4.9 HAZARDS

Would the proposal involve:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) A risk of accidental explosion or release of hazardous substances (including but not limited to oil, pesticides, chemicals, or radiation)	☐	☐	☒	☐
b) Possible interference with an emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
c) The creation of any health hazard or potential health hazard?	☐	☐	☒	☐
d) Exposure of people to existing sources of potential health hazards?	☐	☐	☒	☐
e) Increased fire hazard in areas with flammable brush, grass, or trees?	☐	☐	☒	☐

SETTING

ENVIRONMENTAL FRAMEWORK

A regulatory framework exists to reduce routine hazards, reduce risks of upset (accidents), and enhance response in the event of an upset or cleanup. The regulatory framework affecting the handling of hazardous materials and hazardous waste includes the Resource Conservation and Recovery Act (RCRA); the California Hazardous Waste Control Law; the Comprehensive Environmental Response, Compensation and Liability Act; the Superfund Amendments and Reauthorization Act; the California Hazardous Substances Account Act; the Clean Water Act; the Oil Pollution Act; the Hazardous Materials Release Response Plans and Inventory Act; the Occupational Safety and Health Act; the Asbestos Hazard Emergency Response Act; and the Toxic Substances Control Act. These laws are intended to control potential environmental and workplace hazards in industry. They apply, and would continue to apply, to both the Encina and South Bay Power Plants and all of the combustion turbine (CT) sites.

LOCAL SETTING

A brief summary of conditions at each facility proposed for sale is given below. This information was obtained from existing reports, including Phase I and Phase II Environmental Site Assessment reports prepared by Fluor Daniel GTI for the two power plants and the CT sites.

Encina Power Plant

The Encina Power Plant is situated between Carlsbad Boulevard and the Pacific Ocean to the west, Interstate 5 to the east, and the Agua Hedionda Lagoon to the north. The Atchison Topeka & Santa Fe (AT&SF) railway line splits the site into west and east parts. The site is comprised of generating units, a switchyard, a CT, fuel oil aboveground storage tanks (ASTs) and associated fuel lines, a wastewater treatment plant (WWTP), an administration area, and ancillary storage and maintenance areas. A marine terminal for fuel oil off-loading is located approximately 3,500 feet offshore from the site, directly opposite the main entrance to the plant, in the Pacific Ocean. SDG&E will retain the switchyard property and facilities as well as a maintenance building and lot located just south of the power plant site; it intends to sell all other property and facilities mentioned above.

The generating units are housed in a concrete-clad structure. Five turbine units are arranged from north (Unit 1) to south (Unit 5). The boilers are now predominantly fired with natural gas. However, all units retain the ability to change to No. 6 fuel oil[1] at any time. A gas transmission main, extending along the AT&SF rail line, supplies the natural gas. Seven on-site ASTs, located in the northern portion of the site, store No. 6 fuel oil. The buildings on site also house 20 lubricating oil reservoirs and waste oil tanks.

Electricity generated at the power plant is transmitted via five transformers located inside the site. The transformers contain from 1,760 to 10,300 gallons of dielectric oil[2].

The CT unit is located to the northeast of the generation building and immediately north of the 138 kilovolt (kV) switchyard. The 20 megawatt (MW) unit is enclosed in a steel structure and is designed to operate in peak demand periods. The unit is primarily fired with natural gas, but can also operate on No. 2 diesel fuel oil[3]. Three on-site horizontal ASTs, located to the east of the CT, store No. 2 diesel fuel oil.

Fuel tankers, which moor at the offshore marine terminal, deliver No. 6 fuel oil to the plant. The terminal consists of a 225-foot flexible hose and a 20-inch submerged pipeline. The submerged pipeline comes onshore opposite the main entrance and extends underground due east to seven ASTs, located in the northern portion of the site.

The seven fuel oil ASTs are divided into the "West Tank Farm" and the "East Tank Farm" by the AT&SF rail line. The older West Tank Farm contains Fuel Oil Tanks 1-3, each with a capacity of 131,000 barrels (bbl). The East Tank Farm consists of Fuel Oil Tanks 4 and 5, each with a capacity of 250,000 bbl, and Fuel Oil Tanks 6 and 7, each with a capacity of 445,000 bbl.

All ASTs are surrounded by secondary containment berms that have a capacity of 110 percent of tank volume. Fuel oil is transferred from the tank farms to the generating units by two separate

1 No. 6 fuel oil is also known as "residual fuel oil." This is a thick, viscous fuel that must be heated to transport or burn.
2 Dielectric oil is an insulating fluid that is a non-conductor of electrical current.
3 No. 2 diesel fuel oil is a medium, fluid fuel that flows easily and burns relatively cleanly.

aboveground lines. The delivery lines were originally installed underground, but were replaced by aboveground pipework in April of 1978.

No. 2 diesel fuel oil is the other fuel stored at the site. No. 2 diesel is delivered to the plant by road tanker directly to four ASTs located on the east side of the power plant. One vertical AST used to store cutter oil and three horizontal ASTs are located south of the West Tank Farm. The cutter oil AST has a capacity of 8,900 bbl. No. 2 diesel, referred to as "displacement" or "cutter oil," is used to displace residual fuel oil from the pipeline after the fuel oil has been transferred. The three horizontal ASTs have a capacity of 20,000 gallons each and are used to store fuel for the CT. No. 2 diesel is transferred to the CT via a pump and underground lines.

The wastewater treatment system is physically divided into two areas: the wastewater holding tank area located to the south of the Agua Hedionda Lagoon and the WWTP located to the east of the ASTs. The "holding tank" area occupies approximately one acre and is used to store wastewater before and after treatment. Both the WWTP and storage areas have secondary containment.

SDG&E manages various hazardous materials at the plant, including petroleum fuels and water treatment chemicals. The plant has a current Emergency Response Plan and an Employee Hazardous Materials Training Program in force. SDG&E manages its hazardous waste as an RCRA large-quantity generator, with storage not occurring beyond the 90-day storage time. Hazardous wastes are transported to off-site facilities for recycling, treatment, and/or disposal. The plant is a large-quantity generator of hazardous wastes under Environmental Protection Agency (EPA) ID# CAT000619056. Hazardous waste generation and its disposal or treatment at the plant are summarized as follows:

- The primary wastes generated at the plant over the past five years include abrasive blast grit with paints; asbestos; boiler fireside debris; chromate water; lubricating oil; oil-contaminated soils, solids, and water; polychlorinated biphenyl (PCB)-containing oils; sump sludge; turbine oil; and wastewater treatment filter cake. The presence and use of these products are considered normal for the operations of this type of facility.

