MINUTE ITEM
This Calendar Item No. C15
was approved as Minute Item
No. 15 by the State Lands
Commission by a vote of 3
to 0 at its 8/10/88
meeting.

CALENDAR ITEM

A 10, 11 C15 08/10/88
W 24169 PRC 7230
S 7 Bancroft

GENERAL LEASE - RIGHT-OF-WAY USE

APPLICANT: GWF Power Systems Company, Inc.
17780 Fitch Street, Suite 240
Irvine, California 92714

AREA, TYPE LAND AND LOCATION:
Three sites of 500 sq. ft. each located within tide and submerged lands; two in San Joaquin River, one in Suisun Bay, Contra Costa County.

LAND USE: Submerged pipe outfalls for discharge of effluent from power generating plants.

TERMS OF ORIGINAL LEASE:
Initial period: 30 years beginning August 1, 1988.

Surety bond: Not required.

Public liability insurance: Combined single limit coverage of $500,000.

Consideration: $300 per annum; five-year rent review.

Royalty: N/A.

BASIS FOR CONSIDERATION:
Pursuant to 2 Cal. Adm. Code 2003.

APPLICANT STATUS:
Applicant is lessee of upland.

PREREQUISITE CONDITIONS, FEES AND EXPENSES:
Filing fee has been received.

STATUTORY AND OTHER REFERENCES:

A. P.R.C.: Div. 6, Parts 1 and 2; Div. 13.

B. Cal. Adm. Code: Title 2, Div. 3; Title 14, Div. 6.

AB 884: 12/08/88.

OTHER PERTINENT INFORMATION:

1. GWF Power Systems Company, Inc. proposes to construct three (3) electrical generating plants on privately owned uplands at two (2) locations on the San Joaquin River and one (1) location on Suisun Bay, Contra Costa County.

   Operation of these plants will require the discharge of effluent into the river and bay via submerged outfalls and diffusers located within right-of-ways located within State-owned tidelands.

2. The annual rental value of the site is estimated to be $300 for three (3) sites.

3. An EIR was prepared and adopted for this project by the Bay Area Air Quality Management District. The State Lands Commission's staff has reviewed such document.

4. This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

C.O.E. Sites III and IV; Site V awaiting BCDC approval; Bay Area Air Quality Management District - all sites.

FURTHER APPROVALS REQUIRED:
BCDC, Site V; Department of Fish and Game, City of Antioch, Site III; San Francisco (Site V) and Central Valley (Sites III and IV) Regional Water Quality Control Boards.

EXHIBITS:
A. Land Description.
B. Location Map.
C. EIR Summaries
D. CEQA Findings

IT IS RECOMMENDED THAT THE COMMISSION:

1. FIND THAT AN EIR PREPARED AND ADOPTED FOR THIS PROJECT BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THERE.

2. ADOPT THE FINDINGS CONTAINED IN EXHIBIT "C" AS PREVIOUSLY ADOPTED BY THE CEQA LEAD AGENCY, THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT.

3. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

4. AUTHORIZE ISSUANCE TO GWF POWER SYSTEMS COMPANY, INC. OF A 30-YEAR GENERAL LEASE - RIGHT-OF-WAY USE BEGINNING AUGUST 1, 1988; IN CONSIDERATION OF ANNUAL RENT IN THE AMOUNT OF $300, WITH THE STATE RESERVING THE RIGHT TO FIX A DIFFERENT RENTAL ON EACH FIFTH ANNIVERSARY OF THE LEASE; PROVISION OF PUBLIC LIABILITY INSURANCE FOR COMBINED SINGLE LIMIT COVERAGE OF $500,000; FOR THE LOCATION OF SUBMERGED EFFLUENT OUTFALLS AT TWO (2) SITES ON THE SAN JOAQUIN RIVER, AND ONE (1) SITE ON SUISUN BAY, CONTRA COSTA COUNTY ON THE LAND DESCRIBED ON EXHIBIT "A" ATTACHED AND BY REFERENCE MADE A PART HEREOF.

EXHIBIT "A" W 24169

LAND DESCRIPTION

Three strips of tide and submerged land each 10 feet wide in Contra Costa County, California, the centerlines of said strips being described as follows:

PARCEL 1 (Site 3)

BEGINNING at a point having coordinates of N=554,110, E=1,631,430; thence North 50 feet to the end of the herein described line.

PARCEL 2 (Site 4)

BEGINNING at a point having coordinates of N=555,800, E=1,638,180; thence North 50 feet to the end of the herein described line.

PARCEL 3 (Site 5)

BEGINNING at a point having coordinates of N=568,650, E=1,571,770; thence North 50 feet to the end of the herein described line.

EXCEPTING THEREFROM any portion lying landward of the ordinary high water mark.

This description is based on the California Coordinate System of 1927, Zone 3.

END OF DESCRIPTION

PREPARED JUNE 6, 1988 BY BIU 1.

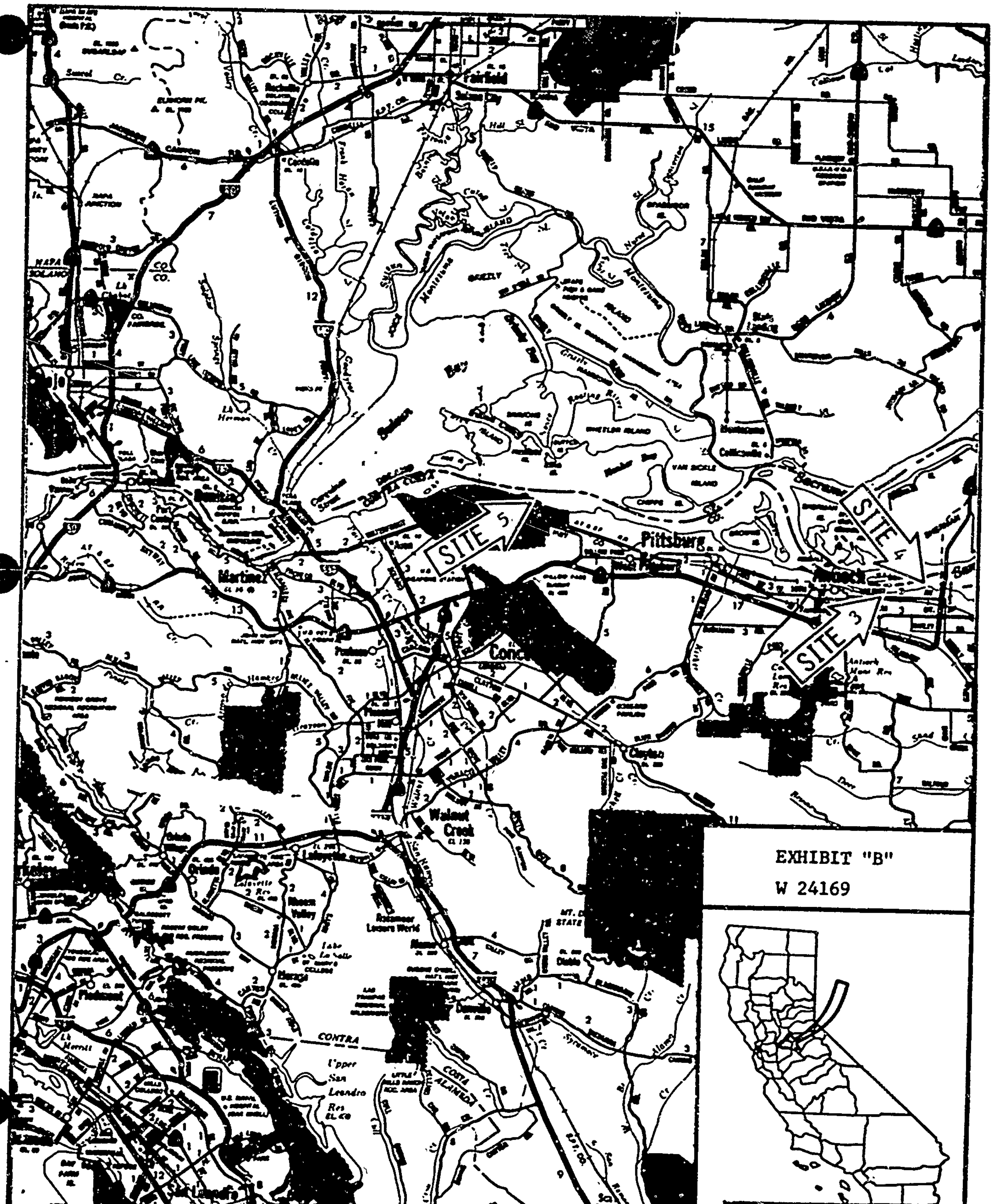

EXHIBIT "B"

W 24169

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EXHIBIT C

EIR SUMMERIES

1.0 EXECUTIVE SUMMARY - PARCEL 1 (Site 3)

This Draft Environmental Impact Report (DEIR) addresses the environmental impacts from the Wilbur Avenue West Power Plant proposed to be constructed in eastern Contra Costa County by GWF Power Systems Company, Inc., (GWF). This plant would be one of five such plants in the County designed to burn petroleum coke, a by-product of nearby oil refineries. As Lead Agency for these projects, the Bay Area Air Quality Management District (BAAQMD) has determined that an EIR is required for each of the five plants under the California Environmental Quality Act (CEQA) because of potentially significant environmental impacts. This DEIR focuses on the environmental impacts of the Wilbur Avenue West Power Plant, and also addresses cumulative impacts of all five power plants and other reasonably foreseeable future projects.

1.1 Project Description

GWF Power Systems Company, Inc., has proposed the construction and operation of a small power plant in eastern Contra Costa County to be known as the Wilbur Avenue West Power Plant. The objective of this project is to use petroleum coke, a by-product of the oil refining process, as fuel to generate electricity. This power plant would generate 19.7 megawatts (MW) of electricity, about 1.4 percent of the generating capacity of Pacific Gas and Electric's (PG and E) Contra Costa Power Plant east of Antioch. Of the gross 19.7 megawatts of electricity produced, 17.2 megawatts would be sold to PG and E. The remaining 2.5 megawatts would be used to run the facility's pumps, compressors, and auxiliary equipment.

The Wilbur Avenue West Power Plant would use petroleum coke from nearby refineries, such as Tosco (Avon) and Exxon (Benicia), as fuel to generate electrical power. The petroleum coke is a resource that is currently exported. Low-sulfur bituminous coal and low-sulfur fuel oil would be used as backup fuels, not to exceed 25 percent of the annual energy input. Heat created by the combustion of the coke or coal would provide energy for a

boiler to generate high temperature/high pressure steam. The steam would drive a turbine for the generation of electric power.

The Wilbur Avenue West Power Plant would require various resources in addition to petroleum coke and coal. Several chemicals would be used to reduce air emissions, including sorbent (limestone or dolomite) and ammonia. Water treatment would require the use of sulfuric acid, caustic soda, and chlorine. The coke, coal, fuel oil, and process chemicals would be delivered by trucks and stored on site. The plant would also require about 471,400 gallons per day of water.

Wastes generated by the plant would include about 27 tons per day of ash. The ash would be stored in silos and hauled away in trucks to cement or plaster board companies or to a landfill. The plant would generate about 72,400 gallons per day of wastewater. Wastewater would be discharged into an on-site percolation pond or into the San Joaquin River. This DEIR addresses both wastewater disposal options. The plant would also emit air pollutants, including particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon monoxide (CO), hydrocarbons, and heavy metals. NO_x, SO_2, and CO would be controlled by application of Best Available Control Technology (BACT) to include injection of ammonia and sorbent in the combustion process. A fabric filter baghouse would be used to control particulate matter.

1.2 Project Location

The Wilbur Avenue West Power Plant is one of five small power plants proposed in eastern Contra Costa County by GWF Power Systems Company, Inc. Of the five sites, the Wilbur Avenue West Power Plant is designated as Site III. These five sites were chosen for their proximity to the sources of petroleum coke and their access to the necessary utilities.

The proposed site for the Wilbur Avenue West Power Plant is inside the Antioch city limits on the south side of Wilbur Avenue, north of the Atchison, Topeka, and Santa Fe railroad right-of-way. This site is zoned for industrial uses. Adjacent land uses are industrial. Other nearby uses include one residence 150 feet north of the site and several residential subdivisions 750 feet to the south.

1.3 Beneficial Effects

Beneficial impacts of the proposed project would include generation of electricity, local utilization of an available refinery by-product, generation of employment, and public revenues, as discussed below.

1.3.1 Energy Generation

The proposed project would generate 17.2 net megawatts of electricity for distribution on the PG and E system consistent with the Public Utility Regulatory Policies Act (PURPA) of 1978. The proposed project would use petroleum coke as the primary energy source and would, therefore, reduce the use of finite natural resources, such as natural gas, for the generation of electricity. The electricity produced by the proposed project would displace energy generated in the PG and E system resulting in a decrease of air pollutant emissions from present oil and natural gas-fired power plants.

1.3.2 Local By-Product Utilization

Petroleum coke is a by-product of refinery operations in Contra Costa and Solano Counties. Currently the coke is sold and transported overseas. The proposed project would use the coke resource locally and reduce the quantity of petroleum coke currently stored in uncovered piles at the Diablo Services Facility awaiting shipment overseas.

1.3.3 Employment

The proposed small power plant would create permanent jobs for 15 people at the plant. It would probably generate another 55 jobs in the economy of the region.

1.3.4 Public Revenues

In addition to employment generation, the proposed project, when it is completed in 1989, would generate $250,000 per year in public revenues in the form of property tax increments and development fees.

1.4 Adverse Environmental Effects

The proposed project would have a number of adverse environmental effects as well. However, mitigation measures proposed as part of the project or recommended by the EIR consultant would reduce these impacts below levels that would normally be considered significant as defined in the CEQA Guidelines (15382 and Appendix G). These adverse effects, their significance, and their mitigation are summarized in Table 1.4-1.

