

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



LANCASTER ENERGY FACILITY #1 (01-EP-12) STAFF ASSESSMENT FOR EMERGENCY PERMIT

EXECUTIVE SUMMARY

The Energy Commission staff has performed a fatal flaw analysis of Lancaster Energy Facility #1. During staff's review a number of questions were raised regarding the ability of the proposed project to deliver its generation to the transmission network due to electric transmission constraints at the project's location. Southern California Edison (SCE) is currently reviewing the interconnection application submitted by Electricity Provider, Inc.

On June 21, 2001, Electricity Provider, Inc. submitted a request to delay the project schedule for 10 days while it worked to complete its application for interconnection with SCE and received the utility's analysis of the potential impacts to the transmission system from the interconnection of the proposed project. Staff cannot recommend approval of this project until it has the opportunity to evaluate SCE's analysis.

Staff will supplement this Staff Assessment following its review of SCE's analysis. Staff does recommend that if the project is approved, the certification be for 3 years with an option to apply to the Energy Commission for recertification, unless the project owner signs a power purchase agreement with the California Department of Water Resources (DWR). If the project owner signs such an agreement, staff recommends the term of the certification match the term of the DWR contract, with the possibility of extension if the project owner meets certain continuation criteria contained in this report. These recommendations are based on the Energy Commission staff's independent assessment of the emergency permit application, independent studies and site evaluation, and consultation with agencies that would normally have permitting authority over the project except for the Energy Commission's emergency permitting authority provided by the Emergency Executive Orders of the Governor.

On May 24, 2001, Electricity Provider, Inc., filed an emergency permitting application for the Lancaster Energy Facility #1 project (Lancaster 1). Electricity Provider supplemented their application on June 4, 2001. Electricity Provider's application was deemed complete on June 4, 2001. The application is available in Adobe PDF format at the documents portion of the project website, at <http://www.energy.ca.gov/sitingcases/peakers/lancaster>.

The Lancaster 1 project is a 240 megawatt (MW) simple-cycle natural gas-fired power plant to be located at the northwest corner of the intersection of Division Street and Avenue H in the City of Lancaster, Los Angeles County, California. The project will consist of four 60 megawatt (MW) natural gas-fired simple-cycle peaking turbines and associated equipment. The project will interconnect to Southern California Edison's (SCE) Lancaster substation via a connection to the existing SCE electricity transmission

system at the site. Natural gas will be supplied by a new 22.8 mile, 24 inch diameter, gas line. The gas line will interconnect to the Mohave-Kern River pipeline and will be constructed in existing right-of-ways from the City of Mojave to the project site.

At startup, Electricity Provider expects to control emissions of NO_x to 2.5 ppm. If emission controls are not available at startup, NO_x will be controlled to 25 ppm and Electricity Provider will be required to control NO_x emissions by the installation of selective catalytic reduction (SCR) equipment as soon as possible but not later than June 1, 2002.

Project construction is scheduled to begin upon Commission certification and will take approximately two to three months. Electricity Provider will begin commercial operation of the facility by September 30, 2001.

A PDF file showing the regional location of this facility is included as Figure 1 in the files for this staff assessment. The project vicinity map, Figure 2, as well as a site plan, Figure 3, for the proposed facility are also available. These files may be downloaded from the project's web site, at <http://www.energy.ca.gov/sitingcases/peakers/lancaster/documents>.

EMERGENCY PERMITTING AUTHORITY

This project is being considered outside of the Energy Commission's normal power plant permitting process. Under Public Resources Code Section 25705, if the legislature or the Governor declares a state of energy emergency, the Commission has emergency authority to order the construction and use of generating facilities under terms and conditions it specifies to protect the public interest. This authority can be invoked only if the Legislature or Governor declares a state of emergency and the Commission determines that all reasonable conservation, allocation, and service restriction measures may not alleviate an energy supply emergency.

Governor Gray Davis declared a state of emergency on January 17, 2001. On February 8 and March 7, 2001, the Governor issued several executive orders and declared that all reasonable conservation, allocation, and service restriction measures may not alleviate an energy supply emergency.

In Executive Order D-26-01, and Executive Order D-28-01 the Governor ordered the Energy Commission to expedite the processing of applications for peaking and renewable power plants that can be on line by September 30, 2001. The Governor also declared that these projects are emergency projects under Public Resources Code section 21080(b)(4), and are thereby exempt from the requirements of the California Environmental Quality Act (CEQA). A summary of the emergency permitting process, including the proposed schedule, and a checklist showing the information required in an application, can be found on the web at: <http://www.energy.ca.gov/sitingcases/peakers/documents/index.html>.

NEED FOR EMERGENCY PERMITTING

SUPPLY

The electric generation system must have sufficient operating generating capacity to supply the peak demand for electricity by consumers (including the transmission and distribution losses associated with power delivery). Also, an additional amount of reserve power plant capacity must be operational to act as instantaneous back-up supplies should some power plants or transmission lines unexpectedly fail. According to the Western Systems Coordinating Council (WSCC), to reliably deliver power, control area operators should maintain operating reserves of seven percent of their peak demand (including losses). If operating reserves decline below that level, customers that have agreed to be interrupted in exchange for reduced rates may be disconnected. If operating reserves get as low as one and a half percent, firm load will likely be shed locally, resulting in rotating blackouts, to avoid system-wide blackouts.

Current estimates by Energy Commission staff of consumer peak demand for electricity and reserve requirements, and of the expected availability of electricity capacity supplies for the summer of 2001, indicate that existing capacity supplies are not adequate to maintain a seven percent operating reserve margin particularly if summer temperatures rise above levels that have as much as a 10 percent chance of occurring. Therefore, additional capacity resources or demand reductions are needed now and by next summer to maintain a seven percent operating reserve margin under temperature conditions that have about a 10 percent chance of occurring.

Many efforts to reduce peak demand and supply new capacity are currently under way. More than 2,500 MW of new generation may be operational by July 2001. These projects include power plants already certified by the Energy Commission that are currently under construction; various upgrades, rerates and returns-to-service of existing power facilities; and new renewable generation responding to Energy Commission incentive programs. The emergency approval of new simple-cycle power plants at numerous locations throughout the state is also important to respond to peak summer demand and provide local electricity system reliability.

Staff assumes that power plant outages of about 3,000 MW will occur throughout the summer. If power plant outages this summer turn out to be greater than assumed, new capacity resources, such as peaking power plants, can help maintain an adequate reserve margin, and help avoid or shorten the duration of rotating blackouts.

PUBLIC HEALTH AND SAFETY

There is a reliability benefit associated with locating generation resources near the significant load centers. When load and generation are seriously out of balance, as they are in most service areas, the potential for system separation, islanding and cascading outages are significantly increased (U.S. Congress, Office of Technology Assessment, June 1990). If additional simple-cycle projects are not licensed and built,

this reliability benefit will be foregone until additional larger baseload generation is built in such areas. Although it is impossible to accurately calculate the likelihood of system outages, such outages are certainly plausible and are much greater without new generation resources in most California service areas. Power outages frequently occur during, and are often precipitated by, periods of extreme heat. Extreme summer heat creates extreme demand primarily from air conditioning loads. In fact, it has been demonstrated that demand in California is particularly sensitive to small increases in maximum summer temperature (CEC 1999). In the summer of 1998 the system demand in California increased by 4,000 MW as a result of a five-degree increase in temperature as compared to more typical maximums.

When major outages occur, there is an increased risk of significant public health and safety impacts. Fatalities and injuries associated with many types of accidents may result from outages, such as traffic accidents from signal and lighting failures, falls down unlighted stairways, fires caused by use of candles for lighting and unconventional open-flame cooking, loss of life support equipment in medical clinics, and electrical shock from improper use of portable electric generators. However, a much more serious risk is the potential morbidity and mortality associated with summer heat waves. Behind major epidemics, heat waves in California rank among the worst of all other natural disasters in the history of California for excess mortality. Heat waves have caused more fatalities in individual events than the 1906 earthquake (452 deaths), the San Francisquito Dam collapse of 1928 (450 deaths) and the Port Chicago explosion in 1944 (322 deaths) (Oechsli and Buechley 1970). The mortality associated with one California heat wave in 1955 resulted in 946 deaths (before air conditioning was in common use). Fortunately the mortality associated with such events is completely preventable (Semenza 1995). One of the most effective ways of avoiding mortality during heat waves is to spend time in air conditioned environments during the hottest parts of the day (CDC 2000). However, artificial climate control (air conditioning) may be mandatory to avoid fatalities when temperatures change abruptly (Bridger and Helfand 1968).

The availability of air conditioning has significantly reduced the mortality associated with heat waves in California and throughout the nation. It was estimated that increased use of air conditioning during the 1963 Los Angeles heat wave saved over 800 lives (Oechsli and Buechley 1970). Sensitive populations are often dependent on air conditioning to avoid aggravation of chronic health conditions such as chronic obstructive pulmonary disease or acute health effects such as heat stroke. It is widely recognized that hot weather conditions can significantly increase both morbidity and mortality, particularly among sensitive populations such as the very young, the elderly, and those with chronic diseases (Bridger and Helfand 1968) (Schickele 1947) (Oechsli and Buechley 1970) (Kalkstein et al 1989, 1993, 1997, 1998). Thus, shortages of electricity can impose risk of very serious impacts on the public, potentially increasing the risk of deaths due to heat waves. The vast majority of those who die in heat waves are at home without air conditioning and are elderly. Based on evaluation of the public health and safety risks associated with new projects, staff concludes that new generating projects are much more likely to reduce public health and safety risks than increase them.

AIR EMISSIONS OF BACK UP GENERATORS COMPARED WITH EMERGENCY PERMIT POWER PLANTS

California generation is among the cleanest in the country. This is due to negligible coal and oil use as generation fuel, the BARCT and Best Available Control Technology (BACT) rules, and a robust mix of geothermal, renewable, nuclear and hydroelectric generation. With the generation shortfalls California has experienced in recent months due to abnormal forced and unforced outage rates and shortages of in-state and out of state generation capacity, several options have been considered to supply additional generation without compromising public health and safety.

One option is to utilize the existing fleet of diesel engines that are used as backup or standby generators for facilities such as hospitals, businesses, and essential services such as telephone, water, sewer, police and fire. Most of these generators are exempt from permitting as they are designed to only run when the grid fails to deliver electricity. That fleet is older and uncontrolled. It could represent 11,500 units, producing as much as 5,000 MW. However, as little as 1,200 MW may be compatible with operating in parallel with the grid. Most units are designed to only operate when isolated from the grid, and only with enough power for essential load at the facility.

Another option is to rely on a small number of diesel or natural gas engines that are permitted with emission control equipment as prime engines. Their emissions are in the range of 10 LB NO_x/MWhr. However, they may not be tied to a generator (e.g., they may operate a pump or compressor) or are already operating at or near baseload, so they may not be able to supply much electricity to the grid. Other California generation options are less than 1.0 LB NO_x/MWhr, but few are cleaner than the system NO_x averages with the exception of demand reduction, solar, wind, and expensive fuel cells. The generation system emission averages will continue to decrease as the BARCT rules are fully implemented and the new generation with BACT installed comes online. The generation system emission average should approach 0.1 LB NO_x/MWhr by 2005.

DIFFERENCES IN AIR EMISSIONS

Emission rates, rather than the sheer number of generators of any one type, are key to comparing emissions from different generation sources. For example, if there is a need for 1000 MW over 10 hours, or 10,000 MWhrs, then the NO_x emissions are simply a product of the emission rate multiplied by 10,000. Diesel standby engine use would result in 150 tons of NO_x over 10 hours, versus 1.5 tons from 1000 MW of natural gas-fired generation over the same period of time. A new simple-cycle power plant, such as would produce 0.9 tons of NO_x during 10 hours of operation.

The location and configuration of a source are also significant factors in assessing the effect on air quality. If the 1000 MW is concentrated in one location (e.g., a 1000 MW combustion turbine or combined cycle project), and then the emission will be of relatively low concentration, will be buoyant, and will be emitted at a relatively high elevation from a stack. If the 1000 MW consists of 1,000 one-MW diesel standby

generators, the emissions will be emitted near ground level, at relatively high concentrations, and probably over a wide region or even throughout the state. Similarly, a dispersed set of peakers (e.g., twenty 50MW General Electric LM6000s) could be located throughout the state. Without knowing their exact locations, their effects on air quality are not entirely known. A peaking power plant located next to a hill or mountain, because of the terrain or topography, or in an area that is already heavily polluted, could result in violations whereas the other 1000 MW "configuration" might not.

EMISSION REDUCTION CREDIT BANK

The Governor's Executive Order D-24-01, charges the California Air Resources Board with the responsibility of creating a state emission reduction credit bank for the purpose of providing offsets for new or expanded peaking facilities that could add new power by this summer. This bank was initially funded with recent NO_x reductions generated through the CARB's Carl Moyer Program, an incentive program. The incentives are grants that cover the incremental cost of cleaner on-road, off-road, marine, locomotive and stationary agricultural pump engines, as well as forklifts and airport ground support equipment. Because the new or expanded peaking facilities will operate under short term entitlements, for the purpose of responding to the energy crisis, the use of these mobile emission reductions are intended to provide NO_x and particulate matter offsets for these peaking facilities.

These emission reduction credits (ERCs) are available through the Board to peaking power plants that need emission offsets in order to add new or expanded peaking capacity that will be on-line by September 30, 2001. These credits are intended to fully satisfy offset requirements of these power plants. The ERCs available from this bank are nitrogen oxides (NO_x) and particulate matter less than 10 microns (PM10). Where needed, these ERCs will be issued to qualified power plant applicants for a three-year period. These ERCs will expire on November 1, 2003, to ensure that these credits will be available for three full summer peak seasons. The amount of NO_x ERCs needed for this project is directly related to the emission control level of 2.5 parts per million NO_x and the number of hours of operation. The CARB bank will make up to 21 tons per year available for purchase for each 50 MW power plant up to 100 MW total. Prior to the expiration of the CARB short term ERCs, applicants who use these credits will be required to secure permanent emission reductions for the remaining life of the power plant peaking units if the applicant desires to continue to operate the unit.

Heavy-duty engines are a significant source of smog-forming pollutants. About 525,000 heavy-duty diesel trucks are driven throughout the state, with another 680,000 diesel-fueled engines used in construction and agriculture. Together, diesel engines contribute about 40 percent of all NO_x emissions from mobile sources. NO_x is one of the main contributors to ground-level ozone, one of the most health-damaging components of smog. In addition, the fine particulate matter exhaust from heavy-duty diesel engines is a toxic air contaminant. The Carl Moyer incentive program focuses on reducing emissions of smog-forming oxides of nitrogen (NO_x), but will also reduce particulate emissions.

Particulate matter includes many carbon particles (also called soot) as well as other gases that become visible as they cool. In 1998, California identified diesel particulate matter (diesel PM) as a toxic air contaminant based on its potential to cause cancer and other adverse health effects. In addition to PM, emissions from diesel-fueled engines include over 40 other cancer causing substances. Overall, emissions from diesel engines are responsible for the majority of the potential airborne cancer risk in California. Several studies have confirmed that the cancer risk from diesel particulate is greater than the risk from all other identified toxic air contaminants combined. Given these findings, using the proposed emission reduction credit strategy will be an effective means to offset peaking power plant emissions as an interim measure.

STAFF ANALYSIS OF THE LANCASTER ENERGY FACILITY#1

SITE DESCRIPTION

The proposed project (Lancaster Energy Facility #1) would occupy a four-acre portion of a 22-acre parcel (APN 3137-008-133) located at the northwest corner of the intersection of Division Street and Avenue H in Lancaster. The parcel is currently in the process of being subdivided into four parcels of more-or-less equal size, and represents parcel 4 of the tentative map (#26339). Parcel 3 is located adjacent to the north, parcel 2 is adjacent to the east. Parcel 1 is located to the east of parcel 2, across Trevor Avenue from the site. As is the case with the entire 22-acre parcel and most of the surrounding land, the project site is currently vacant and unimproved. According to the project application, there is no record of any construction activity or proposed development of the site. The site is level and vegetated with a number of Joshua trees. Other vegetation includes low-lying shrubs and grasses, characteristic of California's high desert. Rodent burrows were located throughout the site, and ponding during the wet season was evident during a staff site visit conducted June 8, 2001.

Adjacent land to the north, east and west is vacant. Beyond that, surrounding land uses include older industrial uses to the north and south. Propane tanks are located approximately 1,500 feet to the southeast of the site. Newer office/light industrial buildings are located in the distance to the west. The closest residence is a mobile caretaker's unit at the industrial site to the north, located approximately 750 feet from the north site boundary.

The project site is owned by the City of Lancaster Redevelopment Department. However, according to the applicant, a development agreement between the city and the applicant is in place for this project. The applicant intends to purchase the land once the project has been approved. Construction of the proposed facility would require equipment laydown and parking areas. Parcel 3 of the tentative map (also owned by the city) has been proposed for laydown and parking.

The project site is within a redevelopment area. Pursuant to state redevelopment law, tax increment financing can be utilized as a means of funding improvement within the redevelopment area. The tax increment is the difference in property tax revenue resulting from improvements that increase the tax base. The city has estimated that the value of improvements to the project site would reach \$150 million. At the one percent base property tax rate, this would translate into \$1.5 million in annual property tax revenue. California redevelopment law also stipulates that 20 percent of the tax increment be utilized to develop low and moderate income housing within the redevelopment area. Therefore, monies for this purpose would total approximately \$300,000 as a direct result of building the proposed power plant within the redevelopment area.

With the exception of natural gas, utilities are available at the site. Electricity, phone service and water is available adjacent to the site, and the City would extend an existing sewer trunk approximately 700 feet across Avenue H to the site. Sewer, drainage and water easements are proposed as part of the tentative map.

