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6.13 WATER RESOURCES

This SPPE Application is for the construction and operation of the ECGS Unit 3 Repower Project. The Project will be owned and operated by IID ("the Applicant") and will utilize the existing staffing at the ECGS. IID is an irrigation district established under Division 11 of the California water code, Sections 20500 et seq., that provides electrical power, non-potable water, and farm drainage services to the lower southeastern portion of the California desert, primarily in Imperial County. ECGS Unit 3 will continue to serve the growing electrical load demands of the region.

The Project consists of replacing the existing CE boiler with a GE Frame 7EA dry low NO_x CTG and HRSG to supply steam to the existing Westinghouse STG. The generator output from the Unit 3 Repower Project will be stepped-up to transmission voltage and interconnected to the existing IID El Centro Switching Station also located within the ECGS Site.

Most of the existing ECGS systems will continue to be used with only minor modifications. Systems that will continue to be used include the STG, cooling system, water treatment system, water supply system, control room, fire system, ammonia system, Project Site access during operations, and electrical El Centro Switching Station.

The Project consists of two major project areas:

- Project Site – new Unit 3 CTG/HRSG, minor modifications to the existing Unit 3 cooling tower, replacement of the Unit 3 condenser, minor modifications to Unit 3 STG, the 92 kV electrical interconnection and modifications to the existing gas interconnection facilities.
- Temporary Construction Area – construction parking, construction trailers, and construction laydown area.

The total Project disturbance will be 12.5 acres, all of which is within the ECGS Site.

This section of the SPPE assesses the potential impacts of the Project on water resources; specifically, groundwater quality and supply, surface water quality and supply, wastewater discharge, stormwater runoff, flooding hazards, and water supply. This water resources analysis supports the SPPE Application.

In assessing the potential water resource impacts associated with the Project, the following potential areas were evaluated, and are discussed in this section.

Will the Project:

- Violate any water quality standards or waste discharge requirements?
- Substantially deplete groundwater supplies or interfere with groundwater recharge?
- Substantially alter the existing drainage pattern, including through the alteration of a stream course or river, resulting in substantial erosion?
- Substantially alter the existing drainage pattern, including through the alteration of a stream course or river, resulting in substantial surface runoff?
- Create or contribute surface water runoff that would exceed existing stormwater drainage systems, or provide substantial additional sources of polluted runoff?

- Otherwise substantially degrade water quality?
- Place structures or housing within a 100-year flood hazard area?

The analysis concluded that the Project would not have an impact on the following resource areas:

- Groundwater quality and supply
- Surface water quality
- Flooding hazard
- Wastewater
- Water supply and use

6.13.1 Affected Environment

This section describes the existing environment relative to water resources in the vicinity of the Project Site.

6.13.1.1 Groundwater Quality and Supply

The Project Site is located within the Colorado River Hydrologic Region that covers approximately 20,000 square miles in southeastern California. This region has an average annual precipitation of 5.5 inches and average annual runoff of only 200,000 acre-feet that makes this the most arid hydrologic region in California. More specifically, the Project Site overlays the Imperial Valley Groundwater Basin; bounded on the east by the Sand Hills, on the west by the impermeable rocks of the Fish Creek and Coyote mountains, and to the north by the Salton Sea. The basin surface area is approximately 1,870-square miles (California DWR 2003 Bulletin 118, 2004 update).

The basin has two major aquifers separated by a semi-permeable aquitard. The upper aquifer ranges from an average thickness of 200 to 450 feet. The lower aquifer ranges from an average thickness of 380 to 1,500 feet. These aquifers consist mostly of alluvial deposits of late Tertiary and Quaternary age. The San Andreas, Algodones, and Imperial faults are present within the basin, but data on whether these faults control groundwater movement are lacking. The only known barriers to groundwater flow are the lake deposits of clay that obstruct downward seepage of surface waters in the central and western part of the basin (DWR 2003 Bulletin 118, 2004 update).

Recharge of the groundwater basin is primarily from irrigation return. Other recharge sources have been deep percolation of rainfall and surface runoff, underflow into the basin, and seepage from historically unlined canals (e.g., the All American Canal and Coachella Canal) (DWR 2003 Bulletin 118, 2004 update).

Groundwater within the basin generally flows toward the axis of the Imperial Valley and then northwestward toward the Salton Sea. Water levels vary widely within the basin due to differing hydraulic heads and the localized confining clay beds in the area. In the borings conducted at the Project Site in support of the geotechnical study, groundwater was observed in all of the borings

at depths ranging from 4- to 6-feet below grade[1]. It should be noted that groundwater levels may vary in the future due to fluctuations in the water levels of nearby canals, groundwater extraction, irrigation, or antecedent rainfall.

In general, groundwater quality in the Imperial Valley is poor, especially within the central portion of the valley, which is underlain by saline, connate groundwater, some of which is marine in origin. As shown on Figure 6.13-1, TDS Concentrations in Aquifers in Project Vicinity, the quality of groundwater underlying the IID service area is high in total dissolved solids and therefore is unsuitable for drinking water and agricultural irrigation purposes (Montgomery Watson 1996).

The National Water Information System (NWIS) database of groundwater quality[2] lists 12 wells located within a radius of 6 miles of ECGS. Based on a review of readily available groundwater quality data, it appears that the aquifer beneath ECGS may have an average TDS of approximately 14,000 mg/L. The TDS of produced groundwater is expected to increase over time as water is extracted from the local perched and/or shallow aquifers. All the wells identified from the NWIS database within the El Centro area of moderate quality (TDS between 1,000 and 8,000 mg/L) appear to be located within 200 feet of a canal. The lower TDS values are likely due to the dilution of the groundwater adjacent to the canals by canal water seepage. In addition, groundwater may contain elevated concentrations of other constituents (such as fluoride and boron) (Loeltz, et al, 1975).

While the amount of water stored in the Imperial Valley groundwater is large, few wells have been drilled for production purposes because the yield is low and the water is of poor quality. The fine-grained deposits that are characteristic of the central part of the Imperial Valley are likely to have low transmissivities of only 1,000 to 10,000 gallons per day (0.7 to 7 gpm) (Loeltz, et al, 1975). While limited amounts of groundwater have been found in small, locally distinct aquifers, such as near drains or canals, there is likely no significant quantity of developable groundwater in the area (Montgomery Watson, 1996). Based on past unsuccessful attempts (as documented by USGS and DWR) to develop usable groundwater supplies within the central portion of the Imperial Valley, the extent to which groundwater that is satisfactory for domestic or irrigation use is likely limited.

There are currently no groundwater production, monitoring, or injection wells located on the ECGS Site. Further, there are no provisions of the Project that would require the construction of production or monitoring wells. Two Class I deep injection wells will be installed at the ECGS Site as a separate project.

[1] Geotechnical Investigation, Unit 3 Generation Station, El Centro, California, Geotechnics Incorporated, March 17, 2006.

[2] NWIS 2006, *National Water Information System*, http://nwis.waterdata.usgs.gov/nwis/qwdata reviewed March 20, 2006.

