyst prior to emission from the stack. For permitting purposes, Orange Grove Energy will forgo this emission reduction. Tables 6.2-13 through 6.2-15 (Exhibit 6-1), 6.2-19 and 6.2-20 (Exhibit 6-2) and Appendix Table 6.2C-12 (Exhibit 6-3) have been updated and are included as Exhibit 6-1 through 6-3.

Gas Turbine Initial Commissioning Modeling

BACKGROUND

The applicant's modeling analysis for initial commissioning uses hour of day emission rate factors that indicate no emissions from initial commissioning will occur from 7 pm to 7 am. Staff needs to understand why these hour of day emission rate factors were used and determine if the applicant is willing to stipulate to this hour of day operating profile during initial commissioning prior to fully functional Selective Catalytic Reduction (SCR) and oxidation catalyst operation.

DATA REQUEST

7. Please indicate why the initial commissioning modeling assumed only 7 am to 7 pm operation.

RESPONSE

Commissioning will be performed for the turbines only between the hours of 7 AM to 7 PM local time prior to operation of the SCR.

DATA REQUEST

8. Please confirm that the applicant is willing to stipulate, in a condition of certification, to an initial commissioning operating hour limitation of 7 am to 7 pm prior to fully functional operation of the SCR and oxidation catalyst.

RESPONSE

Orange Grove Energy is willing to so stipulate.

DATA REQUEST

9. If the response to Data Request 8 is no, then please remodel the initial commissioning emissions without the hourly scalars (i.e. no hourly restrictions).

RESPONSE

The modeling submitted with the AFC reflects the anticipated commissioning schedule and remodeling is not required.

Cumulative Projects and Cumulative Impact Analysis

BACKGROUND

The AFC makes the case that two new large projects in the area, the Gregory Canyon Landfill and the Rosemary's Mountain Quarry Projects, would not result in cumulative air quality impacts. However, these two projects are both well within 6 miles of the Site and would be expected to have onsite emissions of a magnitude greater than what staff normally uses to screen cumulative projects (5 tons per year). Therefore, further analysis of the operating cumulative impacts for air quality seems warranted.

DATA REQUEST

10. Please provide available information on the onsite criteria pollutant emission estimate for the Rosemary's Mountain Quarry Project.

RESPONSE

Exhibit 10-1 presents a map of the proposed Rosemary's Mountain Quarry. Exhibit 10-2 provides a summary of estimated criteria pollutant emissions for the proposed Rosemary's Mountain Quarry Project. The San Diego Air Pollution Control District (SDAPCD) provided the emission estimates for asphalt plant and quarry activities.

DATA REQUEST

11. Please provide available information on the onsite criteria pollutant emission estimate for the Gregory Canyon Landfill project.

RESPONSE

The attached map (Exhibit 11-1) and tables (Exhibit 11-2 through 11-7) provide the layout and the criteria pollutant emissions for the proposed Gregory Canyon Landfill project. The tables in Exhibits 11-2 through 11-7 were provided by the SDAPCD from the landfill's May 2008 air permit application.

The landfill is proposed to be developed in phases, with the first phase to occur at the north (top of Exhibit 11-1) of the project site. Subsequent development will move southward over the life of the landfill, with closure planned in 2030.

Tables F-11-1 through F-11-3 from the May submittal (Exhibit 11-2) indicates the annual and short-term (daily and hourly) expected air emissions for the landfill. The highlighted entries indicate the maximum expected emissions for each pollutant and averaging time. SDAPCD noted that the maximum NO_x annual emissions (Exhibit 11-2, Table F-11-1, Year 5) appear to be in error, and the actual maximum should be 28.3 tons per year in Year 17. This is likely a transposition error with the PM_{10} emissions and is carried through on the subsequent tables.

Tables H-1-3 (Exhibit 11-3), H-1-19 (Exhibit 11-4), H-2-3 (Exhibit 11-5), H-2-4 (Exhibit 11-6) and H-2-19 (Exhibit 11-7) provide the projected criteria pollutant emissions by source and averaging time (annual and short-term) for each of the highest emitting years as appropriate for each pollutant (e.g., regulatory ambient concentration averaging times for SO_2 are both annual and short-term, but the averaging times for CO are only short-term).

DATA REQUEST

12. If the emissions are greater than 5 tons per year for any criteria pollutant, excepting CO, for either of these two projects then please provide:

a. A cumulative modeling protocol for the completion of a cumulative modeling assessment.

b. After approval of the cumulative modeling protocol please provide the cumulative modeling analysis including electronic files.

RESPONSE

CUMULATIVE MODELING PROTOCOL

Single source criteria pollutant dispersion modeling was conducted for the Orange Grove Energy Project as described in Section 6.2.3.1 of the June AFC. Multi-source, cumulative modeling will be conducted in the same manner with proposed emission sources within 6 miles included (Rosemary's Mountain Quarry and Gregory Canyon Landfill). The USEPA AERMOD model will be employed using the same

background air quality, input meteorological data and model option settings as employed previously for the AFC.

Cumulative modeling including other permitted or proposed facilities within six miles of the Project will be used to demonstrate that the Project does not cause or significantly contribute to any violations of ambient air quality standards. Therefore, the receptor arrays for the cumulative modeling will include only locations where predicted impacts from OGE exceed the Significant Impact Levels as shown in Table 20.1-13 of SDAPCD's "Rule 20.1 New Source Review – General Provisions."

The active mining area of the Rosemary's Mountain Quarry will be assumed to be a rectangular 25 acre site to the west of the "processing area" (shown in Exhibit 10-1) with crushing, screening and quarrying emissions treated as a volume source covering this area. The volume source will be assumed to have a height of 1.5 times the height of typical tri-axle trucks, or 4.5 m. This volume source height represents the aerodynamic cavity zone expected in the lee of trucks and other operational equipment on the site. The asphalt plant will be placed at the "ready-mix" location shown in Exhibit 10-1. Based on experience with other asphalt plants, the stack parameters will be assumed to be:

- Stack height: 13.5 m
- Stack diameter: 1.05 m
- Stack temperature: 394K
- Stack exit velocity: 40 m/s

For the Gregory Canyon Landfill, emissions during Year 1 of operations will be assumed to occur in the Phase 1 (north-most) area of the landfill (see Exhibit 11-1). Volume source emissions (excavation, drilling, blasting, ANFO, unloading, wind erosion, daily cover, haul roads and rock transport) will be set to the size of Phase 1 area with a volume source height of 4.5 m. For the Year 17 operations, area source emissions (wind erosion, daily cover, LFG fugitive, roadway emissions) will be assumed to occur in the Phase 3 area. Three flares, one each at the center of the Phase 1, 2 and 3 areas will be assumed. Based on data from John Zink for enclosed landfill flares (http://www.johnzink.com/products/flares/pdfs /tp_ultra_lo.pdf) and assuming a low exit velocity, the flare stack parameters will be assumed to be:

- Stack height: 13.7 m
- Stack diameter: 2.2 m
- Stack temperature: 1033K
- Stack exit velocity: 1.0 m/s

Predicted multi-source concentrations will be combined with background concentration data. If necessary, the background data may be refined to represent the modeling time period. If modeled violations are predicted, source contributions will be examined to determine if OGE significantly contributes to the violating events.

Modeling will be conducted after the above protocol is approved.

SDAPCD Determination of Compliance

BACKGROUND

The proposed project will require a Preliminary and Final Determination of Compliance from the SDAPCD. Staff understands that a new permit application was not required to be submitted; however, staff is unsure if supplemental materials, other than AFC materials, have been submitted to the SDAPCD. Staff needs copies of the information going to and from the District to ensure that there is consistency between the SDAPCD and staff's understanding of the project during the licensing/permitting process.

DATA REQUEST

13. Please provide a copy of any supplemental permit application materials, other than direct copies of AFC application materials, which have been submitted to the SDAPCD.

RESPONSE

Per SDAPCD's request, a copy of the engine specification sheet for the fire water pump was provided. This same sheet was included in Appendix 6.2-G of the AFC, already on file with CEC. A copy is attached as Exhibit 13-1.

14. Please provide, up until the Commission's evidentiary hearings, copies of all substantive materials submitted to and received by the SDAPCD within a week of their submittal/receipt.

RESPONSE

Any such materials will be submitted to CEC as requested.

Greenhouse Gas Emissions Estimate

BACKGROUND

The proposed Orange Grove project will use a chiller that will have refrigerant losses. The refrigerant noted to be used is HFC-134a (page 2-24 of the AFC), which has a GHG carbon dioxide equivalency of 1,300. Staff needs additional information to categorize the full GHG emission potential for the Orange Grove Facility.

DATA REQUEST

15. Please confirm the type of refrigerant used in the chiller and indicate why a refrigerant with a lower GHG emission potential such as HCFC-123, which is being proposed for the Riverside Energy Resource Center chiller, is not being proposed for the Orange Grove chiller.

RESPONSE

R-134a is a "green" non-ozone depleting refrigerant, and is approved for unlimited future use by the EPA. It is the preferred refrigerant for environmental, commercial, and safety issues. R-123 is toxic and ozone depleting. It has been put in the same classification as R-22 and other environmentally harmful refrigerants. As such, it is mandated for phase-out in new equipment by 2015 and in production by 2030. R-134a has no phase-out limits.

Of the four major centrifugal chiller manufacturers, one has dropped all R-123a design and sales, and only one still uses R-123, and plans to drop its manufacture as soon as they can get their R-134a designed chiller finished. R-123 chillers are banned for use in Europe.

DATA REQUEST

16. Please provide an annual leak rate estimate for the chiller refrigerant.

RESPONSE

Because the Carrier chillers at the site are hermetic positive pressure type, leakage is negligible and no annual adding of refrigerant is expected by design. (<0.1 %).

17. Please provide a carbon dioxide equivalent GHG emission estimate for the chiller, per operating hour, per year and for the life of the project.

RESPONSE

The total quantity of HFC-134a in the chiller system is 5,600 pounds. With a leak rate of 0.1 percent, the annual emission rate is expected to be less than 5.6 pounds per year. The CO_2 equivalence factor for HFC-134a is 1,300, therefore this equates to less than 7,200 equivalent pounds of CO_2. Assuming 1,200 hours per year of operation, the leak rate per operating hour is expected to be less than 0.0047 pounds. This equates to less than 6.1 equivalent pounds of CO_2.

Upon reviewing the Greenhouse Gas (GHG) Emissions as presented on page 6.2-20 of the AFC, an error was identified in the plant heat rate used for the calculation. The heat rate for the facility will be 9,938 Btu/kW-hr, as stated on Table 2.3-2, page 2-9 of the AFC. Revising the calculation to reflect the correct heat rate, the potential GHG emissions are 188,089 tpy.

Technical Area: Alternatives
Author: Suzanne Phinney

BACKGROUND

The Orange Grove Application for Certification (AFC) evaluates the four sites offered in the San Diego Gas & Electric (SDG&E) Request for Offers (RFO), which include the Margarita Site. Section 5.2.1 states that the Margarita Site was not selected because it does not meet some of the Project's basic objectives, but does not specify which objectives are not met.

DATA REQUEST

18. Please explain why the Margarita Site was not selected.

RESPONSE

The 3.0 acre Margarita Site was not selected because it is not large enough for development of the proposed generation capacity and because the selected Orange Grove Project Site was judged more capable of meeting the basic Project objectives outlined in AFC Section 5.0. Since selection of the Site for the Project, another developer has attempted to develop the Margarita Site without success due to significant local opposition to any such use of the property.

BACKGROUND

Sections 5.2.3 and 5.2.4 of the AFC state that new transmission line interconnections would be required to connect the GCL North and South sites to the Pala Substation. It is unclear whether the additional transmission infrastructure would cross the highway and where the connections would occur.

