

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

In the Matter of:)	Docket No. 01-AFC-7C
)	
RUSSELL CITY ENERGY CENTER PROJECT)	Order No. 10-0811-5
)	
RUSSELL CITY ENERGY COMPANY, LLC)	ORDER AMENDING THE ENERGY COMMISSION DECISION
)	

On November 18, 2009, Russell City Energy Center, LLC filed a petition to amend the Russell City Energy Center project (RCEC) to add four new parcels as construction worker parking and construction laydown areas, routing the potable water supply and sanitary sewer pipelines to connect with Depot Road instead of Enterprise Avenue, and updating the Conditions of Certification concerning air quality to meet current BACT standards. A subsequent letter was filed on January 12, 2010, withdrawing one of the four proposed new laydown areas.

The 600 megawatt (MW) natural gas-fired, combined-cycle electric generating facility is located in the City of Hayward in Alameda County. This project was certified in September 2002, and received an amended approval in October 2007. A petition to extend commencement of construction deadline by one year, from September 10, 2007, to September 10, 2008, was approved on August 29, 2007, and a petition to extend commencement of construction deadline by two years, from September 10, 2008 to September 10, 2010, was approved on July 30, 2008.

STAFF RECOMMENDATION

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions as noted in the staff analysis and supplemental staff analysis. It is staff's opinion that, with the implementation of the added and revised conditions of certification in Air Quality and Cultural Resources, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

COMMISSION FINDINGS

As mandated by Title 20, section 1769(a)(3) of the California Code of Regulations, the Energy Commission may only approve project modifications if specific findings are met. Following staff's review of the proposed amendment, Energy Commission staff recommends approval based on the following findings:

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed changes, the amended project would result in decreased emissions and air quality impacts, and will be consistent with current federal Prevention of Significant Deterioration (PSD) permit and Best Available Control Technology requirements.
- B. Adherence to the proposed additions and revisions to Conditions of Certification in Air Quality and Cultural Resources will ensure the facility's continued compliance with all applicable LORS.
- C. The change would be beneficial to the project owner in that it would ensure the RCEC's continuous compliance with the Energy Commission's conditions of certification and the applicable Bay Area Air Quality Management District's rules, including federal Prevention of Significant Deterioration (PSD) permit regulations.
- D. The amended project would result in decreased emissions and air quality impacts and will be consistent with current federal PSD Permit and BACT requirements.
- E. There has been a substantial change in circumstances since the Commission certification justifying the changes to the RCEC's proposed changes. These changes are based on information that was not available to the parties prior to Energy Commission certification.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts staff's recommendations and approves revisions to the Decision, and the following changes to the Russell City Energy Center Decision. Deleted text is in ~~strikethrough~~, new text is **bold double-underlined**.

AIR QUALITY

AQ-SC8 Turbine hot/warm startup NOx emissions shall not exceed 95 /125 pounds per startup event, **respectively**.

Verification: As part of the quarterly and annual compliance reports as required by **AQ-19**, the project owner shall include information on the date, time, and duration of any violation of this permit condition

AQ-SC14 ~~Until the California Global Warming Solutions Act of 2006 (AB32) is implemented, the project owner shall either participate in a climate action registry approved by the CPM, or report on an annual basis to the CPM the quantity of greenhouse gases (GHG) emitted as a direct result of facility electricity production.~~

~~The project owner shall maintain a record of fuels types and carbon content used on-site for the purpose of power production. These fuels shall include but are not limited to each fuel type burned: (1) in combustion turbines, (2) HRSGs (if applicable) or auxiliary boiler (if applicable), (3) internal combustion engines, (4) flares, and/or (5) for the purpose of startup, shutdown, operation or emission controls.~~

~~The project owner may perform annual source tests of CO₂ and CH₄ emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of lbs CO₂ equivalent per mmBtu of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel~~

Pollutant	Test Method
CO ₂	EPA Method 3A
CH ₄	EPA Method 18 (POC measured as CH ₄)

~~As an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the CO₂, CH₄ and N₂O emissions using the appropriate fuel-based carbon content coefficient (for CO₂) and the appropriate fuel-based emission factors (for CH₄ and N₂O).~~

~~The project owner shall convert the N₂O and CH₄ emissions into CO₂ equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all SF₆ that is used for replenishing on-site high voltage electrical equipment. At the end of each reporting period, the project owner shall total the mass of SF₆ used and convert that to a CO₂ equivalent emission using the IPCC GWP for SF₆. The project owner shall maintain a record of all PFCs and HFCs that are used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and not recycled and convert that to a CO₂ equivalent emission using the IPCC GWP.~~

~~On an annual basis, the project owner shall report the CO₂ and CO₂ equivalent emissions from the described emissions of CO₂, N₂O, CH₄, SF₆, PFCs, and HFCs.~~

~~**Verification:** The project annual GHG emissions shall be reported, as a CO₂ equivalent, by the project owner to a climate action registry approved by the CPM, or to the CPM as part of the fourth Quarterly or the annual Air Quality Report, until such time that GHG reporting requirements are adopted and in force for the project as part of the California Global Warming Solutions Act of 2006.~~

AQ-SC15 The owner/operator shall not operate S-6 Fire Pump Diesel Engine for testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing) simultaneously with the operation of either gas turbine (S-1 or S-3) in start-up mode.