- The plant primarily utilizes Chemical Waste Management (Kettlemen Hills, CA), Crosby and Overton (Long Beach, CA), Ensco West (Los Angeles, CA), Laidlaw Environmental Systems (Westmoreland, CA), Safety Kleen Corporation, and TPS to recycle, treat, and/or dispose of hazardous wastes from Encina Power Plant at the present time (Fluor Daniel GTI, 1998a).

According to the Phase I Environmental Site Assessment by Fluor Daniel GTI (1998a), the plant was identified as having the potential for surface or subsurface contamination from petroleum hydrocarbons, metals, and PCBs. Fluor Daniel investigated potential environmental conditions during a Phase II Environmental Site Assessment (Fluor Daniel GTI, 1998b). The findings of the Phase II study and applicable previous analytical data were combined in a data set representing baseline environmental conditions, which were compared to regulatory screening levels, and were incorporated in a Baseline Health Risk Assessment (BHRA) (Fluor Daniel, 1998b). The purpose and objectives of the BHRA were to:

- present the current understanding of the environmental conditions at the site through the use of a conceptual site model;
- determine the estimated human health risks that may be posed by the chemical concentrations detected at the site, if no remedial action is implemented; and
- describe the methodology for developing site-specific cleanup levels if the results of the risk assessment should indicate that remediation may be required.

The risk assessment is based on the baseline conditions of the site and on the current and projected industrial use of the site. This risk assessment incorporates available site-specific parameters to minimize the extent of uncertainties in the risk assessment. The BHRA demonstrated that the chemical levels detected in the soils and groundwater at the site do not pose unacceptable levels of risk to human health or the environment. Therefore, there are no chemicals of concern that warrant risk-based remediation.

Because the contamination does not pose unacceptable levels of risk to human health or the environment, state or federal regulations would not require remediation. However, the Regional Water Quality Control Board (RWQCB) and the County Department of Environmental Health have authority to require remediation based on site-specific conditions of contaminant levels, potential to cause harm, and violation of Basin Plan water quality objectives.

Soil sample analysis identified five recognized environmental conditions and one potential environmental condition remaining at the plant after the Phase II investigations. All five recognized environmental conditions are associated with total extractable hydrocarbons (TEH) in excess of 1,000 milligrams per kilogram (mg/kg) at locations of past fuel oil or diesel releases. These conditions are evident at the five areas within the plant site described below. For each contamination site, Fluor Daniel GTI recommended evaluating methods of remediating TEH (Fluor Daniel, 1998b).

- Fuel Oil Tank #7 – TEH in two areas, near soil borings EB1-018 and EB1-041, to a depth of less than 5 feet, within the tank containment area.
- Fuel Oil Tank #1 – TEH in the area associated with disposal of Bunker C oil after the 1954 release. This area is associated with soil boring EB1-064. The area is within the tank containment area and under the northern berm wall to a depth of less than 5 feet.
- Area associated with fuel pipelines east of the wastewater ASTs – TEH in soil partially under the pipelines near soil boring EB2-004. This area is potentially related to past releases and is less than 5 feet deep.
- Former Prout's Pond – TEH in an area on the north end of the former Prout's Pond near soil boring EB2-018 to a depth of less than 5 feet.
- Former Diesel Underground Storage Tank (UST) Pit – TEH in a soil sample from soil boring EB4-034 at a depth of 15 to 15.5 feet.

Although no cleanup orders have been issued by the County or the RWQCB, these agencies may require remedial actions in the future at these locations.

Several locations at the site could not be assessed because samples could not be collected from beneath existing structures. These inaccessible areas are under tanks, piping, the generation building, and other buildings and remain as potential environmental conditions that should be addressed at decommissioning.

South Bay Power Plant

The site is comprised of generation units, a CT, switchyards, aboveground storage tanks (ASTs) for fuel oil and for ammonia, a wastewater treatment plant, a cooling water system, and ancillary systems. The power plant has four steam turbine-driven generating units fired by natural gas or No. 6 fuel oil. Natural gas is the primary fuel, though the power plant retains the ability to revert to fuel oil at any time. Prior to 1972, the power plant was fired with Bunker C fuel oil.[4] Under its original application, SDG&E stated its intention to retain a former liquefied natural gas (LNG) storage site on the plant's southern border and a transmission corridor to the north, as well as its transmission facilities; it would sell all other South Bay properties and facilities. If, however, the San Diego Unified Port District were to purchase the South Bay plant, the Port District would also take title to the LNG facility and the transmission corridor. In either case, SDG&E would obtain an easement for maintenance and operation of its transmission facilities.

Ten main and auxiliary transformers for the generating units are located immediately northeast of the generation building. The main and auxiliary transformers contain from 1,390 gallons to 11,300 gallons of dielectric oil. Five lubricating oil storage tanks are located on the site, containing a total of 25,000 gallons of lubricating oil. In addition, each unit has a turbine oil conditioner tank with capacities up to 1,000 gallons. Two areas for fuel storage, located on the northern and southern portions of the site, contain ASTs for fuel oil and diesel displacement oil.

A 22-MW CT unit is located approximately 250 feet north-northwest of the main power plant building on the site. The CT is enclosed in an integral steel structure, with all associated equipment located within a fenced enclosure. The CT is fueled with Jet-A fuel,[5] stored in a 100,000-gallon AST, located a short distance northwest of the CT unit. The CT also has a built-in 1,070-gallon lubricating oil storage tank. Other materials that are used at the CT are Mobile Jet II synthetic oil (lubrication oil) and sulfuric acid batteries.

The wastewater treatment plant (WWTP) is located on the southeast portion of the site and consists of six wastewater holding tanks ranging from 56,000 to 357,000 gallons. The treatment plant treats wastewater prior to discharge to the cooling water outfall or the city sewer system.

SDG&E manages various hazardous materials at the plant. These materials include petroleum fuels, ammonia, and water treatment chemicals. SDG&E has a current Emergency Response Plan and an Employee Hazardous Materials Training Program in force. SDG&E manages its hazardous waste as a RCRA large-quantity generator, with storage not occurring beyond the 90-day storage time. Hazardous wastes are transported to off-site facilities for recycling, treatment,

4 Bunker C fuel oil is a heavy, viscous fuel that must be heated to transport or burn.
5 Jet-A fuel is a light, fluid, aviation-grade kerosene. It is less volatile than gasoline.

and/or disposal. The plant is a large-quantity generator of hazardous wastes under EPA ID #CAT000619056. Hazardous waste generation and its disposal or treatment at the plant is summarized as follows:

- The primary wastes generated over the past five years include abrasive sandblast with paint, asbestos, boiler fireside debris, lubricating oil, oil-contaminated soils and water, PCB-containing oils, sump sludge, turbine oil, and wastewater treatment filter cake. The presence and use of these products are considered normal for the operation of this type of facility.