6.13.1.2 Surface Water Quality

The Project Site is located in the Imperial Valley Planning Area in the northeast corner of El Centro (See Figure 6.13-2, Hydrologic Features). The Project Site is located between the Alamo River (approximately 6 miles east of the Project Site) and the New River (approximately 10 miles west of the Project Site) (USGS 1977). These rivers originate in Mexico and flow north into the Salton Sea. The Alamo River receives agricultural return flows and treated wastewater from the Imperial Valley. Estimated flows for the Alamo River range from approximately 2 to 4 cubic feet per second (cfs) (1450 to 2900 acre-feet per year) at the International Border to approximately 680 to 902 cfs (499020 to 654,130 acre-feet per year) at the outfall to the Salton Sea (RWQCB, 2004b). At the International Border, the New River contains high concentrations of pathogens from untreated and partially treated municipal industrial wastes and volatile organic compounds typical of petroleum products and industrial discharges. Estimated flows for the New River range from about 181 to 362 cfs (118,200 to 264,530 acre-feet per year) at the International Border to approximately 553 to 705 cfs (411,770 to 512,350 acre-feet per year) at the Salton Sea (RWQCB, 2004b).

The extensive agricultural drain system throughout the Imperial Valley consists of over 1,450 miles of constructed surface drains that discharge to the Alamo River, New River and Salton Sea. These drains convey agricultural runoff from the Imperial Valley with flows ranging from approximately 830,841 to 1,153,827 acre-feet per year and averaging 994,812 acre-feet per year (RWQCB, 2004b). Water in the agricultural drains contains pesticides, nutrients, selenium and silt concentrations that exceed water quality standards (RWQCB, 2004b).

Surface runoff from the Imperial Valley Planning Area in the vicinity of ECGS, along with irrigation return flows, is generally collected in agricultural drains that flow to the Alamo River, which flows north to the Salton Sea, located approximately 25 miles north of the Project Site. The Project Site is approximately 50 feet below sea level (National Geodetic Vertical Datum of 1929) and the Salton Sea is at approximately 228 feet below sea level (USGS 1981).

The present Salton Sea was formed between 1905 and 1907 by overflow from the Colorado River. Today, it receives irrigation return water and stormwater from the Coachella Valley, Imperial Valley, and Borrego Valley, and also receives drainage water from the Mexicali Valley in Mexico. Flow into Salton Sea is about 1.3 million acre-feet per year, which is approximately equal to the rate of evaporation (RWQCB, 2004b). In 1992, the TDS concentration in Salton Sea was approximately 44,000 mg/L, which is approximately 28 percent saltier than the ocean (RWQCB, 2004b). One of the water quality objectives of the Water Quality Control Plan (WQCP) for the Colorado River Basin, Region 7, has been to reduce and stabilize the TDS at 35,000 mg/L. This objective has been found to be difficult to implement based on the quality of the receiving waters entering the Salton Sea (Colorado River Basin – Region 7 WQCP 2005).

Historical beneficial uses of water within the Colorado River Basin region have largely been associated with irrigated agriculture and mining. From a quality standpoint, agricultural use is the present predominant beneficial use of water in the Colorado River Basin Region, with the major irrigated acreage being located in the Coachella, Imperial, and Palo Verde valleys.

The WQCP, Colorado River Basin – Region 7, sets surface water quality objectives for aesthetics, tainting substances, toxicity, temperature, pH, dissolved O, suspended solids and settleable solids, TDS, bacteria, biostimulatory substances, sediment, turbidity, radioactivity,

chemical constituents, and pesticide wastes. Some of the primary challenges facing the region include pollution from Mexico; increasing salinity, selenium, and eutrophication in the Salton Sea; silt, nutrient, and pesticide pollution of the agricultural drains in Imperial Valley and the New and Alamo Rivers; and underground leaking tanks.

6.13.1.3 Climate and Precipitation

Imperial Valley is primarily a warm desert region, with mild winters and hot summers.

Climate data is summarized in Table 6.13-1, Climate Summary for El Centro, California. The mean annual temperature is approximately 71°F based on the period of record from July 1948 through December 2005. Temperature extremes range from 18°F recorded on January 4, 1949 to 122°F recorded on July 28, 1995. Average annual precipitation is approximately 3 inches, with more than 75% occurring between August and March. Precipitation often occurs as local thunderstorms. Evaporation data for El Centro is not available, but would be expected to be quite high (on the order of 100 inches per year) as is typical of desert climates. Evaporation from shallow ponds would be expected to be approximately 70 to 80% of the pan evaporation rates (WRCC 2005).

TABLE 6.13-1
CLIMATE SUMMARY FOR EL CENTRO, CALIFORNIA

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (°F)	69.7	74.0	79.4	86.3	94.5	103.5	107.6	106.4	102.1	91.7	78.4	69.8	71.2
Average Min. Temperature (°F)	40.2	43.8	47.9	53.0	59.8	67.4	75.4	75.8	69.5	58.6	46.9	39.8	41.3
Daily Max. Extreme Temp. (°F)	90	93	101	109	116	121	122	120	120	112	98	95	122
Daily Min. Extreme Temp. (°F)	18	24	29	34	36	47	52	54	48	33	24	22	18
Average Total Precipitation (inches)	0.46	0.33	0.24	0.07	0.02	0.00	0.09	0.34	0.24	0.3	0.2	0.34	2.61
Average Pan Evaporation (inches)													
Death Valley, CA	4.0	5.4	9.1	13.0	16.7	19.0	21.0	18.9	14.0	9.8	5.6	3.7	140.2

Notes:
Temperature and precipitation data are recorded at the El Centro 2 SSW, CA (042713). Period of record is from July 1, 1948 through December 31, 2005. Source: Western Region Climate Center (WRCC) http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?caanti+sca.
Evaporation data for El Centro is not available. Pan evaporation data shown on the table is pan evaporation data from Death Valley, CA (1961-2002) and is considered representative for a southern California desert climate. Source: WRCC http://wrcc.dri.edu/htmfiles/westevap.final.html.
ºF = degrees Fahrenheit

6.13.1.4 Water Supply and Use

Water Supply

The Colorado River is an important waterway that supplies water for use within the Colorado River Basin and elsewhere and is essentially the only source of fresh water in the Project study area. At Palo Verde Diversion Dam, water is diverted for irrigation in Palo Verde Valley. At Imperial Dam, water is diverted to the All-American Canal, which conveys water in California to the Bard Valley, and to the agricultural areas of the Imperial and Coachella Valleys (Colorado River Basin – Region 7 WQCP).

The raw water source for the existing ECGS is Colorado River water from IID's Dogwood surface canal Gate 54B, which is part of IID's extensive network of main and lateral canals. IID has senior water rights for 3.1 million acre-feet (MAF) per year from the Colorado River and provides water for agricultural, municipal and industrial uses in the Imperial Valley. Ninety-eight percent of the water IID transports is used for agriculture. The entire ECGS uses only a fraction (i.e., less than 0.1%) of the amount of water IID is entitled to from the Colorado River.

The water provided by IID for use at ECGS via the Dogwood Canal has relatively high levels of TDS with concentrations of approximately 790 mg/L. This water is used for cooling tower make-up. In addition, this raw water is treated by an existing demineralization system to provide

high quality make-up water for existing Units 2, 3, and 4 steam cycles. The existing raw water and ECGS water treatment facility has sufficient capacity to meet the expected water requirements for the Project.

The existing water quality analysis for ECGS is summarized in Table 6.13-2, ECGS Supply Water Quality Analysis.