Verification: As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQ-SC16 The owner/operator shall limit the operation of S-6 Fire Pump Diesel Engine to no more than 30 minutes per hour for reliability-related activities (maintenance and other testing, but excluding emission testing or emergency operation).

Verification: As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AIR DISTRICT CONDITIONS OF CERTIFICATION

Definitions:

Clock Hour:	Any continuous 60-minute beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
Heat Input:	heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in BTU/scf.
Rolling 3-hour period:	Any consecutive three hour period, not including startup or shutdown periods.
Firing Hours:	Period of time during which fuel is flowing to a unit, measured in minutes.
MM Btu:	Million British thermal units

Gas Turbine Warm and Hot Startup Mode:	The lesser of the first 180 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiation until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of Conditions of Certification AQ-20 19(b) and 20 19(d) .
Gas Turbine Cold Startup Mode:	The lesser of the first 360 minutes of continuous fuel flow to the gas turbine after fuel flow is initiated or the period of time from gas turbine fuel flow initiated until the gas turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of Conditions of Certification AQ-20 19(b) and 20 19(d) .
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the gas turbine or the period of time from non-compliance with any requirement listed in Conditions of Certification AQ-20 19(b) and 20 19(d) until termination of fuel flow to the gas turbine.
Gas Turbine Combustor Tuning Mode:	The period of time, not to exceed 360 minutes, in which testing, adjustment, tuning, and calibration operations are performed, as recommended by the gas turbine manufacturer, to insure safe and reliable steady-state operation, and to minimize NOx and CO emissions. The SCR and oxidation catalyst are not operating during the tuning operation.
Gas Turbine Cold Startup:	A gas turbine startup that occurs more than 48 hours after a gas turbine shutdown.
Gas Turbine Hot Startup:	A gas turbine startup that occurs within 8 hours of a gas turbine shutdown.
Gas Turbine Warm Startup:	A gas turbine startup that occurs between 8 hours and 48 hours of a gas turbine shutdown.
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to be Specified PAHs for these permit conditions. Any emissions limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds: Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene

Corrected Concentration:	The concentration of any pollutant (generally NO _x , CO, or NH ₃) corrected to a standard stack gas oxygen concentration. For emissions points P-1 (combined exhaust of S-1 gas turbine and S-3 HRSG duct burners), P-2 (combined exhaust of S-2 gas turbine and S-4 HRSG duct burners), the standard stack gas oxygen concentration is 15 percent O ₂ by volume on a dry basis.
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the RCEC construction contractor to insure safe and reliable steady state operation of the gas turbine, heat recovery steam generators, steam turbine, and associated electrical delivery systems during the commissioning period.
Commissioning Period:	The period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plants has completed performance testing, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compounds of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.
CPM:	California Energy Commission Compliance Program Manager
RCEC:	Russell City Energy Center

CONDITIONS FOR COMMISSIONING PERIOD

AQ-10 The project owner shall not operate the gas turbines (S-1 & S-3) and HRSGs (S-2 & S-4) in a manner such that the combined pollutant emissions from these sources will exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the startup and shutdown of the gas turbines (S-1 & S-3).

NO _x (as NO ₂)	4,805 pounds per calendar day	400 pounds per hour
CO	20,000 pounds per calendar day	5,000 pounds per hour
POC (as CH ₄)	495 pounds per calendar day	--
PM ₁₀	432 413 pounds per calendar day	--
SO ₂	298 pounds per calendar day	--

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with.