The new natural gas main is proposed to be located within the Avenue H right-of-way from the site to the Sierra Highway. At this point, the pipeline alignment shifts to the north, and runs along the east side of the Southern Pacific Railroad (SPRR) line to the interconnect in the City of Mohave. Except for a small portion located near commercial development in the City of Rosamond, the entire alignment is characterized by desert vegetation. However, an access way is apparent, and the alignment appears to be regularly maintained by mowing. This alignment is also the location of a recently installed fiber optic line. The applicant has indicated that franchise agreements with the Cities of Lancaster, Rosamond, and Mohave, the Counties of Los Angeles and Kern, and SPRR are in place for installation of the gas main. The alignment appears to have ample room for construction equipment, and access is available all along the site.

LAND USE

The applicant has indicated that it has site control, as well as control of the pipeline alignment. The proposed power plant site is generally level and has never been developed. The site and portions of the alignment are characterized by native low-lying shrubs and grasses, although the pipeline alignment includes an access trail and appears to be maintained for brush control on a regular basis. The site includes a number of Joshua trees, as well as the protected Alkali Mariposa Lily (see **Biological Resources** for more information).

Surrounding land uses include older industrial uses to the north and south. Adjacent land to the north, east and west is vacant. However, propane tanks are located approximately 1,500 feet to the south east of the site. Newer office/light industrial buildings are located in the distance to the west. The area includes a few sparsely distributed single family residences, the closest being a caretakers mobile unit approximately 750 feet to the north. Development of the proposed power plant would be compatible with surrounding land uses.

The natural gas pipeline alignment is located on a narrow strip of land between the SPRR and Sierra Highway. With the exception of Rosamond, the land surrounding the alignment is undeveloped. While construction of the pipeline would be apparent within the City of Rosamond, operation would not affect area land uses.

Two airports are located in the vicinity. Fox Field is located approximately five miles north of the site, and the Palmdale Airport is located more than 10 miles to the south. Both are non-civilian facilities, but would be under the jurisdiction of the Los Angeles County Airport Land Use Commission (ALUC) for planning purposes. Personal communication with the Los Angeles County Regional Planning Department (which also serves as staff for the ALUC) indicated that the site is of a sufficient distance from the airports to not be within airport planning boundaries. Two airports were contacted.

While personnel could not comment specifically on the project without detailed information, no concern was expressed about the proposed site. The Federal Aviation Administration (FAA) was contacted with regard to this project, but did not respond to inquiries.

The project site and land to the north, south and west is designated by the City's General Plan and Zoning Ordinance as Heavy Industrial (HI). Land to the southeast is zoned Light Industrial (LI); beyond that (approximately one mile from the site) is land zoned for single family residential development. To the southwest is land designated Commercial; beyond that (approximately one-half mile from the site) is land designated for single family residential. The land to the east is within Los Angeles County and is zoned D-2-1, appropriate for agricultural and light industrial uses. Development of the proposed power plant at this site would be consistent with general plan and zoning designations in the area.

The applicant has proposed the development of a 240 megawatt (MW) simple-cycle peaking facility, consisting of four General Electric Frame 7-B water injected gas turbine engines, fully encased and fitted with noise attenuation equipment. Natural gas would be supplied to the site via a 22.8-mile pipeline, which would connect to the Mohave-Kern River interconnect and run to the project site. Aqueous ammonia would be used to reduce emissions, and would be stored on-site in four 25,000-gallon tanks.

Administration and parking would be located on the eastern portion of the site (providing a buffer to Division Street), and the switchyard would be located on the north (providing a buffer between equipment and the residential to the north). An access road would run along the southern boundary of the site, providing a small (28 feet) buffer from Avenue H. The turbines are proposed to be located facing east-west, which means that the impact zone from failure would run north-south. According to the applicant, this configuration, coupled with equipment casing and on-site buffers, allows ample distance to prevent damage or injury from generator failure to off-site land uses.

The applicant has proposed 20-foot landscaped and screened setbacks of property boundaries with street frontage. This is consistent with the city's design guidelines for development within industrial zones.

While the majority of the components would be less than 35 feet in height, the applicant proposes four 70-foot flue stacks. The height limit within the HI zone is 70 feet. Therefore, the project would be consistent with the HI zoning. The City has indicated that the proposed project would be consistent with the redevelopment in the area, and would not adversely affect more sensitive uses such as housing. In fact, the availability of natural gas to the area is considered to be an asset. According to the City, this and the potential to tap directly in to a power source has attracted interest from businesses considering development in the area.

The applicant has not proposed signage or fencing, but would have to conform to the City's regulations should such features be proposed at a later date. Parking is discussed in **Traffic and Transportation**; landscaping and setbacks are addressed in more detail in **Visual Resources**.

The pipeline route within Lancaster is zoned HI. Within Los Angeles County, the route is zoned D-2-1. Jurisdiction for the remainder of the pipeline route (Avenue A north) falls within Kern County. Zoning designations include manufacturing, agriculture and commercial. Construction of the pipeline within these zones would be consistent with land use regulations. Once complete, the pipeline would be underground, and would therefore not create land use impacts.

The applicant has indicated that the laydown area and construction parking for the project itself would be located on the four-acre parcel to the north of the site. This would be consistent with the HI zoning.

Further discussion regarding potential construction-related impacts and land use consistency can be found in the **Noise, Biological Resources, Traffic and Transportation** and **Cultural Resources** sections of this document.

Public comment at the June 11, 2001 Informational Hearing included questions regarding the impact that the proposed power plant would have on property values in the area. The Energy Commission has encountered this question in previous siting cases, including Crocket, San Francisco, Sutter, and Metcalf. As part of the most recent analysis for the Metcalf project, a consultant was hired to review the potential impact. This analysis included a review of the literature on property value impacts from industrial activities (Troy 1999). In general, no information or studies were found that demonstrates an adverse or negative impact on property values directly attributable to a natural gas-fired power plant. Staff has not conducted an analysis of the possible impacts of the project on nearby property values, but notes that the project is proposed on property currently zoned for industrial purposes. Staff does not anticipate the addition of the power plant to have a significant impact on property values.

The applicant has indicated that all local, state and federal land use requirements would be met. This would be assured by the imposition of Condition of Certification **LAND-1**, which ensures that all applicable laws, ordinances, regulations and standards (LORS) are met.

With implementation of the above condition of certification, the project's impact on land use would be less than significant.

AIR QUALITY

The analysis of the air quality impacts of emergency permit applications is performed by the California Air Resources Board and the local air pollution control district. Staff has proposed conditions of certification which require the applicant to limit fugitive dust emissions during construction and to comply with the authority to construct issued by the Antelope Valley Air Pollution Control District (District). A copy of the District's proposed Authority to Construct for this facility is included as Appendix A of this Staff Assessment.

BIOLOGICAL RESOURCES

The proposed Lancaster Energy Facility #1 project has two major construction components including a 4-acre facility siting area, and a 22.8 mile-long by 35-foot wide pipeline corridor. The project area is approximately 2300 feet in elevation and is situated over relatively flat terrain.

The 4-acre facility siting area is currently undeveloped and is dominated by shadscale scrub habitat. This habitat type is also known as alkaline saltbush scrub, and is characterized by the dominant plant species shadscale (*Atriplex confertifolia*). Additional plant species observed in this habitat include deep-rooted creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), Nevada ephedra (*Ephedra nevadensis*), rabbitbrush (*Chrysothamnus nauseosus*), and the California rare alkali Mariposa lily (*Calochortus striatus*). Other plant species that were not observed, but are often found in shadscale habitat include desert holly (*Atriplex hymenolytra*), winter fat (*Eurotia lanata*), bud sagebrush (*Artemisia spinescens*), greasewood (*Sarcobatus vermiculatus*), hop sage (*Grayia spinosa*), and twin-fruit (*Mendora spinescens*) (Towner, 2000).

The shadscale-dominated plant community shifts to a creosote scrub community near the northern terminus of the proposed pipeline corridor. Natural vegetation communities within the pipeline alignment have been subjected to high levels of disturbances due to its past and recent use as a utility corridor (including two recently completed fiber optic installation projects). Thus, the vegetation within the proposed pipeline corridor is predominantly ruderal or in the early stages of recovery (GANDA, May 2001). As a result of these projects and other observed disturbances (vegetation maintenance by Caltrans), the ruderal-disturbed vegetation communities along the pipeline corridor are considered to have low wildlife habitat value for local fauna. The fact that the pipeline will be placed between two existing transportation facilities (Sierra Hwy. and the Southern Pacific Railroad tracks) further reduces the wildlife habitat value within the pipeline corridor and likely limits wildlife movement from adjacent habitats. Disturbed and undisturbed areas occur adjacent to the project. Adjacent disturbed areas include commercial and residential buildings, roadways, railways, and utility corridors. The surrounding undisturbed habitats are similar in plant species diversity and abundance to those habitats described in the project area.

Garcia and Associates (GANDA) biologists conducted botanical surveys of the site on 6 April and 24 April 2000, and wildlife surveys on 27 March and 11 April 2000. During these surveys, GANDA wildlife biologists observed several locally common bird species, such as western kingbird (*Tyrannus verticalis*), common raven (*Corvus corax*), cactus wren (*Campylorhynchus brunneicapillus*), house sparrow (*Passer domesticus*), and western meadowlark (*Sturnella neglecta*). Reptiles observed included desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), desert night lizard (*Xantusia vigilis*), and glossy snake (*Arizona elegans*). Two mammals were directly observed onsite by GANDA including white-tailed antelope squirrel (*Ammospermophilus leucurus*) and black-tailed hare (*Lepus californicus*). Sign including house cat/skulls (*Felis catus*) and coyote/scat (*Canis latrans*) identified two additional mammal species.

Additional wildlife species were observed by staff biologists during a site visit on 8, June 2001. These species included birds such as song sparrow (*Melospiza melodia*), mourning dove (*Zenaida macroura*), sage sparrow (*Amphispiza belli*), and reptiles including desert spiny lizard (*Sceloporus magister*), Mojave fringe-toed lizard (*Uma scoparia*), and leopard lizard (*Gambelia wislizenii*).

During the biological surveys, no federally or state-listed threatened or endangered species were observed. However, populations of alkali Mariposa lily, a federal species of concern and a California-state rare plant species, were observed within and adjacent to the facility siting area and in areas adjacent to the pipeline corridor. The US Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) (the resource agencies) have indicated that direct impacts to this species should be avoided. CDFG has further indicated that all impacts to this species will require mitigation, and that placement of the facility will result in both direct and indirect impacts to alkali Mariposa lily.

Based on agency input, staff has developed Condition BIO-3. This Condition requires the applicant to compensate for impacts to alkali Mariposa lily by purchasing off-site habitat in the northern Lancaster area. The compensatory lands must have, at minimum, a comparable number of individuals to the population impacted and long-term viability. This Condition further states that alkali Mariposa lily populations not directly taken, and which occur within and adjacent to the project, be clearly flagged. In addition, this Condition states that an onsite environmental monitor familiar with this species will be present during all onsite activities.

The alkali scrub habitat onsite potentially supports two special status wildlife species including the federally and state endangered desert tortoise and the federal species of concern and California state-listed Mojave ground squirrel. Although protocol surveys were conducted for desert tortoise at the facility siting area, no protocol-level surveys were conducted along the pipeline corridor. Furthermore, no protocol surveys were conducted for Mojave ground squirrel.

Correspondence with the resource agencies indicates that the proposed project could result in a take of these species. The resource agencies have, therefore, requested that the applicant conduct desert tortoise protocol-level surveys along the pipeline corridor. For Mojave ground squirrel, the timeline to initiate protocol-level studies (March and April) has passed. Consequently the only mitigation option for this species is to presume presence and mitigate through purchase of compensatory land. Presuming presence of Mojave ground squirrel will require the applicant to obtain an incidental take permit. The resource agencies have also requested that, in the event either of these species are observed onsite, all construction activities are required to immediately cease. Following shut-down of construction activities, the applicant would then need to immediately notify staff's Compliance Project Manager (CPM) and the resource agencies, and would be required to request a federal and/or state incidental take permit (depending on the species observed). Specific conditions related to potential impacts to Mojave ground squirrel and desert tortoise are contained in Condition of Certification **BIO-1**.

CDFG has indicated that the location of the compensatory lands for alkali Mariposa lily, Mojave ground squirrel, and desert tortoise may coincide, provided the selected location(s) meets the habitat requirements for each of these species. If presence of Mojave ground squirrel is presumed, the mitigation ratio will be 1:1, and would require the purchase of 101 acres (4-acres for the facility siting and 97 for the pipeline corridor). If mitigation for desert tortoise is required, CDFG has indicated that the location of the mitigation lands will be in the Desert Tortoise Nature Preserve (Preserve) in Kern County. Thus, compensation habitat for impacts to these species should be sought through the Desert Tortoise Preserve Committee, who manages the Preserve. If the same acreage is used for Mojave ground squirrel and desert tortoise, an additional \$140.00/acre fee will be required for Mojave ground squirrel research. In addition to these measures, the applicant will provide the CPM and the resource agencies a mitigation and monitoring program that will include plans to incorporate exclusion fencing, conduct pre-construction surveys for special status species and migratory nesting bird species, and develop a worker education program.

CDFG has also determined that areas of the project near the northern portion of the pipeline corridor support suitable habitat for burrowing owl, a California species of special concern, and are recommending that protocol-level habitat assessment surveys be implemented throughout the site. If burrowing owls are detected during these surveys, CDFG recommends developing measures to avoid, minimize, or mitigate the project's impacts to these species. These measures may include: avoiding disturbances within 75 meters of an occupied burrows during the breeding season (February 1 – August 31), maintaining a 50 meter buffer from burrows during the non-breeding period ((September 1 – January 31), installing one-way exclusion doors during the non-breeding period; followed by destroying the burrows and replacing at a 2:1 ratio (minimum of 6.5 acres per owl pair), and selecting compensation lands in areas near the former burrow site. In addition to protocol-level surveys, CDFG also recommends that pre-construction burrowing owl surveys be conducted prior to disturbance in case owls have subsequently moved into the area. Specific conditions related to potential impacts to burrowing owl are summarized in Condition of Certification **BIO-3**.

Construction activities, such as grading, will result in the removal of native and non-native vegetation, thereby, reducing wildlife habitat and increasing erosion potential. To minimize these impacts, the Staff has developed Condition of Certification **BIO-6** that states all disturbed land surfaces, except those approved in the project design (i.e., permanently paved or gravel roadways, paved facility, other gravel areas), will be seeded with an approved native plant mixture.

The applicant has indicated that no sensitive habitats, including wetlands, occur on or near the site. CDFG, however, has concerns that stream channels in the pipeline corridor may be under their jurisdiction and thereby require a Streambed Alteration Agreement (SAA/1601). Condition of Certification **BIO-2** indicates that prior to any construction-related activities, documentation will be provided to the Compliance Project Manager (CPM) that either 1) demonstrates that no SAA is required by CDFG, or 2) shows that a SAA Application has been submitted and approved by CDFG.

Implementation of staff's proposed conditions of certification will ensure that the project's potential impacts to biological resources are insignificant.

SOILS AND WATER

WATER

Water Supply

The proposed Energy Provider Inc. (EPI) Lancaster Energy Facility #1 will use approximately 400-gpm of water at peak use. Water will be obtained from the Los Angeles County Waterworks District No. 40, region-4 system (LACWW). In the future EPI will use reclaimed water from the Los Angeles County Sanitation District 14 (LACSD) if the water quality is acceptable and the water can be economically brought to the plant. The applicant and the appropriate parties are currently addressing this option. Before utilization all process water will be treated by ion exchange and reverse osmosis membrane filtration. This treatment is necessary to generate demineralized water for use in the various plant systems.

Wastewater

The plant will generate approximately 120-gallons per minute (gpm) of wastewater. Most of the wastewater will be reused in a variety of applications around the facility. The evaporative cooling unit will use 72-gpm and the domestic and service systems will use 20-gpm. The facility will also use a portion of the wastewater for landscape irrigation. The facility anticipates discharging 12-28 gpm of wastewater to the sewer.

The Reverse Osmosis (RO) process (120-gpm) will be the main source of wastewater at the facility. The RO wastewater typically has Total Dissolved Solids (TDS) concentrations 3 to 4 times that of the freshwater used. Despite the high TDS, the RO reject water is of good quality. The RO reject water will be used in other plant systems and very little will be discharged to the sewer. Wastewater discharge to the sewer will be RO reject water, sanitary sewage and service water discharge (the sanitary sewage and service systems will use RO reject water for the most part). The RO reject water, domestic wastewater and service wastewater will not require any treatment prior to discharge to the LACSD sewage system. LACSD is aware of the high TDS wastewater, and has indicated that it is within acceptable limits.

The facility will produce approximately 2-gpm of sanitary wastewater. This wastewater will consist of normal sanitary sewer system wastes. Likewise, approximately 3-gpm of service water will be generated; primarily from general wash down water.

An insignificant amount of wastewater will come from the Oil Water Separator (OWS). Water from specific plant drains around the combustion turbine generators will be routed to a separation sump, with provisions for oil collection by an OWS. Oil will be skimmed off and disposed of offsite at an appropriate facility.

The proposed peaker facility has received an Ability to Serve Letter from the City of Lancaster who owns the municipal sewer system. LACSD owns the treatment plant and is currently in the process of annexing the City of Lancaster Municipal sewer system. LACSD has agreed to accept the proposed discharge from the Lancaster #1 facility. The Lahontan Regional Water Quality Control Board (LRWQCB) is requiring the sewage treatment plant to change the way they discharge their effluent. At present the treated effluent is released to a natural waterway, but problems have arisen because of the quantity of effluent discharged. LACSD is in the process of being required to find another means of discharging the effluent, such as building evaporation ponds. If the Lancaster facility is able to use reclaimed water (effluent) from the sewage treatment plant, then the discharge problem at the wastewater plant will be significantly reduced.

NATIONAL DISCHARGE ELIMINATION PERMITS

GENERAL NPDES FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY

The total project area exceeds five acres (19.5 acres) which will require a National Pollution Discharge Elimination System (NPDES) permit to address Storm Water Runoff from Construction Activities. Part of the NPDES permitting process is the submission to the Regional Water Quality Control Board (RWQCB), of a Notice of Intent (NOI) application and the development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will include an erosion control and stormwater management plan that identifies Best Management Practices (BMPs) to be implemented during construction activities.