DATA REQUEST

19. Please provide a diagram of the configuration of transmission line interconnections from the GCL North and South sites to the Pala Substation.

RESPONSE

Exhibits 19-1 and 19-2 provide revised AFC Figures 5.2-3 and 5.2-4 showing the transmission line interconnection routes to the GCL North and South sites. From these alternative sites, the transmission line interconnection routes would follow the existing 69 kV transmission line route to the Pala substation where interconnection to the existing 69 kV system would occur. For the GCL North site, the transmission line interconnection would cross the highway twice. For the GCL South site, the transmission line interconnection would cross the highway once. As stated in AFC Section 5.2.3, the environmental analysis is based on the interconnection route from

these alternative sites being overhead lines along the existing 69 kV transmission route to the Pala substation.

BACKGROUND

In the AFC, Table 5.10-1 compares the relative impacts on biological resources of the GCL South and North sites to the Orange Grove site. From the discussion in Sections 5.10.2.1 and 5.10.2.2, the comparisons were primarily determined by direct disturbance to sensitive habitat type. No mention is made of effects on adjacent habitat.

DATA REQUEST

20. Please examine whether GCL South's proximity to the San Luis Rey River would have any impacts on the biological resources associated with the river or its riparian habitat.

RESPONSE

The project constructed at the GCL South alternate site would not have any direct impact on the San Luis Rey River. This site is located more than 200 feet from the river and associated riparian habitat. It is anticipated that indirect impacts to biological resources within the San Luis Rey River would be minimized through site selection, construction techniques, and operational best management practices. Similar to the selected Site, the project at the GCL South alternative site would include noise and emission control measures to comply with relevant standards. These measures will protect biological resources from indirect impacts from operations emissions. Acoustical enclosures would be provided around noisy equipment to limit noise emissions. Noise levels will be below applicable standards, which will protect biological resources and limit indirect impacts from noise to a level that is less than significant.

DATA REQUEST

21. Based on the findings, please state how the biological resources comparison in Table 5.10-1 would change or remain the same.

RESPONSE

There is no change in Table 5.10-1. The GCL South alternative site is considered to have less impact to biologic resources because coastal sage scrub impacts would be de minimis. Only an overhead electric transmission interconnection would traverse coastal sage scrub habitat, located along the route of the existing 69kV transmission line to the Pala Substation. It is expected that the overhead electric transmission interconnection could be constructed with minimal disturbance to coastal sage scrub habitat.

Technical Area: Biological Resources
Author: Susan Sanders

BACKGROUND

Limited Construction Period/Directional Drilling: The AFC describes results of surveys indicating that coastal California gnatcatchers and least Bell's vireos nest in close proximity to the proposed gas pipeline, and that foraging/movement areas for arroyo toad also occur near portions of the pipeline alignment and staging areas. Page 6.6-54 of the AFC lists project design features to avoid significant impacts to these endangered species, including "*limited construction periods will be used to avoid the active season of federally listed species that occur along some portions of the Project linear corridor or the reaches of the corridor adjacent to these resources will be directionally drilled to avoid potential indirect impacts from noise and construction activities*." However, the AFC does not provide specific information as to where and under what circumstances directional drilling would be used in the riparian areas, and when and where the limited construction period would apply.

DATA REQUEST

22. Please provide a detailed discussion of how and where limited construction periods and horizontal directional drilling will be used to avoid impacts to listed and other special status species (including coastal California gnatcatcher, least Bell's vireo, and arroyo toad).

RESPONSE

Limited construction periods shall be utilized as the preferred method of avoiding impacts to special status species along the southern riparian forest habitat found adjacent to the natural gas pipeline alignment between the two sections of former dairy operations and within coastal sage scrub habitat utilized by coastal California gnatcatcher for breeding located west of the Pala substation (See Exhibits 22-1 and 22-2).

Construction through the southern riparian forest area will be restricted to the existing dirt road and will not result in any loss of habitat. Utilization of the narrow construction corridor (approximately 15 feet) will remove the potential for physical impact to special status species and a limited construction period will limit disturbance from indirect impacts from construction noise. Limited construction periods will be designed to avoid the least Bell's vireo and southwestern willow flycatcher breeding seasons considered to be March 15 to September 15 to limit disturbance from construction activities and noise to a level less than significant. Furthermore, a limited construction period will also be utilized through this area to avoid the arroyo toad breeding season considered to be March 15 to July 1 in order to ensure that construction activities occur outside of the arroyo toad active season. The March 15 to July 1 breeding season identified herein revises the understated

allowable construction period identified in the AFC for mitigating impacts to this species. No arroyo toad breeding habitat occurs within the Project survey area, however, the southern riparian forest contains potential aestivation habitat and the limited construction period will reduce potential impacts to arroyo toad to level less than significant. Combining the conservative elements of the three breeding periods will result in a limited construction period of September 16 through March 14 for construction activities adjacent to the southern riparian forest area (refer to Exhibit 22-1).

If construction activities for installing the gas pipeline beneath the unpaved roadway through the riparian habitat cannot be completed outside of the least Bell's vireo, southwestern willow flycatcher and arroyo toad breading seasons, horizontal boring will be utilized to avoid indirect noise impacts from construction activities in this area. Exhibit 22-1 provides the location and alignment of the potential horizontal boring activities.

If project construction will occur within coastal sage scrub between February 15 to August 30 (the gnatcatcher breeding season), a survey will be conducted to determine if nesting gnatcatchers are present. The February 15 to August 30 breeding season is utilized by the County of San Diego in their minimization measures as part of the Habitat Loss Permit (HLP) process. This breeding season revises the gnatcatcher breeding season identified in the AFC. If nesting gnatcatchers are determined to be present, construction activities shall be directed to stay 500 feet from any California coastal gnatcatcher nests until the young have fledged. Exhibit 22-2 depicts the coastal California gnatcatcher nests identified within 500 feet of construction activities during the 2008 protocol surveys.

DATA REQUEST

23. Please include in the above discussion a figure depicting all areas within the project area that will be subject to a limited construction period and horizontal directional drilling. This figure should be at a scale no less than 1 inch = 200 feet, and should clearly show the limits of construction activities in relation to sensitive habitats.

RESPONSE

Exhibits 22-1 and 22-2 depict the segments of natural gas pipeline that will be subject to limited construction periods. Exhibit 22-1 also depicts the alignment of the gas pipeline that will utilize horizontal boring techniques to install the pipeline under the southern riparian forest area if required to work during the least Bell's vireo, southwestern willow flycatcher, and arroyo toad breeding seasons.

BACKGROUND

Coordination with USFWS: No information is provided in the AFC or the AFC Supplement indicating that the U.S. Fish and Wildlife Service (USFWS) has reviewed

the project design features and proposed impact minimization measures and concurs that these measures would avoid take of listed species. The AFC Supplement states that the applicant met with Michelle Moreno of the USFWS on May 27, 2008, but does not indicate that Ms. Moreno agreed that no Section 10 consultation would be required. At the time of the May 27th meeting, Ms. Moreno had not reviewed the AFC, the survey results, or any documentation about the Orange Grove project (Moreno pers. comm. June 26, 2008).

DATA REQUEST

24. Please confirm that the USFWS has reviewed the information in the AFC, as well as subsequent submittals (AFC Supplement, least Bell's vireo and southwestern willow flycatcher survey results) and that the USFWS considers the design features described in the AFC adequate to avoid impacts to listed species.

    RESPONSE

    The Applicant's consultants have been coordinating with USFWS staff, and USFWS staff is in the process of reviewing the AFC. A response from USFWS has been requested and will be provided to CEC when received.

BACKGROUND

Coordination with California Department of Fish and Game (CDFG): According to the AFC Supplement, the applicant contacted CDFG regarding the need for a 1602 Streambed Alteration Agreement (SAA). The applicant confirmed that even though the gas pipeline would be drilled beneath the drainages and would not result in direct surface impacts to waterways, the CDFG would nevertheless require submittal of a SAA Notification package. However, the AFC and the AFC Supplement make no mention of coordination with CDFG regarding take of listed species or direct, indirect, and cumulative impacts to special status species. Staff needs information regarding CDFG's review and approval of the project design features and proposed minimization measures, and some confirmation that CDFG concurs that these measures would avoid take of listed species.

DATA REQUEST

25. Please confirm that the CDFG has reviewed the information in the AFC, as well as subsequent submittals (AFC Supplement, least Bell's vireo and southwestern willow flycatcher survey results) and considers the design features/minimization measures described in the AFC for the directional drilling installation of the gas pipeline adequate to avoid take of listed species.

RESPONSE

The Applicant's consultants have been coordinating with CDFG and CDFG staff is in the process of reviewing the AFC. A response from CDFG has been requested and will be provided to CEC when received.

BACKGROUND

Coordination with the U. S. Army Corps of Engineers (USACE): No information is provided in the AFC or the AFC Supplement confirming that the USACE has reviewed the project description and the Jurisdictional Waters and Wetland Delineation Report (Appendix 6.5-B of the AFC). The AFC Supplement notes that Laurie Monarres of the USACE met with the applicant on May 27, 2008. However, there is no indication that Ms. Monarres concurred that the horizontal directional drilling proposed at six drainages would avoid all potential impacts to jurisdictional waters, and therefore would not require a Section 404 permit. Staff needs confirmation that the USACE has seen the proposed project description and does not regard boring beneath the drainages as potentially jurisdictional activities. Staff also needs to be informed of any recommendations that USACE might provide to protect drainages during drilling.

DATA REQUEST

26. Please confirm that the USACE has reviewed the project description and Appendix 6.5-B of the AFC and concurs that a Section 404 permit will not be required for horizontal direction drilling beneath six jurisdictional drainages.

RESPONSE

Exhibit 26-1 provides an e-mail from Ms. Laurie Monarres at USACE confirming that USACE will not require any permit for horizontal drilling beneath Section 404 Waters of the United States.

DATA REQUEST

27. Please provide any recommendations made by USACE regarding measures to protect the drainages from impacts during drilling activities.

RESPONSE

USACE has not made any recommendations for the Project.

BACKGROUND

Figures Showing Construction in Relation to Waters/Riparian Habitat: Appendix 2-A, Drawings GP-C850 and GP-C851, are not-to-scale, cross-section drawings of typical boring/encasements through riparian corridors and under jurisdictional waters. The drawings show a generalized 10 foot X 30 foot bore pit excavation with a minimum offset distance from the top of the bank or the boundary of the riparian corridor. Staff

needs more detail on the specific locations of the bore pit excavations (and associated spoils pile) in relation to boundaries of waters of the United States or riparian habitat for all drainage crossings and all work near riparian habitat. Staff also needs more details on the specific location of construction/disturbance for bridge construction in relation to the boundary of jurisdictional waters. Drawing C350, the Bridge Plan, does not currently provide this information.

DATA REQUEST

28. Please provide detailed, site specific, scaled drawings that show the location of all excavation/boring activities in relation to the boundaries of riparian habitat or jurisdictional waters. This information is needed for all segments of the gas pipeline within or near riparian vegetation and for each of the six drainages proposed for horizontal directional drilling.

    RESPONSE

    Exhibit 28-1 provides the requested drawings. Please note that if the horizontal boring alternative is used to construct the gas pipeline under the Southern Riparian Habitat, a reduction of 0.47 acres of disturbance to urban developed and disturbed habitats will result.

DATA REQUEST

29. Please revise Drawing C350 to show the boundary of jurisdictional waters in relation to any disturbance associated with bridge construction.

    RESPONSE

    Exhibit 29-1 provides a revised Drawing C350 showing the boundary of the jurisdictional waters in relation to bridge construction.