AQ-19 The project owner shall ensure that the gas turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode. Requirements (a) through (h) do not apply during a gas turbine startup, combustor tuning operation or shutdown. (BACT, PSD, and Regulation 2, Rule 5)

- (a) Nitrogen oxide mass emissions (calculated as NO₂) at P-1 (the combined exhaust point for S-1 gas turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired. Nitrogen oxide mass emissions (calculated as NO₂) at P-2 (the combined exhaust point for S-3 gas turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired
- (b) The nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15 percent O₂, averaged over any 1-hour period. (BACT for NO_x)
- (c) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed ~~20~~ 10 pounds per hour or ~~0.009~~ 0.0045 lb/MM BTU of natural gas fired, averaged over any ~~rolling 3-1~~ hour period. (PSD for CO)
- (d) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed ~~4.0~~ 2.0 ppmv, on a dry basis, corrected to 15 percent O₂, averaged over any ~~rolling 3-1~~ hour period. (BACT for CO)
- (e) Ammonia (NH₃) emission concentrations at P-1 and P-2 each shall not exceed 5 ppmv, on a dry basis, corrected to 15 percent O₂, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-2 and A-4 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-2 and A-4 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-1 and P-2 shall be determined in accordance with permit condition 30. (Regulation 2-5)
- (f) Precursor organic compound (POC) mass emissions (as CH₄) at P-1 and P-2 each shall not exceed 2.86 pounds per hour or 0.00128 lb/MM BTU of natural gas fired. (BACT)
- (g) Sulfur dioxide (SO₂) mass emissions at P-1 & P-2 each shall not exceed 6.21 pounds per hour or 0.0028 lb/MM BTU of natural gas fired. (BACT)
- (h) Particulate matter (PM₁₀) mass emissions at P-1 & P-2 each shall not exceed ~~8.64~~ 7.5 pounds per hour or ~~0.0042~~ 0.0036 lb PM₁₀ MM BTU of natural gas fired. ~~when the HRSG duct burners are not in operation.~~

~~Particulate matter (PM10) mass emissions at P-1 & P-2 each shall not exceed 11.64 pounds per hour or 0.0052 lb PM10/MM BTU of natural gas fired when the HRSG duct burners are in operation. (BACT)~~

Verification: The project owner shall submit to the District and CPM, quarterly reports for the proceeding calendar quarter within 30 days from the end of the quarter. The report for the fourth quarter can be an annual compliance summary for the preceding year. The quarterly and annual compliance summary reports shall contain the following information:

- (a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip.
- (b) Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown.
- (c) Date and time of the beginning and end of each startup and shutdown period.
- (d) Average plant operation schedule (hours per day, days per week, weeks per year).
- (e) All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.
- (f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, POC and SOx (including calculation protocol).
- (g) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District.
- (h) A log of all excess emissions, including the information regarding malfunctions/breakdowns.
- (i) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.
- (j) Any maintenance to any air pollutant control system (recorded on an as performed basis).

In addition, this information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

AQ-20 The project owner shall ensure that the regulated air pollutant mass emission rates from each of the gas turbines (S-1 & S-3) during a startup does not exceed the limits established below. The project owner shall not operate both of the Gas Turbines (S-1 & S-3) in Startup Mode at the same time¹. (PSD, CEC Conditions of Certification)

¹Included in the PSD permit, however was not included as part of the applicant's change requests.

Pollutant	Cold Startup Combustion Tuning (lb/startup)	Hot Startup (lb/startup)	Warm Startup (lb/startup)	Shutdown (lb/shutdown)
NOx (as NO ₂)	480	125 <u>95</u>	125	40
CO	5,028 <u>2,514</u>	2,514 <u>891</u>	2,514	902 <u>100</u>
POC (as CH ₄)	83	35.3	79	16

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-22 The project owner shall not allow total combined emissions from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine startups, combustor tuning, and shutdowns to exceed the following limits during any calendar day:

- (a) ~~1,553~~ 1,453 pounds of NOx (as NO₂) per day. (Cumulative Emissions)
- (b) 1,225 pounds of NOx per day during ozone season from June 1 to September 30. (CEC Condition of Certification)
- (c) ~~10,774~~ 7,360 pounds of CO per day (PSD)
- (d) 295 pounds of POC (as CH₄) per day (Cumulative Emissions)
- (e) ~~626~~ 413 pounds of PM10 per day (PSD)
- (f) 292 pounds of SO₂ per day (BACT)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-23 The project owner shall not allow cumulative combined emissions from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine startups, combustor tuning, and shutdowns to exceed the following limits during any consecutive twelve-month period:

- (a) ~~134.6~~ 127 tons of NOx (as NO₂) per year (Offsets, PSD)
- (b) ~~389.3~~ 330 tons of CO per year (Cumulative Increase, PSD)
- (c) 28.5 tons of POC (as CH₄) per year (Offsets)
- (d) ~~86.8~~ 71.8 tons of PM10 per year (Cumulative Increase, PSD)
- (e) 12.2 tons of SO₂ per year (Cumulative Increase, PSD)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQ-19**.

AQ-26 The project owner shall demonstrate compliance with **AQ-13 through AQ-16, AQ-19(a) through (d), AQ-20, AQ-22(a) and (b), AQ-23(a) and (b)** by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine startup, combustor tuning, and shutdown periods) for all of the following parameters:

- (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
- (b) Oxygen (O₂) concentration, Nitrogen Oxides (NO_x) concentration, and Carbon Monoxide (CO) concentration at exhaust points P-1 and P-2.
- (c) Ammonia injection rate at A-1 and A-3 SCR Systems

The project owner shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the project owner shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations.