General NPDES for Discharges of Storm Water associated With Industrial Activities

A NPDES permit for Storm Water Discharges Associated with Industrial Activities will not be needed for the facility. Simple cycle, gas turbine electric generation facilities are not one of the regulated industrial categories subject to the permit.

WASTE DISCHARGE REQUIREMENTS (WDR)

The use of RO reject water for irrigation purposes may require WDR, a waiver from a WDR or a conditional waiver from a WDR. The applicant will need to address this prior to plant operations (SOIL&WATER-5).

FEDERAL CLEAN WATER ACT

During site visits by staff, no jurisdictional waterways or wetlands were observed, the same is true for site visits made by the applicant's environmental consulting firm (GANDA, 200). However, the State Water Resources Control Board (SWRCB) has sent comments on the project and states that the natural gas pipeline will cross several

streambeds. The applicant has been made aware of this and is trying to ascertain the location of these streams. If it is determined that these streams or any other areas are under the Army Corps of Engineers (Corps) jurisdiction in the project areas, then the applicant will need a Section 404 permit, as well as a section 401 water quality certification (SOIL&WATER-6).

SOILS

During project construction and operation, wind and water action can erode unprotected surfaces. Areas of impervious surfaces (paved, compacted, etc.) can create increased runoff conditions, thereby resulting in potential erosion on unprotected down-gradient surfaces. EPI has identified the need to develop an Erosion Prevention and Sediment Control Plan (EPSCP). The EPSCP has several parts that need to be addressed at various stages of the project. The first is the design of a drainage control plan. This plan identifies potential areas of erosion, and details the installation of interim and permanent stormwater runoff control measures. The second phase is the preparation of a SWPPP for construction along with the filing of a NOI with the RWQCB for a National Pollutant Discharge Elimination System (NPDES) general permit for construction activities. The SWPPP has two main functions; the first is to identify sources of pollutants associated with construction activities that may affect the quality of stormwater discharges from the site. The second function is to identify and implement site specific Best Management Practices (BMPs) to reduce or prevent pollutants associated with construction activities from entering stormwater discharge.

Energy Providers Inc. has not supplied a draft EPSCP. The EPSCP will need to be completed and various key components approved by the Compliance Project Manager (CPM) prior to ground disturbance (refer to standard conditions of certification).

Spill Prevention/ Water Quality Protection

The main source of potential spills is from lubricating and hydraulic oil stored and used onsite. The total quantity of oil onsite exceeds the threshold quantity, so a Spill Prevention Control and Countermeasures Plan (SPCC) per 40 CFR 112 is required.

The proposed project will also use aqueous ammonia in the Selective Catalytic Reduction (SCR) system to control Nitrogen Dioxide (NO_x) emissions. The ammonia that will be stored onsite will be in four 25,000-gallon epoxy lined tanks. The tanks are located within steel epoxy lined secondary containment vessels designed to hold 110 percent of the storage tank volume. All chemicals stored onsite will be in closed containers and will include secondary containment to prevent the flow of chemicals into storm sewers and adjacent waterways.

HAZARDOUS MATERIALS MANAGEMENT

The proposed project will involve use of aqueous ammonia and will involve use of natural gas. Ammonia will be used for control of NO_x emissions in a selective catalytic reduction (SCR) system. The proposed project will require an ammonia storage facility. The use of aqueous ammonia, at less than 20 percent solution, precludes the potential for significant impact at the nearest residences that is more than 750 feet from the proposed storage facility.

Natural gas will not be stored at the site but will be handled in significant quantities. The project will also require installation of a 22.8 mile long natural gas transmission pipeline to supply fuel for facility. The systems used to handle natural gas at the facility and the pipeline will comply with all applicable engineering design codes and fire protection codes. It is staff's opinion that compliance with such standards will virtually preclude significant potential for impact on the public as a result of natural gas handling associated with the proposed facility.

CULTURAL RESOURCES

The proposed Lancaster Energy Facility # I would occupy a four-acre portion of a 22-acre parcel located at the northwest corner of the intersection of Division Street and Avenue H in Lancaster, California. The entire 22-acre parcel is currently vacant and unimproved. The site is relatively level and vegetated with low-lying shrubs, grasses, and Joshua trees. This project will also require the construction of a 22.8-mile natural gas pipeline that will provide fuel to the facility. The new gas main will be located within the Avenue H right-of-way until it reaches Sierra Highway. At Sierra Highway the gas main route turns north and will run between the eastern side of Sierra Highway and the western side of the Southern Pacific Railroad (SPRR) line that parallels the Sierra Highway.

Garcia and Associates, of San Anselmo, California, have been contracted by the applicant to conduct cultural resources records searches and surveys of the proposed site area and gas main route. Garcia and Associates conducted a records search at the California Historical Resources Information System at California State University, Bakersfield. This records search included the project site, the area within a quarter-mile radius of the site, and the natural gas line route. Garcia and Associates also consulted the California State Library, the West Antelope Valley Historical Society, the Los Angeles Public Library, the Los Angeles County Tax Assessor, the Lancaster Chamber of Commerce, the Lancaster Museum and Art Gallery, and the Native American Heritage Commission as part of their investigations.

The records searches determined that no known prehistoric sites are located in the project area or along the proposed gas main route. One historic site, LAN-2013, was listed as being located in the extreme southwestern corner of the project area, but has subsequently been destroyed by road widening. No known historic or prehistoric sites are recorded along the proposed gas main route.

Garcia and Associates personnel conducted a pedestrian survey of the entire 22-acre parcel including the four-acre project site on April 4, 2001. Two historic trash scatters were located within the project area. These two deposits were given the temporary designations of GAA-1 and GAA-2. GAA-1 consists mainly of railroad ties, railroad sanitary disposal cans, and bottle glass of various colors. GAA-2 is composed mainly of glass and can fragments. These two trash deposits were subsequently archaeologically tested on April 26, 2001. Two 50 cm x 50 cm test pits were placed at each site to determine the depth of cultural deposits and to examine how the artifacts had been deposited in their current location. The test excavations revealed that the cultural deposits were very shallow and primarily at surface level. None of the four test units yielded any cultural materials at a depth below 5 cm. Natural, undisturbed stratigraphic layers were encountered below the depth of 5 cm. Excavation at each unit was halted when sterile levels indicating the end of cultural deposits were encountered.

Garcia and Associates also conducted a pedestrian survey of the proposed natural gas main route. One historic trash deposit consisting primarily of broken glass fragments was encountered along the proposed gas main route. This deposit was given the temporary designation of GAA-5. One 50 cm x 50 cm test unit was excavated at this site. The deposit did not exceed 5 cm in depth with the majority of materials being on the surface level. Excavation was halted when sterile, undisturbed stratigraphic layers were encountered.

Sites GAA-1, GAA-2, and GAA-5 were all evaluated for listing on the California Register of Historic Places (CRHP) as Historic Properties by Garcia and Associates. These sites were found ineligible for listing according to the relevant criteria set forth by the CRHP and CEQA. Excavation at each of these sites determined that the deposits are very shallow and did not yield any information that might make a significant contribution to local, regional, state, or national history. No further mitigation measures are recommended at sites GAA-1, GAA-2, and GAA-5. After evaluation by Garcia and Associates, these sites were not found to be Historic Resources, and therefore not eligible for listing on the CRHP and can be removed.

During the survey of the proposed route of the natural gas main a large metal tank set on a concrete pad was recorded as GAA-3. GAA-3 is a possible water pumphouse (this has not been verified by a controlling agency), located between Rosamond and Mojave and adjacent to the Sierra Highway. The structure is approximately 6-feet in diameter and approximately 9-feet high. Local municipal water agencies have been contacted regarding age and use; however, these agencies had no knowledge of the structure. As a result it has been flagged for avoidance as a mitigation measure. Garcia and Associates also recorded a series of concrete culverts associated with the Sierra Highway as GAA-4. GAA-4 is not an individual site, but a feature of the Sierra Highway, which has been previously recorded.

These features are 1931 and 1934 concrete culverts constructed so water can pass beneath the highway during flood events. These features do not fall in the construction zone's Area of Potential Effect (APE), and therefore will not be affected by this project.

Staff visited the site on June 8, 2001. The project area was found to be vacant and unimproved as stated in the application. The historic trash deposits were inspected and were found to be shallow and sparse as described in the Garcia and Associates report. The proposed route of the gas main was also inspected. The route will run between Sierra Highway and the SPRR right-of-way that parallels it. This narrow strip is highly disturbed by previous road and railway construction and has a buried fiber optic cable following the route of the SPRR right-of-way. The proposed route of the gas main is therefore so disturbed that the likelihood of encountering any cultural remains is remote.

The records searches and surveys performed by Garcia and Associates of the proposed project area and gas main route have not revealed any significant cultural resources. In their report, Garcia and Associates do not recommend any cultural resource monitoring for this project. Based on this information and staff observations, no further mitigation measures are recommended for this project. Due to the low possibility of encountering archaeological sites in the project area, no on-site cultural resource monitoring is required for this project. However, if buried cultural resources are encountered during construction a qualified cultural resource specialist would evaluate the finding, pursuant to Standard Condition of Certification **CUL-1**.

PALEONTOLOGICAL RESOURCES

The Applicant retained the services of LaRamie Soils Service (Laramie, Wyoming) to assess the paleontologic potential of the site. The paleontologic consultant performed a review of geologic literature for the area, reportedly performed a record search (but the databases searched were not identified in the report), and conducted spot checking at selected locations along the 22-mile pipeline (but no systematic survey was conducted).

The consultant concluded that: "Rock formations in the proposed energy facility site and pipeline right-of-way have extremely limited potential to yield vertebrate fossils. ... the entire study area encompasses a relatively featureless Holocene and Pleistocene landscape devoid of recorded vertebrate fossil localities or outcrops capable of yielding vertebrate fossils."

Based on the conclusions of the consultant, the Applicant has stated that: (1) The bottom of the pipeline trench will be 3 to 4 feet deep. (2) The Lancaster Energy Facility site and the gas pipeline right-of-way are not paleontologically sensitive. (3) No mitigation is proposed to mitigate impact to paleontologic resources.

Staff disagrees with the statements made by the consultant and the Applicant, on several counts.

- First, the consultant makes the presumption that Antelope Valley is a featureless landscape in which deposits are not likely to yield fossils. The climate of Antelope Valley was very different during the pluvial periods (the last about 15,000 years ago), however, and supported a very varied ecosystem (including antelopes, horses, camelids, and humans). The wetlands that surrounded Rosamond Lake provided

optimal conditions for the preservation of fossils from large animals, which might have gotten mired in the mud.

- Second, the consultant makes the presumption that young alluvium (<10,000 years old) is thick (more than 30 feet), and devoid of fossils. The assumption that young alluvium is thick throughout the alignment of the proposed pipeline is unsupported, and is probably erroneous. The Antelope Valley has received a large volume of sediment from the uplifting Transverse Ranges, but the sedimentation rate must have decreased considerably after the pluvial period (in deserts, most of the sediment transport is still performed by running water). Without trenching and dating of deposits (by paleontologic or radiometric methods) it is not possible to unequivocally state the age of the surficial deposits of Antelope Valley.
- Third, the assumption that “young alluvium” has extremely limited potential to yield vertebrate fossils is in error. For example, young alluvium in the featureless plain of the Central Valley yielded a very complete fossil of a camel during grading of landscape ponds for the ARCO Arena, near Sacramento. As another example, a new species of antelope was recently discovered in Holocene deposits near Antioch, California. Both of these fossil finds are scientifically significant, but the latter is truly unique.
- Fourth, the statement that there are no known vertebrate fossil localities in the area of the project is incorrect. A cursory search conducted by the Curator of Paleontology of the San Bernardino County Natural History Museum yielded six known fossil localities within a mile of the pipeline alignment in the 7.5-minute Rosamond Quadrangle alone. It is reasonable to assume that other localities will be found in the three other quadrangles cut by the pipeline (7.5-minute quadrangles Lancaster West, Soledad Mtn., and Mojave).
- Fifth, the standard of practice in California is to consider a unit as paleontologically important if either (1) it is known to have produced unique, scientifically important fossils, or (2) has a high potential paleontologic productivity based on the environment of deposition. With respect to the latter, during the humid pluvial time that prevailed 10,000 years ago, Antelope Valley had ideal conditions for supporting a diverse biota, and for preservation of fossils of large animals. The alluvium deposited at that time should thus be assumed to have a high potential paleontologic productivity.

Staff contacted Dr. Eric Scott, Curator of Paleontology of the San Bernardino County National History Museum, who expressed disagreement with the statement that the Antelope Valley has extremely limited potential to yield vertebrate fossils. Further, Dr. Scott expressed the professional opinion that excavation of a 22-mile pipeline between Lancaster and Mojave could significantly impact paleontologic resources. Finally, as a professional courtesy Dr. Scott consulted the record map for the 7.5-minute Rosamond Quadrangle, and reported that six vertebrate fossil localities were found within a mile of the pipeline alignment.

Staff concludes that the proposed project has the potential for disturbing significant vertebrate fossils during construction of the proposed pipeline. Staff has included Condition of Certification **PALEO-2** which requires an on-site monitor be present during construction. Implementation of this condition will assure that the impacts of the proposed project on paleontological resources is less than significant.

GEOLOGIC RESOURCES

The site is located in the Antelope Valley, which is the name given to the “wedge” that forms the west end of the Mojave Desert. The project is located where the lacustrine deposits of Lake Thompson (the Pleistocene predecessor of Rosamond Lake) interdigitate with the distal fringe of the bajada formed off the San Gabriel Mountains (a bajada is a sloping surface formed by the coalescence of alluvial fans). The average slope throughout the site is about 0.1 percent to the northwest, toward the broad valley of the intermittent Amargosa Creek.

The “wedge” of the Antelope Valley is formed by the intersection of the San Andreas fault and the Garlock fault. With respect to endogenous hazards, the area is likely to experience strong seismic shaking in the event of rupture of one of these two faults. With respect to exogenous hazards, the area has an arid climate and is subject to flash floods and debris flows. It is also subject to ground cracking (due to desiccation) and subsidence.

Regional geologic mapping of the Lancaster area has been performed by Dibblee (1960, 1967) and Ponti (1985). In addition, there have been numerous unpublished geologic and geotechnical reports prepared for residential subdivisions and other large geotechnical projects. Staff is familiar with the geologic study prepared by GeoLogic Associates (1994) for the Lancaster Landfill, located 1.5 miles northeast of the proposed power plant site. This assessment relies heavily on this last reference.

GEOLOGIC HAZARDS

Seismic hazards. The proposed site is 12 miles from the San Andreas fault and 30 miles from the Garlock fault. Farther to the northeast are the swarm of oblique-slip faults of the central Mojave, one of which is the Landers fault, which on June 28, 1992, ruptured over a distance of at least 48 miles and generated an earthquake of momentum magnitude 7.3.

Movement along the San Andreas fault generated the 1857 Fort Tejon earthquake, which had an estimated moment magnitude of 8.0. It is here assumed that a similar earthquake could be generated in the future, as close as 12 miles southwest of the site. Based on the large number of historic earthquakes generated along the San Andreas fault, Wallace (1970) estimated that in any given year there is a 0.2 probability that an earthquake of magnitude 6 would occur somewhere along the 600 miles of the San Andreas fault, and that there is a 0.01 probability that a magnitude 8 earthquake would

be generated in any given year. Locally, the trenching and geochronometric studies of Sieh (1978) in Pallett Creek (20 miles southeast of the site) suggest annual probabilities of 0.005 to 0.003 for magnitude 8 earthquakes.

Peak horizontal accelerations, as a fraction of the acceleration of gravity, can be estimated from the regression curves of Campbell (1981) and Joyner and Boore (1981) as follows:

Scenario	0.5 probability	0.15 probability
Scenario 1 8.0 earthquake 12 miles from the site	0.3g to 0.4g	0.5g to 0.8g
Scenario 2 7.5 earthquake 12 miles from the site	0.2g to 0.3g	0.4g to 0.6g
Scenario 3 8.0 earthquake 20 miles from the site	0.2g to 0.3g	0.4g to 0.5g
Scenario 4 7.5 earthquake 20 miles from the site	0.1g to 0.2g	0.3g to 0.4g

On the basis of the available information, the area of the Lancaster landfill expansion has a high probability of experiencing seismic shaking with Mercalli intensities of V to VI (probability larger than 0.05 in any given year, as determined from the historical compilation of Yerkes, 1985), and has a small probability (between 0.01 and 0.001 in any given year) of suffering seismic shaking of Mercalli intensity up to IX. In the case of a major earthquake, the area is likely to experience short-period peak horizontal accelerations between 0.1g and 0.5g (with a probability of 0.5), and has a small chance of experiencing short-period peak horizontal accelerations as high as 0.8g (probability of 0.15). Long-period horizontal accelerations are unlikely to be more than 40 percent of the peak horizontal accelerations.

Staff concludes that the proposed project site has the potential for experiencing severe ground vibration in the event of an earthquake along the San Andreas fault, and perhaps also some ground cracking. Under these conditions, the minimum legal requirement is that the design conforms to Zone 4 standards of the California Building Code. In addition, the standard of practice calls for review of the design by a competent engineering team (see Condition of Certification **GEO-1**).

Slope stability. The proposed site is flat. Staff concludes that there is no slope failure risk at the site.

Liquefaction. The site is underlain unconsolidated sediments. The nature of these deposits is unknown at this time, but staff notes that this type of deposit is susceptible to liquefaction when the water table is shallow and seismic vibration is strong. The position of the water table under the site has not been determined.

Staff concludes that the site has potential for experiencing liquefaction. A site-specific liquefaction study will be required (see Condition of Certification **GEO-2**).