TABLE 6.13-2
ECGS SUPPLY WATER QUALITY ANALYSIS

Parameter	Units	Concentration[1]
Aluminum	µg/L	240
Ammonia	mg/L	NA
Arsenic	µg/L	2.0
Barium	µg/L	150
Bicarbonate alkalinity	mg/L	190
Boron	µg/L	170
Bromide	mg/L	NA
Carbonate alkalinity	mg/L	<5
Calcium	mg/L	91
Chloride (IC)	mg/L	120
Fluoride	mg/L	0.28
Hardness (total) (as $CaCO_3$)	mg/L	360
Hydroxide alkalinity	mg/L	<5
Iron	µg/L	190
Magnesium	mg/L	32
Manganese	µg/L	<20
Nitrate (as $NO_{3)}$	mg/L	<2
Nitrite (as N)	µg/L	<400
Ortho Phosphate	mg/L	NA
pH, Field	pH	Not Reported
pH, Lab	pH	8.2
Potassium	mg/L	4.7
Sodium	mg/L	120
Specific conductance	µmhos/cm	1,200
Sulfate	mg/L	320
Temperature, Field	°C	Not Reported
Total Alkalinity (as $CaCO_3$)	mg/L	150
Total Dissolved Solids (TDS)	mg/L	790
Total Organic Carbon (TOC)	mg/L	NA

TABLE 6.13-2
ECGS SUPPLY WATER QUALITY ANALYSIS

Parameter	Units	Concentration[1]
Turbidity	NTU	NA
Vanadium	µg/L	4.4

Notes:
[1]Analytical test results for a water sample obtained from the Dogwood irrigation canal on October 14, 2005. Clinical Laboratories of San Bernadino analyzed the water sample.
< = Less than indicated detection limit
ºC = degrees Celsius
$CaCO_3$ = Calcium Carbonate
mg/L = milligrams per liter
µg/L = micrograms per liter
µmhos/cm = micro-mhos per centimeter
NA = Not analyzed
NTU = nephelometric turbidity units

Water Use

The Project will utilize the existing condensate systems, feed water systems (including feed water pumps), cooling water systems, circulating water pumps and cooling tower, and make-up water systems. The existing Unit 3 condenser will be replaced, while the existing cooling system will continue to be used with only minor modifications to control cooling tower drift from the Unit 3 cooling tower.

Average annual water consumption for the repowered Unit 3 is conservatively expected to be approximately 1,125 acre-feet or 366 million gallons, based on 8,000 hours of operation (proposed AQMD permit limit). On an equivalent operating hour basis, this quantity is only 96 acre-feet or 31 million gallons more than the estimated annual water usage of the existing Unit 3 STG. Table 6.13-3, Unit 3 Water Use, summarizes the water use for the existing Unit 3 and the Project. Water balance diagrams for the existing Unit 3 and the Unit 3 Repower Project for both average daily and maximum daily operations are provided on Figures 2-6A through Figures 2-6I.

Table 6.13-3, Unit 3 Water Use, summarizes the water use for the Project.

TABLE 6.13-3
UNIT 3 WATER USE

	Water Service/Use	Average Daily Use (MGD)[1]	Maximum Daily Use (MGD)[2]	Annual Use (acre-feet)[3]
Existing Unit 3				
	Cooling Tower Makeup	0.85	1.09	
	Water Treatment Feed	0.03	0.03	
	Total Water Use	0.88	1.12	1,029
Repowered Unit 3				
	Cooling Tower Makeup	0.86	1.26	
	Water Treatment Feed	0.03	0.07	

TABLE 6.13-3
UNIT 3 WATER USE

Water Service/Use		Average Daily Use (MGD)[1]	Maximum Daily Use (MGD)[2]	Annual Use (acre-feet)[3]
	Total Water Use	0.89	1.33	1,125
Change (Repowered Unit vs Original)				
	Water Use	0.01	0.21	96[4]
	Percent Water Use	1.1%	18.8%	9.3%

Notes:
[1]Average daily values are based on 24-hour operation and assume average ambient conditions of 73°F and 45% RH. Values for use the existing Unit 3 are based equivalent hours, since there are no permit limits for the existing Unit 3. For the Unit 3 Repower Project, average daily values assume non duct-fired operation.
[2]Maximum daily values are based on 24-hour operation and assume average ambient conditions of 115°F and 17% RH. Values for the existing Unit 3 represent permitted use. For the Unit 3 Repower Project, maximum daily values assume duct-fired operation.
[3]Average annual use is based on 8000 operating hours and represents weighted averages. Yearly operation considers ambient conditions and whether the operations are duct-fired or non duct-fired.
[4]It should be noted that IID is proposing to cap the amount of water used for the Unit 3 Repower Project to 1,029 acre feet, which is the same amount that would be used for the existing Unit 3. Therefore, there would be no net increase in water usage.
gallon/kWhr = gallons per kilowatt hour
°F = degrees Fahrenheit
gpm = gallons per minute
NA = not applicable
RH = relative humidity

The Project will use water more efficiently than the existing unit. With implementation of the Project, water usage per kWhr for Unit 3 will be reduced from approximately 0.88 gallons/kWhr to approximately 0.38 gallons/kWhr. Water efficiency will be improved by approximately 60% with implementation of the Project.

TABLE 6.13-4
UNIT 3 WATER USE EFFICIENCY[1]

	Existing Unit			Repowered Unit		
	Average Daily	Maximum Daily	Annual	Average Daily	Maximum Daily	Average Annual
Energy Production (kW)	47,726	47,185	47,435	120,263	120,726	119,512
Water Use (Mgal)	0.88	1.12	335	0.89	1.33	366
Water Use (acre-feet)			1,029			1,125
Water Use Efficiency (gal/kWhr)	0.77	0.99	0.88	0.31	0.46	0.38

Notes:
[1]It should be noted that IID is proposing to cap the amount of water used for the Unit 3 Repower Project to 1,029 acre feet, which is the same amount that would be used for the existing Unit 3. Therefore, there would be no net increase in water usage.
gal/kWhr = gallons per kilowatt hour
Mgal = million gallons

6.13.1.5 Water Treatment Requirements

Raw water is treated in an existing common facility at ECGS that provides make-up water to the Units 2, 3, and 4 cooling towers, and demineralized water to the Unit 2 evaporative cooler and the Units 2, 3, and 4 steam cycles. The existing raw water and treated water facility has sufficient capacity to meet the expected water requirements for the Unit 3 Repower Project. There are no changes proposed for the existing water treatment system as part of the Project.

6.13.1.6 Water Policy

The CEC has the responsibility to apply state water policy to minimize the use of fresh water, promote alternative cooling technologies, and minimize or avoid degradation of the quality of the state's water resources. The state's water policy, adopted by the SWRCB, is specified in Resolution 75-58. The Commission's 2003 Integrated Energy Policy Report (IEPR) provides that "...the Commission will approve use of fresh water for cooling purposes…only where alternative water supply sources and alternative cooling technologies are shown to be 'environmentally undesirable' or 'economically unsound.'" Economically unsound is defined as economically or otherwise infeasible. Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, legal, social, and technological factors.

The Commission's regulations require the Applicant to provide information on the source of water supply, the rationale for its selection, and if fresh water is to be used for cooling purposes, to discuss all other potential sources and why they were not considered feasible.

Plant Cooling Systems

The existing Unit 3 STG exhaust steam is condensed in a surface condenser supplied with circulating cooling water from the Unit 3 evaporative cooling tower. The Unit 3 evaporative cooling tower is a 4-cell, counter flow, mechanical draft cooling tower. There will be no functional modifications to the Unit 3 evaporative cooling tower as a part of the Project. The only modification to the Unit 3 evaporative cooling tower will be to replace the existing drift eliminators.

