

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

DATE: December 18, 2003

TO: Interested Parties

FROM: Connie Bruins, Compliance Project Manager

SUBJECT: **Redding Peaking Power Plant (92-SPPE-2C)
Staff Analysis of Proposed Modification to
Allow for an Increase in Operating Hours**

On November 19, 2003, the California Energy Commission (Energy Commission) received a request from the City of Redding Electric Utility (REU), to amend the Energy Commission Decision for the Redding Peaking Power Plant (92-SPPE-2C). The 73-megawatt project received a Small Power Plant Exemption in May 1993 and began commercial operation (with a specific dispatch scenario), on November 1, 1995. The facility is located in the City of Redding, Shasta County, California.

If approved, the proposed modifications will delete Condition of Exemption Energy Resources 1 and remove electricity production restrictions to allow an increase in the number of permitted hours of operation. The potential for increased emissions will be offset by the surrender of Emissions Reduction Credits by REU.

Energy Commission staff reviewed the proposed modification and assessed the impacts of this proposal on environmental quality, public health and safety. Staff proposes to delete Condition of Exemption ER-1 and Table B-1 and to revise Conditions of Exemption for Air Quality (AQ) -9, AQ-10, AQ-13 and AQ-14, and delete AQ-11 and AQ-12. It is Commission staff's opinion that, with the implementation of revised conditions, 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).

The amendment petition has been posted on the Energy Commission's webpage at www.energy.ca.gov/siting. Staff's analysis is attached for your information and review. Staff's analysis and the order (if the amendment is approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the January 21, 2004 Business Meeting of the Energy Commission. If you have comments on this proposed project change, please submit them to me at the address above prior to January 21, 2004. If you have any questions, please call me at (916) 654-4545 or e-mail at cb Bruins@energy.state.ca.us.

Attachment

Redding Peaking Power Plant (92-SPPE-2C)

Staff Analysis: Petition to Allow for an Increase in Operating Hours Prepared by: Matthew S. Layton, Air Quality Engineer December 17, 2003

On November 18, 2003, Redding Electric Utility (REU) petitioned the Energy Commission to permanently modify the Redding Peaking Project's SPPE decision to delete Decision ER1 and its reference to Table B-1 (annual capacity factors) and the annual energy production limit of 137.85 GWhrs/year. The proposed changes will allow REU to increase energy deliveries to the grid by as much as 238 GW-hours per year.

This amendment is requesting to make permanent an April 2, 2000 Redding Electric Utility (REU) petition to temporarily modify the Redding Peaking Project's SPPE decision to delete Decision ER1 and its reference to Table B-1 (annual capacity factors) and the annual energy production limit of 137.85 GWhrs/year. The temporary amendment expires March 7, 2004.

Staff has attached the analysis used to recommend approval of the 2000 amendment request. Since ambient conditions are relatively unchanged, and our earlier findings and recommendation remain unchanged, staff is recommending approval of the 2003 amendment request and the proposed changes to the Conditions of Exemption, based on the 2000 amendment analysis.

Any direct or cumulative impacts associated with the increased operation of the three peaker turbines (i.e., this petition) and the existing boilers, and operation of the combustion turbine were analyzed by air dispersion modeling. The two boiler stacks, three peaker turbine stacks, and the one or two combined cycle stacks, for various operating scenarios do not cause any direct impacts. However, the emissions will contribute to existing violations of the state and federal ozone standards, and to the state 24-hour PM10 standard. With offsets, the impacts are mitigated to a level of insignificance. Therefore, staff recommends that the changes in the petition be approved.

California Energy Commission staff recommends changes to the Conditions of Exemption as follows. New language is shown as **bold** and underlined. Deleted language is shown in ~~strikethrough~~.

CONDITIONS OF EXEMPTION

AQ-9 Regardless of type of fuel firing, and including those emissions during normal, start-up, shut-down, and spinning reserve operational modes, the following **NOx** emissions limits shall apply to the peaking facility:

Redding Peaking Project NOx Emissions Limits

Daily Lbs/day	Quarters 1, 2 and 4 total (pounds)	Quarter 3 lbs/qtr	Calendar Year tons/year
826	70,980	45,000	58

~~Daily Quarter 1 Quarter 2 Quarter 3 Quarter 4 Calendar Year
 lbs/day) (lbs/qtr) (lbs/qtr) (lbs/qtr) (lbs/qtr) (tons/year)
 826 17,000 17,000 45,000 17,000 48.00~~

Verification: The emission records shall be made available to the CPM or the District staff upon request.