Ground cracking. The playas of the Mojave Desert are well known for having very large ground cracks or fissures. Fife (1980) described these peculiar features, and concluded the following: Ground cracks in playas can form as a result of faulting, subsidence, or massive desiccation (massive desiccation means extensive loss of moisture from clayey sediments or evaporites, either through evaporation or groundwater pumping). Large ground cracks often form polygonal sets, in which the polygons can be up to 1,500 feet across. Individual cracks may be up to 1 foot wide, 30 to 300 feet deep, and up to 1.5 miles in extent. During wet periods these cracks tend to heal, but upon new desiccation they tend to reopen along pre-existing polygons. Some cracks have been observed to widen considerably shortly after heavy rainfall (e.g., Knott, 1992; Molinari et al., 1992), probably due to piping (i.e., erosion of the walls of a previously existing crack by downward seepage of water). Ground cracks seem to be most common around farms where active pumping is underway, and in these areas it can be assumed that lowering of the water table, rather than evaporation, is the main process responsible for cracking. Finally, seismic forces can trigger the initial opening of a ground crack (such as the fissure that developed after an earthquake of magnitude 5 that shook Erickson Playa in 1977).

Swift (1991) described a swarm of fissures along the broad valley of Amargosa Creek, about 1 mile west of the proposed power plant site. According to Swift (1991), the valley floor in this area is underlain by late Pleistocene lake bed deposits, probably related to ancient Lake Thompson (Dibblee, 1960; 1967), that consist predominantly of silt and clay. The fissures found in this area range in width from one inch to slightly over one foot, generally exhibit a gently arcuate aspect, and have no appreciable vertical displacement. The longest continuous fissures were on the order of 600 to 700 feet in length, although most are covered by wind-blown sand and as a result can only be traced for up to 50 to 200 feet. Whereas the predominant trend of individual fissures appeared to be nearly east-west, the overall trend of the swarm was northeast-southwest, parallel to the inferred elongation of Lake Thompson. At several locations, sink holes (collapsed portions of subterranean cavities) were also noted in association with the fissures. Although most of the sink holes were less than four feet in diameter, one, located six miles southwest of the landfill site, measured 20 by 15 feet, with vertical displacements from one foot to as much as five feet. Swift (1991) concluded that the observed fissuring was due to tensional forces created by regional subsidence in excess of 5 feet, which may be related to groundwater withdrawal.

Molinari et al. (1992) reported the results of a trenching study of fissures in a small area located 3.5 miles west-southwest of the proposed power plant site. The fissures in this area ranged in length between 3 and 125 feet, and were expressed as aligned,

discontinuous shallow surface depressions and holes. At the surface these features were typically 2 to 6 inches wide, and trenching demonstrated that they extended several feet into the underlying clay and sandy soil layers, albeit most were filled with soil within five feet of the surface. The field investigation demonstrated that playa deposits of medium stiff, slightly sandy to clayey silts were present to depths of 5 to 8 feet, and were underlain by medium dense to dense, silty sands with interbeds of medium stiff to hard sandy and silty clays.

Staff concludes that the site has potential for experiencing non-seismic ground cracking, so a site-specific study will be required (see Condition of Certification **GEO-3**).

Flooding The site is not within the flood plain of any major river. Staff concludes there is no flood risk at the site.

GEOLOGIC RESOURCES

The site is underlain by sands and clays, which could be considered a geologic resource. These materials are abundant elsewhere in the Antelope Valley, however, so Staff concludes that implementation of the project will not limit access to a unique geologic resource, nor will it imply an irretrievable commitment of unique geologic resources.

NOISE

Existing noise sources in the vicinity of the project include industrial uses, traffic from Avenue H, Division Street and the Sierra Highway, and the SPRR. Wind noise is also prevalent in the area.

Noise information provided by the applicant indicates that the nearest sensitive receptor is a mobile residence located approximately 750 feet to the north. This unit is utilized as a caretaker's unit for the industrial operations at that site. Other homes are located approximately one-third mile to the west across Sierra Highway, and approximately one-half mile to the south on Avenue H. The site visit did not indicate the presence of additional sensitive receptors in the immediate vicinity of the site or the proposed natural gas line alignment.

A Preliminary Noise Impact Analysis was prepared in May 2001. The ambient daytime noise level on-site averaged 55 dBA L_{eq} in early May 2001. The ambient noise level in the area is expected to increase as the area develops and traffic increases. According to the analysis, the increase in noise from transportation nodes is not expected to increase by more than 3 dBA to 5 dBA without significant new development, which is not currently proposed. A 3 dBA increase is generally considered perceptible, while a 5 dBA increase would be noticeable.

The City of Lancaster noise ordinance has not established noise thresholds for various land uses. However, land uses that generate noise are limited to 65 dBA L_{eq} at the property line, when the property line abuts commercial or residential land use or zone. The 65 dBA L_{eq} would therefore represent a noise level that could not be exceeded at the receptor's property line. The noise analysis indicated that this would be 400 feet from the project site property line.

The Lancaster ordinance also prohibits certain construction activities (e.g., pile drivers, heavy trucks, backhoes, etc.) within 500 feet of any residence on Sundays or between the hours of 8 p.m. and sunrise. Since the northern boundary of the staging area is located approximately 450 feet from the nearest residences, any construction activity at the laydown site would be limited during these hours. However, the project site itself is located approximately 750 feet from the nearest residence, and would therefore not be subject to this portion of the ordinance. Construction of the natural gas line is not expected to exacerbate noise impacts to area receptors. The alignment is between the SPRR and the Sierra Highway, two significant noise sources. Furthermore, most of the surrounding land is undeveloped. The commercial development near the alignment within the City of Rosamond would be only temporarily affected by construction activities, and would not experience long-term impacts. The applicant does not currently propose nighttime construction, but may be required to do so to meet the September 30, 2001 deadline. If this is the case, the applicant would be required to reduce any noise levels to the acceptable threshold. Staff assumed that nighttime construction would occur, and has provided Condition of Certification **NOISE-4** to address potential impacts.

Noise sources associated with the project include construction noise, stationary equipment and mobile sources (e.g., cars and trucks). Unmitigated noise from stationary sources, which present the greatest potential for noise impacts, would be as high as 109 dBA L_{eq} at the closest property line. However, the noise-generating equipment would be set back approximately 100 feet from the north property line, to allow for the construction and operation of the switchyard. The applicant has indicated that silencing would include conventional techniques that would reduce noise from stationary noise sources to 69.1 dBA L_{eq} at the project site property line. According to the noise analysis, this would translate to 65 dBA L_{eq} at the property line of the nearest residence. It is therefore not likely that the project would require additional noise attenuation.

The project is not expected to generate significant traffic, and will therefore not generate a significant increase in noise from mobile sources. See **Traffic and Transportation** for more information. Construction noise is addressed above. Maintaining appropriate noise levels would be assured by the implementation of the following standard Conditions of Approval.

NOISE-1 requires that the project owner monitor actual project noise contribution at the property line of nearest residence. If the project noise at that location exceeds 65 dBA L_{eq} , the project owner will be required to retrofit the project with mitigation measures that will reduce noise to this level. Such mitigation measures could include, but not be limited to, the addition of mufflers, and the addition of natural or man-made sound

barriers, such as berms or sound walls. **NOISE-2** requires that, prior to construction, the applicant notify all residents within one mile of the project site of the construction schedule. **NOISE-3** requires that the project owner document, investigate and mitigate all project-related noise impacts. Implementation of these Conditions of Certification would ensure that impacts associated with noise are less than significant. With regard to construction, **NOISE-4** requires that nighttime construction activities be permitted only if noise levels from construction are consistent with local noise ordinances by limiting construction activities to those that will not exceed the local standard (65 dBA at the property line for residential properties) between the hours of 8PM to sunrise.

Staff does not impose Conditions of Certification for Public Services. Since the intent to serve letter has been verified, none are required.

VISUAL RESOURCES

The project site is generally flat and is characterized by low-lying shrubs, grasses and Joshua trees. Similar land is adjacent on the west, north and east. Other area land uses are sparse, but include older and newer industrial buildings, scattered single family residences, and newer commercial buildings.

Project plans call for the development of a simple-cycle peaking facility, cooling towers, and associated facilities, including four 70-foot flue gas stacks. The plant, particularly the stacks, would be visible from all directions. The HI zoning that surrounds and includes the project site has a height limit of 70 feet. Future residential development would be buffered from the site by the less intensive commercial and light industrial land uses.

In addition, the applicant has indicated that site layout would include features that are designed to integrate it into the surrounding area. Design features would be consistent with the City's development standards for heavy industrial areas. Features include a 20-foot landscaped setback and masonry-screening wall along Avenue H and Division Streets. Trees and shrubs would be incorporated to provide additional screening. All landscaping would conform to Lancaster City Ordinance No. 629, which establishes approved plant lists, irrigation standards and water conservation requirements. The proposed landscaping would serve to soften the off-site views of the power plant.

The applicant did not submit a lighting plan. This is addressed by Standard Condition of Certification **VIS-2**, which requires that lighting be directed on-site to the extent possible, and that lighting be installed pursuant to the City's requirements and regulations.

The project is also subject to specific Conditions of Certification **VIS-1** and **VIS-3**, which require steps to ensure mitigation of potential visual impacts and the inclusion of a city-approved landscaping plan for the project. Implementation of these conditions would reduce aesthetic impacts to a less than significant level.

TRAFFIC AND TRANSPORTATION

Regional access to the site would be provided via Interstate 5 (I-5) to the Antelope Valley Freeway (State Route – SR – 14), which runs north-south and is located west of the project site. Direct access from SR 14 would be via Avenue H, which runs east-west to the project site at division street. An alternative would be the Sierra Highway, which provides both regional and local access. Sierra Highway runs north-south, and access to the site would also be provided via Avenue H. SR 14 has four lanes of separated traffic, while Sierra Highway has two northbound lanes and four southbound lanes. Avenue H has two to three lanes, while Division Street has two to four lanes. A level of service (LOS) analysis was conducted for Avenue H, Trevor Avenue, and Division Street. All segments and intersections tested were at LOS B or better (the LOS scale runs from A to F, where A represents free-flowing traffic and no congestion, to F which represents gridlock). SR 14 is congested during peak a.m. and p.m. hours, as many in the region travel to Los Angeles on a daily basis.

Operation of the facility would require a workforce of only five, which would be dispatched to the site during peak energy need. This is not likely to be during peak commute hours, because many electricity users would be in their vehicles. However, the additional trips would be so few that LOS would not be affected. Adequate parking would be provided on-site.

Construction of the power facility would require a maximum workforce of approximately 200 for a three-month period, which would translate to approximately 400 trips per day. Although this would result in additional traffic, the area roadways would be adequate to serve the workforce without a noticeable decline in LOS. In addition, the workforce would likely be travelling against the commute. Construction workforce parking would be provided on the four-acre laydown area. Therefore, there would be no impact to public parking in the area. Traffic impact during construction of the linear facilities would be minimal, because construction would take place outside the travel way. Traffic lanes would not be closed, except for a few street crossings while the pipeline is being laid. This is addressed in the applicant's Transportation Control Plan (TCP), which is summarized below.

Approximately five deliveries (or 10 trips) per day are expected during peak construction. Most equipment would be would use regional routes to Avenue H. The turbines would be shipped on rail, and placed on heavy-duty trucks for movement to the site.

The applicant has included a TCP as part of the application. Features of this TCP include: Traffic control measures; coordinating construction and delivery activities; scheduling traffic lane or road closures during off-peak hours; restricting truck and construction traffic to approved access roads, construction yards and construction sites; and, coordinating oversized load delivery with the railroad. The TCP would be implemented in accordance with the California Department of Transportation (Caltrans), County and City requirements. The applicant has also indicated that it would obtain all

applicable permits from Caltrans and other agencies, and would label all construction materials in accordance with applicable California Vehicle Codes.

Implementation of a TCP would reduce most construction traffic impacts to a less than significant level along area roadways. This would be reinforced by the implementation of Conditions of Certification **TRANS-1** and **TRANS-3**. Conditions of Certification **TRANS-2** and **TRANS-4** (which refer to encroachment and damage to public roadways) would also be required because development the project would require off-site improvements to linear facilities.

With implementation of the above conditions of certification the project's impact on traffic and transportation would be less than significant.

PUBLIC SERVICES

The City of Lancaster contracts with the County of Los Angeles Fire Department to provide fire protection and life safety services. Fire station No. 33 is within two miles and Fire Station No. 117 within the City of Lancaster is within four miles of the proposed project. In a letter dated May 4, 2001, Captain Mark Bennett indicated the ability of the department to provide services to the site. He estimates a five to eight minute response time. Emergency response would be provided by either by the County's hazardous materials unit in Valencia (approximately 45 minutes response time, if winds are blowing to the east or north, longer if winds are blowing to the southeast). The closest hazardous materials unit would be at Edwards Air force Base, which has an informal on-call arrangement with the County. This would provide a response time of 30 minutes if winds were to the south. Captain Bennett has indicated that the City of Lancaster intends to build a hazardous materials unit, which would be manned by the County. However, a construction schedule for the hazardous materials unit has not been established.

ENVIRONMENTAL JUSTICE

For all siting cases, including the emergency permitting process, Energy Commission staff follows the federal guidelines' two-step screening process. The process assesses:

- whether the potentially affected community includes minority and/or low-income populations; and
- whether the environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community.

Year 2000 Census data shows that 34 percent of the population living within the Census tracks in a six-mile radius of the proposed facility are minorities.

The only potential adverse effects of the project on this population would be air quality or public health impacts. Staff has determined that the impacts from this project, with

the implementation of staff's recommended conditions of certification, will not result in a significant adverse impact to the surrounding community. Because the project's impacts have been mitigated to an insignificant level, staff finds that there are no environmental justice issues associated with this project.

ENGINEERING

FACILITY DESIGN

The project will be designed and constructed in compliance with the California Building Code (CBC) and all other applicable engineering LORS (see Condition of Certification **GEN-1** below). Compliance will be assured by the Commission's delegate Chief Building Official (CBO), whose duties are prescribed under the CBC. These duties include the review of project designs by qualified engineers and the inspection of project construction by qualified inspectors. The CBO's performance, in turn, will be ensured through monitoring by the Commission's Compliance Project Manager.

TRANSMISSION SYSTEM ENGINEERING

The Energy Provider Lancaster Energy Facility #1 will connect to the Lancaster substation via a ring-bus switchyard connected to an existing 66 kV line adjacent to the project site. SCE is preparing the seven day interconnection study for this project but has not completed this analysis. If the study identifies potential transmission overloads resulting from the interconnection of this project, Energy Provider will be responsible for mitigating these impacts to the transmission system. Staff is concerned that, due to transmission constraints in the Lancaster area, the upgrades necessary may be significant.

Energy Provider, Inc. has requested a 10 day delay in the project schedule in order to obtain SCE's analysis of the impacts of the interconnection of the proposed facility to the transmission system. Staff will review SCE's study and provide an analysis of the potential impacts and its recommendations to the Commission prior to the Commission's decision. Until this analysis is complete, staff cannot recommend approval of this emergency project.

CONCLUSION

Southern California Edison is completing their analysis of the potential impacts of the interconnection of the proposed project with the transmission network. Until an analysis of impacts from this interconnection is complete, staff cannot recommend approval of this project. The Conditions of Certification proposed in this Staff Assessment will serve to protect the public interest and the environment in the areas evaluated by Energy Commission staff. After completion of the analysis of the transmission impacts from is completed, staff will determine whether additional conditions are needed to ensure that

the potential impacts of the interconnection of this project are mitigated and that the project can be interconnected before September 30, 2001.

At this time, staff cannot recommend approval of this project. When the evaluation of electric transmission impacts is completed, staff will reconsider whether to recommend approval of the project, and whether additional Conditions of Certification are necessary.

STAFF CHECKLIST

The following Emergency Permit Evaluation Checklist is designed to provide an easy-to-follow guide to the application and staff's analysis of project impacts. Included in the Checklist are the Application Requirements, a determination by staff of whether or not the material was provided, and the location of the information in the applicant's document. The checklist then shows staff's analysis of significant issues, any special conditions needed to resolve those issues, and any required comments or references.