- The plant primarily utilizes Chemical Waste Management (Kettlemen Hills, CA), Crosby and Overton (Long Beach, CA), Ensco West (Los Angeles, CA), Laidlaw Environmental Systems (Westmoreland, CA), Safety Kleen Corporation, and TPS to recycle, treat, and/or dispose of hazardous wastes from the site (Fluor Daniel GTI, 1998c).

According to the Phase I Environmental Site Assessment prepared by Fluor Daniel GTI, the plant was identified as having the potential for surface or subsurface contamination from petroleum hydrocarbons, metals, and PCBs. Fluor Daniel GTI investigated these potential environmental conditions during the Phase II Environmental Site Assessment (Fluor Daniel GTI, 1998d).

A BHRA conducted for the plant demonstrated that the chemical levels detected in the soils and groundwater at the site do not pose unacceptable levels of risk to human health or the environment (Fluor Daniel, 1998d). Therefore, there are no chemicals of concern that warrant risk-based remediation.

Because the contamination does not pose unacceptable levels of risk to human health or the environment, state or federal regulations would not require remediation. However, the RWQCB and the County Department of Environmental Health have authority to require remediation based on site-specific conditions of contaminant levels, potential to cause harm, and violation of Basin Plan water quality objectives. The Phase II investigation, regulatory evaluation, and BHRA identified six recognized environmental conditions associated with site operations that have impacted soil or groundwater. These conditions are evident at the five areas within the plant site described below.

- Jet Fuel Tank Area – Free-phase fuel hydrocarbons in groundwater and soil contaminated with hydrocarbons were identified. Fluor Daniel GTI indicated that free-phase hydrocarbons may require remediation.

- First Generation Surface Impoundments – These surface impoundments are located northwest of the main building. Metal and hydrocarbon contamination in soil was identified in the First Generation Surface Impoundment area. Fate and transport modeling indicates potential groundwater contamination from metals. Fluor Daniel GTI recommended evaluating the remediation of metals and hydrocarbons.

- Underground Storage Tank Area – The UST area is located east of the South Tank Farm. The benzene concentration in groundwater in a monitoring well near the USTs exceeded San Diego Regional Water Quality Control Board Basin Water Quality Control Plan (Basin Plan) criteria. Fluor Daniel GTI recommended the remediation of benzene in groundwater.

- TCE and DCE in groundwater – A plume of dissolved trichloroethene (TCE), and 1,1-dichloroethene (DCE), was identified in the eastern part of the plant at levels exceeding the Basin Plan groundwater action levels. Fluor Daniel GTI recommended identifying the source of the TCE contamination and evaluating methods for remediation of TCE and DCE in groundwater.

- East Loop – A fuel release affected soils in an area south of the plant known as the "East Loop." Soils were excavated and remediated, but subsequent borings identified localized remaining hydrocarbon concentrations exceeding 1,000 mg/kg total extractable hydrocarbons (TEH). Fluor Daniel GTI recommended evaluating methods for remediation of TEH concentrations greater than 1,000 mg/kg.

Although no cleanup orders have been issued by the County or the RWQCB, these agencies may require remedial actions in the future at these locations.

Several locations at the site could not be assessed because samples could not be collected from beneath existing structures. These inaccessible areas, which are under tanks, piping, the power plant, and building, remain as potential environmental conditions that should be addressed at decommissioning.

Subsequent to filing its application for divestiture, SDG&E reached an agreement with the Port District to potentially sell or donate virtually all the South Bay facilities and property, except the transmission facilities, to the Port. Included in that agreement are two additional parcels that were not part of SDG&E's original divestiture application: a former LNG storage facility site (33 acres) located just to the south of the power plant, and a 16-acre transmission line corridor extending north of the power plant between J and F Streets. No Environmental Site Assessments to determine the presence or absence of hazardous materials have been conducted for these sites. However, as part of and prior to the divestiture or donation of the South Bay properties, a Phase I and, if necessary, a Phase II Environmental Site Assessment would be conducted. If the assessments reveal that hazardous materials are present on the parcels, SDG&E would be responsible under its sales agreement for remediating the parcels to industrial standards contamination levels associated with SDG&E's operation of the facilities.

Combustion Turbine Sites

Division Substation CT

The Division Substation CT site is comprised of a CT and integral generator, fuel oil pumps and associated secondary containment for fuel supply to the CT, an aboveground reverse osmosis (RO) system and water storage tank, a 750,000-gallon No. 2 diesel fuel oil AST, a small 12.5-kV auxiliary transformer, an air compressor building, a "black start" compressed bottle rack, a small maintenance storage shed, and a portable lavatory. The CT can operate on natural gas or diesel fuel oil. There are no current USTs or underground or below-grade sumps at the Division CT site. Three No. 2 diesel fuel oil USTs were removed from the northwest quadrant of the site in 1986, at which time no subsurface contamination was found.

Miramar Yard CTs

The Miramar Yard CT site includes two dual-fuel GE Frame 5 CTs and integral generators within a manufacturer-supplied steel enclosure. Each CT has a secondary containment berm made from 3-inch-high stainless steel angle iron entirely surrounding the equipment. Both CTs were installed in 1972. Two former below-grade vaults were utilized to contain infrequent "false start" overflows of No. 2 diesel fuel oil, lubricating oil, and cooling water. An abandonment application was submitted in 1986, and the sump was filled with concrete and all connections with the CT disconnected and sealed. Two small 12.5-kV auxiliary power transformers are not supplied with secondary containment.

This site also has an RO water system, a 40,000-gallon RO water AST, a carbon dioxide (CO_2) building, a 250,000-gallon No. 2 diesel fuel oil AST, its associated secondary containment, a fuel truck unloading area with secondary containment, and a fuel oil turbine supply pump skid with secondary containment. The RO water system is similar to the systems at the other sites, and the area is fenced and asphalt paved. The RO water AST is just north of the asphalted area and rests on a concrete pad in a gravel area. The CT can operate on natural gas or diesel fuel oil. No current or past USTs or below-grade sumps are associated with this site.

Kearny Construction and Operation Center CTs

The portion of the site where Kearny CT 1 is located is comprised of a dual-fuel GE CT and integral generator, three 20,000-gallon No. 2 diesel fuel oil horizontal ASTs with secondary containment, a fuel oil pump skid with secondary containment, a fuel oil unloading area with secondary containment, aboveground and below-grade fuel oil piping, underground natural gas fuel supply piping, an auxiliary transformer, an operations and maintenance center trailer and self-contained restroom building, a 20,000-gallon RO water system and UST, a battery storage building (cabinet), a CO_2 building, a maintenance shed, and outside flammable materials storage cabinets. The CT can operate on natural gas or diesel fuel oil. Other than the RO water UST, no known current or historical USTs are located on the site. A below-grade concrete vault was originally present to collect "false start" overflows of fuel oil, lubricating oil, and cooling water from the CT during infrequent, unsuccessful attempts to fire the CT on fuel oil. An abandonment application was submitted in 1986; the sump was filled with concrete and all connections with the CT were disconnected and sealed.