AQ-10 Depending on type of fuel firing, and including those emissions during normal, start-up, shut-down, and spinning reserve operational modes, the following facility ROC emissions limits apply:

Redding Peaking Project ROC Emissions Limits

Fuel Type	Daily Lbs/day	Quarters 1, 2 and 4 total (pounds)	Quarter 3 lbs/qtr	Calendar Year tons/year
Natural gas	96	8,100	5,500	6.8
Propane	226	8,100	5,500	6.8

~~Fuel Daily Qtr.1 Qtr.2 Qtr.3 Qtr.4 Calendar Year
 Type (lbs/day) (lbs/qtr) (lbs/qtr) (lbs/qtr) (lbs/qtr) (tons/yr.) Natural
 gas 96 2,000 2,000 5,500 2,000 5.75
 Propane 226 2,000 2,000 5,500 2,000 5.75~~

Verification: The emission records shall be made available to the CPM or the District staff upon request.

~~AQ-11 Regardless of type of fuel firing and including those emissions during normal, start-up, shutdown, and spinning reserve operational modes, the following NOx emissions limits shall apply to the peaking facility. These emission limits shall in be lieu of those emission limits in Air Quality Condition 9 until March 7, 2004. At such time, this condition AQ-11 shall no longer be valid.~~

~~Redding Peaking Project NOx Emissions Limits~~

Daily Lbs/day	Quarters 1, 2 and 4 total (pounds)	Quarter 3 lbs/qtr	Calendar Year tons/year
826	70,980	45,000	58

~~Verification: The emission records shall be made available to the CPM or the District staff upon request.~~

~~AQ-12 Regardless of type of fuel firing and including those emissions during normal, start-up, shutdown, and spinning reserve operational modes, the following ROC emissions limits shall apply to the peaking facility. These emission limits shall in be lieu of those emission limits in Air Quality Condition 10 until March 7, 2004. At such time, this condition AQ-12 shall no longer be valid.~~

~~Redding Peaking Project ROC Emissions Limits~~

Fuel Type	Daily Lbs/day	Quarters 1, 2 and 4 total (pounds)	Quarter 3 lbs/qtr	Calendar Year tons/year
Natural gas	96	8,100	5,500	6.8
Propane	226	8,100	5,500	6.8

~~Verification: The emission records shall be made available to the CPM or the District staff upon request.~~

AQ-13 Regardless of type of fuel firing and including those emissions during normal, start-up, shutdown, and spinning reserve operational modes, the following SO₂ and PM₁₀ emissions limits shall apply to the peaking facility. ~~These emission limits shall only be valid through March 7, 2004. At such time, this condition AQ-13 shall expire.~~

Redding Peaking Project PM₁₀ and SO₂ Emissions Limits

	Daily Lbs/day	Quarters 1, 2 and 4 total (pounds)	Quarter 3 lbs/qtr	Calendar Year tons/year
SO ₂	14.4	1,230	770	1
PM ₁₀	408	34,950	22,350	28.65

Verification: The emission records shall be made available to the CPM or the District staff upon request.

AQ-14 In addition to all offsets and ERCs already surrendered, the project owner/operator must surrender ~~for the period up through March 7, 2004,~~ the ERC amounts presented below to mitigate the quarterly and annual emissions. ~~On March 7, 2004, the ERCs below shall revert to the project owner/operator at their face value below.~~

Face Value of Certificate Surrendered (pounds per quarter)

Offset Source	Quarter 1 lbs/qtr	Quarter 2 lbs/qtr	Quarter 3 lbs/qtr	Quarter 4 lbs/qtr	Offset Ratio
NOx	6,667	6,667	0	6,667	1.0
ROC	785	785	0	785	1.0
PM10	3,310	3,310	0	3,310	1.0
SO2	418	418	770	418	1.0

Verification: On or before the date of the Energy Commission decision regarding the petition to ~~temporarily~~ permanently increase capacity and emission limits, the project owner shall provide the CPM a copy of the District banking certificate surrendered to the District, that shows emission reductions equal to the amounts specified in Condition AQ-14.