**LANCASTER ENERGY FACILITY #1
EMERGENCY PERMIT EVALUATION CHECKLIST
CALIFORNIA ENERGY COMMISSION**

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
1 Project Description					
1.1 Project owner/operator (Name, title, address, phone)	Yes	Page 11			
1.2 Overview of power plant and linear facilities	Yes	Page 1			
1.3 Structure dimensions (size and height), plan and profile	Yes	Page 14			
1.4 Full size color photo of the site and rendering of proposed facility if available	Yes	Page 14; Attachment D			
1.5 Maximum foundation depth, cut and fill quantities	Yes	Section 1.5, page 14	Foundations will rest on a graded site using balanced cut and fill.		
1.6 Conformance with California Building Code	Yes	Section 1.6, page 14	All engineering design and construction work will be performed to the applicable LORS, including the California Building Code.		
1.7 Proposed operation (hours per year)	Yes	Page 14			
1.8 Expected on-line date	Yes	Page 14			
1.9 Proposed duration of operation (years)	Yes	Page 14			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
1.10 Identify transmission interconnection facilities	Yes	Page 14			
1.11 Transmission interconnection application	Yes	Attachment E			
1.12 "Down-stream" transmission facilities, if known	Yes	Page 15			
1.13 Fuel interconnection facilities	Yes	Page 15			
1.14 Fuel interconnection application	Yes	Attachment F			
1.15 Water requirements and treatment	Yes	Page 15			
1.16 Water interconnection facilities (supply/discharge)	Yes	Page 16			
1.17 Source and quality of water supply	Yes	Page 16			
1.18 Water supply agreement/ proof of water supply	Yes	Page 16 Appendix G			
2. Site Description					
2.1 Site address (street, city, county)	Yes	Page 17			
2.2 Assessor's parcel number	Yes	Pages 17-18			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
2.3 Names and addresses of all property owners within 500 feet of the project site or related facilities in both hard copy and electronic mail merge format.	Yes	Attachment H			
2.4 Existing site use	Yes	Page 17			
2.5 Existing site characteristics (paved, graded, etc.)	Yes	Page 17			
2.6 Layout of site (include plot plan)	Yes	Pages 10, 17			
2.7 Zoning and general plan designations of site and linear facilities	Yes	Page 19, Attachment I			
2.8 Ownership of site (Name, address, phone)	Yes	Page 19			
2.9 Status of site control	Yes	Page 19			
2.10 Equipment laydown area – size and location	Yes	Page 19			
3. Construction Description					
3.1 Construction schedule	Yes	Page 20			
3.2 Workforce requirements (peak, average)	Yes	Pages 20-21			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
4. Power Purchase Contract (DWR, ISO, other)					
4.1 Status of negotiations and expected signing date	Yes	Page 22			
5. Air Emissions					
5.1 Nearest monitoring station (location, distance)	Yes	Page 23			
5.2 Provide complete self certification air permit checklist	Yes	Page 23			
5.3 Provide complete air permit application	Yes	Page 23			
5.4 Status of air permit application with air district	Yes	Page 23			
5.5 Status of offsets and/or mitigation fees, as required	Yes	Page 23-24			
6. Noise					
6.1 Local noise requirements	Yes	Page 25			
6.2 Nearest sensitive receptor (type, distance)	Yes	Page 25			
6.3 Project noise level at nearest property line	Yes	Page 25, Attachment K			
6.4 Proposed mitigation if required	Yes	Pages 25-25, Attachment K			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
7 Hazardous Materials					
7.1 Type and volume of hazardous materials on-site	Yes	Page 27			
7.2 Storage facilities and containment	Yes	Page 27			
8 Biological resources					
8.1 Legally protected species* and their habitat on site, adjacent to site and along right of way for linear facilities (*threatened or endangered species on State or federal lists, State fully protected species)	Yes	Page 28 Appendix L	Special status species including the desert tortoise, Mojave ground squirrel, burrowing owl, and alkali Mariposa lily.	BIO-7	
8.2 Designated critical habitat on site or adjacent to site (wetlands, vernal pools, riparian habitat, preserves)	Yes	Page 28			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
8.3 Proposed mitigation as required	Yes	Page 28 Appendix L	Avoid impacts to special status species. Mitigate for direct and indirect impacts to special status species including off-site land compensation. If Mojave ground squirrel and/or desert tortoise are observed onsite, the applicant must obtain a federal and/or state incidental take permit to continue construction.	BIO-7	
9 Land Use					
9.1 Local land use restrictions (height, use, etc.)	Yes	Page 30			
9.2 Use of adjacent parcels (include map)	Yes	Page 30, Attachments I & M			
9.3 Ownership of adjacent parcels – site and linears	Yes	Attachment I			
9.4 Demographics of census tract where project is located (most current available)	Yes	Pages 30-32			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
10 Public Services					
10.1 Ability to serve letter from Fire District	Yes	Page 33, Attachment M			
10.2 Nearest fire station	Yes	Page 33			
11 Traffic and Transportation					
11.1 Level of Service (LOS) measurements on surrounding roads – a.m. and p.m. peaks	Yes	Page 34, Attachment O			
11.2 Traffic Control Plan for roads during construction period	Yes	Pages 34-35			
11.3 Traffic impact of linear facility construction	Yes	Pages 35-36			
11.4 Equipment transport route	Yes	Page 36			
11.5 Parking requirements – workforce and equipment	Yes	Page 36			
12 Soil and Water Resources					
12.1 Wastewater volume, quality, treatment	Yes	Page 37			
12.2 Status of permits for wastewater discharge or draft permit (WDR/NPDES)	Yes	Page 38		Soil & Water-5	The use of RO reject water will require a WDR or a waiver from the RWQCB

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
12.3 Draft Erosion Prevention and Sedimentation Control Plan or Mitigation Strategy	Yes	Pages 38-39			
12.4 Spill Prevention/Water Quality Protection Plans	Yes	Pages 39-40	The pipeline may cross Jurisdictional waters and 404/401 permits may be required	Soil & Water-6	
13 Cultural Resources					
13.1 Identification of known historic/prehistoric sites	Yes	Page 40			
13.2 Proposed mitigation if required	Yes	Page 40			
14 Paleontological Resources					
14.1 Identification of known paleontologic sites	Yes	Page 40			
14.-2 Proposed mitigation if required	Yes	Page 41 Appendix Q			
15 Visual resources					
15.1 Plan for landscaping and screening to meet local requirements	Yes	Page 42			

<u>Application Requirement</u>	<u>Y/N</u>	<u>Application pages</u>	<u>Significant Issues</u>	<u>Special Conditions</u>	<u>Comments</u>
15.2 Full size color photo of the site and rendering of proposed facility with any proposed visual mitigation if available	Yes	Attachment D			
16 Transmission System Engineering					
16.1 Conformance with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Code	Yes	Page 43			

LANCASTER ENERGY FACILITY #1 GENERAL CONDITIONS INCLUDING COMPLIANCE MONITORING AND CLOSURE PLAN

INTRODUCTION

General conditions (and the Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated and closed in accordance with applicable environmental and public health and safety laws, ordinances, regulations, and standards, and with conditions of certification as approved by the California Energy Commission (Energy Commission).

The Compliance Plan is comprised of general conditions and technical (environmental and engineering) conditions as follows:

General conditions that set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, and delegate agencies; the requirements for handling confidential information and maintaining the compliance record; procedures for settling disputes and making post-certification changes; administrative procedures to verify the compliance status; and requirements for facility closure plans.

Specific conditions for each technical area contain the measures required to mitigate potential adverse impacts associated with construction, operation and closure to an insignificant level. Specific conditions may also include a verification provision that describes the method of verifying that the condition has been satisfied.

DEFINITIONS

To ensure consistency, continuity and efficiency, the following terms, as defined, apply to all technical areas, including Conditions of Certification:

Site Mobilization

Moving trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is therefore not considered construction.

Ground Disturbance

Onsite activity that results in the removal of soil or vegetation, boring, trenching or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

Grading

Onsite activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving of soil from one area to another.

Construction

[From Public Resources Code section 25105.] Onsite work to install permanent equipment or structures for any facility. Construction does **not** include the following:

- a. The installation of environmental monitoring equipment.
- b. A soil or geological investigation.
- c. A topographical survey.
- d. Any other study or investigation to determine the environmental acceptability or feasibility
- e. of the use of the site for any particular facility.
- f. Any work to provide access to the site for any of the purposes specified in a, b, c, or d.

TERM OF CERTIFICATION

Certification is for three years, with an option to apply to the Energy Commission for recertification, unless the project owner has a valid power purchase agreement with the California Department of Water Resources in place by the start of operation. With such an agreement in place, the certification shall be for the term of the agreement, with the possibility of an extension.

To qualify for an extension, the project owner must verify at the end of the term of agreement that the project meets the following continuation criteria:

- the project is permanent, rather than temporary or mobile in nature;
- the project owner demonstrates site control;

- the project owner has secured permanent emission reduction credits (ERCs) to fully offset project emissions for its projected run hours prior to expiration of any temporary ERCs;
- the project is in current compliance with all Energy Commission permit conditions specified in the final decision;
- the project is in current compliance with all conditions contained in the Permit to Construct and Permit to Operate for the project; and
- the project continues to meet BACT requirements.

The project shall expire if these continuation criteria are not met. At least six months prior to the expiration of the power purchase agreement with the Department of Water Resources (DWR) the project owner shall provide verification that these conditions have been met.

In addition, the project owner shall submit a report after completion of the first three years in operation, as described below.

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

A CPM will oversee the compliance monitoring and shall be responsible for:

1. ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;
2. resolving complaints;
3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
4. documenting and tracking compliance filings; and
5. ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.

The Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Commission about power plant construction or operation-related questions, complaints or concerns.

Pre-Construction and Pre-Operation Compliance Meeting

The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken.

Energy Commission Record

The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

1. All documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
2. All complaints of noncompliance filed with the Energy Commission; and
3. All petitions for project modifications and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

Access

The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

Compliance Record

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all "as-built" drawings, all

documents submitted as verification for conditions, and all other project-related documents for the life of the project, unless a lesser period is specified by the conditions of certification.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files.

Compliance Reporting

The project owner shall submit status reports to the CPM every two weeks indicating its progress in meeting milestones for procuring necessary project components and all required approvals for construction and operation of the facility by September 30, 2001. The first of these reports will be due two weeks after certification of the project by the Energy Commission.

Start of Operations

The Lancaster Energy Facility #1 shall be on-line by not later than September 30, 2001. If Lancaster Energy Facility #1 is not operational by September 30, 2001, the Energy Commission will conduct a hearing to determine the cause of the delay and consider what sanctions, if any, are appropriate. If the Energy Commission finds that the project owner failed to proceed with due diligence to have the Lancaster Energy Facility #1 in operation by September 30, 2001, the Energy Commission will set a specific date by which the Lancaster Energy Facility #1 must be brought on-line as a condition precedent to continuing the certification.

Three-Year Review

No later than 15 days after completion of the first three years in operation, the project owner shall submit to the Energy Commission a report of operations that includes a review of the project's compliance with the terms and conditions of certification, the number of hours in operation, and the demand for power from the facility during the three year period.

Compliance Verifications

Conditions of certification may have appropriate means of "verification". The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified, as necessary by the CPM, without full Energy Commission approval.

Verification of compliance with the conditions of certification can be accomplished by:

- reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;

- appropriate letters from delegate agencies verifying compliance;
- Energy Commission staff audits of project records; and/or
- Energy Commission staff inspections of mitigation and/or other evidence of mitigation.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal.

All submittals shall be addressed as follows:

**Compliance Project Manager
California Energy Commission
1516 Ninth Street (MS-3000)
Sacramento, CA 95814**

Confidential Information

Any information, which the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

Reporting of Complaints, Notices, and Citations

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering, with date and time stamp recording. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

The project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM.

GENERAL CONDITIONS FOR FACILITY CLOSURE

In order to ensure that a planned facility closure does not create adverse impacts, plant closure must be consistent with all applicable laws, ordinances, regulations, standards (LORS), and local/regional plans in existence at the time of closure. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least three months prior to commencement of closure activities (or other period of time agreed to by the CPM).

DELEGATE AGENCIES

To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a condition of certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion, as necessary, in implementing the various codes and standards.

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Commission Decision. The specific action and amount of any fines the Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et. seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedures, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

INFORMAL DISPUTE RESOLUTION PROCEDURE

The following procedure is designed to informally resolve disputes concerning interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et. seq., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

Request for Informal Investigation

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven (7) working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within forty-eight (48) hours, followed by a written report filed within seven (7) days.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within fourteen (14) days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. Immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place and secure the attendance of appropriate Energy Commission staff and staff of any other agency with expertise in the subject area of concern as necessary;
2. Conduct such meeting in an informal and objective manner; and,
3. After the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached.

FORMAL DISPUTE RESOLUTION PROCEDURE-COMPLAINTS AND INVESTIGATIONS

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et. seq.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. In all cases, the petition or letter requesting a change should be submitted to the Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209. The criteria that determine which type of change process applies are explained below.

EXECUTIVE ORDER

Executive Order D-25-01 issued by the Governor of the State of California, which accelerates processing of certain project modifications, will be applied to all qualifying project modifications requested until December 31, 2001.

AMENDMENT

A proposed project modification will be processed as an amendment if it involves a change to a condition of certification, an ownership or operator change, or a potential significant environmental impact.

INSIGNIFICANT PROJECT CHANGE

The proposed modification will be processed as an insignificant project change if it does not require changing the language in a condition of certification, have a potential for significant environmental impact, and cause the project to violate laws, ordinances, regulations or standards.

VERIFICATION CHANGE

Changes to condition verifications require CPM approval and may require either a written or oral request by the project owner. The CPM will provide written authorization of verification changes.

TECHNICAL AREA CONDITIONS OF CERTIFICATION

AIR QUALITY

AQ-1 Prior to the commencement of project construction, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the project and related facilities.

Measures that should be addressed include the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the stabilization of storage piles and disturbed areas;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of posted speed limit signs;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads; and
- for any transportation of borrowed fill material, the use of covers on vehicles, wetting of the material, and insuring appropriate freeboard of material in the vehicles.

Verification: The project owner shall submit to the CPM a letter attesting to compliance with the above and shall report any violations to the CPM.

AQ-2 The project owner shall comply with the terms and conditions of the Authority to Construct and the Permit to Operate issued by Antelope Valley Air Pollution Control District.

Verification: In the event that the air district finds the project to be out of compliance with the terms and conditions of the Authority to Construct, the project owner shall notify the CPM of the violation, and the measures taken to return to compliance, within five (5) days.

AQ-3 The project owner shall operate the project in compliance with all Best Available Control Technology (BACT) standards imposed by the Air District in its Authority to Construct. Failure to meet these standards will result in a finding that the project owner is out of compliance with the certification.

BIOLOGICAL RESOURCES

BIO-1 The project permitted under this emergency process will avoid all impacts to legally protected species and their habitat on site, adjacent to the site and along the right of way for linear facilities.

Verification: *If presence of Mojave ground squirrel is presumed, or if this species is observed onsite* - Prior to ground disturbance activities, documentation will be provided to the Staff CPM to verify that funding for compensatory land purchase at a ratio of 1:1 has been secured to mitigate impacts to Mojave ground squirrel habitat. The applicant shall also request an incidental take permit from CDFG.

If desert tortoise is observed onsite - Prior to ground disturbance activities, documentation will be provided to the CPM to verifying that funding for compensatory land purchase at a ratio of 1:1 has been secured from the Desert Tortoise Committee to mitigate impacts to desert tortoise. The applicant shall also request an incidental take permit from USFWS and CDFG.

An onsite environmental monitor familiar with desert tortoise and Mojave ground squirrel will be present during all onsite activities. If desert tortoise or Mojave ground squirrel is observed, all onsite activities will cease, and the CPM and the appropriate resource agencies will immediately be notified. In this event, further activities would result in the need for the applicant to first obtain a federal and/or state take permit.

The applicant will provide the CPM and the resources agencies a mitigation and monitoring program that will include plans to incorporate exclusion fencing, pre-construction surveys for special status species and migratory nesting bird species, and a worker education program.

BIO-2 The project permitted under this emergency process will avoid all impacts to designated critical habitat (wetlands, vernal pools, riparian habitat, preserves) on site or adjacent to the site.

Verification: Prior to any construction-related activities, documentation will be provided to the CPM that either 1) demonstrates that no Streambed Alteration Agreement (SAA) is required by CDFG, or 2) shows that a SAA Application has been submitted and approved by CDFG.

BIO-3 The project permitted under this emergency process will avoid all impacts to locally designated sensitive species and protected areas.

Verification: Prior to ground disturbance, documentation will be provided to the CPM to verify that funding for compensatory land purchase has been set aside to mitigate impacts to alkali Mariposa lily.

Where feasible, the project will be designed to minimize direct impacts to known alkali Mariposa lily populations within and adjacent to the project area. Populations of alkali Mariposa lily that are not directly impacted by the project will be clearly flagged and monitored. An environmental monitor familiar with this species will be present during all onsite activities to document any additional impacts to these species.

Protocol-level and preconstruction surveys should be conducted for burrowing owls. If burrowing owls are detected during these surveys, the applicant should 1) notify the CPM, 2) notify CDFG, and 3) develop measures to avoid, minimize, or mitigate the project's impacts to these species. Depending on the circumstances, these measures may include: avoiding disturbances within 75 meters of an occupied burrows during the breeding season (February 1 – August 31), maintaining a 50 meter buffer from burrows during the non-breeding period ((September 1 – January 31), installing one-way exclusion doors during the non-breeding period; followed by destroying the burrows and replacing at a 2:1 ratio (minimum of 6.5 acres per owl pair), and selecting compensation lands in areas near the former burrow site.

BIO-4 The project permitted under this emergency process will reduce risk of large bird electrocution by electric transmission lines and any interconnection between structures, substations and transmission lines by using construction methods identified in "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996" (APLIC 1996).

BIO-5 The project biologist, a person knowledgeable of the local/regional biological resources, and CPM will have access to the site and linear rights-of-way at any time prior to and during construction and have the authority to halt construction in an area necessary to protect a sensitive biological resource at any time.

Verification: If the Designated Biologist halts construction, the action will be reported immediately to the CPM along with the recommended implementation actions to resolve the situation or decide that additional consultation is needed.

BIO-6 Upon decommissioning the site, the biological resource values will be reestablished at preconstruction levels or better.

Verification: Disturbed land surfaces (excluding those approved in the project design such as permanently paved or gravel roadways, paved facility, and other gravel areas) will be seeded with an approved native seed mixture.

CULTURAL RESOURCES

CUL-1 The project certified under this emergency process shall not cause any significant impact to cultural resources on the power plant site or linear rights of way. No significant cultural resources have been identified in the Area of Potential Effect (APE). No on-site cultural resource monitoring is required for this proposed site. In the event of an inadvertent cultural find the following conditions apply:

1. The presence of subsurface archaeological resources is always a possibility in areas where only surface inspection has taken place. In the unlikely event that sub-surface archaeological remains are discovered during ground disturbing activities (i.e., grading and/or excavation), work in the area must halt and a qualified Cultural Resource Specialist (CRS) will be contacted immediately to evaluate the significance of the find. The project manager, construction manager, and the Compliance Project Manager (CPM) will be notified if the resource is judged to be potentially significant, and the archaeologist may recommend further study.
2. In the event that suspected human remains are encountered, work must stop immediately within a radius of 100 feet (30 meters) of the discovery, and the Monterey County Coroner's Office will be notified within 24 hours of the find. If the skeletal remains are determined to be prehistoric, the Coroner's Office will contact the Native American Heritage Commission (NAHC) to identify the Most Likely Descendants (MLD). The MLD will be notified and will determine the most appropriate disposition of the remains and any associated artifacts.

CUL-2 Standard Condition is not applicable to this project.

FACILITY DESIGN

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC) and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval.

Verification: Within 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) after receipt of the Certificate of Occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 – Certificate of Occupancy.] The project owner shall keep copies of plan checks and CBO inspection approvals at the project site.

GEN-2 Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment.