BACKGROUND

Habitat Loss Permit/1602 Application/Willow Flycatcher Survey Results. The AFC Supplement indicates that the applicant will submit the HLP Application and the 1602 SAA Notification package in mid-July 2008. The southwestern willow flycatcher survey was scheduled for completion by mid-July 2008. Staff needs the information in these applications/reports to prepare their analysis.

DATA REQUEST

30. Please provide copies of the 2008 southwestern willow flycatcher survey results and applications for the HLP and 1602 SAA.

RESPONSE

The 2008 southwestern willow flycatcher survey results were included as Exhibit C.2 of the Orange Grove AFC Supplement submitted to the CEC in July, 2008.

A copy of the CDFG Section 1602 SAA application has been included as Exhibit 30-1. The SAA application was submitted to the CDFG on August 11, 2008. A determination of completeness for the application is expected by September 10, 2008.

A copy of the HLP package is included as Exhibit 30-2. The HLP package was submitted to the San Diego County Department of Public Works (DPW) on August 12, 2008.

BACKGROUND

Impact Table and Figure. Table 6.6-4 on Page 6.6-45 of the AFC summarizes the construction impacts to habitat types within the project area, but does not provide a discussion or a figure indicating how these acreage impacts were calculated. Staff needs to know the assumptions that formed the basis for calculating acreage impacts, which of the impacts are permanent and which are temporary, and the extent of the proposed fuel modification zones in relation to access roads and structures. The Landscaping Plan (Design Drawing L100, Appendix 2-A) shows the limits of Fuel Modification Zones A and B, but this figure is difficult to read and does not show the habitat types encompassed by the zones.

DATA REQUEST

31. Please provide a figure showing the extent of temporary and permanent impacts and fuel modification zones for each project feature superimposed on an aerial photo/vegetation map. This figure should be at a scale no less than 1 inch = 200 feet.

RESPONSE

Exhibit 31-1 provides the requested figure.

DATA REQUEST

32. Please describe the assumptions used in developing the boundaries of the fuel modification zones and temporary and permanent impact areas.

RESPONSE

The boundaries of the fuel modification zones are shown in Drawing L100 in AFC Appendix 2-A, and were developed by a knowledgeable fire protection expert based on site specific conditions and fire code requirements. Fuel modification

Zone A is the defensible space and extends 50 feet from project structures or equipment. Zone B extends from 51 feet to 125 feet from project structures or equipment. Access roads have a fuel modification zone of 50 feet on either side of the road except, 30 feet where coastal sage scrub occurs to minimize habitat impacts. The 30 foot width for coastal sage scrub areas was selected based on an existing Memorandum of Understanding (MOU) between USFWS, CDFG, California Department of Fire (CDF), San Diego County Fire Chiefs Association, and the Fire District's Association of San Diego County (February 26, 1997).

The boundaries of temporary and permanent impacts were developed from engineering drawings and construction mitigation measures included in the AFC.

Permanent impacts for linear facilities are conservatively considered to be equal to the proposed 20-foot easement width, except through the riparian zone where the disturbance will be limited to a corridor approximately 15 feet wide. Permanent impacts also include the site grading disturbance footprint, Site driveways, visual screening landscaping, and the fuel modification zones, as shown in the engineering drawings in AFC Appendix 2-A.

Temporary impact areas include construction laydown areas and the linear facilities construction corridor (varies from 15 to 120 feet) to the extent that it is outside of the permanent disturbance corridor.

BACKGROUND

Missing Maps in Gnatcatcher Report. Maps 1 and 2 were missing from Appendix 6.6-B of the AFC, *2007/2008 Winter and 2008 Breeding Coastal California Gnatcatcher (Polioptila californica californica) Survey Report for the Proposed Orange Grove Project*. In addition, staff needs a figure showing the boundaries of Critical Habitat for coastal California gnatcatchers in relation to project features.

DATA REQUEST

33. Please provide Maps 1 and 2 that were omitted from Appendix 6.6-B. Maps can be provided in hardcopy on a compact disk.

RESPONSE

Exhibit 33-1 includes Maps 1 and 2 (Survey Area for coastal California gnatcatcher) from the Orange Grove AFC Appendix 6.6-B.

DATA REQUEST

34. Please provide a figure showing the boundaries of Critical Habitat for coastal California gnatcatcher in relation to project features.

RESPONSE

Maps 1 and 2 included as Exhibit 33-1 contain the boundaries of Critical Habitat for coastal California gnatcatcher in relation to project features.

BACKGROUND

Gregory Canyon Landfill Mitigation Lands. The gas pipeline alignment crosses former dairy farms that are now owned by Gregory Canyon, Ltd. and are part of the proposed Gregory Canyon Landfill site. Page 6.9-3 of the AFC states that: "*land from the former dairy farm will be utilized for habitat restoration/creation to mitigate landfill impacts as further addressed in Section 6.6, Biological Resources."* However, there is no discussion in Section 6.6 about the Gregory Canyon Landfill mitigation lands. The USFWS expressed concern about constructing the gas pipeline through areas designated for mitigation/restoration, noting that impacts to mitigation lands might require a higher rate of compensation (Moreno pers. comm. June 26, 2008).

DATA REQUEST

35. Please provide information about the habitat restoration/creation proposed at the Gregory Canyon lands along the gas pipeline alignment, and discuss any potential conflicts resulting from this proposed use.

RESPONSE

The gas pipeline alignment travels through the former dairy farm portions of the Gregory Canyon, Ltd property. These areas currently consist of disturbed habitat and urban development.

As part of the Habitat Restoration and Resource Management Plan (HRRMP) for the Gregory Canyon Landfill property, these former dairy farm lands will be utilized for the creation of oak woodland habitat with alluvial scrub and native grassland understory (Oak Woodland Habitat). The HRRMP identifies 70.4 acres that can be used onsite for restoration of Oak Woodland Habitat (all onsite). 22.6 acres of impact to coast live oak woodland will result from the construction and operation of the Gregory Canyon Landfill Project. The Final Environmental Impact Report (FEIR) for the Gregory Canyon Landfill Project required a total of 67.8 acres of mitigation for impacts to cost live oak habitat (a mitigation ratio of 3.0).

Construction of the Orange Grove gas pipeline through lands that will be utilized for the creation of Gregory Canyon Landfill Oak Woodland Habitat mitigation will not conflict with the mitigation plan. The 20 foot wide easement for the pipeline will not be counted as acreage for the mitigation, but there is still approximately 68.2 acres of mitigation area available compared to the 67.8 acres of mitigation required by the FEIR. Furthermore, the gas pipeline easement would not have regular ground disturbing activities once construction is completed, so the easement area would not conflict with or materially detract from the habitat value.

For these reasons, the easement will not conflict with the Gregory Canyon Landfill mitigation plan.

BACKGROUND

San Diego desert woodrat. The AFC never resolved whether the woodrat nests at the project site were of the special status *Neotoma lepida intermedia* or the common *Neotoma fuscipes*. If the nests belong to the special status woodrat species, an impact analysis will be needed and possibly mitigation measures proposed. The California Natural Diversity Data Base (CNDDB) documents the rare subspecies within three miles of the Project site, so the conservative assumption is that the special status species is present on the project site.

DATA REQUEST

36. Please identify the species of woodrat occurring within the project area. If identification is not possible, please provide an impact analysis and mitigation recommendations assuming that it is *Neotoma lepida intermedia.*

RESPONSE

The species of woodrat occurring within the Project area could not be confirmed without trapping, which was not conducted. *Neotoma lepida intermedia* utilizes coastal sage scrub habitat and it is assumed to be potentially present.

The impacts of construction noise and activities on this species will be short-term, as construction will occur only during working hours, and the construction period is only 6 months. Along the linear facilities construction noise will generally occur only for several hours in a given location as construction progresses in short segments along the pipeline route. Wildlife will be able to temporarily relocate to adjacent lands if disturbed by noise and activities from Project construction. Therefore, these short term impacts will be less than significant. The Project will impact 9.3 acres of coastal sage scrub that provides habitat for this species. This impact will be mitigated through the acquisition of a HLP for coastal sage scrub from the DPW as allowed under Section 4[d] of the Federal Endangered Species Act and compliance with allocated permit conditions. Based on discussions with DPW and the USFWS, the DPW will require a 2:1 compensation ratio for the disturbance to coastal sage scrub habitat. Orange Grove Energy is researching approved mitigation banks in San Diego County and will coordinate with DPW and USFWS through the HLP process on approval. Implementation of these project measures will reduce potential impacts to Neotoma lepida intermedia to less than significant.

BACKGROUND

Parry's Tetracoccus. Page 6.6-47 of the AFC states that approximately 10 individual Parry's tetracoccus will be impacted during site grading and establishment of the fuel modification zone. The AFC characterizes this impact as less than significant because

the loss will be mitigated by either transplanting the Parry's tetracoccus, or by collecting and growing seed. Staff needs more information about the regional context and significance of losing 10 Parry's tetracoccus, and a more detailed mitigation plan. If transplanting or seed collection and propagation is proposed, those activities will need to occur before this fall, therefore a complete mitigation plan is needed as soon as possible. In addition, the discussion of Parry's tetracoccus in the AFC needs to be updated with information from the spring 2008 floristic surveys conducted by Ecological Outreach Services. Figure 6.6-4B of the AFC shows the location of only 11 Parry's tetracoccus, but the CNDDB records from the AFC Supplement indicate a total of 52 individual Parry's tetracoccus detected during the 2008 surveys.

DATA REQUEST

37. Please update and provide a revised copy of Figure 6.6-4B with information from the spring 2008 floristic surveys.

RESPONSE

Figure 6.6-4B from the Orange Grove AFC contained the Spring 2008 floristic survey data. However, the data points for the Parry's tetracoccus (*tetracoccus dioicus*) was for each stand found not each plant and some of the Spring 2008 floristic survey data outside of the survey boundary did not appear on Figure 6.6-4B due to the scale of the figure. Exhibit 37-1 includes an updated version of Figure 6.6-4B, including the data that was not contained in Figure 6.6-4B and specific detailed information on the numbers of Parry's tetracoccus found in the Project vicinity.

The Parry's tetracoccus were mapped as geographically distinct groups, or stands, on AFC Figure 6.6-4B. Exhibit 37-1 contains notes indicating the number of individuals detected in each stand. Each of the 10 distinct stands noted during the Spring 2008 floristic survey had a CNDDB form submitted to the CDFG indicating location and number of individuals present. These 10 CNDDB forms were provided to the CEC as part of the AFC Supplement document submitted in July, 2008. There were a total of 52 individuals detected within these 10 stands (refer to Exhibit 37-1). The remaining 3 distinct stands of Parry's tetracoccus mapped during previous biological surveys conducted for the Project were not originally counted for specific number of individuals. A supplemental focused survey was completed on August 12, 2008 by Ryan Villanueva to verify the location of all 13 stands and to count the number of individuals located within the three stands that were identified prior to the Spring 2008 floristic survey. His resume was included as part of Exhibit B in the July, 2008 AFC Supplement document. During the August 2008 survey, one of the three stands could not be relocated and three additional small stands were located (refer to Exhibit 37-1). The total number of Parry's tetracoccus individuals located within the remaining two stands and three new stands is 31. CNDDB forms for these five Parry's tetracoccus stands have been included as Exhibit 37-2. The total number of Parry's tetracoccus observed during floristic and

other surveys for the Project is 83. Only 23 Parry's tetracoccus plants are located within the Project boundaries.

DATA REQUEST

38. Please provide a more detailed analysis of project impacts to Parry's tetracoccus, including a discussion of what percentage of the local population these 10 plants represent and if there are other nearby populations, and if this loss significantly contributes to regional cumulative impacts.

RESPONSE

The Project will impact one stand of Parry's tetracoccus (*tetracoccus dioicus*), totaling 23 individuals. These individuals will be relocated pursuant to the Mitigation Plan outlined in the response to Data Request 39 below. Project related surveys also located another 14 distinct stands of Parry's tetracoccus near the Project Site totaling 60 individual plants. Exhibit 38-1 depicts the location of these 15 Parry's tetracoccus stands with respect to Project impact areas.