Memorandum

Date : May, 16,
2001
Telephone: (916)
654-3868

To : Chuck Najarian
deletion.doc
via: Mike Ringer

File: Redding ER2

From : California Energy Commission - Matt Layton
1516 Ninth Street
Sacramento, CA 95814-5512
AQ Engineer

Subject : REDDING PEAKER

On April 2, 2000, Redding Electric Utility (REU) petitioned the Energy Commission to modify the Redding Peaking Project's SPPE decision to delete Decision ER1 and its reference to Table B-1 (annual capacity factors) and the annual energy production limit of 137.85 GWhrs/year (REU 2001a). The removal of Table B-1 and the capacity limits therein would not require a change to the District's air permit conditions. However, Permit to Operate (PTO) Condition 15, which contains an energy production limit of 137.85 GWhrs per year, does need to be revised.

The petition request was augmented in an April 27, 2001 letter to include emission increases in the 1st, 2nd and 4th quarters (REU 2001b). In a separate letter to the District on April 27, 2001, REU requested that the District revise PTO Condition 15 to delete the energy production limit, increase peaker turbine emissions in the 1st, 2nd and 4th quarters, and increase the REU boiler annual emissions (REU 2001c). The proposed changes will allow REU to increase energy deliveries to the grid by as much as 238 GW-hours.

This analysis evaluates the air emissions changes and potential air quality impacts of the proposed petition. The petition requests are being processed under the Governor's Executive Orders D-24-01, D-25-01 and D-28-01, which allow expedited permit review and modification. However, certain permit modifications processed under these Executive Orders are valid for a limited time, or no longer than March 7, 2004.

BACKGROUND

The project consists of three peaking gas turbines (simple cycle GE frame 5 gas turbines) located on City of Redding property. Co-located on the property, but not subject to Energy Commission jurisdiction, are two operating REU steam boilers rated at 208 MMBTU/hr each and an associated 28 MW steam turbine. In addition, the City has broken

ground on a new 43 MW ABB gas turbine and heat recovery generation system (District 2001a and b), expected to come online in early 2002. The City of Redding/Redding Electric Utility facility will be able to generate nearly 150 MW. REU is now considering adding a second 43 MW ABB gas turbine as well, which would make the first and second 43 MW turbines subject to Energy Commission jurisdiction.

In 1993 the REU (as the City of Redding) received a Small Power Plant Exemption (SPPE) approval from the Energy Commission (Commission) for a peaking power plant (1992-SPPE-2). The peaking project has three simple cycle gas turbines (GE frame 5 P-NT) generating approximately 77 MW, with expected annual capacity factors of approximately three percent or less. The Decision air analysis and findings hinged on a contemporaneous emission reduction program with a nearby Wheelabrator cogeneration facility and the capacity factor limits in Table B-1. A 1995 project amendment by REU proposed emission reduction credits (ERC's) from the City's conversion of the biomass boilers to natural gas in place of the Wheelabrator contemporaneous emission reduction program approved originally with the Small Power Plant Exemption negative declaration.

During staff's investigation and analysis of the original project and the proposed amendment, we raised numerous issues regarding the validity of the City's ERC's generated by the biomass to natural gas conversion, but could neither prove nor disprove our concerns. Additionally, the Air Resources Board (ARB) did not provide any support or guidance regarding the ERCs from the biomass to natural gas conversion.

In staff's amendment findings and conclusions, the biomass to natural gas conversion ERC's mitigates the peaker project's emissions and potential impacts only **IF** the project operates as expected in Table B-1, and not as allowed by the PTO. Staff relied on Decision Condition ER-1 and that the annual capacity factor would be three percent and declining, per Table B-1. The amendment adoption order provided specific ERCs value to be surrendered and lbs/day and lbs/hour NOx and ROC limits and for the project (SPPE Decision - Air Quality Conditions 6, 7, 9 and 10).