1.5 Public Health Impacts

The maximum individual risk of cancer associated with the proposed facility during operation was estimated to be 1.4×10^{-6}. The maximum individual cumulative risk of cancer associated with the five proposed GWF facilities was estimated to be 2.6×10^{-6} (BAAQMD, 1987c). These estimates assume that a hypothetical individual lives his or her entire life, 24 hours per day, at the point of maximum emission impact.

The estimated cancer burden associated with the proposed facility was calculated to be 0.11 cases and the cumulative cancer burden was calculated to be 0.6 cases (BAAQMD, 1987c). Excess cancer burdens of less than one are generally recognized as being insignificant.

TABLE 1.4-1. SUMMARY OF POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

Potential Impacts	Mitigation Measures[a]
Geology	
1. Insignificant alternations in the soil horizons.	1. No mitigations are necessary.
Seismicity	
1. Damage or destruction of facilities during an earthquake; associated fire or human life hazard.	1. Adhere to applicable standards of practice and building codes for seismic hazard areas; equip pipes carrying flammable materials with automatic shut-off valves and design them to minimize potential for breakage; install vibration monitoring and warning devices on the steam turbine, cooling tower, and other essential plant equipment with automatic shut-down capability.
Soils	
1. Increased erosion during construction.	1. Landscape areas of bare soil with native plants after construction; avoid undercutting the north bank fill materials.
2. Potential introduction of hazardous materials into soils.	2. Place tanks containing acids, caustics, and oil on concrete slabs and surround them with containment walls.
3. Compaction of soils, resulting in reduced percolation of water into ground.	3. Reduce surface compaction by applying organic mulch in high-traffic areas; construct drainage channels to accommodate increased runoff from the site.
4. Ponding from runoff from Wilbur Avenue.	4. Pump ponded water into drainage system.
5. Soil instability prohibits use of spread-type foundations.	5. Remove existing sand fill to a depth of 12 feet, then replace and recompact the fill.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
Hydrology	
1. Increased runoff and ponding during and after construction.	1. Construct on-site drainage culverts to ensure adequate drainage.
2. If wastewater is discharged into San Joaquin River, water contamination could occur.	2. Sample the effluent for pH, temperature, and total dissolved solids as directed by the Regional Water Quality Control Board.
3. If percolation pond discharge option is chosen, ground-water quality could be impacted.	3. Install monitoring wells upgradient and downgradient of the percolation pond and analyzes samples as required by the Regional Water Quality Control Board.
4. Contamination of water from leaking storage tanks.	4. Place tanks on concrete slabs and build containment walls around them to contain potential spills.
Coastal Resources	
1. Habitat destruction along the San Joaquin River could occur if earth or fill materials are disposed of near the river.	1. Dispose of fill material at an appropriate upland location.
Air Quality	
1. Increased local emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons, and trace amounts of metals and organics from facility operation.	1. Apply best available control technology, specifically: • sorbent injection (sulfur dioxide control); • ammonia injection (nitrogen oxides control); • fabric filter baghouse (particulate matter and metals control); • cyclones (large particle control); and • combustion controls (carbon monoxide and hydrocarbon emissions control).

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
2. Fugitive dust during construction.	2. Spray water at least twice daily during construction.
3. Fugitive dust during operation.	3. Apply negative air pressure and use an enclosed fuel transfer and handling system with exhaust to fabric filter baghouse to reduce. fugitive dust.
Vegetation and Wildlife	
1. Insignificant impacts on vegetation and wildlife.	1. No mitigations are necessary.
Land Use/Aesthetics/Noise	
1. Construction and operation noise.	1. Equip all construction equipment with mufflers; direct potentially annoying noise sources towards interior of facility.
2. Stack and other structures visible from surrounding areas.	2. Landscape facility site; direct lights to interior of facility; limit stack lights to aircraft warning lights; use sodium instead of mercury lights to reduce glare; limit height of light posts to 12 feet.
Population, Housing, and Employment	
1. The proposed project would have a small beneficial impact on local and regional employment.	1. Not applicable.
Traffic and Circulation	
1. Increased light-duty vehicle and truck traffic.	1. This additional traffic would not cause any local roadways to experience unacceptable levels of service.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
2. Project traffic entering the site from Wilbur Avenue could cause congestion along Wilbur Avenue, impairing traffic safety.	2. Install a turn lane at the site access point on Wilbur Avenue.
Public Services	
1. Fire protection for the facility would strain the service capabilities of the Riverview Fire Protection District.	1. Pay fire facilities element fees to offset the cost of providing fire protection to the project site; provide on-site access roadways with all-weather driving surfaces and specified widths and clearances.
2. Flood hazard impacts on local flood control district.	2. Install a stormwater drainage system that drains directly into the San Joaquin River, and pay drainage fees to connect the facility with the Wilbur Avenue storm drain proposed for the area.
3. Potential impacts on the City of Antioch from supplying project water.	3. Pay water services fees to offset the cost of providing water to the facility.
Cultural Resources	
1. Disturbance of culturally sensitive sites in project area.	1. No culturally sensitive sites identified in project vicinity; if encountered during construction, findings should be evaluated by a qualified archaeologist.

[a] Proposed and/or recommended mitigation measures would reduce all anticipated adverse impacts to insignificance.

1.6 Cumulative Impacts

A cumulative air quality impact analysis that assumed simultaneous operation of the proposed project and seven other proposed projects (four GWF facilities and three additional new sources in the region) was conducted. This analysis, presented in Section 7.0, indicates that there would be no exceedance of any federal or state air quality standards due to emissions from these projects.

The cumulative impacts on traffic and public services indicate that there would be no significant environmental impacts associated with construction and operation of the proposed GWF projects.

1.7 Economic Impacts to Ratepayers

Electricity ratepayers would be affected by operation of the five proposed GWF projects because PG and E is contractually obligated to purchase the electricity produced by GWF at agreed-upon rates with all payments to GWF being automatically passed through to ratepayers by PG and E. Any savings to PG and E from using GWF to supply electricity rather than other units in the PG and E system would also be passed on to ratepayers. Therefore, the effect on ratepayers from operation of the GWF plants depends upon whether the contractual payments to GWF are greater or less than savings to PG and E from use of other power facilities.

Operation of the five proposed GWF projects would result in a negative economic impact (cost to ratepayers) from $37 million to a maximum of $147 million over the 25-year life of the projects, depending on the assumptions used and discount rate selected. The negative ratepayer impact would equal a one-time payment by a typical residential customer in the PG and E system of between $3.44 and $13.94, equivalent to an increase in a typical monthly electrical bill of 6 cents to 20 cents through the year 1997.

1.8 Growth-Inducing Impacts

The proposed project should have a very limited, and not significant, growth-inducing impact on eastern Contra Costa County. The operating facility would employ 15 full-time personnel. Higher employment during construction would be temporary.

Construction of the five proposed GWF projects would require a maximum of 200 to 220 workers during a six-month peak construction period, and approximately 140 workers over the entire 27-month construction period for all 5 plants. These projects would not require the extension of public services or produce commodities that would generate significant growth in the area.

The proposed project is not designed to be a cogeneration facility and, therefore, is not expected to attract additional industrial steam users.

1.9 Alternatives to the Proposed Project

Six alternatives to the proposed 19.7 MW (gross) petroleum coke-fired facility were considered:

- no project,
- municipal solid waste incineration,
- waste oil combustion,
- wood waste (biomass) combustion,
- a 100-megawatt petroleum coke-fired project, and
- dry cooling tower.

1.9.1 No-Project Alternative

Selection of this alternative would mean that neither the proposed project nor any of the other alternatives would be implemented. The electricity needs in the region would continue to be met by combustion of nonrenewable fossil fuels or alternative technologies such as solar or geothermal energy.

The federal Public Utility Regulatory Policies Act of 1978 (PURPA) encourages the use of renewable resources, such as biomass or waste, to generate electricity. The proposed project is designed specifically to meet the requirements of PURPA by burning petroleum coke (which qualifies as a waste fuel) in a small power plant. Selection of the no-project alternative would not further the goals of PURPA.

1.9.2 Municipal Solid Waste Incineration

This alternative involves generating electricity from steam by combusting municipal solid waste (MSW). MSW projects require a reliable supply of MSW provided by contract with local cities or counties for the lifetime of the project. A 645 ton-per-day MSW facility would be necessary to generate the same amount of electrical energy that would be produced by the proposed petroleum coke-fired projects.

Drawbacks to a MSW-fired cogeneration facility include air quality impacts and air emissions that may affect the health of the surrounding population. Emissions of all criteria pollutants except for hydrocarbons and carbon monoxide would be higher for the MSW facility than for the proposed petroleum coke-fired facility, yielding greater air quality impacts.

1.9.3 Waste Oil Combustion

In order for this alternative to generate the amount of electricity expected from the proposed facility, approximately 50 percent of the total waste oil available for sale in California in 1984 would be required as feedstock (California ARB, 1985).

The lack of a dependable supply of waste oil over the project lifetime limits the feasibility of this alternative. Typical waste oils contain low levels of toxic and carcinogenic compounds such as chlorinated aromatics, chlorinated hydrocarbons, and metals. The metal components of the

waste fuel are not destroyed in the combustion process, but are emitted as fly ash.

1.9.4 Wood Waste (Biomass) Combustion

For this alternative, chipped wood waste or tree prunings would be used as a feedstock instead of petroleum coke. Approximately 102,000 tons per year of biomass is required to yield the equivalent heating value of the 60,000 tons per year of petroleum coke required for the proposed projects. The supply of wood wastes in the vicinity of the proposed projects is not likely to be sufficient to meet the project feedstock needs. Costs for transporting biomass to the project sites would likely be prohibitive.

1.9.5 100-Megawatt Petroleum Coke-Fired Facility

It is technically feasible to construct and operate a 100-megawatt fluidized-bed combustion project using petroleum coke as a feedstock. However, the maximum ground-level concentration of pollutants from a 100-MW facility would be greater than the cumulative maximum ground-level concentration from five 19.7 MW projects at five separate locations in the Pittsburg-Antioch area. A single 100 MW facility would, therefore, emit a higher concentration of air toxics and potentially present a greater health risk than 5 smaller, separate projects.

1.9.6 Dry Cooling Tower Alternative

A dry cooling tower used in electricity generation removes heat from the process stream by indirect contact with dry air in an enclosed system. The main reason for rejecting the dry cooling alternative is that it does not remove heat from the process stream as efficiently as wet cooling towers do, resulting in a loss of electrical generating capacity and revenues.

A conventional wet cooling tower is planned for the proposed facility.

1.0 EXECUTIVE SUMMARY - PARCEL 2 (Site 4)

This Draft Environmental Impact Report (DEIR) addresses the environmental impacts from the Wilbur Avenue East Power Plant proposed to be constructed in eastern Contra Costa County by GWF Power Systems Company, Inc. (GWF). This plant would be one of five such plants in the County designed to burn petroleum coke, a by-product of nearby oil refineries. As Lead Agency for these projects, the Bay Area Air Quality Management District (BAAQMD) has determined that an EIR is required for each of the five plants under the California Environmental Quality Act (CEQA) because of potentially significant environmental impacts. This DEIR focuses on the environmental impacts of the Wilbur Avenue East Power Plant, and also addresses cumulative impacts of all five power plants and other reasonably foreseeable future projects.

1.1 Project Description

GWF Power Systems Company, Inc. has proposed the construction and operation of a small power plant in eastern Contra Costa County to be known as the Wilbur Avenue East Power Plant. The objective of this project is to use petroleum coke, a by-product of the oil refining process, as fuel to generate electricity. This power plant would generate 19.7 megawatts (MW) of electricity, about 1.4 percent of the generating capacity of Pacific Gas and Electric's (PG and E) Contra Costa Power Plant east of Antioch. Of the gross 19.7 megawatts of electricity produced, 17.2 megawatts would be sold to PG and E. The remaining 2.5 megawatts would be used to run the facility's pumps, compressors, and auxiliary equipment.

The Wilbur Avenue East Power Plant would use petroleum coke from nearby refineries, such as Tosco (Avon) and Exxon (Benicia), as fuel to generate electrical power. The petroleum coke is a resource that is currently exported. Low-sulfur bituminous coal and low-sulfur fuel oil would be used as backup fuels, not to exceed 25 percent of the annual energy input. Heat created by the combustion of the coke or coal would provide energy for a

boiler to generate high temperature/high pressure steam. The steam would drive a turbine for the generation of electric power.

The Wilbur Avenue East Power Plant would require various resources in addition to petroleum coke, coal, and fuel oil. Several chemicals would be used to reduce air emissions, including sorbent (limestone or dolomite) and ammonia. Water treatment would require the use of sulfuric acid, caustic soda, and chlorine. The coke, coal, fuel oil, and process chemicals would be delivered by trucks and stored on site. The plant would also require about 471,400 gallons per day of water.

Wastes generated by the plant would include about 27 tons per day of ash. The ash would be stored in silos and hauled away in trucks to cement or plaster board companies or to a landfill. The plant would generate about 72,400 gallons per day of wastewater. Wastewater would be discharged into the San Joaquin River or into an on-site percolation pond. This DEIR addresses these two wastewater disposal options. The plant would also emit air pollutants, including particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon monoxide (CO), hydrocarbons, and heavy metals. NO_x, SO_2, and CO would be controlled by application of Best Available Control Technology (BACT) to include injections of ammonia and sorbent in the combustion process. A fabric filter baghouse would be used to control particulate matter.

1.2 Project Location

The Wilbur Avenue East Power Plant is one of five small power plants proposed in eastern Contra Costa County by GWF Power Systems Company, Inc. Of the five sites, the Wilbur Avenue East Power Plant is designated as Site IV. These five sites were chosen by GWF for their proximity to the sources of petroleum coke and their access to the necessary utilities.

The proposed site for the Wilbur Avenue East Power Plant is located on the south side of Wilbur Avenue in an unincorporated area of Contra Costa County about 1.5 miles east of the Antioch city limits. This site is zoned for heavy industrial uses. Existing adjacent land uses are industrial or vacant. The vacant areas are zoned for heavy industrial and integrated planned community uses.