Exhibit 38-2 depicts Parry's tetracoccus CNDDB records in the vicinity of the Project Site. There are 17 CNDDB records for Parry's tetracoccus within a 15 mile radius of the Project Site. This does not include any of the Parry's tetracoccus identified during Project related surveys. Table 38-1 below outlines reported number of Parry's tetracoccus individuals reported as part of the CNDDB records located within 15 miles of the Project Site. The map ID numbers correspond to those displayed in Exhibit 38-2. Approximately 60% of the CNDDB records within 15 miles of the Project Site contained information regarding number of individuals present. Table 38-1 below only contains information for these records. It is likely that additional Parry's tetracoccus stands occur in the region that are not identified in CNDDB mapping.

Table 38-1 Parry's Tetracoccus CNDDB Records Information

Map ID #	Record Location with Respect to the Project Site	# of Recorded Individuals[1]
7	2.7 miles north	Less than 100 combined
8	2.8 miles north	
16[2]	5.0 miles northeast	10,000+
9	4.7 miles northwest	23
17	6.5 miles northwest	1
19	7.2 miles northwest	100+
2	11.5 miles south-southwest	100+
18	11.6 miles south-southwest	500+ combined
20	11.8 miles south-southwest	

[1]Numbers are reported herein as they appeared within the CNDDB data output tables.
[2]This site is recorded as being 15.7 acres in size.

Table 38-2 provides the calculated percentage of the local populations represented by the 23 individuals that will be impacted by the Project utilizing conservative (underestimated) existing population data from Table 38-1.

Table 38-2 Parry's Tetracoccus Impact Estimates

Population Radius	Number of Individuals Identified	Percentage Impacted by the Project[1]
5 miles	10,206+	0.22%
10 miles	10,307+	0.22%
15 miles	10,907+	0.21%

[1]Percentages are calculated utilizing only occurrences with reported numbers of individuals. Only 60% of the reported occurrences within 15 miles of the Project Site had reported numbers of individuals present. In addition, undocumented stands are likely to occur. Therefore, the percentages contained in this table are considered to be conservative (high).

Due to the number of Parry's tetracoccus occurrences on lands outside of the Site boundary and in the Site region overall, the Project's affect on the 23 individuals is not likely to jeopardize this species locally or regionally and, therefore, impacts to Parry's tetracoccus will be less than significant.

DATA REQUEST

39. Please provide a specific and detailed mitigation plan, including evidence that salvage and replanting operations or seed propagation are successful with this species, where and when the proposed replanting/mitigation would occur, how the transplanted population be monitored, and what sort of success criteria would be applied to the mitigation plantings.

RESPONSE

Exhibit 39-1 provides a detailed mitigation plan for Parry's tetracoccus.

DATA REQUEST

40. Please provide a copy of Ecological Outreach Services' report describing the results of the 2008 floristic surveys.

RESPONSE

Exhibit 40-1 provides a copy of the requested report.

Technical Area: Cultural Resources
Author: Amanda Blosser

BACKGROUND

The applicant states in the Supplemental Archaeological Survey Report, that buildings and structures along the gas line route were previously inventoried and evaluated for historic significance as reported to the Energy Commission in response to Cultural Resources Data Requests for the Orange Grove SPPE in October 2007. Appendix 6.7-B of the AFC provides the Orange Grove Project (07-SPPE-2) Responses to Data Requests, but does not provide the required built environment information in a separate technical report as required by Siting Regulation Appendix B (g) (2) (c).

DATA REQUEST

41. Please provide the technical report produced for the AFC built environment survey. The report should include survey procedures and methodology used to identify built environment resources and a discussion of the resources identified by the survey. The report should also include any new and updated DPR523A forms. Only if the project will impact a resource aged 45 years or older is a more detailed DPR523B form required. In addition, the report should include a map which locates these identified resources and the names and qualifications of the cultural resources specialists who contributed to and were responsible for the survey and preparation of the technical report.

RESPONSE

A comprehensive technical report addressing buildings and structures along the gas line route and at the Project site has been compiled by Wendy Tinsley of Urbana Preservation & Planning (Urbana): Project Site & Linear Facilities Built Environment Survey – Technical Report, Proposed Orange Grove Project (2008), consistent with Siting Regulation Appendix B (g) (2) (c). A technical report regarding the San Diego Aqueduct with DPR523A and supplemental forms was prepared by Urbana in May 2008, was submitted to CEC with the AFC, and is also provided as an appendix to the technical report. A DPR523A form documenting the orange grove at the Project site has been prepared in response to this Data Request and is appended to the technical report. As noted in the Background for Data Request 41 the CEC has received the necessary information regarding buildings and structures but requires a separate technical report. All of the data previously submitted in response to Data Requests for the Orange Grove Project SPPE (07-SPPE-2) pertaining to the built environment at the Project site and along the gas line are included in the summary technical report prepared by Urbana in response to Data Request 41.

The technical report is submitted as Exhibit 41-1. The report describes the survey procedures and methodology used to identify built environment resources,

describes the resources, and provides an evaluation of the historical significance of resources more than 45 years old. Only two resources identified at the Project site and along gas line route are more than 45 years old: the orange grove at the Project site, and the San Diego Aqueduct which is crossed by the proposed gas line at the eastern Highway 76 crossing. DPR523 forms are submitted for these two resources and the location of these two resources is depicted on maps in the technical report provided in response to the Data Request as well as on the DPR523 forms for each resource. No other elements of the built environment at the Project site or along the gas line qualify for listing in the California Register of Historical Resources because they are less than 45 years old. Consequently DPR523 forms have not been prepared for these resources and they have not been depicted on maps. Each building or structure has, however, been identified, illustrated, and discussed in the technical report prepared by Urbana and submitted with this Data Response.

The names and qualifications of the specialists responsible for the Urbana surveys and technical reports are provided in the technical report.

BACKGROUND

The applicant cites two technical reports in the References for the Cultural Resources Section of the AFC. Staff needs to review these reports to compile complete information on the cultural resources that could be impacted by the proposed project.

DATA REQUEST

42. Please provide copies of the following technical reports listed in Section 6.7.7 Reference Section:

    a. Urbana Preservation & Planning. 2008a. Letter report: San Diego Aqueduct: Preliminary California Register of Historical Resources Eligibility Review. Submitted to the California Energy Commission, Sacramento, CA.

    b. Urbana Preservation & Planning. 2008b. Orange Grove Project Additional Historical & Cultural Resource Surveys: Reconnaissance Level Archaeological & Built Environment Survey Report, Freshwater and Reclaimed Water Pickup Stations, Yucca Road & Alturas Road, Fallbrook, California. Submitted to the California Energy Commission, Sacramento, CA.

RESPONSE

The requested report for the San Diego Aqueduct is attached to Exhibit 41-1. The requested report for the fresh water and reclaimed water pickup stations is provided in Exhibit- 42-1. Exhibit 42-1 is marked “confidential” on the cover, but the confidential material has been removed from the Exhibit. The confidential portion of this report consists of Attachment 2 (CHRIS records search) which will be submitted to CEC separately under confidential cover. .

BACKGROUND

The applicant identified a 1940s era orchard at the project site but failed to provide a DPR523 for the resource. Staff needs to review this form to compile complete information on the cultural resources that could be impacted by the proposed project.

DATA REQUEST

43. Please provide a DPR523 form for the 1940s citrus orchard and provide a specific historic context under which to evaluate the significance of the orchard.

RESPONSE

The requested DPR523 form is attached to Exhibit 41-1

BACKGROUND

The applicant identified that the proposed natural gas line route crosses the San Diego Aqueduct, constructed in 1947, and that a staging area for the project will be on the surface over the aqueduct. A previous cultural resources survey examined the area in the vicinity of the crossing point and documented the aqueduct on a DPR523 form. Staff needs a copy of this form to compile more detailed information on this significant resource.

Additionally, in Section 6.7.1.5 of the AFC, the applicant states that the linear facilities for the project will cross the San Diego Aqueduct, and in Section 6.7.3, that the aqueduct will be avoided during construction. Staff needs more information on how the project proposes to avoid impacting this resource.

DATA REQUEST

44. Please provide the DPR523 for the San Diego Aqueduct completed by Urbana Preservation and Planning.

RESPONSE

The DPR523 form for the San Diego Aqueduct is provided in Exhibit 42-1.

DATA REQUEST

45. Please describe how the linear facilities crossing the San Diego Aqueduct will be constructed and how impacts to this historic resource will be avoided.

RESPONSE

According to the design drawings for the San Diego Aqueduct constructed in 1947, the aqueduct is constructed of two 48” I. D. steel pipes and concrete encased in various locations. Orange Grove Energy, L.P. potholed the San Diego Aqueduct and the pipe depths were determined to be approximately 12.40 and 12.35 feet

below the top of surface. The aqueducts are located within their existing 150 foot easement at the former diary farm.

In the vicinity of the aqueduct crossing, the gas pipeline will be open trench cut and installed with a minimum of 3.0 feet between the top of the pipe and the surface. The surface elevation is approximately 319.00' NAVD83. Due to the depth of the aqueduct, the gas pipeline will cross over the aqueduct pipes by a distance of approximately eight feet (see Exhibit 45-1, Sega Gas Pipeline Design Drawing GP-C107 - Site Plan Station 67+70 – 79+00). Before construction begins, the aqueduct and other utilities will be located by the local OneCall (811) Service, providing the contractor with the surface location of the two pipes. The distance between the two pipelines will provide enough separation for construction and installation of the pipeline and avoid impact to the aqueduct. No alterations are necessary for the construction methodology currently designed for open trench installation of the gas pipeline.

The Applicant has been coordinating planned gas pipeline construction with San Diego County Water Authority (SDCWA) and they have a minimum separation requirement of 18 inches. The approximately 8-foot clearance is well above the minimum separation requirement. Contact information for SDCWA is as follows:

Julie Blackman
San Diego County Water Authority
4677 Overland Ave.
(858) 522-6600 Office
(760) 908-5017 Cell
jblackman@contractors.sdcwa.org

BACKGROUND

Section 4.0 of the Supplemental Archaeological Survey Report states that no new archaeological resources were found in the survey area for the project, but it does not address the potential presence of subsurface archeological deposits in the project area. In the absence of known archeological information which would help to assess the potential for subsurface deposits and possible impacts to these cultural resources, staff recommends that the applicant consider a geoarchaeological study, which would provide a summary of what is currently known of the archaeology, paleoenvironment, and historical geomorphology of the area in the vicinity of the project area. By making use of the methods of earth sciences, the geoarchaeological study would better assess the areas of the project area which have potential due to character and age of the landforms for subsurface archaeological deposits.

There appear to be three geomorphic contexts to consider when addressing the presence of subsurface deposits. The plant site will be located on what appears to be an alluvial fan, the majority of the natural gas line pipeline route from Rice Canyon Road to the eastern crossing of State Route (SR) 76, traverses the floodplain of the San Luis

Rey River, and from the east crossing of SR 76, the natural gas pipeline traverses the lower portion of hills, that appear to be igneous bedrock, to the plant site.

On the basis of a field visit to the project area on July 17, 2008 and discussions with the cultural resource consultant to the applicant, Dr. Tom Jackson of Pacific Legacy, it appears that the portion of the project area through the hills adjacent to the project site and the project site itself could be eliminated from further consideration when considering subsurface archaeological deposits. The igneous bedrock in the hills adjacent to the project has no potential to contain buried archaeological deposits, and the apparent alluvial fan that serves as the location for the project site is thought by Dr. Jackson to be too old to harbor any such deposits as well. Assuming that the applicant is able to provide information to document the age of the project site alluvial fan, then the active floodplain and the alluvial terraces above the San Luis Rey River would appear to be the only geomorphic contexts of concern.