Verification: At least 15 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with CPM approval.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine Generator Foundation and Connections	4
SCR Unit Structure, Foundation and Connections	4
Auxiliary Transformer Foundation and Connections	4
CT Inlet Air Plenum Structure, Foundation and Connections	4
SCR Unit Exhaust Stack, Foundation and Connections	4
SCR Unit Transition Duct from CTG — Structure	4
Admin/Control/Shop/Warehouse Building Structure, Foundation and Connections	1
CT Mechanical Accessory Compartment Foundation and Connections	4
Switchgear Equipment Building Structure, Foundation and Connections	1
Main Transformer Foundation and Connections	
Potable Water Systems	
Grading and Drainage Plan	
Building Energy Conservation Systems	
Temperature Control and Ventilation Systems	
HVAC and Refrigeration Systems	
Electrical and Plumbing Systems	
Ammonia Storage, Piping and Handling System Components, Foundations and Connections	
Field-Erected Storage Tanks, Foundations and Connections	
Natural Gas Pipeline	
Additional Occupied Buildings — Structure, Foundation and Connections	

GEOLOGICAL RESOURCES

GEO-1 The site is likely to experience strong seismic shaking in the event of an earthquake. To assure that the design allows for safe shutdown in the event of a strong earthquake, the project owner should have the design reviewed by a competent third-party engineering team. The review team should include a foundations engineer and a structural engineer, certified as Professional Engineers in California and familiar with the methods of seismic engineering.

Verification: The project owner shall submit the final design, and the review report, to the CPM for approval, at least two weeks prior to the start of construction activities. The review must include a statement about the adequacy of the design given expected seismic shaking conditions.

GEO-2 The site has the potential for experiencing liquefaction. The project owner should conduct a site-specific geotechnical investigation (which can be an additional task added to the standard foundations investigation) to assess the likelihood of such an event, and to identify suitable mitigation measures. The investigation must include a determination of the depth to the water table, and standard penetration testing at 5 foot intervals down to a depth of 50 feet in at least three boreholes. Guidance can be obtained from CDMG (1997) and SCEC (1999).

Verification: The project owner shall submit the geotechnical report to the CPM for approval, at least two weeks prior to the start of construction activities. The report must have a separate chapter addressing liquefaction susceptibility.

GEO-3 The site has the potential for experiencing non-seismic ground cracking. The project owner should conduct a site-specific geotechnical investigation (which can be an additional task added to the standard foundations investigation) to assess the likelihood of such an event, and to identify suitable mitigation measures. The investigation must include mapping of all arcuate features in the project area.

Verification: The project owner shall submit the geotechnical report to the CPM for approval, at least two weeks prior to the start of construction activities. The report must have a separate chapter addressing the likelihood of non-seismic ground cracking.

HAZARDOUS MATERIALS MANAGEMENT

HAZ-1 The project owner shall not use any hazardous material in reportable quantities except those identified by type and quantity in the Application for Certification unless approved by the CPM.

Verification: The project owner shall provide in the Annual Compliance Report a list of hazardous materials used at the facility in reportable quantities.

HAZ-2 The project owner shall submit both the Business Plan and Risk Management Plan to the CPM for review and comment, and shall also submit these plans and/or procedures to the County Fire Department for approval.

Verification: 30 days (or a CPM-approved alternative timeframe) prior to the initial delivery of any hazardous materials in reportable quantities to the facility, the project owner shall submit the Business and Risk Management Plan to the CPM for review and comment. At the same time, the project owner shall submit these plans to the County Fire Department for approval. The project owner shall also submit evidence to the CPM that the County Fire Department approved of these plans, when available.

LAND USE

LAND-1 The project permitted under this emergency process will conform to all applicable local, state and federal land use requirements, including general plan policies, zoning regulations, local development standards, easement requirements, encroachment permits, truck and vehicle circulation plan requirements, Federal Aviation Administration approval, and the Federal Emergency Management Agency National Flood Insurance Program.

Verification: Prior to start of construction, the project owner will submit to the CPM documentation verifying compliance with the above referenced land use requirements.

LAND-2 Prior to occupying any off-site lay-down or storage facilities the applicant shall provide detailed plans indicating the location of existing and proposed use of the sites to the CPM. Such sites shall be previously disturbed and shall not require any clearing or grading to accommodate the proposed use. To prevent possible impacts to sensitive resources the applicant shall coordinate with the CPM to determine if biological or cultural surveys are required. This submission shall include written landowner approval and must comply with all local land use requirements. If the proposed site is located within public rights-of-way appropriate traffic control plans and encroachments permits will be provided to the CPM.

Verification: Prior to the start of construction, the project owner will submit to the CPM documentation verifying compliance with the above referenced land use requirements.

NOISE

NOISE-1 The project permitted under this emergency process shall be required to comply with applicable community noise standards.

Verification: Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints. If the results from the survey indicate that the project noise levels at the closest sensitive receptor are in excess of 50 dBA between the hours of 10 PM and 7 AM, or 65 dBA during between 7 AM and 10 PM, additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

NOISE-2 Prior to the start of rough grading, the project owner shall notify all residents within one mile of the site of the start of construction and will provide a complaint resolution process.

Verification: The project owner shall provide the CPM with a statement, attesting that the above notification has been performed.

NOISE-3 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.

Verification: Within 30 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the County Environmental Health Department, and with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-4 Night construction activities may be authorized by the CPM if they are consistent with local noise ordinances. Night construction, or specific night construction activities may be disallowed by the CPM if it results in significant impact to the surrounding community.

Verification: Noise monitoring and surveys may be conducted if complaints are reported by residence in the surrounding area of the project site.

PALEONTOLOGICAL RESOURCES

PALEO-1 The standard condition is not applicable to this project.

PALEO-2 The project has been determined to have the potential to adversely affect significant paleontological resources and the project owner shall ensure the completion of the following actions/activities:

1. Provide a paleontological specialist who will have access to the site and linear rights-of-way at any time prior to and during ground disturbance.
2. The paleontological specialist will provide training to appropriate construction personnel at the site, will install avoidance measures (as necessary), and will be present during appropriate ground disturbing activities. The cultural specialist has the authority to halt construction at a location if a significant paleontological resource is found. If resources are discovered and the specialist is not present, the project owner will halt construction at that location and will contact the specialist immediately. The specialist will consult with the CPM and a decision will be made by the CPM within 24-hours as to how to proceed.
3. The project owner shall allow time for the paleontological specialist to protect significant resource finds, and pay all fees necessary to protect any significant resources.

Verification: Prior to the start of construction, the project owner shall submit the name and resume of the designated paleontological resources specialist to the CPM for review and approval. The proposed paleontological resources specialist should be familiar with California's Cenozoic mammal fossils. Throughout construction, the project owner shall inform the CPM concerning any substantive activity related to items 1 through 4 above.

SOIL & WATER RESOURCES

SOIL&WATER-1 Prior to ground disturbance, the project owner shall obtain CPM approval of a Storm Water Pollution Prevention Plan (SWPPP) as required under the General Storm Water Construction Activity Permit for the project.

Verification: Prior to ground disturbance, the project owner will submit a copy of the Storm Water Pollution Prevention Plan for the project to the CPM

SOIL&WATER-2 Prior to ground disturbance, the project owner shall obtain CPM approval of an Erosion Prevention and Sedimentation Control Plan.

Verification: The Erosion Control and Storm Water Management Plan for the project shall be submitted to the CPM prior to ground disturbance.

SOIL&WATER-3 Prior to site mobilization, the project owner shall submit to the CPM, a copy of a valid water service agreement for water supplies for the project from an authorized water purveyor, or a copy of a valid well permit for the project from the appropriate licensing agency.

Verification: The water service agreement or well permit shall be submitted to the CPM prior to site mobilization.

SOIL& WATER-4 Prior to operation, the project owner shall submit to the CPM a copy of a valid permit or agreement from the appropriate approving agency for wastewater discharge.

Verification: The permit or agreement for wastewater discharge shall be submitted to the CPM prior to operation.

SOIL& WATER-5 Prior to construction, the project owner shall submit to the CPM, a copy of the completed geo-technical report.

Verification: The geo-technical report for the project shall be submitted to the CPM prior to ground disturbance.

SOIL&WATER-6 During construction and plant operation the project owner will adhere to all applicable Federal, State and Local Laws, Ordinances, Regulations and Standards concerning stormwater management and discharge.

Verification: Prior to ground disturbance, the project owner will submit a copy of the Storm Water Pollution Prevention Plan for the project to the CPM.

SOIL& WATER-7 Prior to plant operations, the project owner shall submit to the CPM a copy of a Waste Discharge Requirements (WDR), a waiver from a WDR, or a conditional waiver from a WDR for the use of Reverse Osmosis reject water for landscape irrigation.

SOIL& WATER-8 Prior to ground disturbance, the project owner shall submit to the CPM documentation concerning whether areas under the Army

Corps of Engineers jurisdiction occur onsite. If jurisdictional areas occur onsite and could be impacted by the project, permits such as the 404/401 may be required.

Verification: The documentation on jurisdictional areas will be submitted to the CPM prior to ground disturbance. If jurisdictional areas are present, then the appropriate 404 permit and 401 application will be submitted to the CPM prior to ground disturbance.

TRAFFIC AND TRANSPORTATION

TRANS-1 The project permitted under this emergency process shall comply with Caltrans and City/County limitations on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: The project owner shall keep copies of any oversize and overweight transportation permits received at the project site.

TRANS-2 The project permitted under this emergency process shall comply with Caltrans and City/County limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: The project owner shall keep copies of any encroachment permits received at the project site.

TRANS-3 The project permitted under this emergency process shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.

Verification: The project owner shall keep copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances at the project site.

TRANS-4 Following completion of construction of the power plant and all related facilities, the project owner shall return all roadways to original or as near original condition as possible.

Verification: Prior to the start of construction, the project owner shall photograph, videotape, or digitally record images of the access roads to be used during the construction process, as directed by the CPM. Within 30 days after completion of project construction, the project owner shall meet with the CPM to determine the actions needed to return all roadways to original or as near original condition as possible.

TRANSMISSION SYSTEM ENGINEERING, SAFETY AND RELIABILITY

TSE-1 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to requirements listed below:

The power plant switchyard, outlet line and termination shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95, CPUC Rule 21, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", Title 8 CCR, Sections 2700-2974, CPUC Decision 93-11-013, Federal Communications Commission Part 15, Public Resources Code 4292-4296, and National Electric Code (NEC).

Verification: Within 15 days after cessation of construction the project owner shall provide a statement to the CPM from the registered engineer in responsible charge (signed and sealed) that the switchyard and transmission facilities conform to the above listed requirements.

TSE-2 The Applicant shall provide the following Notice to the California Independent System Operator (ISO) prior to synchronizing the facility with the California Transmission System:

1. At least one (1) week prior to first synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date of synchronization. This letter should also affirm that all the electrical facilities necessary to connect the new facility to the grid have been installed and successfully tested; and
2. At least one (1) business day prior to synchronize the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department, Monday through Friday, between the hours of 0700-1530 at (916) 351-2300.

Verification: The applicant shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one (1) week prior to initial synchronization with the grid. A report of conversation with the California ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.

VISUAL

VIS-1 Project structures treated during manufacture and all structures treated in the field, that are visible to the public, shall be painted in a neutral color consistent with the surrounding environment.

Verification: Prior to painting exposed services, the project owner shall identify the selected color for CPM approval.

VIS-2 The project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. Lighting must also be installed consistent with any local requirements.

Verification: The project owner shall inform the CPM of any complaints concerning lighting and when measures have been taken to correct the problem.

VIS-3 The project owner shall prepare and submit to the local planning department for review and comment, and to the CPM for review and approval a landscaping plan which provides for any or all of the following, as appropriate, to screen the project from view: berms, vegetation and trees, and slats in fencing.

Verification: Within 30 days of certification, the project owner shall submit the landscaping plan to the local planning department and the CPM.

WASTE

WASTE-1 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to producing any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site.

WASTE-2 The project owner shall have an environmental professional available for consultation during soil excavation and grading activities. The environmental professional shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil. The environmental professional shall meet the qualifications of such as defined by the American Society for Testing and Materials designation E 1527-97 Standard Practice for Phase I Environmental Site Assessments.

Verification: If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities, the environmental professional shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and make a recommended course of action. The environmental professional shall have the authority to suspend construction activity at that location. If, in the opinion of the environmental professional, remediation is to be required, the project owner shall

consult with the CPM and a decision will be made by the CPM within 24 hours as to how to proceed.

WORKER AND FIRE SAFETY

WORKER SAFETY-1 The project owner must comply with all requirements in Title 8 of the California Code of Regulations, beginning with Part 450 (8 CCR Part 450 et seq).

Verification: The project owner shall submit to the CPM a letter attesting to compliance with the above and shall report any violations to the CPM.

REFERENCES

- Alexanian, Sorin, Supervising Regional Planner, Los Angeles Regional Planning Department, Los Angeles, CA, personal communication, June 2001.
- Axelrod, D.I., 1939, A Miocene flora from the western border of the Mohave Desert: Carnegie Inst. Washington Pub. No. 516, p. 1-143.
- Bridger and Helfand. International Journal of Biometeorology. 1968. Mortality from heat during July 1966 in Illinois, 1968.
- California Department of Fish and Game. 2001. California Natural Diversity Database.
- California Energy Commission. 1999. High Temperatures and Electricity Demand. An Assessment of Supply Adequacy in California, July 1999.
- California Independent System Operator Letter to Arthur McAuley, RE: King City Peaker Project Transmission Interconnection Study, April 11, 2001.
- Campbell, K.W., 1981, A ground motion model for the central United States based on near-source acceleration data: in Beavers, J.E. (ed.), Earthquakes and Earthquake Engineering: The Eastern United States, Ann Arbor Science Publishers (Ann Arbor, Michigan), p.213-232.
- CDC (Center for Disease Control). 2000. Heat-Related Illness, Death, and Risk Factors Cincinnati and Dayton, Ohio, 1999, and United States, 1979-1997, June 02, 2000.
- CDMG, 1997, Guidelines for analyzing and mitigating liquefaction in California: Dept. Of Conservation, California Division of Mines and Geology, Special Publication 117, 74p.
- Cultural Resources Inventory and Site Evaluations for the Lancaster Energy Facility and Associated Gas Pipeline, Los Angeles and Kern Counties, California, Daniel Hart, Garcia and Associates, May 2001.
- Dibblee, T.W., Jr., 1991, Geologic map of the Lancaster quadrangle, Los Angeles County, California: U.S. Geological Survey Mineral Investigations, Field Studies Map MF-76, scale 1:62,500.
- Dibblee, T.W., Jr., 1991, Areal geology of the western Mojave Desert, California: U.S. Geological Survey Professional Paper 522, 153 p.

- Dickerson, Terri, California Department of Fish and Game. June 14, 2001. Letter From Ms. Terri Dickerson (CDFG) to Mr. Bob Eller (California Energy Commission), Dated June 14, 2001.
- Douglas Eiler & Associates, Preliminary Noise Impact Analysis, Lancaster Energy Facility #1, Encinitas, CA May 2001.
- Eaton, Brandon, Supervisor of Operations, Palmdale Airport, Palmdale, CA, personal communication, June 2001.
- Electricity Provider, Inc., Application for Certification Pursuant to the 21-Day Emergency Power Plant Permitting Process, Lancaster Energy Facility #1, Tustin, CA, May 2001.
- Fife, D.L., 1980, Giant desiccation polygons and playa fissures: in Fife, D.L., Brown, A.R. (eds.), *Geology and Mineral Wealth of the California Desert - Dibblee Volume: South Coast Geological Society* (Santa Ana, California), p.414-429.
- Garcia and Associates (GANDA). 2001. Biological Resource Inventory and Evaluation for the Lancaster Energy Facility and Associate Gas Pipeline, Los Angeles and Kern Counties, California. May 2001.
- GeoLogic Associates, 1994, Geology of the Lancaster Landfill expansion project, Los Angeles County, California: Consultant's report to Bryan A. Stirrat & Associates.
- Hatayama, Leigh, Assistant Airport Manager, Van Nuys Airport, Van Nuys, CA, personal communication, June 2001.
- Innes, Gordon, State Water Resources Control Board. June 14, 2001. Letter From Mr. Gordon Innes (SWRCB) to Mr. Bob Eller (California Energy Commission), Dated June 14, 2001.
- Joyner, W.B., Boore, D.M., Peak horizontal acceleration and velocity from strong-motion records including records from the 1979 Imperial Valley, California earthquake: *Bulletin of the Seismological Society of America*, v. 71, p.2011-2038.
- Kalkstein and Davis, 1989. *Weather and Human Mortality: An Evaluation of Demographic and Interregional Responses in the United States*, *Annals of Association of American Geographers*, 1989.
- Kalkstein et al. 1993 *Health and Climate Change-Direct Impacts in Cities*, *Lancet*, 1993.
- Kalkstein and Green, 1997. *An Evaluation of Climate/Mortality Relationships in Large U.S. Cities and Possible Impacts of Climate Change*. *Environmental Health Perspectives*. 1997.