The existing evaporative cooling tower is supplied with make-up water to replace losses due to evaporation and drift. Circulating water quality is maintained through blow-down of water containing dissolved solids from the circulating water return line. Blow-down from the Unit 3 HRSG will be directed to the existing cooling tower and used as a source of make-up water to the existing cooling tower basin. Cooling tower blow-down and other process wastewater streams will be discharged into the deep well injection system that is being developed independent from this Project to satisfy the ECGS Site compliance with the CTR. The deep well injection system will have sufficient capacity to accommodate the additional wastewater discharge from the Unit 3 Repower Project. As a part of the Project, the existing Unit 3 surface condenser will be replaced with a new surface condenser providing a reliable condensing system. The new condenser will include a steam bypass system for the repowered Unit 3 STG.

The CTG package is cooled using a closed loop cooling water system with an ACHE. The ACHE is a 4-cell unit with cooling water passing through the exchanger tubes. The water is cooled by drawing ambient air across the exchanger by electric motor driven fans.

The CTG utilizes an evaporative cooler to cool the incoming turbine inlet air for increased performance, particularly on hot days. The evaporative cooler operates by passing the inlet air flow over a media system that has been saturated with water. The inlet air is typically saturated to around 85% of complete saturation. The water used in the evaporative cooler is stored in a reservoir and circulated by a pump over the media. Water that has not been evaporated from the media returns to the reservoir. As a result of the evaporation process, solids may have a tendency to accumulate in the reservoir. Solids accumulation is controlled by removing water from the evaporative cooler system through a blow-down line on the pumps discharge. The blow-down is directed to the plant drains system and then discharged to the new deep well injection system.

Alternative Water Supply Considerations

The Applicant evaluated several different alternative water supply and conservation options as part of the Project.

Based on the annual water requirements of approximately 1,125 acre-feet per year, which is less than 0.1% of the amount of water delivered by IID to its customers in the Imperial Valley, the use of raw, imported water from the Dogwood Canal is preferred as the primary water supply option for the Project. Selection of this source is based on the following:

- The Dogwood Canal is located adjacent to the ECGS Site. Therefore no off-site linears are required and there are no new interconnections required.
- The Dogwood Canal has been the source of industrial water supply for ECGS since inception in 1949.
- The water supply and quality meets the requirements for the Project.
- A more than adequate water supply from IID and robust storage capacity is available at the Project Site.

Other potential sources of water, as listed in SWRCB Resolution 75-58, were considered but deemed to be infeasible as summarized below. Several alternative water sources were evaluated as part of the Unit 3 Repower Project, including:

- Brackish water from groundwater or irrigation return flow
- Municipal wastewater from the El Centro WWTP
- Other inland water sources

Alternative 1: Ocean Water

Ocean water is not considered a feasible alternative since this water source is not locally available.

Alternative 2: Brackish Water from Groundwater or Irrigation Return Flow

Irrigation return flows and discharges from WWTPs in Imperial County and along the border of Mexico are directed to and serve as the primary source of replenishment water to the Salton Sea. A balance between inflowing water and evaporation sustains the Salton Sea. The California Department of Water Resources (DWR) is working with the CDFG to develop the Salton Sea

Ecosystem Restoration Plan, a preferred alternative for the restoration of the Salton Sea ecosystem and the protection of wildlife dependent on the ecosystem (see http://www.saltonsea.water.ca.gov/). Although the Ecosystem Restoration Plan is not scheduled for completion until December 31, 2006, it is anticipated that diversions of these brackish water sources, including brackish groundwater sources that augment irrigation return flows, would be contrary to the objectives of the plan. In addition, irrigation return flow is considered infeasible due to the cost of infrastructure development to deliver the water to the Project Site and the cost of water treatment and disposal.

Brackish groundwater under the ECGS Site has elevated TDS levels, which make this source of water infeasible from an economic and energy efficiency perspective. TDS values are estimated to be on the order of approximately 14,000 mg/L, which would require significant water quality treatment prior to use. Capital costs to develop a groundwater well collection and delivery system, treatment facilities, including sand filters, RO, chemical additives, and potentially a clarifier, would make the cumulative capital costs excessive for this water alternative uneconomic.

In addition to the poor quality of the groundwater, the quantity of developable groundwater supply in the area is limited. The shallow aquifers in the vicinity of the Project have very low transmissivities and therefore would not be able to provide the quantity of water needed by the Project.

Thus, this alternative was not chosen because it was considered environmentally undesirable and economically unsound.

Alternative 3: Municipal Wastewater

The El Centro WWTP located at 2255 North La Brucherie Road, is approximately 3.24 miles from the Project Site. This WWTP was designed to have a treatment capacity of 8 million gallons per day (mgd), and currently operates at a discharge of 3.6 mgd. The use of wastewater effluent from this facility by the Project was considered infeasible for the following reasons:

- The WWTP does not treat wastewater for industrial reuse nor does it distribute water for this purpose.
- Use of wastewater from the WWTP would require the Applicant to treat the incoming wastewater to cooling tower standards at additional costs which is infeasible.
- As with agricultural drainage flows discussed above, WWTP discharges are needed to maintain the level of the Salton Sea. Therefore, it is anticipated that diversions of these discharges for Project use would be contrary to the objectives of the Salton Sea Ecosystem Restoration Plan.

Therefore, this inland wastewater alternative is considered to be environmentally undesirable and infeasible due to (1) impacts on Salton Sea, and (2) increased infrastructure development in the form of linears and pump stations.

Alternative 4: Other Inland Waters

The following inland water supply sources were considered for the Project:

- Groundwater at or near the Project Site. Groundwater was rejected as a potential source due to poor quality and limited quantity identified in Alternative 2.
- Potable water from the City of El Centro. Potable water from the City of El Centro was not considered for industrial use at ECGS, so that it can be used for drinking water and other domestic uses. Potable water sources from the City of El Centro are derived from IID's water distribution system, which is from the Colorado River. Given an identical water source (Colorado River), utilization of the existing water treatment facility at the existing ECGS is optimal.
- Surface water from the Alamo River, New River and Imperial Valley Drains. Water from these sources has poor water quality and would not be suitable for use without substantial treatment. All are listed on the RWQCB's list of impaired waters as being impacted by agricultural return flows. Both the Alamo River and New River are also impacted by pollutants introduced from Mexico (RWQCB, 2004b).

No other inland waters exist; therefore inland water alternatives are considered environmentally and economically unfeasible.

6.13.1.7 Wastewater Streams

Historically, ECGS has discharged process wastewater under discharge limitations specified in the NPDES Permit (RWQCB, 2004a) issued to IID by the California RWQCB, Colorado River Basin Region. The process wastewater includes cooling tower blow-down, wash wastes, floor drain wastes, condensate wastes, evaporative cooler wastes, demineralizer ion exchanger wastes, boiler blow-down, hydrostatic test water, and reverse osmosis membrane reject wastes. The effluent is dechlorinated using a disulfite-based solution prior to discharge. The final effluent is discharged to Central Drain No. 5 adjacent to the ECGS Site.

The NPDES Permit for discharges from the entire ECGS issued in 2004 established discharge limitations for various constituents as required by the CTR. To address this requirement, IID conducted a regulatory evaluation to determine the most effective approach to comply with the discharge limitations. The NPDES Permit requires compliance with the CTR toxics discharge limitations by July 1, 2009. IID has selected the deep well injection system as the control strategy in compliance with the NPDES Permit. This technology selection is required by July 1, 2006.