To facilitate a more substantive assessment of whether the proposed project may impact potentially significant subsurface archaeological deposits, staff requests that the applicant provide a geoarchaeological analysis of the project area, the purpose of which would be to assess the likelihood of encountering such deposits.

DATA REQUEST

46. Staff requests that the applicant provide a more thorough analysis of the Orange Grove project site and its linear facilities. Staff recommends that the applicant:

    a. further examine and document the three landforms the project traverses in order to eliminate any parts of the project that sit on or cross landform types that because of age or character would not likely contain archaeological deposits;

    b. research the extant archaeological and Quaternary science literature relevant to the landforms in the project area which have potential for archaeological deposits, in order to better assess the likely presence and probable character of any such deposits;

    c. conduct a geoarchaeological field study that examines the landforms in the project area that may contain archaeological deposits. Staff recommends that the geoarchaeological field study of the alluvial contexts along the San Luis Rey River include the:

        1) excavation of three backhoe trenches in locations along the proposed alignment of the natural gas pipeline for the project that will provide the opportunity to reliably characterize the alluvial deposits along the length of that alignment to the anticipated depth of the proposed pipeline trench,

        2) complete recordation of one prepared profile from each backhoe trench to include reasonably detailed written descriptions of each lithostratigraphic and

pedostratigraphic unit in each profile, a measured profile drawing, and a profile photograph with a metric scale and north arrow,

3) screening of a small (3, 5 gallon buckets) sample of sediment from the major lithostratigraphic units in each profile or from two arbitrary levels in each profile through 1/4 inch hardware cloth, and

4) collection and assaying of enough soil humate samples to reliably radiocarbon date the master stratigraphic column for the alluvial deposits along the proposed pipeline route, and

d. provide an analysis of the data that are the result of the above literature review and the field study, and assess, on that basis, the likelihood that the project will encounter buried archaeological deposits, and, to the extent possible, the likely age and character of such deposits.

RESPONSE

The geology of the project area is well understood and documented in 7.5 minute quadrangle maps published by the US Geologic Survey and other sources. AFC Sections 6.3 (Geologic Hazards and Resources), 6.4 (Agriculture and Soils) and 6.8 Paleontologic Resources contain detailed information on the age and nature of the geologic materials present, including geologic logs of subsurface borings in the site vicinity. In addition, four borings have been recently completed along the pipeline route to characterize the subsurface materials. The requested geoarchaeological evaluations have been completed based on this existing information by a California-registered Professional Geologist and an Archaeologist meeting the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, and results are provided in this response. While these evaluations demonstrate that much of the grading for the Project will have no potential for encountering buried archaeological resources, the Project as committed in the AFC includes cultural resource monitoring for all excavation work.

The Project will result in surface disturbance on three landforms of geoarcheological significance including, in chronological order:

- Upland terrain – A portion of the Project gas pipeline occurs on upland terrain.
- Ancient Alluvial Fan - The Project Site, the electric transmission line interconnection and portions of the Project gas pipeline occur on an ancient alluvial fan.
- Flood Plain – A portion of the Project gas pipeline, including the metering station, will occur on the flood plain of the San Luis Rey River.

The geoarcheeological relevance of these three landforms is described in following paragraphs. In order to have the potential for Cultural Resources, a geologic material or surface must be have been exposed to the environment within the last approximately 14,000 years (the earliest known occurrence of humans in North America).

Upland Terrain

The upland terrain landform consists of igneous and metamorphic basement rocks of the Southern California Batholith. This upland terrain includes the geologic map units Kcc, Kgb, KJ, Kt, and Kgt (See AFC Section 6.3 – Geologic Hazards and Resources) that will be affected by the Project. These Cretaceous and Jurassic Period rocks are more than 63 million years old and were placed from deep in the earth. Because of the age and lithology of these basement rocks, there is no potential for buried cultural resource deposits to occur within these rocks. In addition, based on results of cultural resource surveys completed for the Project, as described in AFC Section 6.7, it is not likely that there are buried cultural resource deposits in the overlying thin soil mantle or colluvial debris in Project work areas. The soil mantle is shallow over these rocks and placement of the gas pipeline trench mostly along existing graded roads makes the potential to encounter cultural deposits very unlikely.

Ancient Alluvial Fan

The Ancient Alluvial Fan landform consists of very old alluvial deposits and is shown as the Qvof map unit shown in AFC Figure 6.3-2. This geologic unit is from the early Pleistocene Epoch with an age of 500,000 to 2 million years. Because of its age, there is no potential for buried cultural resources to occur within the very old alluvium. While there is a possibility of isolated buried artifacts in soils that overlie the very old alluvium in other areas, it is unlikely that any occur in areas to be disturbed by the Project because the Project disturbance footprint is exclusively on land that has already been substantially graded in past decades.

Flood Plain

The Flood Plain landform consists of consists of Holocene alluvium and is shown as the Qa map unit on AFC Figures 6.3-2 and 6.3-4 and shown in cross-section in AFC Figure 6.5-5. This unit occurs only along the San Luis Rey River and associated flood plain deposits and ranges in age from modern time to 11,000 years before present (BP). This unit was deposited by the active San Luis Rey River and consists of channel deposits and flood plain deposits. The nature of these deposits is such that, they are periodically deposited and reclaimed by the river as they move from the uplands toward the ocean over geologic time, resulting in a 3-dimensional system of braided lenticular deposits. Over geologic time, the older deposits within this unit ultimately become buried and stay in

place, so age increases with depth. The entire thickness of this unit is of the appropriate age to potentially contain archeological resources, but there is a low likelihood of significant buried deposits occurring because, by nature, these deposits are periodically eroded and reworked by stream channel meandering. Exhibit 46-1 provides a map and geologic logs for four recently completed borings located along the pipeline route within the flood plain landform. Three of the four borings were continuously cored. The boring logs show that the subsurface materials are primarily sand, indicative of channel deposits. While isolated artifacts could occur in the channel deposits, it is unlikely that there are significant buried archeological resources within the channel deposits. Native Americans likely frequented the river channel for hunting, gathering, transit and other uses, but due to the nature of these river deposits being periodically reworked as they are deposited, conditions suitable for preservation of significant buried archaeological deposits is low. The highest likelihood of finding significant buried archaeological deposits in this flood plain landform would be atop or within lenses of overbank deposits that would demark past surfaces of the flood plain. The extensive sand deposits indicated in the boring logs in Exhibit 46-1 imply that overbank deposits are not common in this geologic unit. Furthermore, their occurrence in the subsurface system of braided lenticular deposits would be randomly dispersed. Furthermore, there are no particularly large tributary drainages or other geomorphic features along the pipeline route that would create a unique local for past Native American use or habitation. The Applicant's consultants are not aware of any archaeological literature for the region that reports findings in flood plain settings similar to those along the San Luis Rey River. As a result of the geomorphology and depositional environment, the expectation would be that there would be a low probability for substantial buried cultural resource sites in the Holocene Alluvium along the pipeline, and that, if present, any distribution would be generally random.

Field Study

The Applicant's consultants have evaluated CEC Staff's recommendation to complete three backhoe trenches in the alluvium beneath the flood plain, including logging, soil screening and radiocarbon dating. Approximately 1.5 miles of the pipeline will occur in the Flood Plain landform. With the low and random expected probability for occurrence of buried archaeological deposits, the suggested field program is unlikely to provide any new information, because:

- It is highly unlikely that archaeological resources will be encountered in a small number of randomly placed test pits.
- The geologic and age information that would be obtained is already well-understood through existing information. The entire geologic unit recommended for testing is of adequate age to potentially contain

archaeological resources, so carbon dating outside the context of an actual archaeological resource discovery is inconsequential.

- The Applicant has already committed to full-time cultural resource monitoring of excavations to assure that if resources are present they are detected and mitigated through appropriate collection and preservation if they cannot be avoided. This assures that, if cultural resources are found, they are managed in a way that mitigates the impact to a level that is less than significant.

In addition to the questionable value of such work, it may be impractical to complete this work within a reasonable time frame. Sensitive wildlife species occur in the area that would require resource agency coordination, and third party landowner conditions would need to be satisfied. In addition, a commitment has been made by the Applicant to coordinate with Pala Band for any cultural field studies or excavation. Coordination and completion of the recommended backhoe test pits and analysis of data could take months or more to complete. For these reasons, the applicant has not adopted the CEC staff recommendation for the backhoe test pits and related work. The continuously cored borings documented in Exhibit 46-1 are ideally located to provide some of the geologic aspects of the recommended testing program and provided no indication of buried archaeological deposits.

The Applicant understands that upon making any archaeological discovery, adequate time and resources must be devoted to characterizing the archaeological remains, determining their historical significance, and consulting with CEC (and others if appropriate) to create and implement a management plan that addresses the means to reduce any potentially significant impacts to a level of less than significant.

BACKGROUND

Located approximately 2,400 feet from the project site on the south side of the San Luis Rey river is *Chokla* (Gregory Mountain), which has been identified by the Luiseño as a significant cultural property. Currently Gregory Mountain is being nominated to the National Register of Historic Places as a Traditional Cultural Property and is eligible for listing in the California Register of Historical Resources. The draft nomination was returned to the nomination preparer with comments from the review from the Keeper of the Register. These comments specifically ask the applicant to revise the resource count, the description of the resource, and the discussion of the integrity of Gregory Mountain. Staff needs to review the revised nomination form for this resource to assess potential impacts to it from the proposed project.

DATA REQUEST

47. Please provide the revised copy of the National Register of Historic Places nomination for Gregory Mountain.

RESPONSE

Exhibit 47-1 provides a copy of e-mail correspondence with the State Historic Preservation Office (SHPO) on this matter. The SHPO has not responded to the current draft nomination. Therefore, the nomination previously submitted to the CEC is the current version.

Technical Area: Hazardous Materials Management
Author: Dr. Alvin Greenberg

BACKGROUND

This power plant will use, store, and transport hazardous materials. Table 2.8-1 lists the hazardous materials proposed for use at the power plant and identifies each chemical by type and intended use and estimates the quantity to be stored onsite. However, this table does not contain information on the concentrations or identify of all the chemicals to be stored on-site or the CAS number of each chemical. In order to properly assess the management of hazardous materials at the proposed power plant, staff needs to know the concentration of all liquid chemicals. If the project is certified by the Commission, the project owner will be limited to using only those hazardous materials, strengths, and amounts listed on this table.

Also, an accidental spill may require clean-up. Usually, the local fire department provides the "first response" and a contractor provides the clean-up. The AFC makes numerous references to spill containment and response plans (SPCC), worker training, and emergency response plans (ERP) but does not mention the entity that will actually collect and remove spilled hazardous materials. (Staff also wishes to note that the AFC on page 6.15-7 mentions contacting the "San Diego County Fire Department", an entity that does not yet exist.) In order to properly assess hazardous materials management for the proposed power plant, staff needs to know if a hazardous materials spill cleanup contractor has been identified and retained by the applicant to provide cleanup of spills.

DATA REQUEST

48. Please provide the CAS number for all chemicals listed in Table 2.8-1.

RESPONSE

Exhibit 48-1 provides a revised copy AFC Table 2.8-1 with CAS numbers provided.

DATA REQUEST

49. Please provide the concentrations of sulfuric acid and "chlorine" (staff assumes this is an aqueous mixture of sodium hypochlorite; please identify it as such) that will be stored and used on-site.

RESPONSE

The sulfuric acid concentration will be 93%. The "Chlorine" will be a 12% sodium hypochlorite solution.