1.3 Beneficial Effects

Beneficial impacts of the proposed project would include generation of electricity, local utilization of an available refinery by-product, generation of employment, and public revenues, as discussed below.

1.3.1 Energy Generation

The proposed project would generate 17.2 net megawatts of electricity for distribution on the PG and E system consistent with the Public Utility Regulatory Policies Act (PURPA) of 1978. The proposed project would use petroleum coke as the primary energy source and would, therefore, reduce the use of finite natural resources, such as natural gas, for the generation of electricity. The electricity produced by the proposed project would displace energy generated in the PG and E system resulting in a decrease of air pollutant emissions from present oil- and natural gas-fired power plants.

1.3.2 Local By-Product Utilization

Petroleum coke is a by-product of refinery operations in Contra Costa and Solano Counties. Currently the coke is sold and transported overseas. The proposed project would use the coke resource locally and reduce the quantity of petroleum coke currently stored in uncovered piles at the Diablo Services Facility awaiting shipment overseas.

1.3.3 Employment

The proposed small power plant would create permanent jobs for 15 people at the plant. It would probably generate another 55 jobs in the economy of the region.

1.3.4 Public Revenues

In addition to employment generation, the proposed project, when it is completed in 1989, would generate $250,000 per year in public revenues in the form of property tax increments and development fees. During each year of facility operation after 1989, the property tax revenues from this property would increase by two percent.

1.4 Adverse Environmental Effects

The proposed project would have a number of adverse environmental effects as well. However, mitigation measures proposed as part of the project or recommended by the EIR consultant would reduce these impacts below levels that would normally be considered significant as defined in the CEQA Guidelines (15382 and Appendix G). These adverse effects, their significance, and their mitigation are summarized in Table 1.4-1.

1.5 Public Health Effects

The maximum individual risk of cancer associated with the proposed facility during operation was estimated to be 0.61×10^{-6}, which is less than one in a million. The maximum individual cumulative risk of cancer associated with the five proposed GWF facilities was estimated to be 2.6×10^{-6} (BAAQMD, 1987d). These estimates assume that a hypothetical individual lives his entire life, 24 hours per day, at the point of maximum emission impact.

The estimated cancer burden associated with the proposed facility was calculated to be 0.07 cases and the cumulative cancer burden was calculated to be 0.6 cases (BAAQMD, 1987d). Excess cancer burdens of less than one are generally recognized as being insignificant.

1.6 Cumulative Impacts

Cumulative air quality impact analysis that assumed simultaneous operation of the proposed project and seven other proposed projects (four GWF facilities and three additional new sources in the region) was conducted. This analysis, presented in Section 7.0, indicates that there would be no exceedance of any federal or state air quality standard due to emissions from these projects.

The cumulative impacts on traffic and public services indicate that there would be no significant environmental impacts associated with construction and operation of the proposed GWF facilities.

1.7 Economic Impacts to Ratepayers

Electricity ratepayers would be affected by operation of the five proposed GWF projects because PG and E is contractually obligated to purchase the electricity produced by GWF at agreed-upon rates, with all payments to GWF being automatically passed through to ratepayers by PG and E. Any savings to PG and E from using GWF to supply electricity rather than other units in the PG and E system would also be passed on to ratepayers. Therefore, the effect on ratepayers from operation of the GWF plants depends upon whether the contractual payments to GWF are greater or less than savings to PG and E from use of other power facilities.

Operation of the five proposed GWF projects could result in a negative economic impact (cost to ratepayers) from $37 million to a maximum of $147 million over the 25-year life of the projects, depending on the

TABLE 1.4-1. SUMMARY OF POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

Potential Impacts	Mitigation Measures[a]
Geology	
1. Insignificant alternations in the soil horizons.	1. No mitigations are necessary.
Seismicity	
1. Damage or destruction of facilities during an earthquake; associated fire or human life hazard.	1. Adhere to applicable standards of practice and building codes for seismic hazard areas; equip pipes carrying flammable materials with automatic shut-off valves and design them to minimize potential for breakage; install vibration monitoring and warning devices on the steam turbine, cooling tower, and other essential plant equipment with automatic shut-down capability.
Soils	
1. Increased erosion during construction.	1. Landscape areas of bare soil with native plants after construction; purchase suitable soil and mulch for landscaping instead of stockpiling soil because of the presence of the phytotoxin juglone in walnut foliage.
2. Potential introduction of hazardous materials into soils.	2. Place tanks containing acids, caustics, and oil on concrete slabs and surround them with containment walls.
3. Ponding of surface water near percolation pond due to saturation of soils or runoff from surrounding area.	3. Pump ponded water to surrounding open space.
Hydrology	
1. Increased runoff and ponding during and after construction.	1. Construct on-site drainage culverts to ensure adequate drainage.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
2. If wastewater is discharged into the San Joaquin River, water contamination could occur.	2. Sample the effluent for pH, temperature, and total dissolved solids as directed by the Regional Water Quality Control Board.
3. Contamination of water from on-site storage tanks.	3. Place tanks on concrete slabs and build containment walls around them to contain potential spills.
Coastal Resources	
1. Habitat destruction along the San Joaquin River could occur if earth or fill materials are disposed of near the river, or if pipe carrying plant effluent to the river is routed through a sensitive area.	1. Dispose of fill material at an appropriate upland location.
Air Quality	
1. Increased local emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons, and trace amounts of metals and organics from facility operation.	1. Apply best available control technology, specifically: • sorbent injection (sulfur dioxide control); • ammonia injection (nitrogen oxides control); • fabric filter baghouse (particulate matter and metals control); • cyclones (large particle control); and • combustion controls (carbon monoxide and hydrocarbon emissions control).
2. Fugitive dust during construction.	2. Spray water at least twice daily during construction.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
3. Fugitive dust during operation.	3. Apply negative air pressure, and use an enclosed fuel transfer and handling system with exhaust to fabric filter baghouse to reduce fugitive dust.
Vegetation and Wildlife	
1. Insignificant impacts on vegetation and wildlife	1. No mitigations are necessary.
Land Use/Aesthetics/Noise	
1. Construction and operation noise.	1. Equip all construction equipment with mufflers; direct potentially annoying noise sources towards interior of facility.
2. Stack and other structures visible from surrounding areas.	2. Landscape facility site; direct lights to interior of facility; limit stack lights to aircraft warning lights; use sodium instead of mercury lights to reduce glare; limit height of light posts to 12 feet.
Population, Housing, and Employment	
1. The proposed project would have a small beneficial impact on local and regional employment.	1. Not applicable.
Traffic and Circulation	
1. Increased light-duty vehicle and truck traffic.	1. All of the local roadways that would be used by project-generated traffic are currently operating at LOS A during average and peak-hour periods and these levels of service are not expected to change as a result of project traffic. Therefore, no mitigations are required.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
Public Services	
1. Fire protection for the facility would strain the service capabilities of the Riverview Fire Protection District.	1. Pay fire facilities element fees to offset the cost of providing fire protection to the project site; provide on-site access roadways with all-weather driving surfaces and specified widths and clearances.
2. Potential impact on Oakley Water District from supplying project water.	2. Pay water services fees to offset the cost of providing water to the facility.
3. Flood hazard impacts on local flood control district.	3. Pay a drainage fee for the installation of a stormwater drainage system that drains directly into the San Joaquin River.
Cultural Resources	
1. Disturbance of culturally sensitive sites in project area.	1. No culturally sensitive sites identified in project vicinity; if encountered during construction, findings should be evaluated by a qualified archaeologist.

[a] Proposed and/or recommended mitigation measures would reduce all anticipated adverse impacts to insignificance.

assumptions used and discount rate selected (ERC, 1987). The negative ratepayer impact would equal a one-time payment by a typical residential customer in the PG and E system of between $3.44 and $13.94, equivalent to an increase in a typical monthly electrical bill of 6 cents to 20 cents through the year 1997.

1.8 Growth-Inducing Impacts

The proposed project should have a very limited, and not significant, growth-inducing impact on eastern Contra Costa County. The operating facility would employ 15 full-time personnel. Higher employment during construction would be temporary.

Construction of the five proposed GWF projects would require a maximum of 200 to 220 workers during a six-month peak construction period, and approximately 140 workers over the entire 27-month construction period for all five plants. These projects would not require the extension of public services or produce commodities that would generate significant growth in the area.

The proposed project is not designed to be a cogeneration facility and, therefore, is not expected to attract additional industrial steam users.

1.9 Alternatives to the Proposed Project

Six alternatives to the proposed 19.7 MW (gross) petroleum coke-fired facility were considered:

- no project,
- municipal solid waste incineration,
- waste oil combustion,
- wood waste (biomass) combustion,
- a 100-megawatt petroleum coke-fired project, and
- dry cooling tower.

1.9.1 No-Project Alternative

Selection of this alternative would mean that neither the proposed project nor any of the other alternatives would be implemented. The electricity needs in the region would continue to be met by combustion of nonrenewable fossil fuels or alternative technologies such as solar or geothermal energy.

The federal Public Utility Regulatory Policies Act of 1978 (PURPA) encourages the use of renewable resources, such as biomass or waste, to generate electricity. The proposed project is designed specifically to meet the requirements of PURPA by burning petroleum coke, which qualifies as a waste fuel, in a small power plant. Selection of the no-project alternative would not further the goals of PURPA.

1.9.2 Municipal Solid Waste Incineration

This alternative involves generating electricity from steam by combusting municipal solid waste (MSW). MSW projects require a reliable supply of MSW provided by contract with local cities or counties for the lifetime of the project. A 645 ton-per-day MSW facility would be necessary to generate the same amount of electrical energy that would be produced by the proposed petroleum coke-fired projects.

Emissions of all criteria pollutants except for hydrocarbons and carbon monoxide would be higher for the MSW facility than for the proposed petroleum coke-fired facility.

1.9.3 Waste Oil Combustion

In order for this alternative to generate the amount of electricity expected from the proposed facility, approximately 50 percent of the total waste oil available for sale in California 1984 would be required as feedstock (California ARB, 1985).

The lack of a dependable supply of waste oil over the project lifetime limits the feasibility of this alternative. Typical waste oils contain low levels of toxic and carcinogenic compounds such as chlorinated aromatics, chlorinated hydrocarbons, and metals. The metal components of the waste fuel are not destroyed in the combustion process, but are emitted as fly ash.

1.9.4 Wood Waste (Biomass) Combustion

For this alternative, chipped wood waste or tree prunings would be used as a feedstock instead of petroleum coke. Approximately 102,000 tons per year of biomass is required to yield the equivalent heating value of the 60,000 tons per year of petroleum coke required for the proposed project. The supply of wood wastes in the vicinity of the proposed projects is not likely to be sufficient to meet the project feedstock needs. Costs for transporting biomass to the project sites would likely be prohibitive.

1.9.5 100-Megawatt Petroleum Coke-Fired Facility

It is technically feasible to construct and operate a 100-megawatt fluidized-bed combustion project using petroleum coke as a feedstock. However, the maximum ground-level concentration of pollutants from a 100-MW facility would be greater than the cumulative maximum ground-level concentration from five 19.7 MW projects at five separate locations in the Pittsburg-Antioch area. A single 100 MW facility would, therefore, emit a higher concentration of pollutants and potentially present a greater health risk than five smaller, separate projects.

1.9.6 Dry Cooling Tower Alternative

A dry cooling tower used in electricity generation removes heat from the process stream by indirect contact with dry air in an enclosed system.

The main reason for rejecting the dry cooling alternative is that it does not remove heat from the process stream as efficiently as wet cooling towers do, resulting in a loss of electrical generating capacity and revenues.

A conventional wet cooling tower is planned for the proposed facility.

1.0 EXECUTIVE SUMMARY - PARCEL 3 (Site 5)

This Draft Environmental Impact Report (DEIR) addresses the environmental impacts from the Nichols Road Power Plant proposed to be constructed in eastern Contra Costa County by GWF Power Systems Company, Inc., (GWF). This plant would be one of five such plants in the County designed to burn petroleum coke, a by-product of nearby oil refineries. As the Lead Agency for these projects, the Bay Area Air Quality Management District (BAAQMD) has determined that an EIR is required for each of the five plants under the California Environmental Quality Act (CEQA) because of potentially significant environmental impacts. This DEIR focuses on the environmental impacts of the Nichols Road Power Plant, and also addresses cumulative impacts of all five power plants and other reasonably foreseeable future projects.

1.1 Project Description

GWF Power Systems Company, Inc., has proposed to construct and operate a small power plant in eastern Contra Costa County to be known as the Nichols Road Power Plant. The objective of this project is to use petroleum coke, a by-product of the oil refining process, as fuel to generate electricity. This power plant would generate 19.7 megawatts (MW) of electricity, about 1.4 percent of the generating capacity of Pacific Gas and Electric's (PG and E) Contra Costa Power Plant east of Antioch. Of the gross 19.7 megawatts of electricity produced, 17.2 megawatts would be sold to PG and E. The remaining 2.5 megawatts would be used to run the facility's pumps, compressors, and auxiliary equipment.

The Nichols Road Power Plant would use petroleum coke from nearby refineries, such as Tosco (Avon) and Exxon (Benicia), as fuel to generate electrical power. The petroleum coke is a resource that is currently exported. Low-sulfur bituminous coal and low-sulfur fuel oil would be used as backup fuels, not to exceed 25 percent of the annual energy input. Heat created by the combustion of the coke or coal would provide energy for a

boiler to generate high temperature/high pressure steam. The steam would drive a turbine for the generation of electric power.

The Nichols Road Power Plant would require various resources in addition to petroleum coke, coal, and fuel oil. Several chemicals would be used to reduce air emissions, including sorbent (limestone or dolomite) and ammonia. Water treatment would require the use of sulfuric acid, caustic soda, and chlorine. The coke, coal, fuel oil, and process chemicals would be delivered by trucks and stored on site. The plant would also require about 471,400 gallons per day of water.

