

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
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**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

DOCKET
01-AFC-25C
DATE AUG 13 2008
RECD. AUG 15 2008

In the Matter of:

**MALBURG GENERATING STATION
PROJECT**

Bicent (California) Malburg, LLC¹

) **Docket No. 01-AFC-25C**

) **Order No. 08-813-4**

) **ORDER APPROVING** a Petition to Modify

) Condition AQ-C10 Regarding Air Emission

) Limits Related To Cold Startups

Bicent (California) Malburg, LLC, the owner/operator of the Malburg Generating Station Project, has requested to increase combustion turbine startup-related emission limits contained in Condition of Certification AQ-C10. The modifications will allow the Project Owner to operate the project within the physical limitations of the combustion equipment in compliance with Condition of Certification AQ-C10. The modifications will also not result in any significant unmitigated environmental impacts.

The modifications were approved by the South Coast Air Quality Management District. No District permit changes are necessary

STAFF RECOMMENDATION

Energy Commission staff reviewed the petition and finds that with staff's recommended emission limits, it complies with the requirements of Title 20, Section 1769(a) of the California Code of Regulations and recommends approval of Bicent (California) Malburg, LLC's petition to amend the Energy Commission Decision for the Malburg Generating Station Project and modify Condition of Certification AQ-C10.

ENERGY COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission concludes that the proposed changes will not result in any significant impact to public health and safety, or the environment. The Energy Commission finds that:

- o The petition meets all the filing criteria of Title 20, section 1769(a) concerning post-certification project modifications;
- o The modification would not change the findings in the Energy Commission's Final Decision pursuant to Title 20, section 1755;

- o The change would be beneficial to the public, or the Project Owner, or intervenors in that it provides necessary increases in startup emission limits with no significant impact on air quality.
- o There has been a substantial change in circumstances since the Energy Commission certification justifying the change, and the change is based on information that was not available to the parties prior to the Energy Commission certification. Actual operating performance has demonstrated that the original performance estimates were not feasible.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts Staff's recommendations and approves the following changes to the Malburg Generating Station Project's Decision. New language is shown **double underlined and bolded**, and deleted language is shown in ~~strikeout~~.

CONDITIONS OF CERTIFICATION

AQ-C10 The ~~City of Vernon~~ **project owner** shall commission and operate the Malburg Generating Station within the following emission limits.

Commissioning

During the first year of commissioning and operation, the following emission limits shall apply.

Annual Commissioning Emission Limits

Units are in Pounds per year

	Gas Turbines (2)	Cooling Tower	Firewater Pump	Facility Total	Assumptions
CO	112,743	0	478	113,221	a,b,c
NOx	229,531	0	1,377	230,908	a,b,c
PM10	48,873	2,190	58	51,121	a,b,c
ROG	40,518	0	35	40,553	a,b,c
SOx	4,294	0	2	4,296	a,b,c
Ammonia	49,514	0	0	49,514	a,b,c
Assumptions					
a The gas turbines are undergoing initial commissioning for three months (2,160 hours) then 3 cold startups, 39 warm startups, 42 shutdowns and 4,355 hours at full load with the duct burners on @ 65 deg F.					
b The cooling tower at full load for 8760 hours/year.					
c The Firewater pump is being tested 199 hours/year.					

Post Commissioning

After the end of the commissioning period, the following hourly and daily emission limits shall apply. The following annual emission limits shall only apply until after the first calendar year of operation is complete.

Hourly Emission Limits

Units are in pounds per hour

	Gas Turbines (2)	Cooling Tower	Firewater Pump	Facility Total	Assumptions
CO	48.6 <u>140</u>	0	0.59	49.19 <u>140^e</u>	a,c,d,e
NOx	26.2 <u>55</u>	0	1.73	27.93 <u>55^e</u>	a,c,d,e
PM10	7.78	0.26	0.08	8.12	b,c,d
VOC	3.3	0	0.05	3.35	a,c,d
SOx	0.3	0	0.002	0.30	b,c,d
Ammonia	7.6	0	0.00	7.60	b,c,d
Assumptions					
a The gas turbines are undergoing a cold startup @ 38 deg F.					
b The gas turbines are at full load @ 38 deg F with the duct burners on.					
c The cooling tower is at full load.					
d The Firewater pump is being tested for 1/2 hour.					
<u>e The "Facility Total" limit does not explicitly include the "Firewater Pump" and the "Gas Turbine (2)" emissions as the test firing of the firewater pump is infrequent and not expected to coincide with the infrequent high CO and NOx emissions events from the gas turbines.</u>					

Daily Emission Limits

Units are in pounds per day

	Gas Turbines (2)	Cooling Tower	Firewater Pump	Facility Total	Assumptions
CO	104.00 <u>245</u>	0	0.59	104.59 <u>245^f</u>	a,d,e,f
NOx	175.00 <u>230</u>	0	1.73	176.73 <u>230^f</u>	a,d,e,f
PM10	158.00	6.20	0.08	164.28	a,d,e
VOC	36.00	0	0.05	36.05	a,d,e
SOx	6.00	0	0.002	6.00	a,d,e
Ammonia	182.4	0	0.00	182.40	a,d,e
Assumptions					
a The gas turbines are undergoing 1 warm cold startup (1-5 2 hours) per month, 8 hours/day and 22 hours of full load with duct firing, 16 hours/day full load without duct firing and 0.5 hours shutdown per month @ 65 deg F averaged for 29 days/month.					
b The gas turbines are at full load for 24 hours @ 38 deg F with the duct burners on					
c The gas turbines are undergoing cold startup (2 hours) and baseload operation for 22 hours @ 38 deg F.					
d The cooling tower is at full load for 24 hours/day					
e The Firewater pump is being tested 0.5 hours/day					
<u>f The "Facility Total" limit does not explicitly include the "Firewater Pump" and the "Gas Turbine (2)" emissions as the test firing of the firewater pump is infrequent and not expected to coincide with the infrequent high CO and NOx emissions events from the gas turbines.</u>					

Annual Emission Limits
Units are in pounds per year

	Gas Turbines (2)	Cooling Tower	Firewater Pump	Facility Total		Assumptions
				Lbs/yr	Tons/yr	
CO	37,145 37,768	0	235	37,380 38,003	18.69 19.00	a,c,d
NOx	52,674 53,044	0	689	53,363 53,733	26.68 26.87	b,c,d
PM10	56,676	2,278	32	58,986	29.49	a,c,d
VOC	13,027	0	20	13,047	6.52	a,c,d
SOx	2,122	0	1	2,123	1.06	a,c,d
Ammonia	66,576	0	0	66,576	3.29	a,c,d
Assumptions						
a the gas turbines are undergoing <u>4 cold starts per turbine per year</u> one warm startup per month (1.5 hours), 8 hours/day <u>with the balance</u> of full load operation with the duct burner, 16 hours/day of full load operation without the duct burners and one shutdown per month (0.5 hours) @ 65 deg F.						
b The gas turbines are undergoing 4 cold starts (2 hours), 52 warm starts (1.5 hours) 1314 hours of full load operation with the duct burner, 5782 hours of full load operation without the duct burner and 56 shutdowns (0.5 hours) per year.						
c The cooling tower at full load for 8760 hours/day.						
d The Firewater pump is being tested 199 hours/day.						

Verification: The City of ~~Vernon~~ project owner shall submit to the CPM for approval on a quarterly basis all emission records and calculations to demonstrate compliance with the emission limits stated herein as part of the quarterly emissions report.

IT IS SO ORDERED.

Date: August 13, 2008

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION



JACKALYNE PFANNENSTIEL, Chairman