Based on the evaluation, it was determined that the most cost effective approach to comply with the discharge limitations is to eliminate the discharge to the canal by installing a deep well injection system for wastewater from the existing cooling system at ECGS. The system consists of two Class I non-hazardous wastewater deep injection wells and will be located within the southern portion of the ECSG Site (see Figure 2-2b, Site Plan and Utility Interface, for the location of the deep wells). Wastewater from the entire ECGS will be injected approximately 2,000 feet below the ground into a highly saline, undifferentiated sand formation that is confined vertically by impermeable strata. IID is implementing the deep well injection wastewater disposal system in parallel with but independent of the Unit 3 Repower Project. Since the new process wastewater disposal system will be designed to accommodate either the existing Unit 3 discharge or the wastewater produced by the Unit 3 Repower Project the additional wastewater

produced by the new Unit 3, the disposal system will not be modified with implementation of the Project and therefore, is not discussed as part of the Project.

Blow-down from the new Unit 3's HRSG will be directed to the existing cooling tower and used as a source of make-up water to the existing cooling tower basin. Cooling tower blow-down and other process wastewater streams will be discharged into the deep well (approximately 2,000 feet bgs); therefore, there will be no discharge to surface waters. Equipment drains such as CTG water wash and fuel gas compressor liquid drains are collected in sumps for off-site disposal. Contact stormwater is contained, and either allowed to evaporate or directed to an oil water separator, and then processed for reuse as treated make-up water.

Sanitary wastes will continue to be discharged to the on-site septic system. There are no modifications to the sanitary waste system as part of the Project, since there will be no increase in the number of workers using the Project Site as a result of the Project.

The Project will generate the following wastewater streams as shown in Table 6.13-5, Unit 3 Wastewater Discharge Quantities. Characteristics of the various wastewater streams are summarized in Table 6.13-6, Summary of Wastewater Streams and Estimated Quality, and shown on the water balance diagrams (see Figures 2-6A through 2-6I).

TABLE 6.13-5
UNIT 3 WASTEWATER DISCHARGE QUANTITIES

	Wastewater	Average Daily Discharge (MGD)[1]	Maximum Daily Discharge (MGD)[2]	Annual Discharge[3] (acre-feet)
Existing Unit 3				
	Cooling Tower Blow-down	0.22	0.28	
	Evaporative Cooler Blow-down	0	0	
	Water Treatment Rejects	<0.01	<0.01	
	Total Wastewater	0.22	0.28	260
Unit 3 Repower Project				
	Cooling Tower Blow-down	0.22	0.33	
	Evaporative Cooler Blow-down	<0.01	<0.01	
	Water Treatment Rejects	<0.01	<0.01	
	Total Wastewater	0.22	0.33	283
Change (Repowered Unit vs Original)				
	Wastewater	0.00	0.05	23
	Percent Wastewater	0%	17.8%	8.8%

[1]Average daily values are based on 24-hour operation and assume average ambient conditions of 73°F and 45% RH. Values for discharge for the existing Unit 3 are based equivalent hours, since there are no permit limits for the existing Unit 3. For the Unit 3 Repower Project, average daily values assume non duct-fired operation.
[2]Maximum daily values are based on 24-hour operation and assume average ambient conditions of 115°F and 17% RH. Values for the existing Unit 3 represent permitted use and discharge. For the Unit 3 Repower Project, maximum daily values assume duct-fired operation.
[3]Average annual discharge is based on 8000 operating hours and represents weighted averages. Yearly operation considers ambient conditions and whether the operations are duct-fired or non duct-fired.

TABLE 6.13-6
SUMMARY OF WASTEWATER STREAMS AND ESTIMATED QUALITY

Wastewater Stream	Composition	Flow Rate[1]	Comments
HRSG Blowdown Tank Discharge	Water	~7gpm	Discharge water reused as Cooling Tower make-up.
CTG Evaporative Cooler Blowdown	Water	~3 gpm	Blow-down water directed to ECGS wastewater system.
Cooling Tower Blow-down	Water	~220gpm	Blow-down water directed to ECGS wastewater system.
CEMS Equipment	Water	~0 gpm	Minor condensation of water vapor within CTG exhaust recovered through plant wastewater system.
STG and Auxiliary Drains and Containment (Turbine Building)	Water	Intermittent – during startup and shutdown	Contaminated drains routed through oil water separator; any oil spill contained and disposed of off-site. (This is an existing waste stream that will now be recovered.)
CTG Water Wash Drains	Water and heavy hydrocarbons	Intermittent - Based upon maintenance	Collected in dedicated drains tank for periodic off-site disposal. (Unit 3 will utilize existing Unit 2 Water Wash system.)
CTG Accessory Compartment Containment	Wash down water	Intermittent – Based on maintenance	Containment Valve Closed, controlled drainage of wash down water to oil water separator; any oil spill contained and disposed of off-site.
CTG GSU Transformer Containment	Water	Intermittent – Based on Rainfall	Isolated Containment - Contact storm water is allowed to evaporate; any oil spill contained and disposed of off-site.
STG GSU Transformer Containment	Water	Intermittent – Based on Rainfall	Isolated Containment - Contact storm water is allowed to evaporate; any oil spill contained and disposed of off-site. (This is an existing waste stream that will now be contained.)
Auxiliary Transformer Containment	Water	Intermittent – Based on Rainfall	Isolated Containment – Contact storm water is allowed to evaporate; any oil spill contained and disposed of off-site.
Fuel Gas Final Filter Liquid Drains	Water and heavy hydrocarbons	Based upon fuel gas stream impurities	Collected in dedicated drains tank for periodic off-site disposal.

Notes:
[1]Flow rate represents maximum daily rate, which is based on based on 24-hour operation and assumes average ambient conditions of 115°F and 17% RH and duct-fired operation of Unit 3.
~ = approximately
CEMS = continuous emissions monitoring system
CTG = combustion turbine generator
gpm = gallons per minute
GSU = generator step-up
HRSG = heat recovery steam generator
STG = steam turbine generator

6.13.1.8 Stormwater Runoff

The existing ECGS Site is generally flat and there is a minimal amount of rainfall that occurs during the year (approximately 3 inches per year). Therefore, there is little potential for soil erosion. The ECGS implements structural and non-structural control measures to prevent the potential contamination of stormwater generated at the ECGS Site. When enough precipitation occurs to generate runoff, it drains to one of five impound areas. These five areas are described in the SWPPP for ECGS (D-Max 1998). The Project Site is located in Drainage Area D as described in the SWPPP (see Appendix L, Water Resources Information, Attachment B, ECGS SWPPP). The discharge point for Drainage Area D is a manhole and control gate northwest of Unit 1. This outlet consists of an 18-inch pipe draining to a 24-inch pipe that discharges to Central Drain No. 5. Closing the control gate allows plant personnel to visually inspect and test stormwater prior to release to the Central Drain. If the impounded water appears unacceptable for discharge, it is pumped by vacuum truck and disposed of properly off-site. The Central Drain discharges to the Alamo River and ultimately to the Salton Sea. The discharge of stormwater from the entire ECGS is permitted under the General Industrial Stormwater Permit; however, according to ECGS Site personnel, the limited stormwater runoff that occurs ponds on ECGS Site and eventually evaporates and does not discharge off-site. No changes are proposed for Stormwater discharges as part of the Project.