Wastes generated by the plant would include about 27 tons per day of ash. The ash would be stored in silos and hauled away in trucks to cement or plaster board companies or to a landfill. The plant would generate about 72,400 gallons per day of wastewater. Wastewater would be discharged into Suisan Bay or the Delta Diablo Sanitation District 7A. This DEIR addresses both wastewater disposal options. The plant would also emit air pollutants, including particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon monoxide (CO), hydrocarbons, and heavy metals. NO_x, SO_2, and CO would be controlled by application of Best Available Control Technology (BACT) to include injection of ammonia and sorbent in the combustion process. A fabric filter baghouse would be used to control particulate matter.

1.2 Project Location

The Nichols Road Power Plant is one of five small power plants proposed in eastern Contra Costa County by GWF Power Systems Company, Inc. Of the five sites, the Nichols Road Power Plant is designated as Site V. These five sites were chosen by GWF for their proximity to the sources of petroleum coke and their access to the necessary utilities.

The proposed site for the Nichols Road Power Plant is located in the Port Chicago area on Nichols Road south of the Allied Chemical Plant and east of the Chemical and Pigment Company. The site is zoned for heavy industrial uses. Adjacent land uses include pasture lands, industrial facilities, U.S. Naval Weapons Station facilities, and vacant land.

1.3 Beneficial Effects

Beneficial impacts of the proposed project would include generation of electricity, local utilization of an available refinery by-product, generation of employment, and public revenues, as discussed below.

1.3.1 Energy Generation

The proposed project would generate 17.2 net megawatts of electricity for distribution on the PG and E system, consistent with the Public Utility Regulatory Policies Act (PURPA) of 1978. The proposed project would use petroleum coke as the primary energy source and would, therefore, reduce the use of finite natural resources, such as natural gas, for the generation of electricity. The electricity produced by the proposed project would displace energy generated in the PG and E system resulting in a decrease of air pollutant emissions from present oil and natural gas-fired power plants.

1.3.2 Local By-Product Utilization

Petroleum coke is a by-product of refinery operations in Contra Costa and Solano Counties. Currently the coke is sold and transported overseas. The proposed project would use the coke resource locally and reduce the quantity of petroleum coke currently stored in uncovered piles at the Diablo Services Facility awaiting shipment overseas.

1.3.3 Employment

The proposed power plant would create permanent jobs for 15 people at the plant. It would probably generate another 55 jobs in the economy of the region.

1.3.4 Public Revenues

In addition to employment generation, the proposed project, when it is completed in 1990, would generate $250,000 per year in public revenues in the form of property tax increments. During each year of facility operation after 1990, the property tax revenues from this property would increase by 2 percent.

1.4 Adverse Environmental Effects

The proposed project would have a number of adverse environmental effects as well. However, mitigation measures proposed as part of the project or recommended by the EIR consultant would reduce these impacts below levels that would normally be considered significant as defined in the CEQA Guidelines (15382 and Appendix G). These adverse effects, their significance, and their mitigation are summarized in Table 1.4-1.

1.5 Public Health Effects

The maximum individual risk of cancer associated with the proposed facility during operation was estimated to be 1.37×10^{-6}. The maximum individual cumulative risk of cancer associated with the five proposed GWF facilities was estimated to be 2.6×10^{-6} (BAAQMD, 1987e). These estimates assume that a hypothetical individual lives his entire life, 24 hours per day, at the point of maximum emission impact.

The estimated cancer burden associated with the proposed facility was calculated to be 0.12 cases and the cumulative cancer burden was calculat-

TABLE 1.4-1. SUMMARY OF POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

Potential Impacts	Mitigation Measures[a]
Geology	
1. Insignificant alternations in the soil horizons.	1. No mitigations are necessary.
Seismicity	
1. Damage or destruction of facilities during an earthquake; associated fire or human life hazard.	1. Adhere to applicable standards of practice and building codes for seismic hazard areas; equip pipes carrying flammable materials with automatic shut-off valves and design them to minimize potential for breakage; install vibration monitoring and warning devices on the steam turbine, cooling tower, and other essential plant equipment with automatic shut-down capability.
Soils	
1. Increased erosion during construction.	1. Landscape areas of bare soil with native plants after construction.
2. Potential introduction of hazardous materials into soils.	2. Place tanks containing acids, caustics, and oil on concrete slabs and surround them with containment walls.
Hydrology	
1. Increased runoff and ponding during and after construction.	1. Construct on-site drainage culverts to ensure adequate drainage.
2. If wastewater is discharged into Suisun Bay water contamination could occur.	2. Sample the effluent for pH, temperature, and total dissolved solids as directed by the Regional Water Quality Control Board.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
3. Contamination of water from leaking storage tanks or spills during transportation of substances used at the facility.	3. Place tanks on concrete slabs and build containment walls around them to contain potential spills; traffic safety measures to minimize potential for spills.
Coastal Resources	
1. Habitat destruction at in Suisun Bay could occur if earth or fill materials are disposed of near the bay marshes, or if pipe carrying plant effluent to the bay is routed through a marsh.	1. Dispose of fill material at an appropriate upland location. Marshes should be avoided because they provide critical habitat for three endangered species.
Air Quality	
1. Increased local emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons, and trace amounts of metals and organics from facility operation.	1. Apply best available control technology, specifically: • sorbent injection (sulfur dioxide control); • ammonia injection (nitrogen oxides control); • fabric filter baghouse (particulate matter and metals control); • cyclones (large particle control); and • combustion controls (carbon monoxide and hydrocarbon emissions control).
2. Fugitive dust during construction.	2. Spray water at least twice daily during construction.
3. Fugitive dust during operation.	3. Apply negative air pressure and use an enclosed fuel transfer and handling system with exhaust to fabric filter baghouse to reduce fugitive dust.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
Vegetation and Wildlife	
1. Insignificant impacts on vegetation and wildlife.	1. No mitigations are necessary.
Land Use/Aesthetics/Noise	
1. Construction and operation noise.	1. Equip all construction equipment with mufflers; direct potentially annoying noise sources towards interior of facility.
2. Stack and other structures visible from surrounding areas.	2. Landscape facility site; direct lights to interior of facility; limit stack lights to aircraft warning lights; use sodium instead of mercury lights to reduce glare; limit height of light posts to 12 ft.
Population, Housing, and Employment	
1. The proposed project would have a small beneficial impact on local and regional employment.	1. Not applicable.
Traffic and Circulation	
1. Increased light-duty vehicle and truck traffic.	1. All of the local roadways that would be used by project-generated traffic would not experience a change in existing levels of service or unacceptable peak-hour levels of service. Therefore, no mitigations are required.
Public Services	
1. Fire protection for the facility would strain the service capabilities of the Riverview Fire Protection District.	1. Pay fire facilities element fees to offset the cost of providing fire protection to the project site; provide on-site access roadways with all-weather driving surfaces and specified widths and clearances.

(Continued)

TABLE 1.4-1. (Continued)

Potential Impacts	Mitigation Measures[a]
2. Potential impact on Contra Costa Water District from supplying project water.	2. Pay water services fees to offset the cost of providing water to the facility.
3. Wastewater disposal impacts on local sewer system.	3. If wastewater is disposed of in local sanitary sewer system, get permission from the Delta Diablo Sanitation District.
4. Flood hazard impacts on local flood control district.	4. Pay a drainage fee to mitigate the project's flood control impacts, and install a stormwater drainage system that drains directly into Suisun Bay.
Cultural Resources	
1. Disturbance of culturally sensitive sites in project area.	1. No culturally sensitive sites identified in project vicinity; if encountered during construction, findings should be evaluated by a qualified archaeologist.

[a] Proposed and/or recommended mitigation measures would reduce all anticipated adverse impacts to insignificance.

ed to be 0.6 cases (BAAQMD, 1987e). Excess cancer burdens of less than one are generally recognized as being insignificant.

1.6 Cumulative Impacts

Cumulative air quality impact analysis that assumed simultaneous operation of the proposed project and seven other proposed projects (four GWF facilities and three additional new sources in the region) was conducted. This analysis presented in Section 7.0, indicates that there would be no exceedance of any federal or state air quality standard due to emissions from these projects.

The cumulative impacts on traffic and public services indicate that there would be no significant environmental impacts associated with construction and operation of the proposed GWF projects.

1.7 Economic Impacts to Ratepayers

Electricity ratepayers would be affected by operation of the five proposed GWF projects because PG and E is contractually obligated to purchase the electricity produced by GWF at agreed-upon rates with all payments to GWF being automatically passed through to ratepayers by PG and E. Any savings to PG and E from using GWF to supply electricity rather than other units in the PG and E system would also be passed on to ratepayers. Therefore, the effect on ratepayers from operation of the GWF plants depends on whether the contractual payments to GWF are greater or less than savings to PG and E from use of other power facilities.

Operation of the five proposed GWF projects could result in a negative economic impact (cost to ratepayers) from $37 million to a maximum of $147 million over the 25-year life of the project, depending on the assumptions used and discount rate selected. The negative ratepayer impact would

equal a one-time payment by a typical residential residential customer in the PG and E system of between $3.44 and $13.94, equivalent to an increase in a typical monthly electrical bill of 6 cents to 20 cents through the year 1997.

1.8 Growth-Inducing Impacts

The proposed project should have a very limited, and not significant, growth-inducing impact on eastern Contra Costa County. The operating facility would employ 15 full-time personnel. Higher employment during construction would be temporary.

Construction of the five proposed GWF projects would require a maximum of 200 to 220 workers during a six-month peak construction period, and approximately 140 workers over the entire 27-month construction period for all 5 plants. These projects would not require the extension of public services on produce commodities that would generate significant growth in the area.

The proposed project is not designed to be a cogeneration facility and, therefore, is not expected to attract additional industrial steam users.

1.9 Alternatives to the Proposed Project

Six alternatives to the proposed 19.7 MW (gross) petroleum coke-fired facility were considered:

- no project,
- municipal solid waste incineration,
- waste oil combustion,
- wood waste (biomass) combustion,
- a 100-megawatt petroleum coke-fired project, and
- dry cooling tower.

1.9.1 No-Project Alternative

Selection of this alternative would mean that neither the proposed project nor any of the other alternatives would be implemented. The electricity needs in the region would continue to be met by combustion of nonrenewable fossil fuels or alternative technologies such as solar or geothermal energy.

The federal Public Utility Regulatory Policies Act of 1978 (PURPA) encourages the use of renewable resources, such as biomass or waste, to generate electricity. The proposed project is designed specifically to meet the requirements of PURPA by burning petroleum coke, which qualifies as a waste fuel, in a small power plant. Selection of the no-project alternative would not further the goals of PURPA.

1.9.2 Municipal Solid Waste Incineration

This alternative invovles generating electricity from steam by combustion municipal solid waste (MSW). MSW projects require a reliable supply of MSW provided by contract will local cities or counties for the lifetime of the project. A 645 ton-per-day MSW facility would be necessary to generate the same amount of electrical energy that would be produced by the proposed petroleum coke-fired projects.

Drawbacks to a MSW-fired facility include air quality impacts and air emissions that may affect the health of the surrounding population. Emissions of all criteria pollutants except for hydrocarbons and carbon monoxide would be higher for the MSW facility than for the proposed petroleum coke-fired facility, yielding greater air quality impacts.

1.9.3 Waste Oil Combustion

In order for this alternative to generate the amount of electricity expected from the proposed facility, approximately 50 percent of the total

waste oil available for sale in California in 1984 would be required as feedstock (California ARB, 1985).

The lack of a dependable supply of waste oil over the project lifetime limits the feasibility of this alternative. Typical waste oils contain low levels of toxic and carcinogenic compounds such as chlorinated, aromatics, chlorinated hydrocarbons, and metals. The metal components of the waste fuel are not destroyed in the combustion process, but are emitted as fly ash.

1.9.4 Wood Waste (Biomass) Combustion

For this alternative, chipped wood waste or tree prunings would be used as a feedstock instead of petroleum coke. Approximately 102,000 tons per year of biomass would be required to yield the equivalent heating value of the 60,000 tons per year of petroleum coke required for the proposed project. The supply of wood wastes in the vicinity of the proposed projects is not likely to be sufficient to meet the project feedstock needs. Costs for transporting biomass to the project sites would likely be prohibitive.

1.9.5 100-Megawatt Petroleum Coke-Fired Facility

It is technically feasible to construct and operate a 100-megawatt fluidized-bed combustion project using petroleum coke as a feedstock. However, the maximum ground-level concentration of pollutants from a 100-MW facility would be greater than the cumulative maximum ground-level concentration from five 19.7 MW projects at five separate locations in the Pittsburg-Antioch area. A single 100 MW facility would, therefore, emit a higher concentration of toxic air pollutants and potentially present a greater health risk than 5 smaller, separate projects.

1.9.6 Dry Cooling Tower Alternative

A dry cooling tower used in electricity generation removes heat from the process stream by indirect contact with dry air in an enclosed system. The main reason for rejecting the dry cooling alternative is that it does not remove heat from the process stream as efficiently as wet cooling towers do, resulting in a loss of electrical generating capacity and revenues.

A conventional wet cooling tower is planned for the proposed facility.

W 24169

EXHIBIT "D"

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

WILBUR AVENUE WEST POWER PLANT
GWF POWER SYSTEMS COMPANY, INC. - SITE III

NOTICE OF FINAL EIR CERTIFICATION

NOTICE OF DECISION

The enclosed Final EIR for the Wilbur Avenue West Power Plant project proposed by GWF Power Systems Company, Inc. is provided for your information. The BAAQMD's Air Pollution Control Officer considered the information in the Final EIR; certified that the Final EIR was completed in compliance with the provisions of CEQA; made findings pursuant to Section 15091 of the State CEQA Guidelines; and made a decision to issue a conditional Authority to Construct permit for the project on February 9, 1988.

The record of decision for this project and all documents incorporated by reference into the EIR are available for public review at the BAAQMD Headquarters, 939 Ellis Street, San Francisco in the Public Information Office, 5th Floor. In addition, all documents incorporated by reference in the EIR were sent to the Pittsburg and Antioch public libraries.