The portion of the site that includes Kearny CTs 2 and 3 contains eight dual-fuel GE CTs and integral generators along a north-south line, divided into two groups for identification purposes. Kearny CTs 2A, 2B, 2C, and 2D, lettered north to south, are located on the north end of the line. Kearny CTs 3A through 3D, lettered north to south, are on the south end of the line. Each turbine-generator was installed in 1969. The site contains the following ASTs: (1) two No. 2 diesel fuel oil ASTs and associated secondary containment areas; (2) one internal floating-roof tank on a concrete pad, with a capacity of 1,000,000 gallons, located on the west-northwest portion of the site; and (3) one double-bottom, floating-roof tank on a concrete pad, with a capacity of 6,000,000 gallons, situated on the south portion of the site. The CTs can operate on natural gas or diesel fuel oil.

The containment area for the 1,000,000-gallon tank includes a hazardous waste storage area with secondary containment, located in the northeast section of the tank containment area. Access is over a ramp in the berm, just north of the storage area. The containment area for the 6,000,000-gallon AST also contains a 40,000-gallon RO water AST on a concrete pad and an RO system and RO water pump skids in the northwest corner.

No USTs are currently, or have been previously, located on the site. Except for a stormwater collection basin with a submersed pump, no below-grade sumps are located on the site. A fuel oil pump relief valve sump, in the pump containment area for the 6,000,000-gallon tank, has been filled in with concrete.

El Cajon Substation CT

The El Cajon Substation CT site consists of one dual-fuel GE Frame 5 CT that has secondary containment identical to the CTs at the other CT sites, three horizontal 20,000-gallon No. 2 diesel fuel oil ASTs with associated secondary containment, and a fuel truck unloading area with secondary containment. The AST secondary containment consists of concrete walls with a soil bottom underlain by a clay liner. The truck unloading area consists of a concrete area of the road where the truck parks, surrounded by a smoothed curb negotiable by the trucks. Truck unloading pumps are located in this area. Drainage from the AST secondary containment is through a valve on the southeast corner of the containment wall. The valve is normally locked closed. It is only opened when stormwater is observed to be clean and is discharged to the adjacent ground surface. The CT, which was installed in 1968, can operate on natural gas or diesel fuel oil. No current or past USTs or below-grade sumps or vaults are associated with this site.

Naval Training Center CT

The Naval Training Center CT is adjacent to the Marine Corps Recruiting Depot (MCRD) Boat Channel. To the east-northeast, within one-eighth mile, is a least tern (endangered bird species) nesting area located on a former MCRD landfill.

The site includes the following equipment: one GE Frame 5 dual-fuel CT and integral generator, installed in 1970, three 20,000-gallon No. 2 diesel fuel oil USTs, water storage tank, atomizing air skid, CO_2 bottle storage area, maintenance shed, and a 12.5-kV auxiliary power transformer. The CT can operate on natural gas or diesel fuel oil. The equipment for sale is situated among other pieces of equipment owned by Sithe Energies Company.

The three current No. 2 diesel fuel oil USTs replaced three former USTs in 1988. No groundwater or soil contamination was reported at the time of replacement, and the three current USTs tested tight at the time of installation. The CT formerly had an underground sump (350 gallons, constructed of concrete) that was used to collect “false start” releases of fuel oil, lubricating oil, and cooling water. An abandonment application for the sump was submitted in 1986; the sump was filled with concrete, and all connections with the turbine were disconnected and sealed. Fuel oil is delivered to the site by truck and is unloaded into the southern end of the USTs.

Naval Station CT

The Naval Station CT site is divided into two areas. The CT and closely associated equipment are located on the west side of Surface Navy Boulevard, while the fuel oil storage tank and closely related equipment are located on the east side of Surface Navy Boulevard.

The CT and associated equipment on the west side of Surface Navy Boulevard lies approximately mid-site, among equipment owned by Sithe Energies Company. The CT was installed in 1976. Equipment for sale by SDG&E, on the west side of Surface Navy Boulevard, includes a dual-fuel CT and integral generator, an SDG&E control center trailer, an atomizing air compressor, and a 20,000-gallon water AST.

The equipment and containment on the east side of Surface Navy Boulevard includes an SDG&E 747,000-gallon No. 2 diesel fuel oil AST and associated secondary containment, a No. 2 diesel fuel oil unloading pump, a foam fire protection system, and fuel oil delivery pumps and piping. A similar 747,000-gallon storage tank, owned by Sithe Energies Company, is adjacent to the south.

The equipment in the sale includes one 130-gallon below-grade tank that is exempted from UST regulations. It is a steel tank with double-walled piping in a concrete vault secondary containment structure. It is utilized to collect turbine wash water. According to site personnel, no other SDG&E USTs are present.

North Island Naval Air Station CT

The North Island Naval Air Station CT site includes two GE Frame 5 dual-fuel CTs and integral generators installed in 1972, a filter house, a CO_2 building, a 5,000-cubic-foot natural gas storage vessel, a compressor, a 12.5-kV auxiliary power transformer, a 250,000-gallon No. 2 diesel fuel oil AST and associated secondary containment, fuel oil pumps and a fuel oil unloading area and associated containment, a foam fire protection system, and a 40,000-gallon water AST. One of the CTs operates on diesel fuel only, and the other can operate on natural gas or diesel fuel.

No USTs are included as part of the equipment sale. An exempted 130-gallon below-grade steel tank is located in a concrete vault secondary containment structure that is part of the equipment for sale. It is used infrequently to collect CT wash water. Two former below-grade sumps were used for the infrequent “false start” collection of fuel oil, lubricating oil, and cooling water overflows. An abandonment application was submitted for the sumps in 1986; the sumps were filled with concrete, and all connections with the CT were disconnected and sealed. The No. 2 diesel fuel oil is delivered to the site fuel oil AST by trucks, which unload fuel oil in the truck unloading area on the west side of Rogers Road near the facility entrance.

CT Hazardous Materials Management Summary

Various hazardous materials are managed at the seven CT sites, as described below.

- No. 2 diesel fuel oil ASTs are present at all but two of the CT sites. The fuel oil ASTs have secondary containment with sufficient capacity to contain the contents of the tank and sufficient freeboard for stormwater.