The Project would not substantially alter the existing drainage patterns of the ECGS Site in a manner that would result in substantial erosion or siltation on or off-site. Stormwater management in the area where the new CTG/HRSG will be located will not be altered as a result of the new construction. The new equipment will be elevated slightly above the existing grade to maintain the existing stormwater drainage paths and avoid stormwater from contact with the equipment. The Project involves adding a CTG/HRSG to repower the existing unit, and therefore, the additional amount of impervious area at ECGS is minimal. There would be no substantial increase in the rate or amount of surface water runoff that could result in flooding on- or off-site. The grading in the Project Site will be designed to direct non-contact stormwater runoff by surface flow to the existing discharge point in Drainage Area D.

The existing SWPPP will be updated to reflect the new Unit 3, in accordance with the NPDES General Permit for Storm Water Discharge Associated with Industrial Activities (NPDES CAS000001, Order No. 97-03-DWQ).

Because the Project will disturb more than 1 acre of land, a NOI to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction Activities (NPDES CAS000002, Order No. 99-08-DWQ) will be submitted prior to construction. A SWPPP for construction will be developed and implemented in accordance with this permit. The SWPPP will identify and assess potential sources of pollutants and describe the appropriate BMPs that will be implemented during construction to reduce or prevent pollutants in stormwater discharge and to minimize potential for erosion or siltation on- or off-site. The construction laydown and staging areas will be returned to pre-construction conditions. At the conclusion of the construction, a Notice of Termination will be filed to terminate coverage under the General Permit.

6.13.1.9 Flooding Hazards

Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Map (FIRM) Community Panel Numbers 0600650600B, 0600650625B 060065800B, and 060065825B (FEMA 1984) indicate that the 100-year floodplains are generally associated with the rivers in the region (i.e., the Alamo River and the New River). These rivers and their associated floodplains are several miles away from the Project Site. Therefore, the Project Site is not within a 100-year floodplain area.

The Project Site is situated at about Elevation 50 feet below sea level and approximately 200 miles from the Gulf of California. While the potential may exist for inundation in the event of a tsunami within the Gulf of California, the configuration of the Gulf of California, and the higher ground surface elevation near Calexico, would make such an event highly unlikely. There are no records, which indicate that tsunamis have impacted the Imperial Valley in the last several hundred years.

There is the potential that a seiche could occur within one of the shallow reservoirs immediately west of the Project Site. This could result in limited earthquake induced flooding at the Project Site.[3]

6.13.2 Environmental Consequences

To evaluate the environmental consequences of the Project relative to water resources, the following criteria were used to determine if Project-related impacts would be significant. Impacts would be considered significant if the Project would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere with groundwater recharge.
- Substantially alter the existing drainage pattern, including through the alteration of a stream course or river, resulting in substantial erosion.
- Substantially alter the existing drainage pattern, including through the alteration of a stream course or river, resulting in substantial surface runoff.
- Create or contribute surface water runoff that would exceed existing stormwater drainage systems, or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place structures or housing within a 100-year flood hazard area.

Based on the analysis in this section, it was determined that the Project will not affect any of these water resources impact areas.

[3] Geotechnical Investigation, Unit 3 Generation Station, El Centro, California, Geotechnics Incorporated, March 17, 2006.

6.13.2.1 Groundwater Quality and Supply

The quality of the groundwater beneath the Project Site has been impacted primarily by historical agricultural land uses, recharge from surface runoff, and the seepage from unlined agricultural canals in the region. As a result, the groundwater is high in TDS and generally unusable for domestic and irrigation purposes without treatment.

In the Imperial Valley area depth to groundwater is commonly less than 15 feet bgs[4]. As described in Section 6.13.1.1, Groundwater Quality and Supply, groundwater at the Project Site has been observed in borings approximately 4 to 6 feet bgs.

A review of the California DWR, USGS online NWIS database, and an in-depth Internet search did not identify any production wells within the Imperial Valley area. This is primarily due to the low quality of the groundwater in the Imperial Valley Basin.

The Project Site surface area will be either paved or covered with gravel in proximity to the CTG/HRSG. Surface runoff will be controlled so as not to impact the quality of groundwater resources.

Construction activities will include subsurface excavations to approximately 10 feet below grade. Data from recent investigations conducted at the Project Site suggest that groundwater below the footprint may be present at approximately 4 to 6 feet bgs. Therefore, there is the potential that dewatering may be required as part of construction. If the excavation requires dewatering, proper implementation of BMPs during construction, as well as adherence to all applicable codes and permits, will minimize the potential for contamination of shallow groundwater. The dewatering effluent would be collected, tested, and disposed appropriately.

6.13.2.2 Surface Water Quality

As described above in Section 6.13.1.8, Stormwater Runoff, the ECGS implements BMPs to reduce or prevent pollutants associated with industrial activities in stormwater discharges. A SWPPP that describes these BMPs already exists for ECGS; only minor edits are anticipated for this plan. In addition, construction BMPs will be implemented to control runoff and any impacts to surface water quality.

There will be no discharge of any process waters to surface water bodies. Therefore, there will be no significant surface water quality impacts to surrounding canals or ultimately to the Salton Sea.

Spill protection measures will be implemented as part of the Project as described in other sections of this document. Containment structures and berms will be installed at chemical storage and handling areas to prevent the release of contaminants from new storage areas as part of the Project. As described in Section 6.14, Hazardous Materials, a Spill Prevention, Control, and Countermeasures Plan (SPCC) already exists for the ECGS, only minor edits are anticipated for this plan as part of the Project. Therefore, there will be no potential impacts to surface water quality from any releases of contaminated materials.

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[4] NWIS, 2006, *National Water Information System*, http://nwis.waterdata.usgs.gov/nwis/qwdata reviewed March 20,2006

6.13.2.3 Flooding Hazards

The Project will not increase the risk of flooding, erosion, or siltation. There will be only minimal changes in absorption rates, drainage patterns, or the rate or amount of surface runoff due to the additional surface paving and the replacement of equipment associated with the Project. The Project Site does not receive stormwater runoff from off-site and is not within a 100-year floodplain.

6.13.3 Cumulative Impacts

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. There are no provisions of the Project that result in significant adverse Project-specific water resources impacts. Therefore, the Project's contribution to cumulative water resources impacts is not considered to be cumulatively considerable and, therefore, is not significant.

6.13.4 Mitigation Measures

The Project would offer tremendous improvements in water use efficiency, however, on an equivalent operating hour basis there would be a slight increase in annual water use as compared to the existing Unit 3 STG. Therefore the Applicant has committed to limit annual water use to 1,029 acre-feet. Based on the fact that there are no other Project-specific water resources impacts, there are no additional mitigation measures for this Project. BMPs have been incorporated into the Project design to reduce any potential impacts on water resources.

6.13.5 Laws, Ordinances, Regulations, and Standards

The Porter-Cologne Water Quality Control Act (Porter-Cologne) is the principal law governing water quality regulation in California. This statute established the SWRCB and the nine RWQCBs, which are charged with implementing its provisions. Porter-Cologne establishes a comprehensive program for the protection of water quality and the beneficial uses of water. It applies to surface waters, wetlands, and groundwater, and to both point and non-point sources. Porter-Cologne is found in the California Water Code beginning with Section 13000. In addition, Title 23 of the CCR contains administrative and regulatory elements of water quality and quantity management in California. The SWRCB was formed in 1967 when the State Water Rights Board and the SWQCB were merged by the State Legislature, based on the realization that decisions affecting water quality and water rights are inseparable. Under its dual legal authority, the SWRCB allocates rights to the use of surface water and, together with the nine RWQCBs, protects water quality in all waters of the state.