DATA REQUEST

50. Please identify the "compressed gases" that will be used and stored on-site.

RESPONSE

Compressed gasses with hazardous properties other than pressure release that are expected to be routinely used are identified in Exhibit 48-1.

DATA REQUEST

51. Please identify a hazardous materials cleanup contractor that the project will retain to provide cleanup of any spilled hazardous materials.

RESPONSE

The Applicant has identified Clean Harbors Environmental Services as a potential hazardous materials cleanup contractor. The Applicant will retain Clean Harbors Environmental Services or another qualified contractor.

Potential Primary responder
Clean Harbors Environmental Services, Inc.
131 West 33rd Avenue
National City, CA 91950
619-477-9766
Dean Matsuoka

Potential Alternate responder
Clean Harbors Environmental Services, Inc.
2500 East Victoria Street
Compton, CA 90220
310-764-5851
Mike Delatorre

Technical Area: Public Health
Author: Dr. Alvin Greenberg

BACKGROUND

The use of trucks to transport water (both reclaimed and fresh) to the site from distant sources will result in air emissions from the diesel-fueled truck engines and thus cause a public exposure along the route to these emissions. Diesel exhaust contains criteria pollutants such as nitrogen oxides, carbon monoxide, and sulfur oxides, as well as a complex mixture of thousands of gases and fine particles. Diesel exhaust contains over 40 substances that are listed by the U.S. Environmental Protection Agency (U.S. EPA) as hazardous air pollutants and by the California Air Resources Board (ARB) as toxic air contaminants. Exposure may cause both short- and long-term adverse health effects including respiratory system disease and cancer. The use of these trucks to transport water through the communities to the project site will occur at regular and frequent intervals when the power plant is running and will continue for the life of the project. The increase in public exposure to diesel engine exhaust could pose a risk to public health and this risk has not been assessed or discussed in the AFC, although the applicant did mention that the trucks will use low sulfur diesel fuel. Since tools are available to conduct an exposure assessment and human health risk assessment of diesel engine exhaust from these water trucks, staff needs to know the full impacts of all phases of the project on public health.

DATA REQUEST

52. Please provide a quantitative human health risk assessment, including all the modeling files, of the impacts to the public along the transportation routes of the diesel emissions from the trucks transporting water to the power plant.

RESPONSE

Diesel exhaust emissions from the water trucks of nitrogen oxides, carbon monoxide, sulfur oxides and diesel particulate matter (DPM) were calculated using ARB's Emissions Factor (Emfac) model 2007 in the San Diego County average mode for truck model years 2009 and 2010. The two water trucks will be used for operations, one for fresh water and the other for reclaim water. Conservatively, both of the two trucks are assumed to operate simultaneously when the turbines are operating, each making one round trip per hour. The actual number of trips will be somewhat fewer.

To examine the risks associated with in-transit diesel emissions, a portion of their route from the Project site to the I-15 freeway (see AFC Figure 2.6-1) in which both trucks will operate on the same roadway (SR-76) was selected for analysis. This maximizes emissions with four truck-transits of the road segment per hour. To calculate the worst-case travel impacts, a section of SR-76 was modeled that contained both east-west and north-south oriented road. The roadway emissions

were modeled as a series of area sources with a road width of 10 m. Four rows of receptors parallel the roadway, spaced at 50 m intervals along the road segment, and 20 m and 50 m from the roadway centerline were used for a total of 136 receptors. Truck trips were modeled for 3-years of meteorology and 3,200 hours per year of operations. Modeling is conservatively based on 70 years of operations.

To examine the risks associated with idling emissions, it was assumed each truck would idle for a five-minute period at the water pick-up stations once per hour. This is consistent with the maximum idle time limit established by CARB's diesel idling time restriction for heavy duty trucks. Receptors were placed at 50 m intervals centered on each pick-up station in a 2 km by 2 km square Cartesian grid, for a total of over 3,350 receptors for the two pick-up stations.

The calculated risks are presented in Exhibit 52-1. Note that, despite very conservative assumptions, all lifetime cancer risks are less than the 1.0 X 10-5 threshold and all hazard indices are less than 1.0.The HARP file is included on a disk as Exhibit 52-2.

BACKGROUND

An applicant's health risk assessment should be both transparent and verifiable to reviewers. Staff has spent some time reviewing the modeling files provided by the applicant for this proposed project and is unable to find all of the information needed to quantitatively verify risk results. The HARP/ISC model files that the applicant used to assess cancer risk and chronic and acute impacts are missing some data. While several HARP-generated files have been provided on the "HARP Input and Output Files" CD provided by the applicant, the HARP transaction file (.tra) is missing. Staff needs this file to verify the applicant's risk assessment.

DATA REQUEST

53. Please provide the HARP transaction file (.tra) that was generated in the HARP modeling.

RESPONSE

The requested modeling file is provided in Exhibit 53-1.

Technical Area: Socioeconomics
Author: Amanda Stennick

BACKGROUND

The AFC (page 6.10-13) states that the project site will be annexed to the North County Fire Protection District (NCFPD) and that it has agreed to provide fire protection and emergency medical services to the project site upon annexation.

DATA REQUEST

54. For staff to do an analysis of the potential socioeconomic impacts of the Orange Grove project, please provide the following information.

    a. A letter of intent or equivalent from the fire chief indicating that the NCFPD will respond to medical emergencies (other than as described in Data Request #3) for the life of the project and has the staff and equipment necessary to properly respond.

    b. A letter from the NCFPD describing the potential impacts from the increased demand for services to existing resources and infrastructure, and the fiscal impact of imposing additional fire protection responsibility to the project site.

RESPONSE

A letter from the NCFPD Chief is provided in Exhibit 54-1. As noted in the letter, emergency response will not be provided by NCFPD. Emergency medical response for the Project is addressed in Exhibit 54-1 and in Response 56.

BACKGROUND

The Orange Grove AFC states that the proposed annexation would include the project parcel and additional parcels owned by SDG&E and Gregory Canyon Landfill. The AFC does not state why the annexation of these “additional parcels” would be necessary or would be related to the construction and operation of the proposed project.

DATA REQUEST

55. For staff to do an analysis of the entire project, please provide the following information.

    a. Clarify the reasons for the annexation of the additional parcels and whether they would be required for project construction and/or operation.

    b. The Assessor Parcel Numbers of all parcels proposed for annexation.

    c. A map that shows the project parcel and all the proposed annexation parcels.

RESPONSE

The Project Site is located on Parcel 110-072-26, approximately 0.7 mile from the existing NCFPD service area boundary. At the time of AFC submittal, it was presumed that that the annexation would have to include intervening parcels between the Project Site and the existing NCFPD Service Territory. Subsequent discussions with Local Agency Formation Commission (LAFCO) staff indicate that annexation of the intervening parcels will not be required. The Applicant will submit an application to LAFCO to annex parcel 110-072-26 in its entirety. This parcel is approximately 41 acres and includes the 8.5 acre Project Site. The requested parcel map is shown in Exhibit 55-1. Discussions with LAFCO staff are ongoing and the Applicant will continue to keep CEC staff apprised of progress with the LAFCO application.

BACKGROUND

As stated on page 6.10-13 of the AFC, Mercy Ambulance is the primary ambulance service for the project area and provides two paramedics to the Pala Fire Department (PFD) in addition to the two paramedics that are part of the PFD staff.

DATA REQUEST

56. Please provide a letter of intent or equivalent from the PFD indicating that the department will respond to medical emergencies for the life of the project and has the staff and equipment necessary to properly respond.

RESPONSE

The Project will not rely on PFD for emergency medical response. The San Diego County Office of Emergency Medical Services awards exclusive operating area (EOA) franchises for provision of ambulance service (Bill Metcalf, NCFPD Fire Chief, 2008). The Orange Grove Project Site lies within the EOA awarded to the Valley Center Fire Protection District (VCFPD). A will-serve letter for ambulance service from VCFPD has been requested and will be provided to CEC when received.

Technical Area: Soil and Water Resources
Author: Cheryl Closson

Erosion and Flood Control

BACKGROUND

To determine the potential impacts to soil and water resources from the construction and operation of the Orange Grove Project, the Energy Commission requires a draft Drainage, Erosion and Sediment Control Plan (DESCP). The draft DESCP is separate from any Construction and Industrial Storm Water Pollution Prevention Plans (SWPPP) or municipal storm water plan requirements. Once the project is approved, the draft DESCP would be required to be updated and revised as the project moves from the preliminary to final design phases, on through to construction and operation of the facility. In addition, the DESCP submitted prior to site mobilization would be required to be designed and sealed by a professional engineer/erosion control specialist.

DATA REQUEST

57. Please provide a draft DESCP that contains elements "A" through "I" below outlining the site management activities and erosion/sediment control Best Management Practices (BMPs) to be implemented during site mobilization, grading, construction, and operation of the proposed project. The level of detail in the draft DESCP should be commensurate with the current level of planning for site grading and drainage. Please provide all conceptual erosion control information for those phases of construction and operation that have been developed or provide a statement identifying when such information will be available.

    a. Vicinity Map – Provide a map(s) at a minimum scale 1"=100' indicating the location of all project elements, including depictions of all significant geographic features including swales, storm drains, and sensitive areas.

    b. Site Delineation – Identify all areas subject to soil disturbance (i.e., project site, lay down areas, all linear facilities, water pick-up areas, landscaping areas, and any other project elements) and show boundary lines of all construction/demolition areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

    c. Watercourses and Critical Areas – Show the location of all nearby watercourses including swales, storm drains, and drainage ditches. Indicate the proximity of those features to the project construction, laydown, and landscape areas, and all transmission and pipeline construction corridors.

    d. Drainage Map – Provide a topographic site map(s) at a minimum scale 1"=100' showing all existing, interim and proposed drainage systems and drainage area boundaries. On the map, spot elevations are required where relatively flat

conditions exist. The spot elevations and contours should be extended off-site for a minimum distance of 100 feet in flat terrain.

e. Narrative Discussion of Project Site Drainage – Include a narrative discussion of the drainage management measures to be taken to protect the site and downstream facilities. The narrative should include the summary pages from the hydraulic analysis prepared by a professional engineer/erosion control specialist. The narrative should state the watershed size(s) (in acres) that was used in the calculation of drainage control measures, and include discussions justifying selection of the control measures to be used. Information from the hydraulic analysis should also be provided to support the selection of BMPs and structural controls to divert off-site and on-site drainage around or through the project construction and laydown area, as well as post-construction and operation areas.

f. Clearing and Grading Plans – Identify all areas to be cleared of vegetation and areas to be preserved. Provide elevations, slopes, locations, and extent of all proposed grading using contours, cross sections or other means and include locations of any disposal areas, fills, or other special features. Illustrate existing and proposed topography tying in proposed contours with existing topography.

g. Clearing and Grading Narrative – Include a table that identifies all of the following: all project elements where material will be excavated or fill added; the type and quantities of material to be excavated or filled for each element; whether the excavation or fill is temporary or permanent; and the amount of material to be imported or exported.

h. Construction Best Management Practices Plan – Identify on the topographic site map(s) the location of the site-specific BMPs to be employed during each phase of construction (initial grading, project element excavation and construction, and final grading/stabilization). The BMPs identified should include measures designed to prevent wind and water erosion in areas with existing soil contamination. Any treatment BMPs used during construction should also allow for testing of stormwater runoff prior to discharge to a receiving water.

i. BMP Narrative – Provide a narrative discussion on the selection, location, timing, and maintenance schedule for all erosion and sediment control BMPs to be used prior to initial grading, during project element excavation and construction, at final grading/stabilization, and for post-construction. A narrative discussion with supporting calculations should also be included addressing any project specific BMPs. Separate BMP implementation schedules should be provided for each project element for each phase of construction. The maintenance schedule should include post-construction maintenance of structural control BMPs, or a statement when such information will be available.