The project owner shall use the parameters measured above and District approved calculation methods to calculate the following parameters:

- (d) Heat Input Rate for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
- (e) Corrected NO_x concentration, NO_x mass emission rate (as NO₂), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2.

For each source, source grouping, or exhaust point, the project owner shall record the parameters specified in **AQ-26(d) and (e)** at least once every 15 minutes (excluding normal calibration periods). As specified below, the project owner shall calculate and record the following data:

- (f) total heat input rate for every clock hour ~~and the average hourly heat input rate for every rolling 3-hour period.~~
- (g) on an hourly basis, the cumulative total heat input rate for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.
- (h) the average NO_x mass emission rate (as NO₂), CO mass emission rate, and corrected NO_x and CO emission concentrations for every clock hour ~~and for every rolling 3-hour period.~~
- (i) on an hourly basis, the cumulative total NO_x mass emissions (as NO₂) and the cumulative total CO mass emissions, for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.

- (j) For each calendar day, the average hourly heat input rates, corrected NOx emission concentration, NOx mass emission rate (as NO₂), corrected CO emission concentration, and CO mass emission rate for each gas turbine and associated HRSG combined and the auxiliary boiler.
- (k) on a daily basis, the cumulative total NOx mass emissions (as NO₂) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-1, S-2, S-3 and S-4) combined. (1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)

Verification: At least 30 days before first fire, the project owner shall submit to the CPM a plan on how the measurements and recordings required by this condition will be performed.

PERMIT CONDITIONS FOR COOLING TOWERS

AQ-44 The project owner shall properly install and maintain the S-5 cooling tower to minimize drift losses. The project owner shall equip the cooling tower with high-efficiency mist eliminators with a maximum guaranteed drift rate of 0.0005 percent. The maximum total dissolved solids (TDS) measured at the base of the cooling towers or at the point of return to the wastewater facility shall not be higher than ~~8,000~~ 6,200 ppmw (mg/l). The project owner shall sample and test the cooling tower water at least once per day to verify compliance with this TDS limit. (PSD)

Verification: At least 120 days prior to construction of the cooling tower, the project owner shall provide the District and CPM an “approved for construction” drawing and specifications for the cooling tower and the high-efficiency mist eliminator.

CULTURAL RESOURCES

CUL-7 Prior to any form of debris removal, ground clearing, or grading at the Aladdin Parcel, Tomkins Parcel, Zanette Parcel, Chess Parcel, Transmission Line Route Alternative 2, and portions of Alternative 1 subject to ground disturbance, the CPM shall be informed via e-mail or other method acceptable to the CPM, that debris removal, ground clearing, or grading is about to occur. The project owner shall ensure that the CRS, alternate CRS, or CRM(s) monitors full time (one person monitoring each large piece of machinery) during the removal of old vehicles, storage containers, gravel, debris, and overburden and during grading at the Aladdin Parcel, Tomkins Parcel, Zanette Parcel, Chess Parcel, at Transmission Line Route Alternative 1 locations where ground disturbance is likely, and along Transmission Line Route Alternative 2. If there is a discovery during the removal process, then the Cultural Resources conditions of certification shall apply.

After removal of the various kinds of debris obscuring the ground surface, the CRS shall examine cleared ground as it is revealed, or conduct or oversee an archaeological pedestrian survey of the project site and linear locations not previously surveyed. If there is a discovery during the examination or survey, then the Cultural Resources conditions of certification shall apply. After completion of each examination or pedestrian archaeological survey, and prior to any grading or ground disturbance, a letter report from the CRS identifying monitoring and survey personnel and detailing the examination or survey methods, procedures, and results shall be provided to the CPM for review and approval.

Verification: One week prior to any form of debris removal, ground clearing or grading at the Aladdin Parcel, **Tomkins Parcel, Zanette Parcel, Chess Parcel,** Alternative 2 transmission line route, and Alternative 1 Transmission Line Route where there may be ground disturbance, the project owner shall inform the CPM via e-mail, or another method acceptable to the CPM, that the debris removal, ground clearing, or grading will begin within one week and that the CRS, alternate CRS or CRM(s) are available to monitor. No later than one week after completion of each cleared earth examination or survey, and prior to any additional grading or ground disturbance, a letter report identifying survey personnel and detailing the methods, procedures, location, and results of the examinations or surveys shall be provided to the CPM for review and approval.

IT IS SO ORDERED.

Date: August 11, 2010

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION



KAREN DOUGLAS, Chairman