The Project Site is located within Region 7 – the Colorado River Basin RWQCB. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. The RWQCBs have responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions.

Porter-Cologne also incorporates many provisions of the federal CWA such as delegation to the SWRCB and RWQCBs of the NPDES permitting program.

The California SWRCB Water Quality Order 99-08-DWQ: "National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction Activity (General Permit)" authorizes a general permit for stormwater discharges associated with construction activities that disturb more than 1 acre. Construction activities subject to the permit include cleaning, grubbing, grading, stockpiling, and excavation activities. The General Permit requires submittal of an NOI to comply with the permit and the development of an SWPPP for construction activities. The SWPPP will describe BMPs to prevent stormwater pollution during construction activities. BMPs include erosion controls, sediment controls, and other controls to prevent stormwater from contracting pollutants. The SWPPP will also include a stormwater monitoring program.

The California RWQCB Central Valley Region Order 5-00-175 "Waste Discharge Requirements General Order for Dewatering and Other Low Threat Discharges to Surface Waters" addresses potential discharges of low water quality-threat wastewater. Such discharges include: (1) short duration (4 months or less) or (2) low flow (average dry weather discharge does not exceed 0.25 mdg). Types of discharges covered by this permit include: (1) well development water, (2) construction dewatering, (3) pump/well testing, (4) pipeline/tank pressure testing, (5) pipeline/tank flushing or dewatering, (6) condensate, (7) water supply system, and (8) miscellaneous dewatering and low-threat discharges.

The Project will be constructed, operated, and maintained in accordance with all applicable LORS. The LORS that are potentially applicable to this Project are identified in Table 6.13-7, Applicable Water Resource LORS, including the LORS that require a permitting effort.

TABLE 6.13-7
APPLICABLE WATER RESOURCE LORS

LORS	Administering Agency	Applicability	Conformance
FEDERAL			
Clean Water Act §402	RWQCB-Region 7	Stormwater runoff during construction is subject to NPDES requirements.	The Project will prepare a Notice of Intent to comply with the NPDES general construction permit. Further, a Stormwater Pollution Prevention Plan will be prepared and implemented.
STATE			
Porter-Cologne Act	RWQCB-Region 7	Stormwater runoff during construction is subject to NPDES requirements.	The Project will prepare a Notice of Intent to comply with the NPDES general construction permit. Further, a Stormwater Pollution Prevention Plan will be prepared and implemented.

TABLE 6.13-7
APPLICABLE WATER RESOURCE LORS

LORS	Administering Agency	Applicability	Conformance
Porter-Cologne Act	RWQCB-Region 7	Stormwater runoff from industrial facilities is subject to NPDES requirements.	ECGS currently operates in conformance with the NPDES General Industrial Permit for stormwater discharge. The existing Stormwater Pollution Prevention Plan will be updated to reflect the new Unit 3.
Porter-Cologne Act	RWQCB-Region 7	Low Threat Water Discharge Permit; California RWQCB Central Valley Region Order 5-00-175 (Allows discharge of short duration or low-threat wastewater.)	The Project will file a permit to comply with the NPDES Low Threat Discharge Permit, if needed. This would apply to discharges associated with pressure testing of pipes and dewatering activities during construction.

Notes:
No local LORS apply.
LORS = Laws, Ordinances, Regulations, and Standards
NPDES = National Pollutant Discharge Elimination System
RWQCB = Regional Water Quality Control Board

6.13.5.1 Federal

CWA of 1977 (including 1987 amendments) §402; 33 USC §1342; 40 CFR Parts 122-136

Administering Agency: RWQCBs.

Compliance: The Project will file an NOI and comply with the NPDES General Permit No. CAS000002 for stormwater runoff associated with construction activities.

6.13.5.2 State

California Porter-Cologne Water Quality Control Act of 1998; California Water Code §13000-14957; Division 7, Water Quality.

Administering Agency: SWRCB, RWQCB.

Compliance: This statute established the SWRCB and the nine RWQCBs, which are charged with implementing its provisions. Porter-Cologne establishes a comprehensive program for the protection of water quality and the beneficial uses of water. It applies to surface waters, wetlands, and groundwater and to both point and non-point sources.

Porter-Cologne also incorporates many provisions of the federal CWA, such as delegation to the SWRCB and RWQCBs of the NPDES permitting program.

6.13.5.3 Local

No applicable local LORS or codes have been identified.

6.13.5.4 Industry

No applicable industry LORS or codes have been identified.

6.13.6 Involved Agencies and Agency Contacts

Imperial County
Planning/Building Development Department
801 Main Street
El Centro, CA 92243
Phone: 760.482.4236
http://www.imperialcounty.net/planning

Imperial County
Division of Environmental Health Services
Courthouse – B7
939 Main Street
El Centro, CA 92243
Phone: 760.482.4203
Contact: Mark Johnston, Supervisor

Colorado River Basin RWQCB (Region 7)
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
Phone: 760.346.7491
http://www.waterboards.ca.gov/coloradoriver/region7.html

6.13.7 Permits Required and Permit Schedule

This section describes the required permits related to water resources for the Project. Table 6.13-8, Permits Required, summarizes these required permits.

TABLE 6.13-8
PERMITS REQUIRED

Responsible Party	Permit/Approval	Schedule
RWQCB	File NOI to comply with the Construction Activities Stormwater General Permit (controls stormwater runoff during construction) and implement a Stormwater Pollution Prevention Plan.	Prior to start of construction.
RWQCB	Discharge permit for dewatering from excavation and for pipe testing water.	Prior to start of construction.

Notes:
NOI = Notice of Intent
RWQCB = Regional Water Quality Control Board

The California SWRCB Water Quality Order 99-08-DWQ: "NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit)" authorizes a general permit for stormwater discharges associated with construction activities.

The General Permit requires submittal of an NOI to comply with the permit and the development of an SWPPP for construction activities. The SWPPP will describe BMPs, including erosion controls, sediment controls, and other controls to prevent stormwater from affecting off-site surface water bodies. The SWPPP will also include a stormwater monitoring program.

In the event that during detailed design, water testing of pipe systems is identified, or the need for dewatering arises during construction, the Project will file an Application for the Dewatering and Low Threat Discharges to Surface Waters Permit, Order No. 5-00-175 (NPDES CAG995001).

6.13.8 References

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_____. 1981. State of California, South Half, Scale 1:500,000.