RESPONSE

A draft DESCP is provided in Exhibit 57-1.

Water Supply and Use

BACKGROUND

The Orange Grove Project AFC states that the construction contractor will be responsible for the project water supply during construction. The AFC gives estimates of peak and average water use during construction to be approximately 5,000 gallons per day (gpd) and 500 gpd, respectively, but does not provide support for the estimates given. The application further states that the contractor will be required to obtain the construction water supply from an existing permitted source, and gives as an example water purchased from the Rainbow Municipal Water District (RMWD) and loaded at an existing hydrant "as is customary for construction projects"(information from AFC pages 6.5-10 and 11). While the project AFC gives RMWD as an example of a source for the construction water, it does not evaluate the availability of the potential construction water source or other sources (including recycled water), nor does it adequately evaluate the effects of project construction demand on the RMWD water source (or other sources) and other users of the construction water sources. Staff requires additional information on project construction water use requirements, source(s), and availability in order to adequately assess project impacts.

DATA REQUEST

58. Please provide additional information on project construction water use requirements, water sources, and availability. This additional information should include a table detailing estimated construction water needs for all major construction activities and project elements (such as main site grading, gas pipeline trenching, etc.) and address sources of construction water, availability of water, as well as any cumulative water supply/demand impacts that may occur.

RESPONSE

The Project construction water needs are:

CONSTRUCTION ACTIVITY	PEAK WATER REQUIREMENT	TOTAL WATER REQUIREMENT
Mass grading (including linear facilities trenching and backfill)	15,000 gpd	690,000 gal
Horizontal Boring	7,100 gpd	219,000 gal
Foundations	4,200 gpd	644,000 gal
TOTAL		**1,553,000 gal (4.8 acre-feet)**

GPD = Gallons per day

The peak water requirements will not occur simultaneously for these activities. The overall peak construction water demand is estimated to be 15,000 gallons per day, which would occur for a short period during mass grading at the Site. This peak use rate and the total estimated use identified above amend the construction water use quantities provided in the AFC.

The Applicant does not propose to limit the construction contractor's water supply source except that it shall be legally obtained from existing infrastructure and supplies, and applied and used in a manner that is consistent with LORS. However, the likely source of water for construction will be the RMWD, since they have the existing closest hydrants and have an available supply of water. RMWD staff has indicated that they have adequate water to supply the Project, and that trucking of water from an existing hydrant to the site would be acceptable for a temporary use such as construction, but not for long-term use such as power plant operations.

The Site is located within the RMWD, which serves water through over 7,200 meters to an area encompassing approximately 49,000 acres in portions of Fallbrook, Pala and Bonsall. The population of the RMWD is approximately 15,000. The District does not use groundwater. The RMWD is a water retailer that depends entirely on imported water purchased wholesale through the SDCWA to service a small customer base within a large agricultural water use area. The SDCWA, in turn, is a member of the Metropolitan Water District of Southern California obtaining most of its water from the California and Colorado River aqueduct systems.

For Fiscal years 2001 through 2007, RMWD's annual water sales ranged between about 25,000 and 32,000 acre-feet (Hosake et al, 2007). The normal water year demand for RMWD is approximately 25,000 acre-feet, the majority of which is for agriculture (RMWD 2008; RMWD 2005). In 2005, 72 percent of the RMWD's water sales were for agriculture, 23 percent for domestic and 5 percent for commercial (RMWD, 2005). Water is received through nine aqueduct connections within the RMWD and distributed to customers via 32 miles of pipelines. RMWD currently does not generate nor distribute recycled water. All wastewater collected within the RMWD is conveyed to treatment plants within the City of Oceanside (RMWD, 2005). The RMWD staff has indicated that they have the excess capacity within existing infrastructure to supply the Project.

Use of the RMWD supply for construction would have a less than significant impact on other water users. If the RMWD supply is used, the Project's total construction water demand would be approximately 1.55 million gallons, which is approximately 4.8 acre-feet. This amounts to less than 0.02 percent of the RMWD's current normal year water delivery. Water used for construction would be from a different water allotment than the agricultural water used in the RMWD and, therefore, would not take water from the agricultural water deliveries that have been severely curtailed and are currently impacting agricultural users in the area. Considering the

incremental water use of the Project in relation to the RMWD water supply and demand, and considering that the RMWD has indicated that they have the excess capacity within existing infrastructure to supply the Project, the Project's use of RMWD water for construction will not have a material effect on RMWD infrastructure or other RMWD customers. Furthermore, the cumulative water use impact will be less than significant because existing capacity is available and the construction use will be short term.

This evaluation demonstrates that there is a feasible water supply for project construction from RMWD that would not have significant environmental impacts. While the Applicant does not intend to limit the construction contractor's legal rights to existing water supplies other than RMWD, the applicant is amenable to a condition of certification requiring the construction water supply source to be reported to CEC during construction to assure that water is obtained from existing legal supplies that will not result in new environmental impacts.

DATA REQUEST

59. In addition, please provide an evaluation of the applicability and availability of non-potable water (such as recycled or impaired water) for project construction use.

RESPONSE

As described in detail in AFC Section 5.3, there are no known available recycled or impaired water sources available near the Project Site. The closest potential source is the FPUD tertiary treated reclaim water that is proposed for power plant cooling during operations in order to conform with CEC's policies for power plant cooling water. The applicant is not proposing use of this water for construction due to distance and the availability of a closer water supply that will not have significant environmental impacts and is compliant with LORS.

BACKGROUND

Page 6.5-6 of the project AFC states that the Orange Grove facility site is located in the RMWD but RMWD "is currently not capable of providing a feasible water supply to the project". Consequently, the project has entered into an agreement with the FPUD for supply of potable water for non-cooling process uses. Staff seeks confirmation that the RMWD is in agreement with this arrangement, and that the proposed water supply agreement with FPUD complies with RMWD service authorities and boundaries.

DATA REQUEST

60. Please provide additional information and confirmation that the proposed potable water agreement with FPUD is consistent and/or complies with RMWD water supply authorities and boundaries.

RESPONSE

The Applicant has been coordinating with RMWD to assure that relevant RMWD requirements are satisfied. Confirmation has been requested from RMWD and will be provided to CEC when received.

Process Wastewater

BACKGROUND

The process wastewater generation and management information provided in the project AFC appears inconsistent. Table 2.7-1 on page 2-20 of the project AFC identifies the plant operation process wastewater streams and identifies all but one wastestream to have negligible generation volumes, and yet identifies facility washdown drains as generating 35 gallons per minute (gpm) of wastewater during short-term peak conditions (short-term is not defined in the table). Page 2-21 states that the plant will essentially function as a zero liquid discharge (ZLD) facility because it will recycle all its wastewater streams "except for a few hundred gallons per month" of wastewater generated from drains where water could potentially contain oil or grease. While Table 6.14-4 in the AFC Waste Management section states that the fuel gas system will generate 30 gallons per month of oily water. Staff needs clarification on the process wastewater volumes to be generated by the project, as well as additional information on wastewater management. Staff also need clarification on the project's interpretation of ZLD technology and its comparison to the proposed project wastewater management, and whether the project considered use of oil/water separators to further minimize the volume of oily water requiring offsite management or disposal.

DATA REQUEST

61. Please provide a revised Table 2.7-1 (Plant Operation Process Wastewater Streams) that more clearly identifies the volumes of wastewater expected, and clarifies the apparent differences in wastestream volumes given in other sections of the project AFC. In addition to Table 2.7-1, please provide revised information as necessary to address any changes or revisions to process wastewater information or discussions found in other sections of the project AFC.

RESPONSE

AFC Table 6.14-4 provides a comprehensive list of the wastewater streams and volumes expected. Table 2.7-1 is a sub-set of process wastewater streams from Table 6.14-4. Table 2.7-1 was provided to show that the wastewater streams, when looked at on a gallon per minute basis, will be negligible, except for plant drains, which flow at 35 gpm but are intermittent and infrequent. Table 6.14-4 provides the complete list of plant process wastewater streams and the associated quantities.

DATA REQUEST

62. Please provide additional information and explanation to support the page 2-21 statement that the project's proposed reverse osmosis (RO) water treatment system and recycling of wastewaters "essentially function as a zero liquid discharge technology in conformance with the CEC's 2003 Integrated Energy Policy Report policy for reducing the use of fresh water".

RESPONSE

Without the RO system, the Project would generate an average of 8.3 gpm of wastewater (see Table 2.7-1 in 07-SPPE-2), which is 133,000 gallons per month (based on 267 hours of turbine operation per month). With the RO, wastewater will be reduced to an average of a few hundred gallons per month, which is approximately 0.02 gpm (based on 267 hours of turbine operation per month). This represents more than 99.7 % recycling, essentially functioning as zero liquid discharge technology. (With RO: 267 hours/month x 0.02 gpm x 60 minutes/hour = 320 gallons/month generated). Without RO: 267 hours/month x 8.3 gpm x 60 minutes/hour = 132,970 gallons/month generated. 320/132,970 = 0.24 percent wastewater remaining with RO).

DATA REQUEST

63. Please provide additional information and discussion on the applicability of using oil/water separators in managing project wastewaters and whether or not use of oil/water separators was considered for project wastewater management. The requested information should include justification for not using oil/water separators to minimize the volumes of wastewater requiring offsite management, or provide revisions to applicable project parameters to include use of oil/water separators to manage wastewaters potentially containing oil and/or grease.

RESPONSE

The use of oil/water separators was considered for wastewater management, but it was determined to be technically unfeasible. This is due to the low amount of oily wastewater that will be generated. Process oily wastewater generated will average less than a few hundred gallons per month (see Table 6.14-4). For this small amount of oily wastewater, it is more efficient to utilize off-site wastewater management versus installing a stand alone oil/water separator system at the site.

Also, the Site does not contain a sanitary sewer system to which wastewater from an oil/water separator system could discharge. This non-oily wastewater would still need off-site disposal or further treatment for use in plant processes.

Gas Pipeline Construction

BACKGROUND

Page 2-37 of the project AFC states that a rock trencher will be used to excavate the gas pipeline trench in the mountainous terrain where bedrock is present at shallow depth. However, no further information is provided on the rock trenching activity. Staff requires additional information on the proposed rock trenching in order to adequately assess potential impacts of the activity.

DATA REQUEST

64. Please provide additional information on the proposed rock trenching to be employed during gas pipeline construction. The requested information should include detailed discussions and documentation addressing all of the following: the method of trench construction; equipment to be used (size, model, weight, if this detail is available); the clearance requirements necessary for use of the equipment; water requirements; safety measures; erosion and sediment control BMPs; and post-trenching site remediation plans.

    Note: The proposed rock trenching and associated erosion and sediment control considerations should also be addressed in the DESCP requested in Data Request Number 57 above.

RESPONSE

The gas pipeline installation will be constructed by an open trench method in the mountainous terrain, with the exception of the jurisdictional waterways. In various locations throughout the area, shallow rock and boulders are anticipated due to the terrain. For rock excavation and trenching, a Caterpillar 345 Hydraulic Excavator (excavator) will be utilized. The excavator is approximately 13 feet wide and 40 feet long. The excavator will weight approximately 110,000 pounds and has 380 horsepower. The excavator will excavate solid rock and will allow digging around and under boulders. The excavator will provide the contractor with bucket forces and lift capacity for stability, mobilization, and safety based on the terrain in this area. The excavator will utilize the existing unsurfaced road as much as possible during construction due to the steep terrain and to allow clearance for the equipment to work. Water will be needed only for dust control. To ensure safety during trenching both trench boxes and trench breakers will be utilized. Trench boxes will provide temporary trench stabilization during pipe installation. A trench box is a steel wall barrier that is lowered into the trench to provide sidewall stability. Trench breakers, also known as ditch plugs, will be utilized during construction and provide permanent stability (see Exhibit 64-1 - Sega drawing GP-C852, detail 11). The trench breakers provide longitudinal and lateral pipe and trench stability. A typical trench breaker is constructed of sand bags (a mixture of sand and cement) stacked on one another and will be keyed into the sidewalls of the gas pipeline trench.

