

## DOCKETED

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<b>Filer:</b>	Eric Veerkamp
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# CALPINE KING CITY COGEN, LLC

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August 19, 2013

Eric Veerkamp, AICP  
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California Energy Commission  
1516 9th Street, MS 2000  
Sacramento, CA 95814

**RE: Calpine King City Cogen Project (85-AFC-5C) – Staff Request for Additional Information Relating to Petition to Amend for Air Quality**

Dear Mr. Veerkamp:

This letter is in response to your email of July 12, 2013 requesting additional information relating to the *Petition to Amend Commission Decision Conditions of Certification Docket No. 85-AFC-5* filed by Calpine King City Cogen, LLC (“CKCC”) on April 20, 2011 (hereinafter, “Original Petition”). The Original Petition and subsequent submittals by CKCC addressed modification of the California Energy Commission’s (“Commission”) final decision approving certification (“Final Decision”) of the King City Cogen Project (“KCC”) to conform with changes made to the conditions set forth in the Title V Operating Permit for the facility.

In your email, you requested additional information regarding Air Quality conditions of certification (“COCs”) AQ-6, 8, 11, 12, 14, 15, 18, 19, 20, 21, 22, 24, 25 29, 34, 35, 37, 44, 46, and 54. Specifically, you asked that we discuss these conditions in relation to the criteria set forth in Section 1769 of the Commission’s siting regulations.

Because the modifications to the Air Quality COCs simply conform the Final Decision to the revised Title V Operating Permit, the information provided below applies equally to each condition individually and as a whole.

**1. A complete description of the proposed modifications, including new language for any conditions that will be affected.**

The proposed modifications to the Final Decision’s Air Quality COCs described above are set forth in Attachment A.

**2. A discussion of the necessity for the proposed modifications.**

The proposed modifications are needed to conform certain Air Quality COCs to the revised Title V Operating Permit for the KCC. For example, Condition 18 in the original Title V Operating Permit issued by the Monterey Bay Unified Air Pollution Control District (“MBUAPCD”), which is incorporated in the Final Decision as AQ-40, limited the KCC to one start-up and one shut-down per day. This limitation was subsequently removed and the Title V Operating Permit revised to delete Condition 18. Therefore, the Final Decision for the KCC

should be modified to reflect the revision to the Title V Operating Permit, and the corresponding Commission COC, AQ-40, deleted.

Other examples of the need for modification of the Final Decision include the addition of conditions AQ-55 and AQ-56. The revised Title V Operating Permit included clarifying language regarding the inapplicability of certain emission limits during periods of tuning and other mandated performance testing. This language is set forth in MBUAPCD Conditions 18 and 19. Therefore, the Final Decision for the KCC should be modified to reflect the revisions to the Title V Operating Permit, and conditions clarifying the inapplicability of emission limits to certain periods added to the Final Decision as AQ-55 and AQ-56. Adding AQ-55 and 56 would eliminate the need to request variance relief from MBUAPCD permit conditions during federal or state mandated performance testing and periodic turbine and boiler tuning activities. Tuning is necessary to maintain the combustion turbines, steam turbine, auxiliary boilers, and pollution control systems in compliance either seasonally or after major maintenance activities such as balancing and alignment. Effective tuning can require multiple startups, shutdowns, and operation at low loads during which emissions compliance cannot be maintained. The daily mass emissions limits will not be exceeded.

Similarly, all of the other modifications to the Air Quality COCs set forth in Attachment A are needed to conform the Final Decision to the revised Title V Operating Permit.

**3. If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time.**

The modifications are not based on information that was known by CKCC during the original certification proceeding. The modifications are required to make conforming changes to the Final Decision due to revisions to the Title V Operating Permit for the KCC that occurred subsequent to licensing of the facility.

**4. If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted.**

The modifications are not based on new information that change or undermine the assumptions, rationale, findings, or other bases of the Final Decision. Based on operational experience, the Title V Operating Permit was revised and there are conforming changes to be made in the Air Quality COCs.

**5. An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts.**

As shown in Attachment A, the proposed modifications are administrative, and needed to conform the Final Decision to the revised Title V Operating Permit. The facility will continue to operate within and comply with the emissions limits analyzed and considered in the Final Decision and authorized by the revised Title V Operating Permit. The proposed modifications will not increase air emissions above those levels authorized by the Title V Operating Permit and the Final Decision. Therefore, the modifications will not result in any significant adverse impacts because of the administrative nature of the modifications.

**6. A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards.**

Conforming the Air Quality COCs contained in the Final Decision to the Title V Operating Permit will not impact the KCC's ability to comply with applicable laws, ordinances, regulations, and standards ("LORS").

**7. A discussion of how the modification affects the public.**

As stated above, conforming the Air Quality COCs contained in the Final Decision to the Title V Operating Permit will neither result in significant adverse environmental impacts nor impact the KCC's ability to comply with applicable laws, ordinances, regulations, and standards ("LORS"). Therefore, the public will not be adversely affected by the modifications.

**8. A list of property owners potentially affected by the modification.**

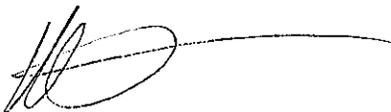
Please refer to the list of property owners was submitted with the Original Petition. As stated in the Original Petition, no property owners will be affected by the modifications.

**9. A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.**

Conforming the Air Quality COCs contained in the Final Decision to the Title V Operating Permit will neither result in significant adverse environmental impacts nor impact the KCC's ability to comply with applicable laws, ordinances, regulations, and standards ("LORS"). Therefore, neither nearby property owners, the public, nor parties in the application proceedings will be adversely affected by the modifications.

Please let me know if you have any further questions. You can reach me at 925-570-0849.