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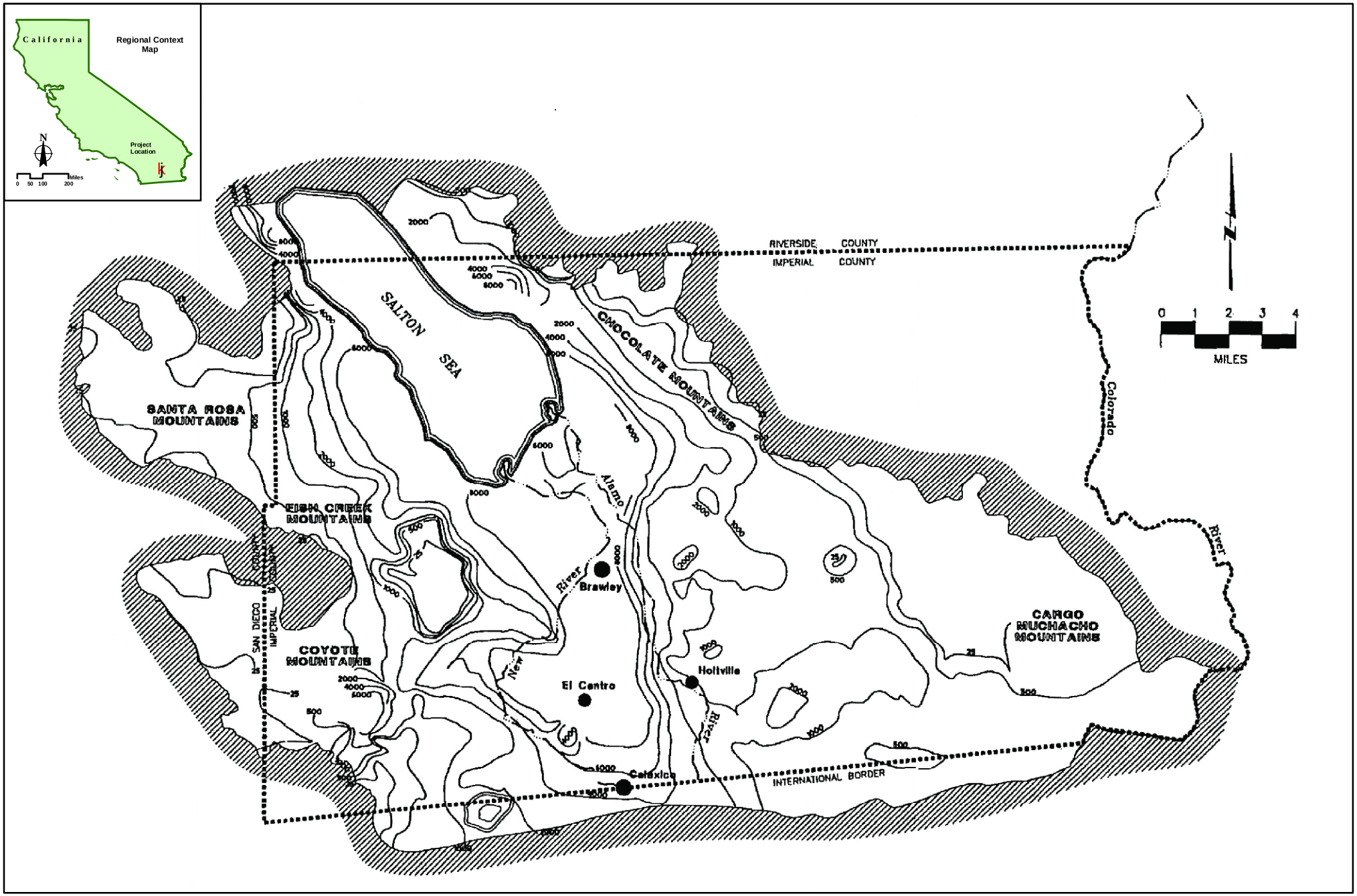


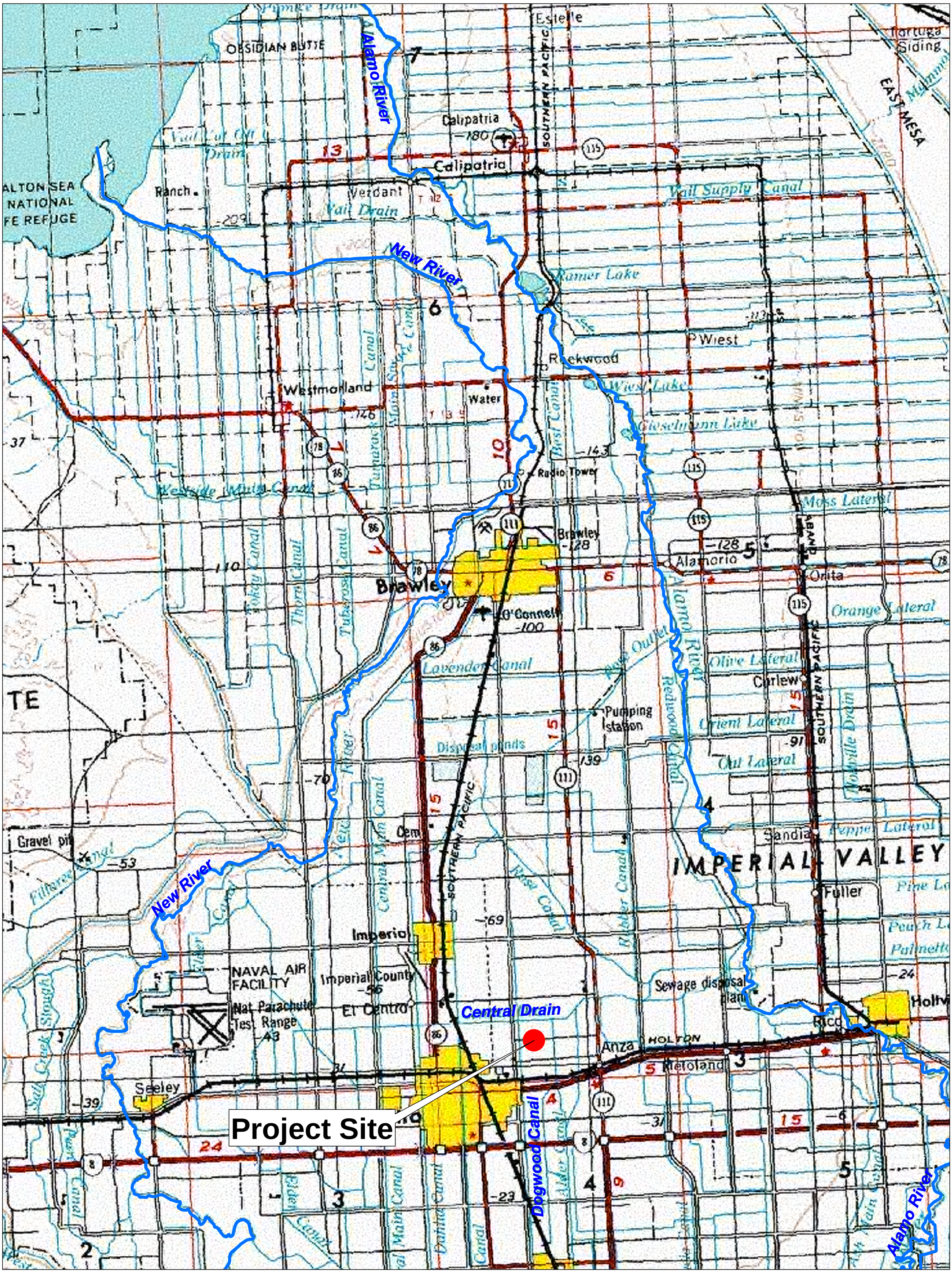
Source: Montgomery Watson, 1996
Note: TDS concentrations are in mg/l

TDS Concentrations in Aquifers in Project Vicinity

El Centro Unit 3 Repower Project
Imperial Irrigation District

URS

FIGURE 6.13-1



Legend

- Canals and Ditches
- Rivers

N

0 1 2 Miles

Hydrologic Features

El Centro Unit 3 Repower Project
Imperial Irrigation District

URS

FIGURE 6.13-2