- Kalkstein et al. 1998. Analysis of Differences in Hot-Weather-Related Mortality Across 44 U.S. Metropolitan Areas. Elsevier. 1998.
- Knott, J.R., 1992, Effects and mitigation of ground fissuring along State Highway 58, Hinkley Valley, San Bernardino County, California: Proceedings of the 35th Annual Meeting of the Association of Engineering Geologists, p.134-142.
- Merriam, J.C., 1919, Tertiary mammalian faunas of the Mohave Desert: Univ. California, Dept. Geol. Sci. Bull., v. 11, p. 437-585.
- Molinari, M.P., Grivetti, M.C., Roth, W.H., Moore, R.J., 1992, Earth fissures in Lancaster, California: Site geologic and geotechnical evaluation and recommendations for future studies in fissure areas: Proceeding of the 35th Annual Meeting of the Association of Engineering Geologists, Los Angeles, CA, October 2-9, p.151-165
- Neal, Robert, Senior Building Officer, City of Lancaster, CA, personal communication, June 2001.
- Ponti, D.J., 1985, The Quaternary alluvial sequence of Antelope Valley, California: in Weide, D.L., (ed.), Soils and Quaternary Geology of the Southwestern United States: Geological Society of America, Special Paper 203, p. 79-96.
- Ponti, D.J., Burke, D.B., Hedel, C.W., 1981, Map showing Quaternary geology of the central Antelope Valley and vicinity, California: U.S. Geological Survey Open-File Report 81-737, scale 1: 62,500
- SCEC, 1999, Recommended procedures for implementation of CDMG Special Publication 117 - Guidelines for analyzing and mitigating liquefaction in California: Southern California Earthquake Center, University of Southern California, 63p.
- Savage, D.E., Downs, T., 1954, Cenozoic land life of Southern California: in Jahns, R.H. (ed.), Geology of Southern California: California Division of Mines and Geology, Bulletin 170, Chapter III, p. 43-58.
- Semenza. New England Journal of Medicine. 1996. Risk Factors for heat-related mortality during the July 1995 heat wave in Chicago, 1996.
- Shickele, E. Military Surgeon. 1947. Environmental and Fatal Heat Stroke, 1947.
- Swift, C.A., 1991, Geological reconnaissance to determine the extent of ground fissures on the northwest portion of Lancaster: Geolabs-Westlake Village, consultant's report to the City of Lancaster, work order 7948, 17pp.

- Towner, Howard Frost. Professor of Biology, Loyola Marymount University. 2000. Southern California Natural History, Shadscale Scrub Community,
- Trout, Leigh, Senior Real Estate Officer, Palmdale Airport, Palmdale, CA, personal communication, June 2001.
- United States Congress, Office of Technology Assessment. 1990. Physical Vulnerability of Electric Systems to Natural Disasters and Sabotage, June 1990.
- Walker, George, United States Fish and Wildlife Service. June 8, 2001. Letter From Mr. George Walker (USFWS) to Mr. Robert L. Therkelsen (California Energy Commission), Dated June 14, 2001.
- Wallace, R.E., 1970, Earthquake recurrence intervals on the San Andreas fault: Geological Society of America Bulletin, v.81, p.2875-2890.
- Wilburn, Steve, President, Electricity Provider, Inc., Tustin, CA, personal communication, June 2001.
- Yerkes, R.F., 1985, Geologic and seismologic setting: in Evaluating Earthquake Hazards in the Los Angeles Region - An Earth-Science Perspective: U.S. Geological Survey Professional Paper 1360, p.25-41.

**LANCASTER ENERGY FACILITY #1
EMERGENCY PERMIT EVALUATION
PREPARATION TEAM
CALIFORNIA ENERGY COMMISSION**

Bob Eller.....Project Manager
Mary Dyas..... Project Assistant
Jeff Ogata Legal Counsel
Christopher Meyer.....Compliance Manager
Paul ShattuckCultural Resources
Horacio Ferriz.....Paleontologic Resources
Tom Scofield Biological Resources
Nick Kautzman.....Soils and Water
Tami Borton..... Land Use, Noise, Transportation, Visual
Rick TylerHazardous Materials Management
Steve BakerFacility Design
Mark HestersTransmission Engineering

APPENDIX A

PRELIMINARY DETERMINATION OF COMPLIANCE

**21-Day Emergency Project
Preliminary
Determination of Compliance**
(Preliminary New Source Review Document)

Lancaster Energy Facility #1
Electricity Provider, Inc.
Lancaster, California

**Charles L. Fryxell
Air Pollution Control Officer**

ANTELOPE VALLEY AIR POLLUTION CONTROL DISTRICT

June 19, 2001

TABLE OF CONTENTS

TABLE OF CONTENTS	I
LIST OF ABBREVIATIONS	III
1. INTRODUCTION	1
2. PROJECT LOCATION	1
SITE DESCRIPTION.....	1
3. DESCRIPTION OF PROJECT	1
OVERALL PROJECT EMISSIONS	2
5. CONTROL TECHNOLOGY EVALUATION	3
NO _x BACT.....	3
CO BACT.....	4
PM ₁₀ BACT.....	4
SO _x BACT.....	5
VOC AND TRACE ORGANIC BACT.....	5
6. CLASS I AREA VISIBILITY PROTECTION	5
7. AIR QUALITY IMPACT ANALYSIS	6
FINDINGS	6
INPUTS AND METHODS	6
8. HEALTH RISK ASSESSMENT	6
FINDINGS	6
INPUTS AND METHODS	7
9. OFFSET REQUIREMENTS	7
REQUIRED OFFSETS	7
IDENTIFIED EMISSION REDUCTION CREDITS	8
INTER-DISTRICT, INTER-BASIN AND INTER-POLLUTANT OFFSETTING.....	8
10. APPLICABLE REGULATIONS AND COMPLIANCE ANALYSIS	9
REGULATION II – PERMITS	9
REGULATION IV - PROHIBITIONS	9
REGULATION IX – STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES	9
REGULATION XIII – NEW SOURCE REVIEW.....	9
MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY STANDARDS	10
11. CONCLUSION	10
12. PERMIT CONDITIONS	11
TURBINE POWER TRAIN AUTHORITY TO CONSTRUCT CONDITIONS.....	11

SELECTIVE CATALYTIC NO_x REDUCTION AND OXIDATION CATALYST SYSTEM AUTHORITY TO
CONSTRUCT CONDITIONS 15
AQUEOUS AMMONIA AUTHORITY TO CONSTRUCT CONDITIONS..... 16

LIST OF ABBREVIATIONS

ATCM	Airborne Toxic Control Measure
AVAPCD	Antelope Valley Air Pollution Control District
BACT	Best Available Control Technology
CARB	California Air Resources Board
CEC	California Energy Commission
CO	Carbon Monoxide
CTG	Combustion Turbine Generator
HRA	Health Risk Assessment
LAER	Lowest Achievable Emission Rate
LEF1	Lancaster Energy Facility #1
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
O ₂	Molecular Oxygen
PM ₁₀	Fine Particulate, Respirable Fraction 10 microns in diameter
PSD	Prevention of Significant Deterioration
SCR	Selective Catalytic Reduction
SO ₂	Sulfur Dioxide
SO _x	Oxides of Sulfur
STG	Steam Turbine Generator
TOG	Total Organic Gases
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

1. INTRODUCTION

The Antelope Valley Air Pollution Control District (AVAPCD) received an Application for New Source Review for the Lancaster Energy Facility #1 (LEF1) from Electricity Provider, Inc. dated May 2001. This project is being permitted under the CEC 21-day emergency siting process. The AVAPCD received the appropriate application fees on June 11, 2001. This document represents the initial new source review document, or Preliminary Determination of Compliance (PDOC), for the proposed project.

As required by AVAPCD Rule 1306(E)(1)(a), this document will review the proposed project, evaluating worst-case or maximum air quality impacts, and establish control technology requirements and related air quality permit conditions. This document represents the preliminary pre-construction compliance review of the proposed project, to determine whether construction and operation of the proposed project will comply with all applicable AVAPCD rules and regulations. Note that because this project qualifies for the CEC 21-day emergency siting process, this document incorporates the final Authorities-to-Construct for the project, and will be circulated for the mandatory 30 day public review period.

2. PROJECT LOCATION

The LEF1 will be located on a site in the City of Lancaster, at 46025 Division Street at the intersection of Avenue H and Division Street.

SITE DESCRIPTION

The LEF1 site will include four combustion turbine power trains with selective catalytic reduction units and associated ammonia tanks.

3. DESCRIPTION OF PROJECT

The LEF1 proposes to construct an electrical generating facility employing natural gas fired simple-cycle gas combustion turbine trains. The LEF1 is intended to sell electricity to the regional power pool and other consumers. The project will produce approximately 240 MW with an expected availability of 95 percent. Construction is scheduled to commence in 2001, with commercial operation scheduled to commence in 2001.

The project will have four Frame 7B General Electric combustion turbine generators (CTGs). The CTGs will be exclusively fueled by pipeline-quality natural gas, without back-up liquid fuel firing capability. The CTG power blocks each include a turbine air compressor section, gas combustion system combustors, power turbine, and a 60-hertz generator. Inlet air will be initially conditioned through the injection of water. Ambient air is filtered and compressed in a multiple-stage axial flow

compressor. Compressed air and natural gas are mixed and combusted in the turbine combustion chamber. Lean pre-mix low NO_x combustors are used to minimize NO_x formation during combustion. Exhaust gas from the combustion chamber is expanded through a multi-stage power turbine which drives both the air compressor and the electric power generator.

As allowed by the emergency simple-cycle permitting process, the LEF1 will be permitted to operate without add-on control technology for up to 12 months. At that time, the CTGs will be exhausted through Selective Catalytic Reduction (SCR) and high temperature oxidation catalyst systems. Aqueous ammonia (for injection prior to the SCR bed) storage will be added to the site at this time.

OVERALL PROJECT EMISSIONS

The LEF1 will produce exhaust emissions during two basic performance modes: startup and operations mode. Turbine emissions estimates are based on manufacturer data.

MAXIMUM ANNUAL EMISSIONS

Table one presents maximum annual facility operational emissions. Maximum annual NO_x and CO emissions are calculated by assuming two hours per day in startup, and 8030 annual hours in operations mode. Maximum annual VOC, SO_x and PM₁₀ emissions are calculated by assuming 8760 hours of operation in operational mode (front and back half for PM₁₀).

<i>Table 1 – LEF1 Maximum Annual Operational Emissions</i>					
	NO_x	CO	VOC	SO_x	PM₁₀
Tons per year	118	100	32	8	84

MAXIMUM DAILY EMISSIONS

Table two presents maximum daily facility emissions calculated under worst case conditions. Maximum daily NO_x, VOC and CO emissions are calculated by assuming two hours in startup mode and 22 hours of operation per CTG. Maximum daily SO_x and PM₁₀ emissions are calculated by assuming 24 hours of operation in operation mode (PM₁₀ front and back half emissions are estimated).

<i>Table 2 – LEF1 Maximum Daily Operational Emissions</i>					
	NO_x	CO	VOC	SO_x	PM₁₀
Pounds per day	647	548	177	42	461

EQUIVALENT HOURLY EMISSION RATES

Table three presents maximum hourly emission rates for each turbine in operational mode.

<i>Table 3 - LEF1 Operational Mode Hourly Emission Rates (per turbine)</i>					
All values in pounds per hour					
	NO _x	CO	VOC	SO _x	PM ₁₀
GE Frame 7B Gas Turbine	6.62	5.65	1.84	0.44	4.8

5. CONTROL TECHNOLOGY EVALUATION

Best Available Control Technology (BACT) is required for any new facility that emits, or has the potential to emit, 25 pounds per day or more or 25 tons per year or more of any non-attainment pollutant or its precursors (AVAPCD Rule 1303(A)). The proposed project site is non-attainment for ozone and PM₁₀, and their precursors (NO_x, VOC, and SO_x). Based on the proposed project's maximum emissions as calculated in §4 above, each permit unit at the proposed LEF1 must be equipped with BACT/Lowest Achievable Emission Rate (LAER) for NO_x, VOC, PM₁₀ and SO_x, and BACT for CO. The project will trigger BACT for CO through PSD review; the District specifies CO BACT here to shorten the overall permitting process.

All concentration levels presented in the following BACT determinations are corrected to 15% oxygen, unless otherwise specified.

Ammonia is a by-product of the selective catalytic reduction process, as some ammonia does not react and remains in the exhaust stream. As ammonia is not a regulated criteria air pollutant, but is a hazardous and toxic compound, the District will address ammonia emissions as an element of the toxics and hazardous emissions analysis (§8).

BACT for this project has two levels by virtue of the project's status as a CEC 21-day emergency project. The project will be permitted to operate at 25 ppm NO_x for no more than 12 months, whereupon it will be limited to no more than 5 ppm NO_x.

NO_x BACT

NO_x is a precursor of ozone and PM₁₀, and both ozone and PM₁₀ are non-attainment pollutants at the proposed facility location. NO_x will be formed by the oxidation of atmospheric nitrogen during combustion within the gas turbine generating systems.

For an emergency peaking power plant, short-term BACT is defined as 25 ppmv NO_x. The applicant proposes to limit project emissions to no more than 25 ppmv NO_x through the use of water injection during the short term.

Long-term simple-cycle power plant BACT is defined as 5 ppmv NO_x by applicable CARB guidance. The applicant proposes to limit project emissions to no more than 2.5 ppmv NO_x over the long-term through the use of SCR.

The District therefore determines that a maximum NO_x concentration of 2.5 ppmvd averaged over one hour, with an ammonia slip of 5 ppmvd averaged over three hours, is acceptable as NO_x BACT for the LEF1 simple-cycle CTGs, achieved with low-NO_x burners and selective catalytic reduction in the presence of ammonia. Short term BACT is as allowed by the CEC program.

CO BACT

Carbon monoxide is formed as a result of incomplete combustion of fuel within the gas turbine generating systems. CO is an attainment pollutant at the proposed facility location.

For an emergency peaking power plant, short-term BACT is defined as 15 ppmv CO. The project will meet this limit.

Long-term simple cycle power plant BACT is defined as 6 ppmv CO by applicable CARB guidance. The applicant proposes to limit project emissions to no more than 3.5 ppmv CO over the long-term through the use of a high temperature oxidation catalyst.

The District therefore determines that a maximum CO concentration of 3.5 ppmvd averaged over twenty-four hours is acceptable as CO BACT for the LEF1 simple-cycle gas turbines, achieved with high temperature oxidation catalysts. Short term BACT is as allowed by the CEC program.

PM₁₀ BACT

PM₁₀ is a non-attainment pollutant at the proposed facility location. Particulate will be emitted by the gas turbine generating systems due to fuel sulfur, inert trace contaminants, mercaptans in the fuel, dust drawn in from the ambient air and particulate of carbon, metals worn from the equipment while in operation, and hydrocarbons resulting from incomplete combustion.

There have not been any add-on particulate control systems developed for gas turbines from the promulgation of the first New Source Performance Standard for Stationary Turbines (40 CFR 60 Subpart GG, commencing with §60.330) in 1979 to the present. The cost of installing such a device has been and continues to be prohibitive and performance standards for particulate control of stationary gas turbines have not been proposed or promulgated by EPA.

The most stringent particulate control method for gas turbines is the use of low ash fuels such as natural gas. No add-on control technologies are listed in the EPA BACT/LAER Clearinghouse. Combustion control and the use of low or zero ash fuel (such as natural gas) is the predominant control method listed for turbines with PM limits. CARB guidance suggests a requirement to burn natural gas with a fuel sulfur content not greater than 1 grain/100 scf is PM₁₀ BACT. The LEF1 proposes the sole use of pipeline quality natural gas as fuel as PM₁₀ BACT.

The District therefore determines that the sole use of natural gas fuel is acceptable as PM₁₀ BACT for the simple-cycle gas turbines.

SO_x BACT

SO_x is a precursor to PM₁₀, a non-attainment pollutant at the proposed facility location. SO_x is exclusively formed through the oxidation of sulfur present in the fuel.

The emission rate is a function of the efficiency of the source and the sulfur content of the fuel, since virtually all fuel sulfur is converted to SO_x. CARB guidance suggests that a requirement to burn natural gas with a fuel sulfur content not greater than 1 grain/100 scf is SO_x BACT. The LEF1 proposes the sole use of pipeline quality natural gas as fuel as PM₁₀ BACT. Pipeline quality natural gas regulated by the California Public Utilities Commission typically must meet one grain per 100 scf.

The District determines that the exclusive use of pipeline quality natural gas fuel is acceptable as SO_x BACT for the LEF1 simple-cycle gas turbines.

VOC AND TRACE ORGANIC BACT

VOC is a precursor for ozone and PM₁₀, which are non-attainment pollutants at the proposed facility location. VOCs and trace organics are emitted from natural gas-fired turbines as a result of incomplete combustion of fuel and trace organics contained in pipeline-quality natural gas.

The most stringent VOC control level for gas turbines has been achieved by those which employ catalytic oxidation for CO control. An oxidation catalyst designed to control CO would provide a side benefit of controlling VOC emissions. CARB guidance suggests that a 2 ppmvd averaged over three hours VOC emissions limit is VOC BACT. The LEF1 proposes the use of an oxidation catalyst as VOC BACT.

The District therefore determines that a maximum VOC concentration of 2 ppmvd averaged over three hours is acceptable as VOC and trace organic BACT for the LEF1 simple-cycle gas turbines, achieved with oxidation catalysts.

6. CLASS I AREA VISIBILITY PROTECTION

The LEF1 is not near any Class I areas and is not subject to a visibility analysis requirement.

7. AIR QUALITY IMPACT ANALYSIS

LEF1 performed the ambient air quality standard and Prevention of Significant Deterioration impact analyses for CO, PM₁₀, and NO₂ emissions. The AVAPCD approves of the analysis methods used in these impact analyses and the findings of these impact analyses.

FINDINGS

The impact analysis calculated a maximum LEF1 incremental increase for each pollutant for each applicable averaging period, as shown in Table Four below. When added to the maximum recent background concentration, the LEF1 did not exceed the most stringent (or lowest) standard for any pollutant.

Table 4 – LEF1 Worst Case Ambient Air Quality Impacts

Pollutant	Project Impact	Background	Total Impact	Federal Standard	State Standard
	<i>All values in ppm (PM₁₀ in $\mu\text{g}/\text{m}^3$)</i>				
CO (1 hour)	0.01	7.2	7.2	40	20
CO (8 hour)	0.002	5.4	5.4	9	9
PM ₁₀ (24 hour)	1.08	85	86.1	150	50
PM ₁₀ (annual)	0.22	25.6	25.8	50	30
NO ₂ (1 hour)	0.004	0.068	0.1	n/a	0.25
NO ₂ (annual)	0.0002	0.02	0.02	0.0534	n/a

INPUTS AND METHODS

Worst case emissions were used as inputs, meaning 100 percent full load or mixed full load and startup for averaging times longer than one hour, and uncontrolled startup conditions for one hour averaging times. Data from Lancaster was used as the meteorological inputs.