During construction, the erosion and sediment control best management practices (BMPs) utilized will be silt fences, cross barriers (sand bags), and gravel bag barriers. Gravel bag barriers will be utilized in area of existing drainage to minimize erosion and sediment runoff off-site (see Exhibit 64-2 - Erosion Control Details Drawing GP-C803). The gas pipeline construction BMPs will be implemented throughout the construction and will minimize the off-site impacts to the surrounding area.

For post-construction the trench will be backfilled with soil material approved by the geotechnical engineer and compacted into the native soil. After backfilling the trench, the unsurfaced road and site vegetation will be replaced to its existing condition. For post-construction stabilization and erosion control, soil diversion berms will be utilized. The berms will be approximately 2.5 feet high and constructed on the gas pipeline centerline. The diversion berms will be constructed the length of the Orange Grove Energy, L.P. gas pipeline easement in the mountainous terrain area only (see Exhibit 64-3 - Erosion Control Plan Drawing GP-C802).

Technical Area: Transmission System Engineering
Author: Ajoy Guha, P. E. and Mark Hesters

INTRODUCTION

Staff needs to determine the system reliability impacts of the project interconnection and to identify the interconnection facilities including downstream facilities needed to support the reliable interconnection of the proposed Orange Grove Project (OGP). The interconnection must comply with the Utility Reliability and Planning Criteria, North American Electric Reliability Council (NERC) Planning Standards, NERC/Western Electricity Coordinating Council (WECC) Planning Standards, and California Independent System Operator (California ISO) Planning Standards. In addition the California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment." For the compliance with planning and reliability standards and the identification of indirect or downstream transmission impacts, staff relies on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the interconnecting grid meets reliability standards, in this case, the SDG&E and California ISO. The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause the transmission to violate reliability requirements the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include modification and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

BACKGROUND

The description of the SDG&E 69 kV Pala substation including major equipment and their ratings is incomplete as provided in the AFC and the FS dated May 2, 2008.

DATA REQUESTS

65. Provide pre and post-project electrical one-line diagrams of the SDG&E 69 kV Pala substation for interconnection of the proposed new UG 69 kV line showing all transmission outlets, breakers, buses, disconnect switches and their respective ratings.

RESPONSE

Exhibit 65-1 provides a one-line diagram of the Orange Grove Power Plant interconnection to the electric substation. The bubbled portion of the diagram indicates equipment added for the power plant connection.

BACKGROUND

For the addition of the OGP, the SIS dated October 22, 2007 and the FS dated May 2, 2008 determined that the following mitigation measures are required to eliminate overload criteria violations found in the downstream facilities under contingency conditions:

a. Reconductoring the SDG&E Transmission line (TL) 698E, Pala-Monserate Tap 69 kV line with 636 kcmil ACSS conductor and replacement of the Pala getaways with 3,000 kcmil copper conductor.

b. Reconductoring the SDG&E TL 698B, Monserate-Monserate Tap 69 kV line with 636 kcmil ACSS conductor and replacement of the Monserate getaways with 3,000 kcmil copper conductor.

CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed OGP.

DATA REQUEST

66. Submit a short analysis describing the environmental impacts for the reconductoring of the SDG&E 698E, Pala-Monserate Tap 69 kV line with 636 kcmil ACSS conductor and proposed mitigation measures. Alternately, if this reconductoring project is an approved SDG&E/ California ISO project under their annual transmission plan, provide a letter from the SDG&E or California ISO confirming the project number and year of the annual plan.

RESPONSE

SDG&E has provided the Applicant with a preliminary assessment of work required for the reconductoring of the SDG&E 698B and 698E transmission lines, and assessment of impacts is under way. Field studies were initiated on August 21, 2008 and are expected to be completed the week of September 2, 2008. A project description and impact assessment for the reconductoring work will be provided to CEC promptly following completion of field work.

DATA REQUEST

67. Submit a short analysis describing the environmental impacts for the reconductoring of the SDG&E TL 698B, Monserate-Monserate Tap 69 kV line with 636 kcmil ACSS conductor and proposed mitigation measures. Alternately, if this reconductoring project is an approved SDG&E/ California ISO project under their annual transmission plan, provide a letter from the SDG&E or California ISO confirming the project number and year of the annual plan.

RESPONSE

Please see Response 66.

Technical Area: Waste Management
Author: Cheryl Closson

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

BACKGROUND

The Phase I ESA submitted as part of the project Application for Certification (AFC) addresses the main project site and some of the San Diego Gas and Electric (SDG&E) property adjacent to the main project site, but does not address the developed property along the gas pipeline. A Phase I ESA, or equivalent information, is needed for the property along the gas pipeline route to determine if past or present uses of the property have caused, or threaten to cause, contamination that might impact, or be impacted by, construction and operation of the project's gas pipeline.

DATA REQUEST

68. Please provide a Phase I ESA, or equivalent information, addressing the past and present uses of property along, adjacent to, or in proximity of the project's gas pipeline route. The requested information should include an evaluation addressing whether or not past or present site conditions may have resulted in contamination, or potential contamination, that could impact construction and operation of the gas pipeline.

    RESPONSE

    Exhibit 68-1 provides the requested Phase I ESA.

BACKGROUND

The Phase I ESA submitted as part of the project AFC states that the SDG&E storage area was not inspected due to inability to access the site. However, the Phase I ESA notes on interviews with the property owner's representative indicate that the SDG&E caretaker has vacated the property. According to the Phase I ESA, the SDG&E storage area has been used for storage and as a residence for over ten years, and includes a septic tank and leach field associated with the residence. However, the location of the septic tank is not known and was not investigated.

Staff notes that the construction layout plans and drainage drawings in the AFC Appendix 2-A indicate that project construction will use the SDG&E storage area, as well as the property between the storage area and the main project site, for temporary construction buildings and laydown areas. Therefore, staff requires additional information on the condition of the SDG&E storage area site, as well as the location of the septic tank and leach field, in order to assess the potential for contamination or other conditions that may impact, or be impacted by, project construction activities.

DATA REQUEST

69. Please conduct a Phase I ESA site inspection and investigation of the SDG&E storage area, surrounding property, and related septic/leach field system. The Phase I ESA, or equivalent information, should address all of the following:

    a. An evaluation of the wastes and possible hazardous substance releases associated with the residence, storage structures, and any abandoned vehicles or dump sites found at and around the site. This evaluation shall include a visual inspection of the structures and grounds around the structures, vehicles, and any associated facilities.

    b. An evaluation of the potential for asbestos, lead-based paint, mercury (from abandoned vehicles, switches, etc.), or other hazardous substance releases in the area of the storage site or dump/refuse areas.

    c. Identification of the location and condition of the existing septic tank and leach field associated with storage area residence.

    d. Recommendations for any additional site characterization that may be necessary to assess potential contamination or areas of concern that may be identified.

RESPONSE

Exhibit 68-1 provides the requested Phase I ESA.

<u>SOIL AND DEBRIS DISPOSAL</u>

BACKGROUND

Page 2-38 of the project AFC states that gas pipeline construction will generate approximately 400 cubic yards of additional rubble and debris that will be hauled offsite for recycling or disposal. It is unclear to staff whether or not this additional debris was included in the waste generation and disposal information provided in AFC section 6.14, Waste Management.

DATA REQUEST

70. Please clarify waste generation and management information as necessary to address pipeline construction debris generation and disposal, including information on debris management, anticipated disposal sites, and transport of the debris to disposal sites.

RESPONSE

The 400 cubic yards of rubble and debris described for gas pipeline construction on AFC page 2-38 is included within the 650 cubic yards of total demolition waste (i.e.,

"demolition and clearing, primarily concrete, steel and asphalt") in AFC Table 6.14-3. An estimated 400 cubic yards of this rubble and debris will result from linear facilities construction, with the remaining estimated 250 cubic yards being generated by Site development.

RECYCLING FACILITIES

BACKGROUND

The Orange Grove project proposes to recycle both non-hazardous and hazardous wastes as much as possible and also proposes to implement a waste minimization program. Staff fully supports these efforts. However, it appears that the project AFC only provides information on potential Class I and III disposal facilities and does not list the potential recycling facilities to be used. Additional information is needed on the location, capacity, materials accepted, and regulatory status of recycling facilities to be used to manage project recyclable materials and wastes.

DATA REQUEST

71. Please provide a summary table of information on recycling facilities that may be used to manage project recyclable materials and wastes. At a minimum, please include the following information for each facility: facility location; distance from project site; capacity, materials accepted, and acceptance limits (if any); operation parameters; and regulatory status.

RESPONSE

Exhibit 71-1 provides the requested information for example recycling facilities that may be used for the project.

Technical Area: Worker Safety/Fire Protection
Author: Dr. Alvin Greenberg

BACKGROUND

All power plants licensed by the Energy Commission have on-site fire detection and suppression systems and also rely on a response from off-site fire departments for fires, EMS, and as a first-response hazardous to materials spills. The AFC mentions that the project site will be annexed to the North County Fire Protection District and that the District has agreed to provide fire, EMS, and spill response to the power plant. The AFC also mentions that the District is equipped to handle these three types of emergencies. Subsequent to the printing and filing of the AFC, the applicant has indicated that the project site may not be annexed to the North County Fire Protection District and that other arrangements for off-site emergency response will be made. In order to properly evaluate compliance with all LORS, staff must know the details of off-site emergency response and have written assurances that an off-site fire department will provide fire, emergency medial, and hazardous materials spill response to the site.

Additionally, all power plants licensed by the Energy Commission have more than one access point to the power plant site. This is sound fire safety procedure and allows for fire department vehicles and personal to access the site should the main gate be blocked. A review of the site layout maps in the AFC shows two access points to the power plant site but the AFC lacks a narrative description of these access points' ability to accommodate fire trucks and if the fire department will have keys, codes, or other means of swiftly gaining access through these gates in an emergency. In order to properly assess fire protection for the proposed power plant, staff needs to know these details.

DATA REQUESTS

72. Please provide a detailed statement that off-site fire, EMS, and spill response to the project site will be provided, identify the fire department that will respond, and the date it has agreed to provide these services. Include a letter from the Fire Department Chief or Fire Marshall indicating that the department is willing and able to respond to emergencies and has the staff and equipment necessary to properly respond.

    RESPONSE

    Please see Responses 54 and 56 and Exhibit 54-1.

DATA REQUEST

73. Please identify all access points for emergency vehicles, state whether the entrance will be wide enough to accommodate fire trucks, and include the method of gate opening and securing available to the fire department.

RESPONSE

The Site driveways from both Pala del Norte Road and from SR 76 will be designed for use by emergency vehicles. These driveways and main loop road through the plant (see Drawing Y100 in AFC Appendix 2-A) will be constructed with the following minimum design features:

- Minimum 24-foot unobstructed width;
- Minimum 28-foot turning radius measured on inside edge of road width;
- Road grades will not exceed 10 percent;
- Vertical clearance will be at least 13.5 feet; and
- No overhead electric lines.

Gates will be provided at both Site driveways with the following minimum design features:

- Sliding-type Level 2 industrial gate;
- Minimum 24-foot unobstructed opening width;
- Road grade flat or minimally sloped for 50 feet outside of gate; and
- Vertical clearance will be at least 13.5 feet.
- Gate plans to be submitted to fire department prior to construction and shall include plans for back-up power, electric override (e.g., KNOX switches), control room phones/intercom, and warning system (e.g., red flashing light) to warn responders in the event of a hazardous materials release.