If you have any questions, please contact the BAAQMD Public Information Office or Jean Roggenkamp, BAAQMD Planner, at (415) 771-6000.

Milton Feldstein
Air Pollution Control Officer

February 9, 1988
Date

Wilbur Avenue West Power Plant

Certification of Final EIR
and
Adoption of Findings and Statement of Actions
Under the California Environmental Quality Act

1. The Rules and Regulations of the Bay Area Air Quality Management District ("BAAQMD" or "District") provide that the Air Pollution Control Officer is the District's decisionmaker with respect to determinations as to whether or not permits, in the form of Authorities to Construct and Permits to Operate, should be issued to proposed projects subject to the District's permit requirements.

2. As the District's decisionmaker on the Authority to Construct for the proposed Wilbur Avenue West petroleum coke-fired power plant project, I have personally reviewed the Final Environmental Impact Report ("FEIR") for this project.

3. Pursuant to Title 14 California Administrative Code Section 15090, I certify that the FEIR has been completed in compliance with CEQA and with the District's CEQA Guidelines (BAAQMD Manual of Procedures, Volume VII), that the FEIR was presented to me, and that I reviewed and considered the information contained in the FEIR prior to making my decision on the issuance of an Authority to Construct for the Wilbur Avenue West Power Plant project. Although the District's CEQA Guidelines indicate that a hearing may be held to certify a FEIR, I have determined that when this provision of the District's CEQA Guidelines is read together with the CEQA statute and the State's CEQA Guidelines set forth in Title 14 California Administrative Code, Section 15000 et seq., such a hearing is a discretionary one. Since a public hearing was held on the Draft EIR, and since all parties who commented on the Draft EIR will be receiving a copy of the FEIR, I therefore find that a hearing to certify the FEIR is unnecessary in this case.

4. The FEIR evaluated the proposed Wilbur Avenue West Power Plant project and concluded that the project would have a number of significant or potentially significant environmental impacts. However, the FEIR also identified specific mitigation measures that will reduce all significant or potentially significant impacts identified in the FEIR to a level of insignificance. Table I (attached) lists the identified significant impacts, the

mitigation measures appropriate to each such impact which were recommended by the District's EIR consultant and/or which were incorporated into the project by the applicant, and the agency that will, or can and should, ensure that the mitigation measures are implemented. For the mitigation measures identified in Table I as the responsibility of the BAAQMD, conditions requiring these mitigation measures to be carried out will be included as permit conditions to the Authority to Construct permit which may be issued by the BAAQMD for the Wilbur Avenue West Power Plant project. For those identified mitigation measures the implementation of which is within the responsibility or jurisdiction of other public agencies, I find that said mitigation measures either will, or can and should, be adopted by the identified responsible agency.

5. Accordingly, pursuant to Public Resources Code Section 21081 and Title 14 California Administrative Code Section 15091, I hereby find that changes have been required in, or incorporated into, the Wilbur Avenue West Power Plant project which mitigate and avoid all significant environmental effects of the Wilbur Avenue West Power Plant project which were identified in the FEIR. These measures either will be included in permit conditions to the Authority to Construct for the Wilbur Avenue West Power Plant project to be issued by the BAAQMD, or will, or can and should, be adopted by other public agencies which have jurisdiction over the Wilbur Avenue West Power Plant project.

6. In order to resolve any legal question as to the authority of the BAAQMD under its Rules and Regulations to require the applicant to comply with mitigation measures covering matters unrelated to air quality, the applicant has committed in writing to be bound by all mitigation measures included in the FEIR (which are summarized in the attached Table I) and in the BAAQMD's permit and to compensate the District for the reasonable costs incurred by the District in connection with the enforcement of such conditions.

7. The following is an explanation for my decision to agree with the conclusion in the FEIR that the ash generated by the five GWF projects (if determined to be non-hazardous, which I find, based on the facts presented in the FEIR, is very likely to be the case) will not result in a significant environmental effect, either by itself or considered cumulatively with the waste from other reasonably anticipated future projects, given the implementation of mitigation measures incorporated by the applicant into the project.

In the unlikely event that the applicant's ash is subsequently determined to be hazardous, such that it must be disposed of in a Class I or Class II landfill site, the FEIR indicates that adequate Class I or Class II landfill capacity does exist. Therefore, the disposal of the applicant's ash in a Class I or Class II site will not result in any significant environmental impact, either by itself or considered cumulatively, although such disposal would likely result in added costs to the operation of the Wilbur Avenue West Power Plant project.

I am aware of the limited future Class III landfill capacity and the extensive future landfill needs of Contra Costa County considered on a cumulative basis from information presented in the Contra Costa County Solid Waste Management Plan, which was adopted by the Contra Costa County Board of Supervisors in June of 1987. However, the FEIR indicates that there will be substantial opportunities for the applicant to sell the ash for use in cement making and for other uses. For this reason, the FEIR concludes that there will be no significant environmental effect as a result of the ash generated by the five GWF projects.

However, there is no absolute guarantee that this ash can be sold. In the event that the ash cannot be sold and must be landfilled, the FEIR indicates that current Class III landfill capacity does exist for this ash, but that the landfill disposal of the applicant's ash will ultimately result in a significant environmental effect, given the cumulative effects of Contra Costa County's future Class III landfill needs and projected capacity. A number of measures are described in the FEIR which would mitigate this significant environmental effect. One or more of these measures can and should be adopted by Contra Costa County should such an environmental effect occur.

However, given the ability and willingness of the applicant to sell the ash, and given the mitigation measures incorporated by the applicant into the project to limit the metals content of the ash such that the applicant should be able to sell the ash on the open market, I find that the project's ash generation would not result in a significant environmental effect.

8. The FEIR contains a number of comments and responses regarding the subject of toxic air contaminants. I have considered the effects of the five GWF projects on a combined basis and note that the FEIR states that a risk assessment analysis using certain assumptions concludes

that the five projects combined have an incremental cancer risk factor of 2.6 in one million, and a projected "excess cancer burden" of 0.6. There are no adopted federal, state and local standards concerning whether these levels should be interpreted as predicting a "significant" or "insignificant" environmental effect, though the FEIR describes several analogous risk management decisions and regulations.

I have carefully reviewed the FEIR, and exercising my experience, knowledge, and judgment as an air pollution control officer have concluded that the statistics presented in the risk assessment should not be interpreted as predicting a significant environmental effect from the five GWF projects resulting from the emissions of toxic air contaminants, given the mitigation measures incorporated by the applicant into these projects and included as permit conditions in the Authorities to Construct which the BAAQMD may issue.

I have also considered the potential effects of the five GWF projects considered cumulatively with other reasonably anticipated future projects. Although the review of cumulative risk due to air toxics presented in the FEIR indicates that the cumulative risk factor due to the GWF projects plus three other reasonably anticipated future projects will be substantially in excess of 2.6 in one million, there are a number of reasons why the results of this analysis do not show a cumulative health risk which would be environmentally significant. First, the BAAQMD has recently implemented several programs intended to reduce exposure to toxic air contaminants from existing sources. These BAAQMD programs will be the most effective means of reducing public exposure to the potential health risks of toxic air contaminants by reducing the current levels of toxics in the ambient air; these anticipated reductions will result in lower future ambient levels, even when the incremental increases due to the GWF projects, plus other reasonably anticipated future projects in the area affected by the GWF projects, are taken into consideration.

Second, the review of cumulative risk due to air toxics presented in the FEIR is based on a very rough screening approach which incorporates extreme worst case assumptions for all relevant parameters for which hard data are not available. It is accordingly my judgment that this review significantly overstates the potential cumulative risk from the projects in question, and that because of its extreme conservatism, this review is of very limited utility in providing a basis for a considered risk

management decision on any specific project. However, I find that this review is adequate for the purposes of providing the type of information on cumulative impacts which is required under CEQA.

For all of the foregoing reasons, I therefore find that there will be no significant cumulative health risk resulting from the emissions of toxic air contaminants from the GWF projects plus other reasonably anticipated future projects.

DATE: February 8, 1988

Milton Feldstein
Air Pollution Control Officer
Bay Area Air Quality Management District

TABLE I

WILBUR AVENUE WEST POWER PLANT - SITE III

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Geology		
1. Insignificant alterations in the soil horizons.	1. No mitigation is necessary.	
Seismicity	**Incorporated by Applicant**	
1. Potential damage or destruction of facilities during an earthquake; associated spills of flammable material; and fire.	1. Adhere to applicable standards of practice and building codes for seismic hazard areas; equip pipes carrying flammable materials with automatic shut-off valves and design them to minimize potential for breakage; install vibration monitoring and warning devices on the steam turbine, cooling tower, and other essential plant equipment with automatic shut-down capability.	City of Antioch
2. Potential liquifaction of on-site soils during a seismic event.	2. Before finalizing facility design, the applicant's geotechnical consultant will perform a liquefaction analysis to confirm the potential liquefaction hazard at the project site. If this analysis shows a potential hazard, the applicant will implement specific design criteria to mitigate the problem. These measures could include:	City of Antioch

(Continued)

TABLE I
WILBUR AVENUE WEST POWER PLANT - SITE III
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	• Avoiding building critical structures in the potential liquefiable area; • Densifying the liquefiable soils by compaction; • Providing support for critical structures in firm soils below the liquefiable soils; or • Other measures recommended by a registered geotechnical consultant.	
<u>Soils</u>	<u>Incorporated by Applicant</u>	
1. Insignificant increase in soil erosion.	1. Landscape areas of bare soil with native plants after construction; avoid undercutting the north bank fill materials.	City of Antioch
2. Potential introduction of hazardous materials into soils.	2. Place tanks containing acids, caustics, and oil on concrete slabs and surround them with containment walls.	City of Antioch Riverview Fire Protection District

(Continued)

2

TABLE I

WILBUR AVENUE WEST POWER PLANT - SITE III

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
3. Ponding from runoff from Wilbur Avenue.	3. Construct a percolation pond with sufficient detention to percolate runoff, according to County Flood Control District standards. Alternative is a detention or equalizing pond followed by pump-out to the river.	Contra Costa County Flood Control District
4. Soil instability prohibits use of spread-type foundations.	4. Remove existing sand fill to a depth of 12 feet, then replace and recompact the fill.	City of Antioch
Hydrology	Incorporated by Applicant	
1. Increased runoff and ponding during and after construction.	1. Construct on-site drainage culverts to ensure adequate drainage.	City of Antioch
2. If process wastewater and surface runoff are discharged into San Joaquin River, 10 to 1 dilution would be achieved with insignificant water-quality impacts.	2. Sample the effluent as directed by the Regional Water Quality Control Board. If unacceptable conditions are detected, applicant must follow directives of RWQCB.	Central Valley Regional Water Quality Control Board
3. If percolation pond discharge option is chosen, ground-water quality could be impacted.	3. Install monitoring wells upgradient and downgradient of the percolation pond, analyze samples and revise waste discharge methods as appropriate as required by the Regional Water Control Board.	Central Valley Regional Water Quality Control Board

(Continued)

TABLE I

WILBUR AVENUE WEST POWER PLANT - SITE III

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
4. Contamination of surface and ground water from leaking storage tanks.	4. Place tanks on concrete slabs and build containment walls around them to contain potential spills.	City of Antioch Riverview Fire Protection District
Coastal Resources	Incorporated by Applicant	
1. Habitat destruction could occur if earth or fill materials are disposed of near the wastewater discharge outfall.	1. Dispose of fill material at an appropriate upland location.	City of Antioch
Air Quality	Incorporated by Applicant	
1. Increased local emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons, and trace amounts of metals and organics from facility operation.	1. Apply best available control technology, specifically: • sorbent injection (sulfur dioxide control); • ammonia injection (nitrogen oxides control); • fabric filter baghouse (particulate matter and metals control); • cyclones (large particle • combustion controls (carbon monoxide and hydrocarbon emissions control). control); and	BAAQMD

(Continued)

TABLE I
WILBUR AVENUE WEST POWER PLANT - SITE III
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
2. Fugitive dust during construction.	2. Spray water at least twice daily during construction.	BAAQMD
3. Fugitive dust during operation.	3. Apply negative air pressure and use an enclosed fuel transfer and handling system with exhaust to fabric filter baghouse to reduce fugitive dust.	BAAQMD
Public Health	Incorporated by Applicant	
1. Increased emissions of toxic air contaminants, Maximum Exposed Individual 70-year cancer risk of 1.4×10^{-6}, noncarcinogenic exposures less than Threshold Limit Values (TLVs).	1. Apply Best Available Control Technology for organics and particulates, and limit metal content of petroleum coke to 1.6 ppm for chromium and 402 ppm for nickel.	BAAQMD
Vegetation and Wildlife		
1. Insignificant impacts on vegetation and wildlife.	1. No mitigation is necessary.	
Land Use/Aesthetics/Noise	Recommended by EIR Consultant	
1. Construction and operation noise.	1. Equip all construction equipment with mufflers; direct potentially annoying noise sources toward interior of facility.	City of Antioch

(Continued)

TABLE I
WILBUR AVENUE WEST POWER PLANT - SITE III
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
2. Facility operation noise levels may exceed City of Antioch noise standards at residential uses to the southwest.	2. GWF should require vendors of major noise-producing equipment to acoustically attenuate equipment as necessary to comply with Antioch residential noise standards. Conduct 24-hour noise monitoring after the facility is in operation to verify that the noise levels at nearby residential receptors are in compliance with applicable noise standards. If noise levels exceed City of Antioch standards, additional acoustical treatment (such as structural enclosures or barriers) would be installed and additional monitoring performed to verify compliance with noise standards.	City of Antioch
3. Stack and other structures visible from surrounding areas.	3. Landscape facility site; direct lights to interior of facility; limit stack lights to aircraft warning lights; use sodium instead of mercury lights to reduce glare; limit height of light posts to 12 feet.	City of Antioch

(Continued)