LAWS, ORDINANCES, RULES AND STANDARDS (LORS)

STATE

The California State Health and Safety Code, section 41700, requires that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

On February 8, 2001, Governor Davis issued Executive Order D-24-01 in response to the State of Emergency. It orders, in the first ordering paragraph "that the local air pollution control and air quality management districts (hereinafter "districts") shall modify emissions limits that limit the hours of operation in air quality permits as necessary to ensure that power generation facilities that provide power under contract to the Department of Water Resources are not restricted in their ability to operate. The districts shall require a mitigation fee for all applicable emissions in excess of the previous limits in the air quality permits."

On March 7, 2001, Governor Davis issued Executive Order D-28-01. The fourth ordering paragraph provides "that the authority provided to the local air pollution control and air quality management districts (hereinafter "districts") and the Air Resources Board in the first ordering paragraph of Executive Order D-24-01 shall also apply to any power generating facility, including any previously permitted existing power generating facility that is not currently operating, as necessary to ensure reliability of the grid and delivery of power in the State. No permit modification (or reinstatement and modification) under Executive Order D-24-01 or this Order shall be valid for a period of more than 3 years from the date of this Order. The authority to modify permits for the purposes identified above shall also include the authority to modify other applicable conditions for those purposes. In exercising the powers to modify (or reinstate and modify) permits and other applicable conditions, districts shall not be required to comply with the notice and hearing requirements of Division 26 of the Health and Safety Code."

Executive Order D-28-01 further orders "that all agencies involved in the expeditious implementation of Executive Orders D-22-01, D-24-01, D-25-01, and D-26-01 shall follow substantive requirements designed to achieve environmental protection and the protection of public health

and safety to the maximum extent consistent with the prompt execution of those executive orders.”

SETTING

EXISTING AMBIENT CONDITIONS:

The District, located at the north end of the Sacramento Valley Air Basin, is classified as attainment for the federal CO and PM10 standards and unclassified for the federal NO2 and SO2 standards. While the District is currently classified as attainment of the federal 1-hr ozone standard (0.12 ppm), recent violations of the federal 1-hour ozone standard may cause the US Environmental Protection Agency to reclassify the District's status to non-attainment of the 1-hour standard. Additionally, the District will probably be classified as non-attainment of the new federal 8-hour ozone standard. Past measurements of federal 1-hour and 8-hour ozone and the number of exceedances of both are shown in Table 1.

The District is currently designated as attainment for the state NO2 and SO2 standards, unclassified for the state CO standard, and non-attainment for the state 1-hour ozone and 24-hour PM10 standards. The state ozone and PM10 ambient air quality measurements and number of exceedances are shown in Tables 1 and 2 respectively.

AIR QUALITY Table 1
Ozone Ambient Air Quality Data Shasta County (1988 through 2000)

Pollutant	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	National or California ^a Ambient Air Quality Standard
1-hr Ozone (pphm) ^b	12.6	11.6	14	11.8	11	9.9	11.3	11	11	11	13	9	12	
8-hr Ozone (pphm) ^b	8.5	9.8	12.6	10.7	10	8.4	10.5	8.8	9.1	9.5	11	8.3	10.5	
No. of violations of State 1-hour stnd	5	23	40	8	16	1	7	1	10	12	13	0	5	9 pphm (CAAQS)
No. of violations of Federal 1-hour stnd	1	0	3	0	0	0	0	0	0	0	1	0	0	12 pphm (NAAQS)
No. of violations of Fed 8-hour stnd	1	12	45	6	14	0	8	1	10	11	13	0	3	8 pphm (NAAQS)
a. CAAQS = California Ambient Air Quality Standard, NAAQS = National Ambient Air Quality Standard b. Highest measured ambient pollutant concentration in parts per hundred million.														

Source: CARB: California Air Quality Data 2001.