- The Naval Training Center CT site contains three 20,000-gallon USTs that store No. 2 diesel fuel oil. These tanks are double-wall tanks with leak detection and double-wall piping to prevent fuel oil migration.

- No. 2 diesel oil fuel pumps for unloading trucks and supplying fuel to the CTs have operational procedures and secondary containment to prevent overfilling and contain leaks of fuel oil.

- Below-grade hazardous material sumps have either been removed or abandoned by disconnecting and sealing piping and filling with concrete to prevent use of this equipment.

- Each CT site has a current Emergency Response Plan and an Employee Hazardous Materials Training Program in force.

- The primary wastes generated over the past five years include oily water, water contaminated with oil and solvents, and oil-contaminated soils. The presence and use of these products are considered normal for the operations of this type of facility.

- At present, the hazardous waste from the CT sites is primarily recycled, treated, and/or disposed of by: Laidlaw (Westmoreland, CA), Chemical Waste Management (Kettleman Hills, CA), Ensco West (Los Angeles, CA), and Crosby & Overton (Long Beach, CA) (Fluor Daniel GTI, 1998e).

According to the Phase I Environmental Site Assessment prepared by Fluor Daniel GTI (1998e), the CT sites were identified as having the potential for surface or subsurface contamination from petroleum hydrocarbons, metals, and PCBs. Fluor Daniel GTI (1998f) investigated these potential environmental concerns during the Phase II Environmental Site Assessment. A BHRA conducted for the CT sites concluded that risks to human health are acceptable for continued industrial use of the CT sites, with the potential exception of risk from arsenic (which may occur as a natural background material, or has been transported from an upgradient source, or occurs in groundwater). However, arsenic concentrations in groundwater do not require groundwater remediation at any of the sites.

Because the contamination does not pose unacceptable levels of risk to human health or the environment, state or federal regulations would not require remediation. However, the RWQCB and the County Department of Environmental Health have authority to require remediation based on site-specific conditions of contaminant levels, potential to cause harm, and violation of Basin Plan water quality objectives. The Phase II investigation, regulatory evaluation, and BHRA identified six recognized environmental conditions associated with site operations that have impacted soil or groundwater. These conditions are evident at the sites described below.

- Division Substation – TEH in soil greater than 100 mg/kg. Fluor Daniel GTI recommended evaluating methods of remediating TEH.

- Kearny (2 and 3) – TEH in soil greater than 1,000 mg/kg near GT-2D. Fluor Daniel GTI recommended evaluating methods of remediating TEH.

- El Cajon – Tetrachloroethylene (PCE) and methylene chloride in groundwater above the state drinking water Maximum Contaminant Levels (MCLs). Fluor Daniel GTI recommended identifying the source of the PCE contamination and evaluating methods of remediating PCE and methylene chloride.

- El Cajon – TEH in soil greater than 100 mg/kg. Fluor Daniel GTI recommended evaluating methods of remediating TEH.

- El Cajon – TEH in groundwater above the recommended odor and threshold limit may require remediation in conjunction with remediation of PCE and methylene chloride. Fluor Daniel GTI recommended identifying the source of TEH and evaluating methods of remediating TEH.

- Naval Station – Localized areas of hydrocarbon contamination in soil exceeding 100 mg/kg TEH have been identified. Fluor Daniel GTI recommended evaluating methods of remediating TEH.

Although no cleanup orders have been issued by the County or the RWQCB, these agencies may require remedial actions in the future at these locations.

Several locations at the sites could not be assessed because samples could not be collected from beneath existing structures. These inaccessible areas under tanks, piping, the CTs, and buildings represent potential environmental conditions that should be addressed at decommissioning.

24th Street Terminal Refueling Facility

The 24th Street Terminal includes a tank farm located approximately 1,900 feet east of the San Diego Bay. The terminal has two ASTs for fuel storage. Fuel oil is temporarily stored in the two ASTs for reconciliation of delivery volume. Thereafter, it is transferred through the National City pipeline to the South Bay Power Plant. Diesel fuel,[6] which is stored in a 36,500-gallon AST, is used as a cutting oil to flush fuel oil pipelines after fuel transfer operations. Diesel fuel is left in the pipeline as displacement fluid while the pipeline is idle, between deliveries. Pipelines also connect the terminal with three berths located west of the terminal.

The National City pipeline is a 10-inch-diameter, underground pipeline approximately 4.3 miles in length. It connects the marine terminal tank farm with the South Bay Power Plant tank farms. This unheated pipeline is constructed of steel and has cathodic protection. The No. 6 fuel oil is heated to a temperature of 180 degrees prior to transfer to the South Bay Power Plant to prevent plugging of the pipeline. SDG&E employs electric recirculating heaters at each terminal AST, and a steam boiler that burns either diesel fuel or No. 6 fuel oil, to provide heating. While the pipeline is underground for most of its length, it is exposed at the surface at the following three locations: (1) in a storm drain berm within the northeastern portions of the power plant, (2) as part of an aerial crossing of the Sweetwater River, and (3) in the base of the tidal channel in

6 Diesel fuel is a medium, fluid fuel that flows easily and burns relatively clean.

Sweetwater Marsh. For much of its length, the pipeline is centrally located within the footprint of the transmission towers of SDG&E's high-power line system.

The Phase II Environmental Site Assessment, regulatory evaluation, and a BHRA at the 24th Street Terminal (Fluor Daniel GTI, 1998d) identified the following recognized environmental condition associated with site operations that has impacted soil:

- Areas of shallow soil with hydrocarbon contamination exceeding 100 mg/kg. Fluor Daniel recommended remediation of all hydrocarbons in soil over 100 mg/kg.

The BHRA (Fluor Daniel, 1998d) demonstrated that the detected level of contamination in the soil does not pose unacceptable risk to human health or the environment. However, the site was identified as potentially requiring remediation because the San Diego Port District, which owns the land on which the terminal is located, requires a 100 mg/kg cleanup level at the site. Fluor Daniel noted that this level of cleanup is typically used where diesel fuel threatens drinking water supplies, and that, except for the landowner requirement, this level would not apply to the terminal site because the groundwater at the site is not potable.

Because the contamination does not pose unacceptable levels of risk to human health or the environment, state or federal regulations would not require remediation. However, the RWQCB and the County Department of Environmental Health have authority to require remediation based on site-specific conditions of contaminant levels, potential to cause harm, and violation of Basin Plan water quality objectives

Although no cleanup orders have been issued by the County or the RWQCB, it is possible that these agencies may require remedial actions in the future at these locations.

Several locations at the site could not be assessed because samples could not be collected from beneath existing structures. These inaccessible areas under tanks, piping, and buildings represent potential environmental conditions that should be addressed at decommissioning.