TABLE I
WILBUR AVENUE WEST POWER PLANT - SITE III
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Population, Housing, and Employment		
1. The proposed project would have a small beneficial impact on local and regional employment.	1. No mitigation is necessary.	
Traffic and Circulation		
1. Insignificant increase in light-duty vehicle and truck traffic.	1. This additional traffic would not cause any local roadways to experience unacceptable levels of service. Incorporated by Applicant The applicant has agreed to schedule truck deliveries, where possible, to avoid peak-hour traffic. The applicant has agreed to contractually required that project related heavy trucks (sorbent, fuel and ash trucks) use the Wilbur Avenue/SR-160 interchange for site access.	City of Antioch
2. Project traffic entering the site from Wilbur Avenue could cause congestion along Wilbur Avenue, impairing traffic safety.	2. Install a left turn lane at the site access point on Wilbur Avenue.	City of Antioch

(Continued)

TABLE I
WILBUR AVENUE WEST POWER PLANT - SITE III
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Public Services	**Incorporated by Applicant**	
1. Fire protection for the facility would strain the service capabilities of the Riverview Fire Protection District.	1. Pay fire facilities element fees to offset the cost of providing fire protection to the project site; provide on-site access roadways with all-weather driving surfaces and specified widths and clearances; participate in a benefit assessment district to fund fire district staff needs.	Riverview Fire Protection District
2. Flood hazard impacts on local flood control district.	2. Applicant will fund a portion of Wilbur Avenue stormwater drainage system that drains into the San Joaquin River unless the City of Antioch determines that the proposed on-site percolation ponds are adequate for site stormwater runoff.	Contra Costa County Flood Control District City of Antioch
3. The DEIR evaluated a project water demand of 432,400 gallons per day; however the applicant has revised the project water demand to 343,400 gallons per day. Potential impacts may occur to the City of Antioch from supplying water if the water treatment plant expansion is not completed as scheduled in 1988.	3. Pay water services fees to offset the full cost of providing water to the facility. Project operation should not commence until expansion of the City water treatment plant is completed in 1988.	City of Antioch

(Continued)

TABLE I
WILBUR AVENUE WEST POWER PLANT - SITE III
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
4. If project domestic sewage is discharged to the City of Antioch sewer system (upon construction of the Wilbur Avenue sewer), project sewage discharge would be less than 1 percent of the existing unused capacity of the Delta Diablo Sanitation District treatment plant, Zone III allocation. The DEIR evaluated process water discharge of 72,400 gallons per day; however the applicant has revised this discharge to 47,000 gallons per day. No significant impacts to public wastewater facilities are anticipated.	4. Applicant will obtain authorization from the Delta Diablo Sanitation District and the City of Antioch and pay use fees for sewage discharge to the local sewer system.	Delta Diablo Sanitation District City of Antioch
Cultural Resources	Incorporated by Applicant	
1. Disturbance of culturally sensitive sites in project area.	1. No culturally sensitive sites identified in project vicinity. If cultural sites are encountered during construction, construction would cease until findings are evaluated by a qualified archaeologist.	City of Antioch

(Continued)

TABLE I

WILBUR AVENUE WEST POWER PLANT - SITE III

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
1. Mass balance analysis indicates that ash would be determined to be nonhazardous. The preferred disposal option is to sell ash for use as a building material; otherwise, ash would be disposed of in a permitted landfill. Class II and Class III landfill space for nonhazardous ash is currently available for GWF's projects; however, future landfill needs for all of Contra Costa County exceed available capacity. Because it is expected that the ash will be sold, and not landfilled, no significant impacts should result from disposal of the ash from this project.	1. Limit metal content of petroleum coke fuel to 1.6 ppm for chromium, 402 ppm for nickel, and 650 ppm for vanadium; store ash in an enclosed structure prior to off-site shipment; test ash produced during facility operation in accordance with Department of Health Services requirements; applicant will utilize all opportunities to sell ash.	BAAQMD DHS
Traffic (Cumulative)		
1. The GWF projects would add to the cumulative traffic affecting the local roadways. Incremental increases are minor and not considered to be significant. However, local roadway improvements will be required to serve projected cumulative traffic flows.	1. Participate (pro rata share) in state and/or local improvement assessemnt districts necessary to implement roadway improvements along facilities affected by project traffic. The applicant has agreed to encourage the use of designated truck routes and the access specifications identified for each project site. Where possible, delivery contracts will specify desired access routes.	City of Antioch Caltrans

W 24169

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

WILBUR AVENUE EAST POWER PLANT
GWF POWER SYSTEMS COMPANY - SITE IV

NOTICE OF FINAL EIR CERTIFICATION

NOTICE OF DECISION

The enclosed Final EIR for the Wilbur Avenue East Power Plant project proposed by GWF Power Systems Company, Inc. is provided for your information. The BAAQMD's Air Pollution Control Officer considered the information in the Final EIR; certified that the Final EIR was completed in compliance with the provisions of CEQA; made findings pursuant to Section 15091 of the State CEQA Guidelines; and made a decision to issue a conditional Authority to Construct permit for the project on February 11, 1988.

The record of decision for this project and all documents incorporated by reference into the EIR are available for public review at the BAAQMD Headquarters, 939 Ellis Street, San Francisco in the Public Information Office, 5th Floor. In addition, all documents incorporated by reference in the EIR were sent to the Pittsburg and Antioch public libraries.

If you have any questions, please contact the BAAQMD Public Information Office or Jean Roggenkamp, BAAQMD Planner, at (415) 771-6000.

Milton Feldstein
Air Pollution Control Officer

February 11, 1988
Date

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000

Wilbur Avenue East Power Plant

Certification of Final EIR
and
Adoption of Findings and Statement of Actions
Under the California Environmental Quality Act

1. The Rules and Regulations of the Bay Area Air Quality Management District ("BAAQMD" or "District") provide that the Air Pollution Control Officer is the District's decisionmaker with respect to determinations as to whether or not permits, in the form of Authorities to Construct and Permits to Operate, should be issued to proposed projects subject to the District's permit requirements.

2. As the District's decisionmaker on the Authority to Construct for the proposed Wilbur Avenue East petroleum coke-fired power plant project, I have personally reviewed the Final Environmental Impact Report ("FEIR") for this project.

3. Pursuant to Title 14 California Administrative Code Section 15090, I certify that the FEIR has been completed in compliance with CEQA and with the District's CEQA Guidelines (BAAQMD Manual of Procedures, Volume VII), that the FEIR was presented to me, and that I reviewed and considered the information contained in the FEIR prior to making my decision on the issuance of an Authority to Construct for the Wilbur Avenue East Power Plant project. Although the District's CEQA Guidelines indicate that a hearing may be held to certify a FEIR, I have determined that when this provision of the District's CEQA Guidelines is read together with the CEQA statute and the State's CEQA Guidelines set forth in Title 14 California Administrative Code, Section 15000 et seq., such a hearing is a discretionary one. Since a public hearing was held on the Draft EIR, and since all parties who commented on the Draft EIR will be receiving a copy of the FEIR, I therefore find that a hearing to certify the FEIR is unnecessary in this case.

4. The FEIR evaluated the proposed Wilbur Avenue East Power Plant project and concluded that the project would have a number of significant or potentially significant environmental impacts. However, the FEIR also identified specific mitigation measures that will reduce all significant or potentially significant impacts identified in the FEIR to a level of insignificance. Table I (attached) lists the identified significant impacts, the

mitigation measures appropriate to each such impact which were recommended by the District's EIR consultant and/or which were incorporated into the project by the applicant, and the agency that will, or can and should, ensure that the mitigation measures are implemented. For the mitigation measures identified in Table I as the responsibility of the BAAQMD or of no other responsible agency, conditions requiring these mitigation measures to be carried out will be included as permit conditions to the Authority to Construct permit which may be issued by the BAAQMD for the Wilbur Avenue East Power Plant project. For those identified mitigation measures the implementation of which is within the responsibility or jurisdiction of other public agencies, I find that said mitigation measures either will, or can and should, be adopted by the identified responsible agency.

5. Accordingly, pursuant to Public Resources Code Section 21081 and Title 14 California Administrative Code Section 15091, I hereby find that changes have been required in, or incorporated into, the Wilbur Avenue East Power Plant project which mitigate and avoid all significant environmental effects of the Wilbur Avenue East Power Plant project which were identified in the FEIR. These measures either will be included in permit conditions to the Authority to Construct for the Wilbur Avenue East Power Plant project to be issued by the BAAQMD, or will, or can and should, be adopted by other public agencies which have jurisdiction over the Wilbur Avenue East Power Plant project.

6. In order to resolve any legal question as to the authority of the BAAQMD under its Rules and Regulations to require the applicant to comply with mitigation measures covering matters unrelated to air quality, the applicant has committed in writing to be bound by all mitigation measures included in the FEIR (which are summarized in the attached Table I) and in the BAAQMD's permit and to compensate the District for the reasonable costs incurred by the District in connection with the enforcement of such conditions.

7. The following is an explanation for my decision to agree with the conclusion in the FEIR that the ash generated by the five GWF projects (if determined to be non-hazardous, which I find, based on the facts presented in the FEIR, is very likely to be the case) will not result in a significant environmental effect, either by itself or considered cumulatively with the waste from other reasonably anticipated future projects, given the

implementation of mitigation measures incorporated by the applicant into the project.

In the unlikely event that the applicant's ash is subsequently determined to be hazardous, such that it must be disposed of in a Class I or Class II landfill site, the FEIR indicates that adequate Class I or Class II landfill capacity does exist. Therefore, the disposal of the applicant's ash in a Class I or Class II site will not result in any significant environmental impact, either by itself or considered cumulatively, although such disposal would likely result in added costs to the operation of the Wilbur Avenue East Power Plant project.

I am aware of the limited future Class III landfill capacity and the extensive future landfill needs of Contra Costa County considered on a cumulative basis from information presented in the Contra Costa County Solid Waste Management Plan, which was adopted by the Contra Costa County Board of Supervisors in June of 1987. However, the FEIR indicates that there will be substantial opportunities for the applicant to sell the ash for use in cement making and for other uses. For this reason, the FEIR concludes that there will be no significant environmental effect as a result of the ash generated by the five GWF projects.

However, there is no absolute guarantee that this ash can be sold. In the event that the ash cannot be sold and must be landfilled, the FEIR indicates that current Class III landfill capacity does exist for this ash, but that the landfill disposal of the applicant's ash will ultimately result in a significant environmental effect, given the cumulative effects of Contra Costa County's future Class III landfill needs and projected capacity. A number of measures are described in the FEIR which would mitigate this significant environmental effect. One or more of these measures can and should be adopted by Contra Costa County should such an environmental effect occur.

However, given the ability and willingness of the applicant to sell the ash, and given the mitigation measures incorporated by the applicant into the project to limit the metals content of the ash such that the applicant should be able to sell the ash on the open market, I find that the project's ash generation would not result in a significant environmental effect.

8. The FEIR contains a number of comments and responses regarding the subject of toxic air contaminants. I have considered the effects of the five GWF projects on a

combined basis and note that the FEIR states that a risk assessment analysis using certain assumptions concludes that the five projects combined have an incremental cancer risk factor of 2.6 in one million, and a projected "excess cancer burden" of 0.6. There are no adopted federal, state and local standards concerning whether these levels should be interpreted as predicting a "significant" or "insignificant" environmental effect, though the FEIR describes several analogous risk management decisions and regulations.

I have carefully reviewed the FEIR, and exercising my experience, knowledge, and judgment as an air pollution control officer have concluded that the statistics presented in the risk assessment should not be interpreted as predicting a significant environmental effect from the five GWF projects resulting from the emissions of toxic air contaminants, given the mitigation measures incorporated by the applicant into these projects and included as permit conditions in the Authorities to Construct which the BAAQMD may issue.

I have also considered the potential effects of the five GWF projects considered cumulatively with other reasonably anticipated future projects. Although the review of cumulative risk due to air toxics presented in the FEIR indicates that the cumulative risk factor due to the GWF projects plus three other reasonably anticipated future projects will be substantially in excess of 2.6 in one million, there are a number of reasons why the results of this analysis do not show a cumulative health risk which would be environmentally significant. First, the BAAQMD has recently implemented several programs intended to reduce exposure to toxic air contaminants from existing sources. These BAAQMD programs will be the most effective means of reducing public exposure to the potential health risks of toxic air contaminants by reducing the current levels of toxics in the ambient air; these anticipated reductions will result in lower future ambient levels, even when the incremental increases due to the GWF projects, plus other reasonably anticipated future projects in the area affected by the GWF projects, are taken into consideration.

Second, the review of cumulative risk due to air toxics presented in the FEIR is based on a very rough screening approach which incorporates extreme worst case assumptions for all relevant parameters for which hard data are not available. It is accordingly my judgment that this review significantly overstates the potential cumulative risk from the projects in question, and that because of its

extreme conservatism, this review is of very limited utility in providing a basis for a considered risk management decision on any specific project. However, I find that this review is adequate for the purposes of providing the type of information on cumulative impacts which is required under CEQA.

For all of the foregoing reasons, I therefore find that there will be no significant cumulative health risk resulting from the emissions of toxic air contaminants from the GWF projects plus other reasonably anticipated future projects.