AIR QUALITY Table 2
PM10 Ambient Air Quality Data Shasta County (1988 through 2000)

Pollutant	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	National or California ^a Ambient Air Quality Standard
24-hr PM10 ($\mu\text{g}/\text{m}^3$) ^b	49	77	50	44	35	49	58	61	60	83	61	67	60	50 $\mu\text{g}/\text{m}^3$ (CAAQS)
Annual PM10 ($\mu\text{g}/\text{m}^3$) ^b	16.3	20.7	15.7	14.8	17.2	16.9	21.6	17.2	21.2	23.5	21.4	NA	NA	30 $\mu\text{g}/\text{m}^3$ (CAAQS)
No. of violations of State 24-hour stnd ^c	0	3	0	0	0	0	2	1	3	8	4	4	4	
a. CAAQS = California Ambient Air Quality Standard, NAAQS = National Ambient Air Quality Standard b. Highest measured ambient pollutant concentration. c. Measurements occur every 6 days. Actual number of days of violation could be 6 times the measured days of violation.														

Source: CARB: California Air Quality Data 2001.

Ambient ozone levels in the area appear to be getting worse in both the concentrations and the number of violations. The highest 1-hour ozone concentrations recorded have been steady to increasing for a number of years. The number of violations of the state 1-hour ozone standard also increased. Most significantly, the area has experienced violations of the national 1-hour ozone standard in 1998 and again in 2000, which will trigger an attainment status review by the US EPA for the district. Most of the ozone violations occur in the third quarter, but a few violations occur in other quarters. A change in attainment status will affect trigger levels for BACT and offsets in the District's NSR and PSD permit programs.

As shown in Air Quality Table 2, the area has not experienced appreciable improvements in ambient PM10 conditions since 1990. Although the area has not experienced many violations of the state 24-hr PM10 standards in the recent years, the highest measurements in 1998 and 1999 were at the standard (50 µg/m³) and 1999 ambient PM10 concentrations measured as high as 77 µg/m³. The three measured violations in 1999 are equivalent to a period of 18 calculated days. However, that most of those days where high ambient PM10 concentrations were recorded were the direct result of large forest fires. When those contributions from the forest fires are deleted from the 1999 PM10 data, the highest recording PM10 concentration was at the state 24-hour standard (50 µg/m³) level.

ANALYSIS

EMISSIONS

The owner has petitioned the Energy Commission to modify the Decision to operate above the capacity limits and energy production limits in the SPPE Negative Declaration/Revised Initial Study and 1995 Amendment Order. Additionally, they are requesting increased air emission limits in the 1st, 2nd and 4th quarters. The changes will provide as much as 238 MW-hours to the grid, beyond current energy production. The capacity limits are included in SPPE Condition ER-1 and Table B-1.

The Energy Commission's air pollutant emission limits are embodied in Energy Commission SPPE Conditions AQ9 (NOx) and AQ10 (ROC) and as modified and adopted by the Commission March 1995 order. AQ5 contains the hourly emission limits. Using the NOx hourly limits and a project capacity of approximately 77 MW, this is approximately 91 days of 14-hour full-load operation in quarter 3, or 100 GWhrs. The project can produce approximately 38 GWhrs in Quarters 1, 2 and 4, when operating at air permit limits. The four quarter (calendar years) total is 210 GWhrs/year, or a 31% annual capacity factor limit. The limits of these ozone precursor air pollutant emissions are shown in Air Quality Table 3.

**Air Quality Table 3
 Existing and Proposed Redding Peaker NOx and ROC Emission Limits**

Pollutant		Quarter 1 lbs/qtr	Quarter 2 lbs/qtr	Quarter 3 lbs/qtr	Quarter 4 lbs/qtr	Tons per Calendar year
NOx	AQ Cond. 9	17,000	17,000	45,000	17,000	48
	Petition	6,667	6,667	0	6,667	10
	Total Potential	23,667	23,667	45,000	23,667	58
ROC	AQ Cond. 10	2,000	2,000	5,500	2,000	5.75
	Petition	785	785	0	785	1.18
	Total Potential	2,785	2,785	5,500	2,785	6.93

Sources: District 2000, CEC 1995, and CEC 1993

Operation and emissions are currently concentrated in Quarter 3. It is also when most ozone violations do, and are most likely to continue to, occur for the Shasta County AQMD. The proposed NOx and ROC emission increases, for Quarters 1, 2 and 4 only, and the total potential NOx and ROC emissions are also shown in Air Quality Table 3. There are not currently any quarterly emission limits on PM10 and SO2.