The USEPA Industrial Source Complex Short Term (ISCST3) dispersion model was used to estimate ambient concentrations resulting from LEF1 emissions.

8. HEALTH RISK ASSESSMENT

LEF1 performed a Health Risk Assessment (HRA) for carcinogenic, non-carcinogenic chronic, and non-carcinogenic acute toxic air contaminants. The AVAPCD approves of the HRA methods and findings.

FINDINGS

The HRA calculated a peak 70-year cancer risk of 0.2 per million. The calculated peak 70-year residential cancer risk is less than 1.0 per million (for all receptors).

The maximum non-cancer chronic and acute Hazard Indices are both less than the significance level of 1.0 (0.0015 and 0.03, respectively).

INPUTS AND METHODS

The LEF1 will emit toxic air contaminants as products of natural gas combustion, equipment wear, and ammonia slip from the SCR systems. Combustion emissions were estimated using emission factors from SCAQMD and USEPA, and the California Air Toxics Emission Factors (CATEF) database. Ammonia slip was assumed to be 5 ppm in the stack exhaust.

9. OFFSET REQUIREMENTS

AVAPCD Regulation XIII – *New Source Review* requires offsets for non-attainment pollutants and their precursors emitted by large, new sources. The LEF1 is proposed for a location that has been designated non-attainment by CARB for ozone and PM₁₀. AVAPCD Rule 1303(B)(1) specifies offset threshold amounts for non-attainment pollutants and for precursors of non-attainment pollutants: PM₁₀, NO_x (precursor of ozone and PM₁₀), SO_x (precursor of PM₁₀), and VOC (precursor of ozone and PM₁₀). A new facility which emits or has the potential to emit more than these offset thresholds must obtain offsets equal to the facility’s entire potential to emit. As Table Five shows, maximum LEF1 annual emissions exceed the offset thresholds for three of the four non-attainment pollutants and/or precursors. The table uses LEF1 maximum or worst-case annual emissions. The table also includes all applicable emissions, including the emissions increases from proposed new permit units (turbines), cargo carriers (none are proposed), fugitive emissions (none are proposed), and non-permitted equipment (none are proposed). For this analysis the AVAPCD assumes VOC is equivalent to ROC and SO₂ is equivalent to SO_x. Note that some fraction of sulfur compounds are included in both the SO_x and the PM₁₀ totals, as the PM₁₀ total includes front and back half particulate.

All emissions in tons per year				
	NO _x	VOC	SO _x	PM ₁₀
Offset Threshold	25	25	25	15
Maximum LEF1 Emissions	118	32	8	84

REQUIRED OFFSETS

AVAPCD Rule 1305 increases the amount of offsets required based on the location of the facility obtaining the offsets (on a pollutant category specific basis). As the LEF1 is located in two non-attainment areas, a federal ozone non-attainment area and a state PM₁₀ non-attainment area, the largest applicable offset ratio applies. Table Six calculates the offsets required for the LEF1.

Table 6 - Emission Offsets Required for the LEF1

All emissions in tons per year

	NO_x	VOC	PM₁₀
Maximum LEF1 Emissions	118	32	84
Offset Ratio	1.3	1.3	1.0
Required Offsets	153	42	84

IDENTIFIED EMISSION REDUCTION CREDITS

LEF1 has announced that they will obtain sufficient VOC credits within the SCAQMD and local PM₁₀ credits to offset the project.

INTER-DISTRICT, INTER-BASIN AND INTER-POLLUTANT OFFSETTING

LEF1 has proposed to use inter-district, inter-air basin and inter-pollutant ERC trading to make up for the limited amount of ozone precursor ERCs available within the AVAPCD. The use of inter-district, inter-air basin and inter-pollutant offsets is specifically allowed for by Rule 1305(B)(4) through (6) (in consultation with CARB and USEPA, and in the case of inter-pollutant offsets, with the approval of USEPA). Both the AVAPCD Governing Board and SCAQMD Governing Board will have to adopt resolutions approving these ERC transfers.

LEF1 is proposing to use VOCs from the South Coast Air Basin within the jurisdiction of SCAQMD to offset NO_x emissions. The District determines that this inter-district, inter-basin, and inter-pollutant trade is technically justified and will not cause or contribute to a violation of an ambient air quality standard. The District concludes that a VOC to NO_x ratio of 1.6:1 is acceptable for the VOC ERCs originating within the South Coast Air Basin for the LEF1 and is beneficial to both air districts. Table Seven summarizes the total offset requirements for the LEF1.

Table 7 – Total LEF1 Offset Requirements

All values in tons per year

	VOC	PM₁₀
Basic Offset Requirement	42	84
Local Offsets Identified	0	0
Inter-Pollutant Ratio (VOC for NO _x) and Inter-District Ratio	1.6	---
Required (Equivalent) VOC	246	---
Total Inter-District VOC Requirement	287	---

10. APPLICABLE REGULATIONS AND COMPLIANCE ANALYSIS

Selected AVAPCD Rules and Regulations will apply to the proposed project:

REGULATION II – PERMITS

Rule 221 – *Federal Operating Permit Requirements* requires certain facilities to obtain Federal Operating Permits. The proposed project will be required to submit an application for a federal operating permit within twelve months of the commencement of operations.

REGULATION IV - PROHIBITIONS

Rule 401 – *Visible Emissions* limits visible emissions opacity to less than 20 percent (or Ringelmann No. 1). During start up, visible emissions may exceed 20 percent opacity. However, emissions of this opacity are not expected to last three minutes or longer. In normal operating mode, visible emissions are not expected to exceed 20 percent opacity.

Rule 402 – *Nuisance* prohibits facility emissions that cause a public nuisance. The proposed turbine power train exhaust is not expected to generate a public nuisance due to the sole use of pipeline-quality natural gas as a fuel. In addition, due to the location of the proposed project, no nuisance complaints are expected.

Rule 431.1 – *Sulfur Content of Gaseous Fuels* limits sulfur content in gaseous, liquid and solid fuels. The sole use of pipeline-quality natural gas a fuel will keep the proposed project in compliance with Rule 431.1.

REGULATION IX – STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Regulation IX includes by reference the New Source Performance Standard (NSPS) for gas turbines (40 CFR 60 Subpart GG, §§60.330 through 60.334). Permit conditions for the proposed project will establish limits which are in compliance with the gas turbine NSPS referenced in Regulation IX.

REGULATION XIII – NEW SOURCE REVIEW

Rule 1300 – *General* ensures that Prevention of Significant Deterioration (PSD) requirements apply to all projects. The proposed project will submit an application to the USEPA for an NO₂ and CO PSD permit, complying with Rule 1300.

Rule 1302 – *Procedure* requires certification of compliance with the Federal Clean Air Act, applicable implementation plans, and all applicable AVAPCD rules and regulations. The ATC application package for the proposed project includes sufficient documentation to comply. Permit conditions for the proposed project will require compliance with Rule 1302(D)(5)(b)(iv).

Rule 1303 – *Requirements* requires BACT and offsets for selected large new sources. Permit conditions will limit the emissions from the proposed project to a level which has been defined as BACT for the proposed project, bringing the proposed project into compliance with Rule 1302(A). Prior to operation the proposed project shall have obtained sufficient offsets to comply with Rule 1303(B)(1).

Rule 1306 – *Electric Energy Generating Facilities* places additional administrative requirements on projects involving approval by the California Energy Commission (CEC). The proposed project is being processed under the CEC’s emergency 21-day siting process.

MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY STANDARDS

Health & Safety Code §39658(b)(1) states that when USEPA adopts a standard for a toxic air contaminant pursuant to §112 of the Federal Clean Air Act (42 USC §7412), such standard becomes the Airborne Toxic Control Measure (ATCM) for the toxic air contaminant. Once an ATCM has been adopted it becomes enforceable by the AVAPCD 120 days after adoption or implementation (Health & Safety Code §39666(d)). USEPA has not to date adopted a Maximum Achievable Control Technology (MACT) standard that is applicable to the proposed project. Should USEPA adopt an applicable MACT in the future, the AVAPCD will be required to enforce said MACT as an ATCM on the proposed project. MACT is also required for each major source of toxic air contaminants. LEF1 will not emit more than ten tons of any individual toxic air contaminant, and will not collectively emit more than 25 tons of all toxic air contaminants, so MACT is not required.

11. CONCLUSION

The AVAPCD has reviewed the proposed project’s Application for New Source Review and subsequent supplementary information. The AVAPCD has determined that the proposed project, after application of the permit conditions (including BACT requirements) given below, will comply with all applicable AVAPCD Rules and Regulations. This PDOC will be released for public comment and publicly noticed as soon as possible. Written comments will be accepted for thirty days from the date of publication of the public notice. A Final Determination of Compliance shall only be prepared if material comments are received requiring substantial changes.

Please forward any comments on this document to:

Charles L. Fryxell
Air Pollution Control Officer
Antelope Valley Air Pollution Control District
43301 Division Street, Suite 206
Lancaster, CA 93535-4649

12. PERMIT CONDITIONS

The following permit conditions will be placed on the Authorities to Construct for the project. Separate permits will be issued for each turbine power train. Separate permits will also be issued for each SCR/oxidation system and ammonia storage system. The electronic version of this document contains a set of conditions that are essentially identical for each of multiple pieces of equipment, differing only in District permit reference numbers. In light of the 21-day emergency permit issuance process, signed permits are being issued in conjunction with this PDOC.

TURBINE POWER TRAIN AUTHORITY TO CONSTRUCT CONDITIONS

[4 individual 727 MMBtu/hr Frame 7 Combustion Turbine Generators, Permit Numbers: B008160, B008161, B008162 and B008163]

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
2. This equipment shall be exclusively fueled with pipeline quality natural gas, and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.
3. This equipment is subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and GG (Standards of Performance for Stationary Gas Turbines). Compliance with all applicable provisions of these regulations is required.
4. Emissions from this equipment shall not exceed the following emission limits at any firing rate, except for CO and NO_x during periods of startup and malfunction:
 - a. Hourly rates, computed every 15 minutes, verified by CEMS and annual compliance tests:
 - i. NO_x as NO₂ – 6.62 lb/hr (based on 2.5 ppmvd corrected to 15% O₂ and averaged over one hour)
 - ii. CO – 5.65 lb/hr (based on 3.5 ppmvd corrected to 15% O₂ and averaged over 24 hours)
 - iii. Ammonia Slip – 5 ppmvd (corrected to 15% O₂ and averaged over three hours)
 - b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SO_x:
 - i. VOC as CH₄ – 1.84 lb/hr (based on 2 ppmvd corrected to 15% O₂)
 - ii. SO_x as SO₂ – 0.44 lb/hr
 - iii. PM₁₀ – 4.8 lb/hr
5. Emissions of CO and NO_x from this equipment shall only exceed the limits contained in Condition 4 during startups as follows:

- a. Startup shall be defined as the period beginning with ignition and lasting until the equipment has reached operating permit limits.
 - b. During a startup emissions shall not exceed the following, verified by CEMS:
 - i. NO_x – 8.04 lb/hr
 - ii. CO – 6.31 lb/hr
6. Emissions from this equipment, shall not exceed the following emission limits, based on a calendar day summary:
- a. NO_x – 162 lb/day, verified by CEMS
 - b. CO – 137 lb/day, verified by CEMS
 - c. VOC as CH₄ – 44 lb/day, verified by compliance tests and hours of operation in mode
 - d. SO_x as SO₂ – 10.5 lb/day, verified by fuel sulfur content and fuel use data
 - e. PM₁₀ – 115 lb/day, verified by compliance tests and hours of operation
7. The NO_x and CO emission limits given in conditions 4, 5, and 6 above shall not apply to this equipment for a period of no more than twelve (12) months beginning with the first firing of fuel in this equipment. During this interim period, emissions of NO_x and CO from this equipment shall not exceed the following concentration limits, verified by CEMS and compliance tests:
- a. NO_x – 25 ppmvd corrected to 15% oxygen and averaged over one hour
 - b. CO – 15 ppmvd corrected to 15 % oxygen and averaged over one hour
8. Emissions from this facility shall not exceed the following emission limits, based on a rolling 12 month summary:
- a. NO_x – 118 tons/year, verified by CEMS
 - b. CO – 100 tons/year, verified by CEMS
 - c. VOC as CH₄ – 32 tons/year, verified by compliance tests and hours of operation in mode
 - d. SO_x as SO₂ – 8 tons/year, verified by fuel sulfur content and fuel use data
 - e. PM₁₀ – 84 tons/year, verified by compliance tests and hours of operation
9. Particulate emissions from this equipment shall not exceed opacity equal to or greater than twenty percent (20%) for a period aggregating more than three (3) minutes in any one (1) hour, excluding uncombined water vapor.
10. The owner/operator (o/o) shall not operate this equipment without the SCR and oxidation catalyst system with valid District permit # installed and fully functional, except for an initial interim period of no more than twelve (12) months beginning with the first firing of fuel in this equipment.
11. Emissions of NO_x, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Turbine fuel consumption shall be monitored using a continuous monitoring system. Stack gas flow rate shall be monitored using a Continuous Emission Rate Monitoring System (CERMS). The operator shall install, calibrate, maintain, and operate these monitoring systems

according to a District-approved monitoring plan and Rule 218, and they shall be installed prior to initial equipment startup. One month prior to installation the operator shall submit a monitoring plan for District review and approval.

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.
13. The o/o shall perform the following annual compliance tests in accordance with the AVAPCD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:
 - a. NO_x as NO₂ in ppmvd at 15% O₂ and lb/hr (measured per USEPA Reference Methods 19 and 20).
 - b. VOC as CH₄ in ppmvd at 15% O₂ and lb/hr (measured per USEPA Reference Methods 25A and 18).
 - c. SO_x as SO₂ in ppmvd at 15% O₂ and lb/hr.
 - d. CO in ppmvd at 15% O₂ and lb/hr (measured per USEPA Reference Method 10).
 - e. PM₁₀ in mg/m³ at 15% O₂ and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).
 - f. Flue gas flow rate in scfmd.
 - g. Opacity (measured per USEPA reference Method 9).
 - h. Ammonia slip in ppmvd at 15% O₂.
14. The o/o shall, at least as often as once every five years (commencing with the initial compliance test), include the following supplemental source test in the annual compliance testing:
 - a. Characterization of startup VOC emissions.
15. Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B:
 - a. For NO_x, Performance Specification 2.
 - b. For O₂, Performance Specification 3.
 - c. For CO, Performance Specification 4.
 - d. For stack gas flow rate, Performance Specification 6.
 - e. For ammonia, a District approved procedure that is to be submitted by the o/o.
16. The o/o shall submit to the APCO and USEPA Region IX the following information for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a

summary of the reported information for the previous year. This information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request:

- a. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip.
 - b. Total plant operation time (hours), number of startups, and hours in startup.
 - c. Date and time of the beginning and end of each startup.
 - d. Average plant operation schedule (hours per day, days per week, weeks per year).
 - e. All continuous emissions data reduced and reported in accordance with the District-approved CEMS protocol.
 - f. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, VOC and SO_x (including calculation protocol).
 - g. Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by USEPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG).
 - h. A log of all excess emissions, including the information regarding malfunctions/breakdowns required by Rule 430.
 - i. Any permanent changes made in the plant process or production which would affect air pollutant emissions, and indicate when changes were made.
 - j. Any maintenance to any air pollutant control system (recorded on an as-performed basis).
17. The o/o must surrender to the District sufficient valid Emission Reduction Credits for this equipment before the firing of fuel in this equipment. In accordance with Regulation XIII the operator shall obtain 153 tons of NO_x, 42 tons of VOC, and 84 tons of PM₁₀ offsets (VOC ERCs from SCAQMD may be substituted for NO_x ERCs at a rate of 1.6:1).
18. During an initial SCR/catalyst commissioning period of no more than 120 days, commencing with the first firing of fuel in this equipment while venting through the SCR/catalyst system, NO_x, CO, VOC and ammonia concentration limits shall not apply. The o/o shall tune this equipment to minimize emissions of criteria pollutants at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers. The NO_x, CO, VOC and ammonia slip limits shall apply coincident with the steady state operation of the SCR/catalyst system.
19. This equipment shall exhaust through a stack at a minimum height of 70 feet. The o/o shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

20. Within 60 days after achieving the maximum firing rate at which the facility will be operated (and again after the SCR/oxidation catalyst system is installed), but not later than 180 days after initial startup (or initial startup exhausting through the SCR/oxidation catalyst system), the operator shall perform an initial compliance test. This test shall demonstrate that this equipment is capable of operation at 100% load in compliance with the emission limits in Condition 7 or Condition 4, as applicable.
21. The initial compliance test shall include tests for the following:
 - a. Certification of CEMS and CERMS at 100% load and startup modes;
 - b. Characterization of startup VOC emissions.

SELECTIVE CATALYTIC NO_x REDUCTION AND OXIDATION CATALYST SYSTEM AUTHORITY TO CONSTRUCT CONDITIONS

[4 individual systems, Permit Numbers: C008164, C008165, C008166, and C008167]

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
2. This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.
3. This equipment shall be operated concurrently with the combustion turbine generator with valid AVAPCD permit #. This equipment shall be installed not later than twelve (12) months after the first firing of fuel in its associated combustion turbine generator.
4. Ammonia shall be injected whenever the selective catalytic reduction system has reached or exceeded 840° Fahrenheit except for periods of equipment malfunction. Except during periods of startup, shutdown and malfunction, ammonia slip shall not exceed 5 ppmvd (corrected to 15% O₂), averaged over three hours.
5. Ammonia injection by this equipment in pounds per hour shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to AVAPCD personnel on request.

AQUEOUS AMMONIA AUTHORITY TO CONSTRUCT CONDITIONS

[4 individual Storage Tanks, Permit Numbers: T008168, T008169, T008170, and T008171]

1. This equipment shall be properly maintained and kept in good operating condition at all times.
2. The o/o shall monitor this tank for leaks and shall comply with Rule 430.