CHECKLIST ISSUES

a) ACCIDENT RISKS

This checklist issue focuses on the risks due to potential accidents or upsets as a result of the project. Health hazards due to the routine use of hazardous substances are discussed in (c) Creation of Health Hazards, below.

Hazardous materials are stored and used at the power plants and CT sites. The sites were designed and built to operate using either fuel oil or natural gas as the primary fuel. Natural gas, when used for fuel, is supplied on demand by a pipeline network. Adequate fuel oil supplies are maintained at the plants that burn fuel oil, and some fuel is stored at the plants that burn natural gas. The operation of electricity-generating equipment requires lubricating oils, and equipment maintenance requires use of various solvents and other hazardous materials. Hazardous materials

commonly used at the sites include various oils and other petroleum products, solvents, acids, bases, flammables, and a variety of chemicals used for routine maintenance and water treatment. Compressed gases are also handled at the plants.

Accidents can occur whenever hazardous materials are used. For example, fuel used to power the sites could spill or possibly ignite under upset conditions. Similarly, the ammonia handled at the South Bay Power Plant could be inadvertently released. Risks of upset can be reduced through design, operations, maintenance, and regulatory and administrative controls. Design standards are developed through industry groups, various independent institutes, and government agencies. Operational controls include automatic devices to control and monitor process variables, and documented procedures for manual operations. Routine preventive maintenance and inspections of critical equipment help to prevent potential equipment failures. Administrative controls include operator training, documentation of equipment inspection and maintenance history, and procurement controls over contractors and vendors. These types of controls are required by law and regulation.

Accident risks are addressed through various required plans. For example, the risk of accidentally releasing fuels and other hazardous materials to nearby waters must be addressed by Spill Prevention Control and Countermeasure Plans. Similarly, accident risks posed to neighboring communities by hazardous materials found at the plants are addressed through Hazardous Materials Business Plans and, if required, Risk Management Plans. Injury and Illness Prevention Plans and, if required, process safety management plans are required to minimize the risks that potential accidents pose to workers. SDG&E has these control systems in place and will provide the new owners of each facility with all of SDG&E's informational materials and training documents related to worker health and safety and to hazardous materials handling and storage (Russell, 1998).

New owners of divested plants and CTs would tend to operate the facilities at higher levels than if they were retained by SDG&E. Additional power potentially generated at the sites would require the use of additional hazardous materials and would result in the generation of additional hazardous wastes. However, the various controls described above would ensure that the potential impacts of the project remain less than significant.

Conclusion

Under divestiture, any new owner would be required to comply with all worker and public safety laws and regulations, just as is the case for SDG&E now. Additional use of hazardous materials and generation of hazardous wastes would be accommodated by existing control systems. Furthermore, SDG&E will provide each new owner with information about SDG&E's operating procedures and compliance plans. Because of these laws and circumstances, the potential impact of the project would be less than significant.

b) EMERGENCY RESPONSE PLANS

Both the Encina Power Plant and the South Bay Power Plant currently maintain their own Emergency Response Plan; a Spill Prevention, Control, and Countermeasure Plan; and an Accident and Fire Prevention Manual (Russell, 1998). These plans would have to be periodically updated by the new site owners of each plant as part of their regulatory compliance process. Future plant equipment and operational procedures for hazards would likely be generally similar to those that currently exist. Possible equipment or procedural changes that could affect existing emergency response plans would be addressed as these plans are updated by any new owners.

Conclusion

Because the project is unlikely to affect emergency response plans or evacuation plans, the potential impact of the project would be less than significant.

c) CREATION OF HEALTH HAZARDS

Hazardous Materials Exposure

Operation and maintenance of the generating units require use of various hazardous materials, including natural gas and fuel oil. Factors that influence the health effects of exposure to a hazardous substance include the dose to which the person is exposed, the frequency and duration of exposure, the exposure pathway, and individual susceptibility. Pathways of exposure to hazardous materials depend on the chemical and physical properties of the substance. The four common exposure pathways are inhalation, ingestion, absorption (direct contact with skin or eyes), and injection (skin puncture or cut). The health effects of exposure to hazardous chemicals vary greatly and are specific to each chemical. Possible health effects may be acute (immediate, or of temporary severity) or chronic (long-term, recurring, or resulting from repeated exposure). Acute effects can include burns or injuries to body organs or systems, such as from exposure to corrosive, reactive, or ignitable materials. Chronic effects can include systemic or organ damage, birth defects, or cancer.

The following types of hazardous materials are representative of those found at the facilities to be divested.

- Petroleum Products. Power plants and CT sites typically store petroleum products for fuel, lubricants, and other uses. The refined petroleum products used at the sites are made up of complex mixtures of compounds derived from crude oil. Potential health hazards from short-term exposure to these petroleum products can include respiratory tract irritation and skin and eye irritation. Long-term exposure to high concentrations of some petroleum hydrocarbons (such as benzene or polyaromatic hydrocarbons) has the potential to cause more serious systemic effects in humans, including cancer. Potential routes of exposure to petroleum hydrocarbons include inhalation of volatile compounds and incidental ingestion or direct contact with the oils.

- Ammonia. At the South Bay Power Plant site, mixtures of water and ammonia are stored on site for use in emissions abatement equipment. Ammonia is a pungent liquid (when mixed with water) that can pose potential health hazards. It requires precautions during handling to protect skin and eyes from exposure, to prevent inhalation, and to prevent contact with incompatible chemicals, such as acids or oxidizing agents. Ammonia fumes have a very sharp, pungent odor characteristic of smelling salts. Potential health hazards include difficulty breathing or irritation of tissue or exposed membranes. Vapors of ammonia could irritate the nose and eyes, cause skin irritation, or damage clothing. Potential exposure to ammonia may occur through incidental ingestion, direct contact, or through inhalation of fumes.

- Polychlorinated Biphenyls. PCBs are another potentially hazardous class of compounds. Both the Encina and South Bay Power Plants have used PCBs. While the manufacture of PCBs has been banned since 1977, some older pieces of electrical equipment still contain PCBs. Transformers and other ancillary equipment associated with the sites contain oil, and some of this equipment contains PCBs. Potential human exposure to PCBs may occur through inhalation of contaminated air or through contact with contaminated soils, resulting in irritation. PCBs are toxic and are probable human carcinogens.

- Asbestos. Insulation and other building materials may contain asbestos. Asbestos causes lung cancer and asbestosis in humans. Inhalation of airborne particulates is the primary mode of asbestos exposure. Asbestos causes adverse health impacts if human exposure is permitted during demolition or renovation, whereupon asbestos fibers can be released unless proper precautions are taken. Government regulations limit emissions of asbestos from asbestos-related demolition or construction activities, and specify precautions and safe work practices that must be followed to minimize the potential release of asbestos fibers.