Air Quality Table 4 shows the existing and proposed PM10 and SO2 quarterly emissions for the Redding Peaker project. There are not any operational increases for third quarter, so PM10 and SO2 emissions do not increase in the third quarter.

**Air Quality Table 4
 Existing and Petition Proposed Redding Peaker NOx and ROC Emissions**

Pollutant		Quarter Lbs/qtr	Quarter 2 Lbs/qtr	Quarter 3 lbs/qtr	Quarter 4 lbs/qtr	Tons/year (calendar)
PM10	From hrly permit limits	8,440	8,440	22,500	8,440	23.91
	Petition	3,310	3,310	0	3,310	4.97
	Total Potential	11,750	11,750	22,500	11,750	28.88
SO2	From hrly permit limits	300	300	770	300	.84
	Petition	118	118	0	118	.18
	Total Potential	418	418	770	418	1.02

Sources: District 2000, CEC 1995, and CEC 1993

IMPACTS

In the original analysis, the applicant modeled the hourly, daily and annual emissions from the project to show that the project did not cause a direct violation of

an ambient air quality standard. Staff requested new modeling runs to capture the potential impacts from the addition of one or possibly two new combustion turbines, the potential increases of operation and emissions from the three existing peaker combustion turbines, and the potential increases of operation and emissions from the existing boiler(s).

The results of the new air dispersion modeling are shown in Air Quality Table 5 (Reese 2001). The project (increases in operations and emissions for the whole facility) does not cause new violations of ambient air quality standards. The project does contribute to existing violations of the state PM10 24-hour standard, and the state and federal ozone standards.

Ozone impacts were not modeled, and cannot be modeled without elaborate basin wide modeling. However, ozone is a regional pollutant that forms from oxides of nitrogen and reactive organic compounds reacting with sunlight. An increase of NOx or ROC (ozone precursors) can potentially cause a new, or contribute to an existing, violation of the ozone ambient air quality standards. Because of the regional nature of ozone and PM10, emission reductions or offsets can be very effective in mitigating potential ozone and PM10 impacts from emission increases.

**Air Quality Table 5
 Modeled Facility Air Pollutant Emission Impacts**

Pollutant	Avg time	Max Facility Impact	Background	Impact + Background	NAAQS	CAAQS
NO2	Annual	3.8	24.6	28.4	100	470
	1-hour	37.8	133.3	171.1		
PM10	AGM	0.8	18.1	18.9	150	50
	24-hour	3.2	77	80.2		
	AAM	0.8	20	20.8		
CO	8-hour	149	2,434	2,583.0	10,000	23,000
	1-hour	221.9	5,216	5,437.9		
SO2	Annual	0.1	NA		80	105
	24-hour	0.5	NA			
	3-hour	1.2	NA			
	1-hour	1.3	NA			
NAAQS – National Ambient Air Quality Standards CAAQS – California Ambient Air Quality Standards AGM – Annual Geometric Mean AAM – Annual Arithmetic Mean Background conservatively assumed to be the highest value for the last three years of data.						

Sources: District 2001a and Reese 2001

Per the 1995 amendment, REU surrendered offsets approximately equal to 489 lbs NOx per day in the third quarter, not the project's potential of 826 lbs NOx/day. Staff's analysis relied on the diminishing capacity factors in Table B-1 to conclude that 14 hours per day, or 489 lbs of NOx was the reasonable maximum day. Staff is

quite aware that emergencies and hydro fluctuations can require broad swings in operations of power plants. The Commission Decision, while relying on capacity limits in Table B-1, provided language for emergencies. The Governor's recent Executive Orders also allow for permit flexibility in emergencies.

Staff still believes that the most likely operating scenario for the peaker project is the 14-hour day, or its equivalent. In some instances, one or two of the peaker turbines may operate more than 14 hours, but the average operation and emissions will be in the range of 14 hours, or 489 lbs of NOx. Since REU is not proposing NOx or ROC emissions increases for the third quarter, the offsets surrendered per the 1995 amendment are adequate to mitigate potential contributions of NOx and ROC to ozone formation.