DATE: February 8, 1988

Milton Feldstein
Air Pollution Control Officer
Bay Area Air Quality Management District

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Geology		
1. Insignificant alternations in the soil horizons.	1. No mitigation is necessary.	
Seismicity	Incorporated by Applicant	
1. Potential damage or destruction of facilities during an earthquake; associated spills of flammable material; and fire.	1. Adhere to applicable standards of practice and building codes for seismic hazard areas; equip pipes carrying flammable materials with automatic shut-off valves and design them to minimize potential for breakage; install vibration monitoring and warning devices on the steam turbine, cooling tower, and other essential plant equipment with automatic shut-down capability.	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct
2. Potential liquefaction of on-site soils during a seismic event.	2. Before finalizing facility design, the applicant's geotechnical consultant will perform a liquefaction hazard at the project site. If this analysis shows a potential hazard, the applicant will implement specific design criteria to mitigate the problem. These measures could include:	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct

(Continued)

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	• Avoiding building critical structures in the potential liquefiable area;	
	• Densifying the liquefiable soils by compaction;	
	• Providing support for critical structures in firm soils below the liquefiable soils; or	
	• Other measures recommended by a registered geotechnical consultant.	
Soils	Incorporated by Applicant	
1. Insignificant increase in soil erosion.	1. Landscape areas of bare soil with native plants after construction.	Insignificant impact; however, applicant accepts mitigation measures as permit condition to BAAQMD Authority to Construct
2. Potential introduction of hazardous materials into soils.	2. Place tanks containing acids, caustics, and oil on concrete slabs and surround them with containment walls.	Riverview Fire Protection District

[Continued]

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Hydrology	Incorporated by Applicant	
1. Insignificant increase in runoff and ponding during and after construction.	1. Construct on-site drainage culverts to ensure adequate drainage.	Insignificant impact; however, applicant accepts mitigation measures as permit condition to BAAQMD Authority to Construct
2. If process wastewater and surface runoff are discharged into San Joaquin River, 10 to 1 dilution would be achieved with insignificant water-quality impacts.	2. Sample the effluent as directed by the Regional Water Quality Control Board. If unacceptable conditions are detected, applicant must follow directives of RWQCB.	Central Valley Regional Water Quality Control Board
3. Potential contamination of surface and ground water from leaking storage tanks.	3. Place tanks on concrete slabs and build containment walls around them to contain potential spills.	Riverview Fire Protection District
Coastal Resources	Incorporated by Applicant	
1. Habitat destruction along the San Joaquin River could occur if earth or fill materials are disposed of near the wastewater discharge outfall.	1. Dispose of fill material at an appropriate upland location.	No local responsible agency; mitigation measure will be included as a permit condition to BAAQMD Authority to Construct

(Continued)

3

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
<u>Air Quality</u>	<u>Incorporated by Applicant</u>	
1. Increased local emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons, and trace amounts of metals and organics from facility operation.	1. Apply best available control technology, specifically: • sorbent injection (sulfur dioxide control); • ammonia injection (nitrogen oxides control); • fabric filter baghouse (particulate matter and metals control); • cyclones (large particle control); and • combustion controls (carbon monoxide and hydrocarbon emissions control).	BAAQMD
2. Fugitive dust during construction.	2. Spray water at least twice daily during construction.	BAAQMD
3. Fugitive dust during operation.	3. Apply negative air pressure and use an enclosed fuel transfer and handling system with exhaust to fabric filter baghouse to reduce fugitive dust.	BAAQMD

(Continued)

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Public Health		
1. Increased emissions of toxic air contaminants, Maximum Exposed Individual 70-year cancer risk of 0.81×10^{-6}, noncarcinogenic exposures less than Threshold Limit Values (TLVs).	1. Apply Best Available Control Technology for organics and particulates, and limit metal content of petroleum coke to 1.8 ppm for chromium and 402 for nickel.	BAAQMD
Vegetation and Wildlife		
1. No significant impacts on vegetation and wildlife.	1. No mitigation is necessary.	
Land Use/Aesthetics/Noise	**Recommended by EIR Consultant**	
1. Construction and operation noise.	1. Equip all construction equipment with mufflers; direct potentially annoying noise sources towards interior of facility.	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct
2. Facility operation noise levels at the closest residential receptors may exceed Contra Costa County noise standards.	2. GWF should require vendors of major noise-producing equipment to acoustically attenuate equipment as necessary to comply with residential noise standards.	No local responsible agency; mitigation measures will be included as permit condition to BAAQMD Authority to Construct

(Continued)

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	Conduct 24-hour noise monitoring after the facility is in operation to verify that the actual noise levels at nearby residential receptors are in compliance with acceptable noise standards. If noise levels exceed standards, additional acoustical treatment (such as structural enclosures or barriers) would be installed and additional monitoring performed to verify compliance with noise standards.	
	To adequately attenuate noise levels at the caretaker residence adjacent to the project site, noise insulation material should be retrofitted or this structure moved a minimum of 300 feet away from the project site.	
2. Stack and other structures visible from surrounding areas. No significant visual impacts.	2. Landscape facility site; direct lights to interior of facility; limit stack lights to aircraft warning lights; use sodium instead of mercury lights to reduce glare; limit height of light posts to 12 feet.	Insignificant impact; however, applicant accepts mitigation measures as permit conditions to BAAQMD Authority to Construct
<u>Population, Housing, and Employment</u>		
1. The proposed project would have a small beneficial impact on local and regional employment.	1. No mitigation is necessary.	

(Continued)

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Traffic and Circulation		
1. Insignificant increase in light-duty vehicle and truck traffic.	1. All of the local roadways that would be used by project-generated traffic are currently operating at an acceptable level of service (i.e., LOS C or better) during average and peak-hour periods and these levels of service are not expected to change as a result of project traffic. Therefore, no mitigation is required. Incorporated by Applicant Applicant will schedule truck deliveries, where possible, to occur during off-peak hours. The applicant has agreed to contractually require that project-related heavy trucks (sorbent, fuel, and ash trucks) use the Wilbur Avenue/SR-160 interchange for site access. Recommended by EIR Consultant	Insignificant impact; however, applicant accepts mitigation measures as permit condition to BAAQMD Authority to Construct
~~2. Project traffic entering the site from Wilbur Avenue could cause congestion along Wilbur Avenue, impairing traffic safety.~~	~~2. Install a left turn lane at the site access point on Wilbur Avenue.~~	~~No local responsible agency; mitigation measure will be included as permit condition of BAAQMD Authority to Construct~~

[Continued]

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Public Services	Incorporated by Applicant	
1. Fire protection for the facility would strain the service capabilities of the Riverview Fire Protection District.	1. Pay fire facilities element fees to offset the cost of providing fire protection to the project site; provide on-site access roadways with all-weather driving surfaces and specified widths and clearances; participate in a benefit assessment district to fund fire district staff needs.	Riverview Fire Proteciton District
2. The DEIR evaluated a project water demand of 432,400 gallons per day; however, the applicant has revised the water demand to 343,440 gallons per day. Potential impacts to the City of Antioch from supplying project water if the water treatment plant expansion is not completed as scheduled in 1988.	2. Pay water services fees to offset the cost of providing water to the facility. Expansion of the water treatment plant would be completed prior to start of facility operations.	City of Antioch
3. Flood hazard impacts on local flood control district.	3. Construct a portion of the flood control district stormwater drainage system that will drain into the San Joaquin River or use on-site percolation pond for stormwater runoff. The drainage system construction costs borne by the applicant would offset the drainage fees required to connect the facility	Contra Costa County Flood Control District

(Continued)

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	with the drainage system planned for the area. The applicant-proposed on-site percolation pond must be determined to be adequate by the Contra Costa County Flood Control District.	
4. The DEIR evaluated a project wastewater discharge of 72,400 gallons per day; however, the applicant has revised the discharge to 47,000 gallons per day. If the project domestic wastewater is required to be discharged to the City of Antioch sewer sytem upon construction of the Wilbur Avenue sewer, project discharge would be less than 1 percent of the existing unused capacity of the Delta Diablo Sanitation District treatment plant.	4. Applicant will obtain authorization from the Delta Diablo Sanitation District and the City of Antioch and pay u[illegible]fees for discharge to the local sewer system.	Delta Diablo Sanitation District City of Antioch
<u>Cultural Resources</u>	<u>Incorporated by Applicant</u>	
1. Disturbance of culturally sensitive sites in project area.	1. No culturally sensitive sites identified in project vicinity; if encountered during construction, construction would cease until findings are evaluated by a qualified archaeologist.	No local responsible agency; mitigation measure will be included as permit condition to BAAQMD Authority to Construct

(Continued)

TABLE I

WILBUR AVENUE EAST POWER PLANT - SITE IV

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
<u>Ash Disposal</u>	<u>Incorporated by Applicant</u>	
1. Mass balance analysis indicates that ash would be determined to be nonhazardous. The preferred disposal option is to sell ash for use as a building material; otherwise ash would be disposed of in a permitted landfill. Class II and Class III landfill space for nonhazardous ash is currently available for GWF's projects; however, future landfill needs for all of Contra Costa County exceed available capacity. Because it is expected that the ash will be sold, and not landfilled, no significant impacts should result from disposal of the ash from this project.	1. Limit metal content of petroleum coke fuel to 1.8 ppm for chromium, 402 ppm for nickel, and 850 ppm for for vanadium; store ash in an enclosed structure prior to off-site shipment; test ash produced during facility operation in accordance with Department of Health Services requirements; applicant will utilize all opportunities to sell ash.	BAAQMD DHS
<u>Traffic (Cumulative)</u>		
1. The GWF projects would add to the cumulative traffic affecting the local roadways. Incremental increases are minor and not considered to be significant. However, local roadway improvements will be required to serve projected cumulative traffic flows.	1. Participate (pro rata share) in state and/or local improvement assessment districts necessary to implement roadway improvements along facilities affected by project traffic. The applicant has agreed to encourage the use of designated truck routes and the access specifications identified for each project site. Where possible, delivery contracts will specify desired access routes.	Caltrans Contra Costa County

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT

NICHOLS ROAD POWER PLANT
GWF POWER SYSTEMS COMPANY - SITE V

NOTICE OF FINAL EIR CERTIFICATION

NOTICE OF DECISION

The enclosed Final EIR for the Nichols Road Power Plant project proposed by GWF Power Systems Company, Inc. is provided for your information. The BAAQMD's Air Pollution Control Officer considered the information in the Final EIR; certified that the Final EIR was completed in compliance with the provisions of CEQA; made findings pursuant to Section 15091 of the State CEQA Guidelines; and made a decision to issue a conditional Authority to Construct permit for the project on February 11, 1988.

The record of decision for this project and all documents incorporated by reference into the EIR are available for public review at the BAAQMD Headquarters, 939 Ellis Street, San Francisco in the Public Information Office, 5th Floor. In addition, all documents incorporated by reference in the EIR were sent to the Pittsburg and Antioch public libraries.

If you have any questions about this project, please contact the BAAQMD Public Information Office or Jean Roggenkamp, BAAQMD Planner, at (415) 771-6000.

Milton Feldstein
Air Pollution Control Officer

February 11, 1988
Date

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000

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Nichols Road Power Plant

Certification of Final EIR
and
Adoption of Findings and Statement of Actions
Under the California Environmental Quality Act

1. The Rules and Regulations of the Bay Area Air Quality Management District ("BAAQMD" or "District") provide that the Air Pollution Control Officer is the District's decisionmaker with respect to determinations as to whether or not permits, in the form of Authorities to Construct and Permits to Operate, should be issued to proposed projects subject to the District's permit requirements.

2. As the District's decisionmaker on the Authority to Construct for the proposed Nichols Road petroleum coke-fired power plant project, I have personally reviewed the Final Environmental Impact Report ("FEIR") for this project.

3. Pursuant to Title 14 California Administrative Code Section 15090, I certify that the FEIR has been completed in compliance with CEQA and with the District's CEQA Guidelines (BAAQMD Manual of Procedures, Volume VII), that the FEIR was presented to me, and that I reviewed and considered the information contained in the FEIR prior to making my decision on the issuance of an Authority to Construct for the Nichols Road Power Plant project. Although the District's CEQA Guidelines indicate that a hearing may be held to certify a FEIR, I have determined that when this provision of the District's CEQA Guidelines is read together with the CEQA statute and the State's CEQA Guidelines set forth in Title 14 California Administrative Code, Section 15000 et seq., such a hearing is a discretionary one. Since a public hearing was held on the Draft EIR, and since all parties who commented on the Draft EIR will be receiving a copy of the FEIR, I therefore find that a hearing to certify the FEIR is unnecessary in this case.

4. The FEIR evaluated the proposed Nichols Road Power Plant project and concluded that the project would have a number of significant or potentially significant environmental impacts. However, the FEIR also identified specific mitigation measures that will reduce all significant or potentially significant impacts identified in the FEIR to a level of insignificance. Table I (attached) lists the identified significant impacts, the

mitigation measures appropriate to each such impact which were recommended by the District's EIR consultant and/or which were incorporated into the project by the applicant, and the agency that will, or can and should, ensure that the mitigation measures are implemented. For the mitigation measures identified in Table I as the responsibility of the BAAQMD or of no other responsible agency, conditions requiring these mitigation measures to be carried out will be included as permit conditions to the Authority to Construct permit which may be issued by the BAAQMD for the Nichols Road Power Plant project. For those identified mitigation measures the implementation of which is within the responsibility or jurisdiction of other public agencies, I find that said mitigation measures either will, or can and should, be adopted by the identified responsible agency.

5. Accordingly, pursuant to Public Resources Code Section 21081 and Title 14 California Administrative Code Section 15091, I hereby find that changes have been required in, or incorporated into, the Nichols Road Power Plant project which mitigate and avoid all significant environmental effects of the Nichols Road Power Plant project which were identified in the FEIR. These measures either will be included in permit conditions to the Authority to Construct for the Nichols Road Power Plant project to be issued by the BAAQMD, or will, or can and should, be adopted by other public agencies which have jurisdiction over the Nichols Road Power Plant project.

6. In order to resolve any legal question as to the authority of the BAAQMD under its Rules and Regulations to require the applicant to comply with mitigation measures covering matters unrelated to air quality, the applicant has committed in writing to be bound by all mitigation measures included in the FEIR (which are summarized in the attached Table I) and in the BAAQMD's permit and to compensate the District for the reasonable costs incurred by the District in connection with the enforcement of such conditions.

7. The following is an explanation for my decision to agree with the conclusion in the FEIR that the ash generated by the five GWF projects (if determined to be non-hazardous, which I find, based on the facts presented in the FEIR, is very likely to be the case) will not result in a significant environmental effect, either by itself or considered cumulatively with the waste from other reasonably anticipated future projects, given the implementation of mitigation measures incorporated by the applicant into the project.

In the unlikely event that the applicant's ash is subsequently determined to be hazardous, such that it must be disposed of in a Class I or Class II landfill site, the FEIR indicates that adequate Class I or Class II landfill capacity does exist. Therefore, the disposal of the applicant's ash in a Class I or Class II site will not result in any significant environmental impact, either by itself or considered cumulatively, although such disposal would likely result in added costs to the operation of the Nichols Road Power Plant project.