Routine exposure to hazardous materials used at the divested plants poses potential hazards to plant workers, the public, and the environment. These hazards are minimized by proper handling of these materials, as promoted by employee training, formal procedures, and reasonable precautions.

New owners of the divested plants would be required by regulations of the federal and state Occupational Safety and Health Administrations (OSHA and CAL/OSHA), San Diego County Health Department, and local fire departments to prepare and implement safety procedures similar to those that are currently in place. Among the regulatory requirements intended to minimize occupational exposure are those that require the preparation and implementation of Hazard Communication Plans to ensure that workers understand the hazards they encounter on the job and take appropriate actions. The potential increase in power generation from the project would increase the use of hazardous materials and, therefore, the potential exposure to these materials. However, the procedures and systems described above would ensure that the risk remains at less-than-significant levels.

Routine off-site exposure of individuals and the environment to hazardous materials used at the power plants occurs through limited routes: air emissions, water discharges, and hazardous waste disposal. Hazardous waste disposal is discussed below. Air emissions are discussed in Section 4.5, and water impacts are discussed in Section 4.4.

Hazardous Waste

The principal hazardous materials handled at the sites—ammonia, diesel oil, fuel oil, and natural gas—are consumed during use and produce little residual waste. Nevertheless, the facilities to be divested generate some hazardous waste (e.g., waste oil). The California Department of Toxic Substances Control regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the Resource Conservation and Recovery Act and the California Hazardous Waste Control Law. Both laws impose "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. Hazardous waste generators are held liable for harm to individuals or the environment caused by their hazardous wastes, regardless of the disposal method selected. This liability provides an incentive to dispose of hazardous wastes in a manner that is as safe as possible. The mandatory compliance with these regulations by the new owners would ensure that the potential increased generation of hazardous materials from the project would remain at less-than-significant levels.

Electromagnetic Fields

Electric power lines, generators, transformers, and other devices that handle electric currents produce electric and magnetic fields (electromagnetic fields, or EMFs). EMFs oscillate at a frequency of 60 hertz (i.e., 60 cycles per second). The strength of the EMF generated by an alternating current varies with voltage; wire type, spacing, and location; and other factors. Field strength decreases rapidly with distance from the source. EMFs are produced by power lines, house wiring, all electrical appliances, and wherever electrical currents are flowing. A controversy exists as to whether there are any health effects from exposure to EMFs. Experiments have shown that magnetic fields can cause biological effects in living cells, but it is not known whether these biological effects have any relevance to human health. To address these questions, the CPUC undertook an investigation in 1991, working with the California Department of Health Services (DHS), electric utilities, and a "consensus group" made up of experts and consumers vitally interested in this subject. Due to the lack of scientific or medical conclusions about potential health effects from electric utility facilities and power lines, the CPUC adopted interim measures in 1993 that help to address public concern on this subject, including the deployment of no/low-cost steps to reduce EMF levels in new or upgraded facilities, residential and workplace EMF measurement programs available to utility customers, and an education and research program managed by DHS. Pending conclusive scientific evidence of possible harm from utility facilities, the CPUC has pursued a policy of avoiding any unnecessary new exposure that can be avoided at a reasonable cost. The CPUC is awaiting the results of the DHS-managed research program and, in the interim, relies upon DHS to provide guidance about any future identified public health risk. The incremental effect of the project stems from an unquantifiable tendency of new owners to operate at higher levels than SDG&E. As discussed in Section 3, it is not feasible to predict how this tendency might manifest itself at particular facilities. Given this uncertainty, and the CPUC's pending conclusion about the health risks posed by EMF, the project would have no impacts associated with EMFs that can be considered significant.

Conclusion

The project would likely affect operations at the sites to be divested. Particularly in the case of the Encina and the South Bay plants, hazardous materials use and hazardous waste generation could increase. However, this increase is unlikely to be as great as the proportional increases in facility operations. The controls placed on the use of hazardous materials and wastes are expected to be similar to those in place now, so that new owners would be subject to the same (or comparable) regulations concerning hazardous materials and waste handling that now apply to SDG&E. Although hazardous materials use and waste generation could increase as a result of the project, site-specific handling procedures equivalent to those currently in place are reasonably foreseeable. Therefore, there would be no substantial change in the on-site hazards posed by any increased hazardous materials used or hazardous waste generated at the facilities. The increase in hazardous waste generation would not be expected to be substantial because much of the hazardous material on site is consumed through use, and the additional quantities of waste would be relatively small when compared with the volume of hazardous waste already generated and disposed of as a result of existing plant operations. Because the increase in hazardous waste generation would not be substantial, and because the waste would be handled in a manner similar to how it is handled now, this impact would be less than significant. Because predicting increased electrical generation at particular plants is infeasible, and considering the CPUC's pending conclusion on EMF health risks, there are no significant impacts associated with EMFs from the project.

d) EXPOSURE TO EXISTING HAZARDS

The transfer of site ownership may advance the time at which existing hazards are remediated. The fuels, water treatment chemicals, and other hazardous materials historically used at the sites (discussed above) have the potential to contaminate soils, structures, or equipment. Phase I and Phase II Environmental Site Assessments have been conducted at the facilities proposed for divestiture, and have identified surface or subsurface contamination at both power plants, several CT sites, and the fuel terminal. The BHRAs at the Encina and South Bay Power Plants demonstrated that the chemical levels detected in the soils, sediment, and groundwater do not pose unacceptable levels of risk to human health or the environment. The BHRAs concluded that risks to human health or the environment are acceptable for continued industrial use of the sites. Therefore, there are no chemicals of concern that warrant risk-based remediation. The BHRA for the CT sites concluded that risks to human health are acceptable for continued industrial use of the CT sites, with the potential exception of risk from arsenic, which may occur as a natural background material, from an upgradient source, or in groundwater.

Hazards related to soil or structural contamination can be reduced by proper remediation under the oversight of proper regulatory authorities, such as the California Department of Toxic Substances Control or local County Health Departments. Worker safety related to remediation activities is promoted by federal and state OSHA regulations. Permits may need to be obtained prior to any remediation work, and a remediation plan is usually prepared before such work begins. Remediation plans, and sometimes permits themselves, require that specified precautions be taken during remediation in order to protect human health and the environment.

Examples of procedural and operational controls that typically are implemented during remediation activities include covering soil stockpiles to prevent erosion and reduce infiltration; installing a leachate control system to capture any leachate generated; constructing a containment cell to prevent runoff; installing treatment systems for treating groundwater, surface water, or air containing hazardous substances; collecting and analyzing test samples; watering disturbed areas to reduce dust generation; and wearing proper personal protective equipment to prevent worker contact with contaminated soil or groundwater. Many of these controls are contained in permit requirements that are issued by the regulatory agencies overseeing remediation activities.