The applicant has requested an increase in hours of operation, and therefore, an emissions increase in the 1st, 2nd, and 4th quarters in order to provide more energy production for the grid. The emission increases, in and of themselves, do not result in direct impacts, as determined by the air dispersion modeling. However, the emission increases have the potential to contribute to ozone formation. The proposed increases will occur outside the peak ozone season, but will still be mitigated by surrender of emission reductions NOx and ROC ERCs currently owned by REU.

Staff is concerned that the potential increase of PM10 and SO2, as a PM10 precursor, will contribute to existing violations of the state PM10 standard. Or, if the region is barely in attainment for the PM10 standard, the emissions could cause violations of the state 24-hour PM10 standard. Additionally, REU is proposing to increase emissions from the two boilers, but will not be mitigating PM10 or SO2 emission increases. Staff is recommending PM10 and SO2 mitigation for the three years the peaker project operation and emission increases proposed are in place.

CONCLUSIONS

The April 2, 2000 and April 27, 2001 petition request the deletion of Condition ER1, reference to Table B-1 (annual capacity factors) and the annual energy production limit of 137.85 GWhrs/year. Additionally, REU proposes increased air pollutant emission limits in quarters 1, 2, and 4. These changes will provide up to 238 GW-hours to the grid immediately.

Staff's analysis concludes the April 2, 2000 and April 27, 2001 Redding Electric Utility's petition requests to modify the Redding Peaking Project's SPPE Decision will contribute to existing violations of the state and federal ozone standards, and to the state 24-hour PM10 standard. However, with offsets, the impacts are mitigated to the extent feasible. Any direct or cumulative impacts associated with the increased operation of the three peaker turbines (i.e., this petition) and the existing boilers, and operation of the combustion turbine were analyzed by air dispersion

modeling. The two boiler stacks, three peaker turbine stacks, and the one or two combined cycle stacks, for various operating scenarios do not cause any direct impacts.

Therefore, staff concludes that any potential air quality impacts are mitigated, and recommends that the changes in the petition be approved. Since the petition permit modifications are being processed under Executive Orders D-24-01, D-25-01, and D-28-01 staff has provided emission limits and ERC conditions of exemption for the project, but for a period of no more than three years from March 7, 2001. The new Air Quality Conditions of Exemption are attached.

cc: Keith Golden
Dave Mundstock
Connie Bruins

REFERENCES

- ARB (Air Resources Board) 2001. Ambient Air Quality Data.
- CEC (California Energy Commission) 1993. Commission Decision, Redding Peaking Plant 92-SPPE-2, May 1993.
- CEC (California Energy Commission) 1995. Commission Amendment Order Peaking Plant 92-SPPE-2. 1995.
- District 2000. Shasta County Air Quality Management District, Permit to Operate #84-PO-52f, Utility Boilers, December 20, 2000.
- District 2000. Shasta County Air Quality Management District, Permit to Operate #92-PO-11b, Peaking Power Generation Facility, December 20, 2000.
- District 2001a. Shasta County Air Quality Management District, Authority to Construct Evaluation #00-PO-39, Gas-Fired Turbine Generator, (Unit 5), March 30, 2001.
- District 2001b. Shasta County Air Quality Management District, Authority to Construct #00-PO-39, Gas-Fired Turbine Generator, (Unit 5), March 30 2001.
- Reese 2001. Reese-Chambers Systems Consultants, Inc. Air Quality Impact Analysis Redding Power Plant, May 11, 2001.
- REU (Redding Electric Utility) 2001a. Letter, Mr. James C Feider, REU, to Mr. Steve Larson, California Energy Commission, April 2, 2001.
- REU (Redding Electric Utility) 2001b. Letter, Mr. Tim Nichols, REU, to Mr. Robert Therkelsen, California Energy Commission, April 27, 2001.
- REU (Redding Electric Utility) 2001c. Letter, Mr. Phil Heckenberg, REU, to Mr. Michael Kussow, Shasta County AQMD, April 27, 2001.