I am aware of the limited future Class III landfill capacity and the extensive future landfill needs of Contra Costa County considered on a cumulative basis from information presented in the Contra Costa County Solid Waste Management Plan, which was adopted by the Contra Costa County Board of Supervisors in June of 1987. However, the FEIR indicates that there will be substantial opportunities for the applicant to sell the ash for use in cement making and for other uses. For this reason, the FEIR concludes that there will be no significant environmental effect as a result of the ash generated by the five GWF projects.

However, there is no absolute guarantee that this ash can be sold. In the event that the ash cannot be sold and must be landfilled, the FEIR indicates that current Class III landfill capacity does exist for this ash, but that the landfill disposal of the applicant's ash will ultimately result in a significant environmental effect, given the cumulative effects of Contra Costa County's future Class III landfill needs and projected capacity. A number of measures are described in the FEIR which would mitigate this significant environmental effect. One or more of these measures can and should be adopted by Contra Costa County should such an environmental effect occur.

However, given the ability and willingness of the applicant to sell the ash, and given the mitigation measures incorporated by the applicant into the project to limit the metals content of the ash such that the applicant should be able to sell the ash on the open market, I find that the project's ash generation would not result in a significant environmental effect.

8. The FEIR contains a number of comments and responses regarding the subject of toxic air contaminants. I have considered the effects of the five GWF projects on a combined basis and note that the FEIR states that a risk assessment analysis using certain assumptions concludes

that the five projects combined have an incremental cancer risk factor of 2.6 in one million, and a projected "excess cancer burden" of 0.6. There are no adopted federal, state and local standards concerning whether these levels should be interpreted as predicting a "significant" or "insignificant" environmental effect, though the FEIR describes several analogous risk management decisions and regulations.

I have carefully reviewed the FEIR, and exercising my experience, knowledge, and judgment as an air pollution control officer have concluded that the statistics presented in the risk assessment should not be interpreted as predicting a significant environmental effect from the five GWF projects resulting from the emissions of toxic air contaminants, given the mitigation measures incorporated by the applicant into these projects and included as permit conditions in the Authorities to Construct which the BAAQMD may issue.

I have also considered the potential effects of the five GWF projects considered cumulatively with other reasonably anticipated future projects. Although the review of cumulative risk due to air toxics presented in the FEIR indicates that the cumulative risk factor due to the GWF projects plus three other reasonably anticipated future projects will be substantially in excess of 2.6 in one million, there are a number of reasons why the results of this analysis do not show a cumulative health risk which would be environmentally significant. First, the BAAQMD has recently implemented several programs intended to reduce exposure to toxic air contaminants from existing sources. These BAAQMD programs will be the most effective means of reducing public exposure to the potential health risks of toxic air contaminants by reducing the current levels of toxics in the ambient air; these anticipated reductions will result in lower future ambient levels, even when the incremental increases due to the GWF projects, plus other reasonably anticipated future projects in the area affected by the GWF projects, are taken into consideration.

Second, the review of cumulative risk due to air toxics presented in the FEIR is based on a very rough screening approach which incorporates extreme worst case assumptions for all relevant parameters for which hard data are not available. It is accordingly my judgment that this review significantly overstates the potential cumulative risk from the projects in question, and that because of its extreme conservatism, this review is of very limited utility in providing a basis for a considered risk

management decision on any specific project. However, I find that this review is adequate for the purposes of providing the type of information on cumulative impacts which is required under CEQA.

For all of the foregoing reasons, I therefore find that there will be no significant cumulative health risk resulting from the emissions of toxic air contaminants from the GWF projects plus other reasonably anticipated future projects.

DATE: February 8, 1988

Milton Feldstein
Air Pollution Control Officer
Bay Area Air Quality Management District

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Geology		
1. Insignificant alternations in the soil horizons.	1. No mitigation is necessary.	
Seismicity	**Incorporated by Applicant**	
1. Damage or destruction of facilities during an earthquake; associated spills of flammable material; and fire.	1. Adhere to applicable standards of practice and building codes for seismic hazard areas; equip pipes carrying flammable materials with automatic shut-off valves and design them to minimize potential for breakage; install vibration monitoring and warning devices on the steam turbine, cooling tower, and other essential plant equipment with automatic shut-down capability.	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct
2. Potential liquefaction of on-site soils during a seismic event.	2. Before finalizing facility design, the applicant's geotechnical consultant will perform an analysis to confirm the potential liquefaction hazard at the project site. If this analysis shows a potential hazard, the applicant will implement specific design criteria to mitigate the problem. These measures could include:	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct

[Continued]

TABLE I
NICHOLS ROAD POWER PLANT - SITE V
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	o Avoiding building critical structures in the potential liquefiable area;	
	o Densifying the liquefiable soils by compaction;	
	o Providing support for critical structures in firm soils below the liquefiable soils; or	
	o Other measures recommended by a registered geotechnical consultant.	
Soils	Incorporated by Applicant	
1. Insignificant increase in soil erosion.	1. Landscape areas of bare soil with native plants after construction.	Insignificant impact; however, applicant accepts mitigation measure as permit condition to BAAQMD Authority to Construct
2. Potential introduction of hazardous materials into soils.	2. Place tanks containing acids, caustics, and oil on concrete slabs and surround them with containment walls.	Riverview Fire Protection District
Hydrology	Incorporated by Applicant	
1. Insignificant increase in runoff and ponding during and after construction.	1. Construct on-site drainage culverts to ensure adequate drainage.	Insignificant impact; however, applicant accepts mitigation measure as permit condition to BAAQMD Authority to Construct

(Continued)

2

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
2. If process wastewater and surface water runoff are discharged into Suisun Bay, 10 to 1 dilution would be achieved with insignificant water-quality impacts.	2. Sample the effluent as directed by the Regional Water Quality Board. If unacceptable conditions are detected, applicant must follow directives of RWQCB.	San Francisco Regional Water Quality Control Board
3. Potential contamination of surface and ground water from leaking storage tanks.	3. Place tanks on concrete slabs and build containment walls around them to contain potential spills; traffic safety measures to minimize potential for spills.	Riverview Fire Protection District
<u>Coastal Resources</u>	<u>Incorporated by Applicant</u>	
1. Habitat destruction at near Suisun Bay could occur if earth or fill materials from wastewater outfall construction are disposed of near the bay marshes, or if pipe carrying plant effluent to the bay is buried in the ground.	1. Dispose of fill material at an appropriate upland location. Pipeline buried in the marsh should be avoided because marsh areas could provide habitat for any of the three endangered species, although none have been identified along the pipeline route. Place pipe across marsh on piles and remove all spoil material to an upland location.	Bay Conservation and Development Commission

(Continued)

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
Air Quality	**Incorporated by Applicant**	
1. Increased local emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, hydrocarbons, and trace amounts of metals and organics from facility operation.	1. Apply best available control technology, specifically: o sorbent injection [sulfur dioxide control]; o ammonia injection [nitrogen oxides control]; o fabric filter baghouse [particulate matter and metals control]; o cyclones [large particle control]; and o combustion controls [carbon monoxide and hydrocarbon emissions control].	BAAQMD
2. Fugitive dust during construction.	2. Spray water at least twice daily during construction.	BAAQMD
3. Fugitive dust during operation.	3. Apply negative air pressure and use an enclosed fuel transfer and handling system with exhaust to fabric filter baghouse to reduce fugitive dust.	BAAQMD
Public Health		
1. Increased emissions of toxic air contaminants, Maximum Exposed Individual 70-year	1. Apply Best Available Control Technology for organics and particulates, and limit metal	BAAQMD

(Continued)

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
cancer risk of 1.37×10^{-6}, noncarcinogenic exposures less than Threshold Limit Values (TLVs).	content of petroleum coke to 1.6 ppm for chromium and 402 ppm for nickel.	
<u>Vegetation and Wildlife</u>		
1. Insignificant impacts on vegetation and wildlife.	1. No mitigation is necessary.	
<u>Land Use/Aesthetics/Noise</u>	<u>Recommended by EIR Consultant</u>	
1. Construction and operation noise.	1. Equip all construction equipment with mufflers; direct potentially annoying noise sources towards interior of facility.	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct
2. Facility operation noise levels at closest residential receptors are projected to be within Contra Costa County noise standards.	2. Vendors of major noise-producting equipment should be required to acoustically attenuate equipment as necessary to comply with residential noise standards. Conduct 24-hour noise monitoring after the facility is in operation to verify that the actual noise levels at nearby residential receptors are in compliance with applicable noise standards. If noise levels exceed standards, additional	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct

(Continued)

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	acoustical treatment [such as structural enclosures or barriers] would be installed and additional monitoring performed to verify compliance with noise standards.	
3. Stack and other structures visible from surrounding areas. Potential visual impact from scenic highway.	3. Landscape facility site; direct lights to interior of facility; limit stack lights to aircraft warning lights; use sodium instead of mercury lights to reduce glare; limit height of light poste to 12 ft.	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct
Population, Housing, and Employment		
1. The proposed project would have a small beneficial impact on local and regional employment.	1. No mitigation is necessary.	
Traffic and Circulation		
1. Insignificant increase in light-duty vehicle and truck traffic.	1. All of the local roadways that would be used by project-generated traffic would not experience a change in existing levels of service or unacceptable peak-hour levels of service. Therefore, no mitigations are required. Incorporated by Applicant The applicant has agreed to schedule truck deliveries, where possible, to avoid peak-hour traffic.	Insignificant impact; however, applicant accepts mitigation measure as permit conditions to BAAQMD Authority to Construct

[Continued]

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	Recommended by EIR Consultant	
2. Potential visibility and safety hazard at Nichold Road/Port Chicago Highway intersection.	2. Trim or remove trees located at northwest corner of the Port Chicago/Nichols Road intersection. Post "slow trucks" signs on both approaches to Nichols Road. (Note: these signs would not be required if Port Chicago Highway is closed west of Nichols Road.	No local responsible agency; mitigation measures will be included as permit conditions to BAAQMD Authority to Construct
Public Services	Incorporated by Applicant	
1. Fire protection for the facility would strain the service capabilities of the Riverview Fire Protection District.	1. Pay fire facilities element fees to offset the cost of providing fire protection to the project site; provide on-site access roadways with all-weather driving surfaces and specified widths and clearances. The applicant has agreed to participate in a benefit assessment district to fund fire district staff needs.	Riverview Fire Protection District
2. DEIR evaluated a project water demand of 432,400 gallons per day; however, the applicant has revised the water demand to 343,440 gallons per day. Potential impact on the project due to interruptions in the water supply if Contra Costa Water	2. Pay water services fees to offset the cost of providing water to the facility. On-site storage for daily and fire flow water needs is required whether Contra Costa Water District or California Cities Water Company is the project water supplier. On-site	Contra Costa Water District California Cities Water Company

(Continued)

TABLE I
NICHOLS ROAD POWER PLANT - SITE V
SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
District supplies project water. If California Cities Water Company supplies project water, water supply impacts are not expected assuming expansion of the water treatment plant occurs as planned.	water treatment or bottled water will be necessary for employee needs.	
3. The DEIR evaluated a project wastewater discharge of 72,400 gallons per day; however the applicant has revised the discharge to 47,000 gallons per day. The applicant proposes to discharge process wastewater to Suisun Bay. If disposal to the local sewer system is chosen as an option, discharge of 47,000 gallons per day would be less than 7 percent of the existing unused capacity of the Delta Diablo Sanitation District treatment plant Zone I allocation.	3. If wastewater is disposed of in local sanitary sewer system, applicant will obtain authorization from the Delta Diablo Sanitation District and pay required use fees.	Delta Diablo Sanitation District
4. Flood hazard impacts on local flood control district.	4. Pay a drainage fee to mitigate the project's flood control impacts, and install a stormwater drainage system that drains directly into Suisun Bay, in accordance with flood control requirements for drainage area 48C.	Contra Costa County Flood Control District
<u>Cultural Resources</u>	<u>Incorporated by Applicant</u>	
1. Disturbance of culturally sensitive sites in project area.	1. No culturally sensitive sites identified in project vicinity; if encountered during construction,	No local responsible agency; mitigation measure will be included as permit conditions

[Continued]

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
	construction would cease until findings are evaluated by a qualified archaeologist.	to BAAQMD Authority to Construct
Ash Disposal		
1. Mass balance analysis indicates that ash would be determined to be non-hazardous. The preferred disposal option is to sell ash for use as a building material; otherwise ash would be disposed of in a permitted landfill. Class II and Class III landfill space for nonhazardous ash is currently available for GWF's projects; however, future landfill needs for all of Contra Costa County exceed available capacity. Because it is expected that the ash will be sold, and not landfilled, no significant impacts should result from disposal of the ash from this project.	1. Limit metal content of petroleum coke fuel to 1.8 ppm for chromium, 402 ppm for nickel, 650 ppm for vanadium; store ash in an enclosed structure prior to off-site shipment; test ash produced during facility operation in accordance with Department of Health Services requirements; applicant will utilize all opportunities to sell the ash.	BAAQMD DHS
Traffic (Cumulative)		
1. The GWF projects would add to the cumulative traffic affecting the local roadways. Incremental increases are minor and not considered to be significant. However, local roadway improvements	1. Participate (pro rata share) in state and/or local improvement assessment districts necessary to implement roadway improvements along facilities affected by project traffic.	Caltrans Contra Costa County

(Continued)

TABLE I

NICHOLS ROAD POWER PLANT - SITE V

SUMMARY OF ENVIRONMENTAL IMPACTS, PROPOSED MITIGATION MEASURES, AND RESPONSIBLE AGENCIES

Environmental Impacts	Mitigation Measures	Responsible Agencies
will be required to serve projected cumulative traffic flows.	The applicant has agreed to encourage the use of designated truck routes and the access specifications identified for each project site. Where possible, delivery contracts will specify desired access routes.	