Any entity that owned these sites—SDG&E or any future purchaser—would be subject to the same environmental and worker safety laws, rules, and regulations. The sites, under whatever ownership, would be expected to conform to all pertinent environmental and safety requirements. In addition, SDG&E has agreed to provide any new owners with all of SDG&E's informational materials and training documents related to hazardous materials handing and storage.

Furthermore, under terms of the Purchase and Sale Agreement, SDG&E would be responsible for any legally required remediation of existing contaminated soil and groundwater at the divested plants that is necessitated by on-going operations of existing facilities and, therefore, would be responsible for remediation activities that are part of the ownership transition. Therefore, this impact would be less than significant because of current agreements and the regulatory environment. To the extent that the transfer of ownership and associated due diligence would identify site contamination and lead to its remediation, a beneficial impact on the environment might result.

Conclusion

Worker safety and public health are potentially at risk whenever hazardous wastes are encountered. At each SDG&E site to be divested, appropriate Phase I and Phase II Environmental Site Assessments and BHRAs have been conducted. These reports document known site conditions and would be provided to prospective new owners as part of the due diligence process as well as to appropriate regulatory agencies as part of the remediation process. Therefore, likely areas of known and potential contamination would be known to prospective buyers.

The manner in which sites are remediated would be an important issue when ownership is transferred. Any required remediation necessary to protect human health and the environment would be conducted in accordance with applicable laws and regulations under the oversight of local agencies. Therefore, the impact of the project would be less than significant.

e) FLAMMABLE BRUSH, TREES, OR GRASS

Both the Encina Power Plant and the South Bay Power Plant maintain their own Accident and Fire Prevention Manual (Russell, 1998). Such a manual would have to be prepared and maintained by any new plant owner as part of its regulatory compliance process with the fire marshal. Furthermore, the project would not affect fire hazards related to brush, trees, or grass

because no changes to any facility footprints are currently foreseeable and distances between the facilities and any brush, trees, or grass would not likely change. Fire hazard from vegetation at the CT sites is not a concern since there are no brush, trees, or grass at the sites.

Conclusion

Because no substantial increase in fire hazard would be anticipated, this impact would be less than significant.

REFERENCES – Hazards

Applied Geosciences Inc., *Tiered Permitting Phase I Environmental Assessment Checklist for the Encina Power Plant,* January 10, 1995a.

Applied Geosciences Inc., *Tiered Permitting Phase I Environmental Assessment Checklist for the South Bay Power Plant,* February 9, 1995b.

Dudek & Associates, Inc., *Results of Verification Sampling Bunker "C" Fuel Oil Spill, SDG&E Encina Power Plant,* APH No. 210-010-34, 1995.

EnecoTech, *Additional Site Assessment: Metals at Former Impoundments San Diego Gas & Electric Facility, South Bay Power Plant,* March 12, 1998.

EnecoTech, *Final Report for the Phase II Environmental Investigation Services, PCB Investigation, San Diego Gas & Electric Facilities,* April 29, 1997a.

EnecoTech, *Final Report for the Phase II Environmental Investigation Services, San Diego Gas & Electric Facilities,* April 29, 1997b.

EnecoTech, *Site Remediation and Verification Services, San Diego Gas & Electric Facility, National City Tank Farm,* March 12, 1998.

Fluor Daniel GTI, *Phase I Environmental Site Assessment, Encina Power Plant,* June 3, 1998a.

Fluor Daniel GTI, *Phase II Environmental Site Assessment, San Diego Gas & Electric Encina Power Plant,* July 1998b.

Fluor Daniel GTI, *Phase I Environmental Site Assessment, South Bay Power Plant,* June 3, 1998c.

Fluor Daniel GTI, *Phase II Environmental Site Assessment, South Bay Power Plant,* July 1998d.

Fluor Daniel GTI, *Phase I Environmental Site Assessment, San Diego Gas & Electric Turbine Sites, San Diego County,* June 3, 1998e.

Fluor Daniel GTI, *Phase II Environmental Site Assessment, San Diego Gas & Electric Turbine Sites, San Diego County,* July 1998f.

IWG Corporation, *Risk and Hazard Analysis and Off-site Consequence Analysis for the Encina Power Station Marine Terminal,* March 11, 1994.

Mittelhauser Corporation, *Closure Certification Report for Wastewater Ponds Located at Encina Power Plant,* Project Number: 1409-60 Volume I of III, June 1992a.

Mittelhauser Corporation, *Closure Certification Report for Wastewater Ponds Located at Encina Power Plant,* Project Number: 1409-60 Volume II of III, June 1992b.

Mittelhauser Corporation, *Closure Certification Report for Wastewater Ponds Located at Encina Power Plant,* Project Number: 1409-60 Volume III of III, June 1992c.

Mittelhauser Corporation, *Closure Certification Report for Wastewater Ponds Located at South Bay Power Plant,* Volume I, August 1991a.

Mittelhauser Corporation, *Closure Certification Report for Wastewater Ponds Located at South Bay Power Plant,* Volume II, August 1991b.

Russell, Charles, Environmental Compliance Section, San Diego Gas & Electric, Telephone Communication, August 13, 1998.

SDG&E, *Application of San Diego Gas & Electric Company (U902-E) for Authority to Sell Electrical Generation Facilities and Power Contracts (Application No. 97-11-039),* December 12, 1997a.

SDG&E, *Proponent's Environmental Assessment: San Diego Gas & Electric Company's Proposed Sale of Its Electrical Generation Facilities and Power Contracts,* December 19, 1997b.

SDG&E, *San Diego Gas & Electric Company Encina Power Plant, Environmental Report Marine Terminal Modification,* undated.

SDG&E, *San Diego Gas & Electric Company Encina Power Plant Unit 5, Environmental Report Volumes I and II,* undated.

SDG&E, *South Bay Power Plant Reports/Site Assessments, Retired Drum Yard,* 1993.

Woodward, Envicon, Inc., *Environmental Impact of An Oil Spill at the SDG&E Encina Power Plant Marine Terminal,* April 1973.

Woodward-Clyde Consultants, *Remedial Investigation, Encina Power Plant,* February 1998.

Woodward-Clyde Consultants, *Subsurface Investigation San Diego Gas & Electric, South Bay Power Plants,* January 19, 1998.

Woodward-Clyde Consultants, *Remedial Investigation South Bay Power Plant,* February 1988.

Woodward-Clyde Consultants, *Hydrogeologic Assessment Report, Encina Power Plant,* 1986.

Woodward-Clyde Consultants, *Hydrogeologic Assessment Report, South Bay Power Plant,* 1986.