Sincerely,



Barbara McBride

## ATTACHMENT A

### Calpine King City Cogen Project (85-AFC-5C)

#### Proposed Modifications to Air Quality Conditions of Certification

The modifications proposed to the conditions of certifications are as follows:

**AQ-1:** Before implementing any major change in the Air Pollution Control (APC) systems ~~identified in Determination of Compliance (DOC) Conditions 8, 15, and 16, the Emissions Monitoring Systems (EMS) identified in DOC Conditions 17 through 24,~~ or if any changes to any Conditions of Certification related to air quality are proposed, Basic American Foods project owner shall submit the proposed change to the Monterey Bay Unified Air Pollution Control District (MBUAPCD) and the CEC for approval. Examples of major changes are the use of alternative APC systems, EMS, or equipment, or a major change in the performance criteria specified in the referenced ~~AQ DOC~~ Conditions.

**Verification:** One hundred and twenty (120) days before implementing any major change, project owner Basic American Foods shall submit to the MBUAPCD and the CEC the design details of the proposed change and a discussion of the potential change in air emissions from the project. Project owner Basic American Foods shall receive written approval from the CEC prior to implementing any major change.

**AQ-2:** Project owner Basic American Foods shall report any minor change in the APC systems ~~identified in DOC Conditions 8, 15, and 16,~~ or the EMS ~~identified in DOC Conditions 17 through 24,~~ to the MBUAPCD and CEC staff. Examples of minor changes are modifications made during initial start up of the facility to ensure compliance with applicable emission limitations or use of alternative hardware to meet the required performance criteria.

**Verification:** Project owner Basic American Foods shall notify the MBUAPCD and the CEC staff in writing forty-eight (48) hours in advance of making any minor change, whenever possible, but in no event later than seven (7) working days after implementing the change.

**AQ-3:** Project owner Basic American Foods shall obtain a Prevention of Significant Deterioration (PSD) permit or an exemption from the MBUAPCD and comply with said permit.

**Verification:** Within 30 days of receipt of the PSD permit or exemption from MBUAPCD, project owner Basic American Foods shall submit a copy of the PSD permit or exemption to the CEC staff.

**AQ-4:** All areas disturbed by on-site or off-site construction, and under ~~Basic American Foods~~ project owner's responsibility, shall be properly treated for dust control by water application, or the use of another dust palliative, with the intent of minimizing fugitive dust emissions. If any dust palliative other than water is proposed, project owner ~~Basic American Foods~~ shall obtain approval from the MBUAPCD.

**Verification:** Project owner ~~Basic American Foods~~ shall make the construction site available to the MBUAPCD and the CEC staff for inspection and monitoring.

**AQ-5:** The MBUAPCD shall monitor all activities related to site preparation and construction, and monitor operation of the project ~~Basic American Foods American 1 Cogeneration Project~~ to ensure compliance with the Conditions of Certification contained in the Commission Decision relating to Air Quality. The MBUAPCD shall perform all duties and functions normally performed by the MBUAPCD and shall have the authority to issue a Permit to Operate. The conditions of the Permit to Operate will be consistent with the Certification Conditions in the Commission Decision.

**Verification:** The MBUAPCD and the CEC staff will, at the request of either party, meet to review the status of project compliance. The CEC staff shall be allowed to review the MBUAPCD's enforcement and project files except for trade secrets as defined in MBUAPCD rules. Project owner ~~Basic American Foods~~ shall submit to the CEC a report on the status of compliance for each condition related to air quality in the Commission Decision on the ~~Basic American Foods American 1 Cogeneration~~ project. These reports shall be submitted quarterly during construction and during the first two years of operation, and shall be submitted annually thereafter.

**AQ-6:** Emissions of carbon monoxide in the turbine exhaust discharge to the atmosphere shall not exceed 10 ppmv calculated as a three hour rolling clock average at 15 percent O<sub>2</sub>, dry. ~~This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.~~  
~~(10/8/97) (7/13/05)~~

**Verification:** The terms of this condition shall be monitored as described in AQ-26 ~~DOC Condition 17~~.

**AQ-7:** The annual emissions of the gas turbine shall not exceed 130 tons per year of NO<sub>x</sub> and 82 tons per year of CO.

**Verification:** The terms of this Condition shall be monitored as described in AQ-DOC Conditions 26 ~~17, 19~~ AQ-28, 29 AQ-38, and 30 AQ-39.

**AQ-8:** The maximum annual NO<sub>x</sub> emission cap for the combined or individual

operation of the gas turbine and/or the boiler(s) shall not exceed 133.40 tons per year.

Protocol: The owner/operator shall monitor and record in a log on site for each month of operation, the following information for natural gas and oil firings: 1) the hours of simultaneous operation of either one or both boilers with the gas turbine; and 2) the total number of tons of NOx emission from the operation of the turbine and/or boilers.

**Verification:** The owner/operator shall submit an Annual Compliance Report to the MBUAPCD and the CEC CPM prior to the time of operating permit renewal. Records will be available on-site for both the District and CEC review for a period of three years. The terms of this condition shall be monitored as described in AQ-26, DOC conditions 17, AQ-28, 19, AQ-38, 29 and AQ-3930.

~~(6/21/00)~~

**AQ-9: Deleted.**

~~AQ-9: Within 60 days after achieving the maximum auxiliary boiler operating conditions, but not later than 180 days after initial start up, performance tests shall be conducted in accordance with the MBUAPCD test procedures, and written results of the performance tests shall be provided to the District within 30 days after testing. A testing protocol shall be submitted to the District 30 days prior to testing, and the District shall be notified at least 10 days prior to the actual testing date so that a District representative can be present to observe. The performance test shall be done on each auxiliary boiler at 50 percent load and shall include, but will not be limited to, a test of the exhaust stream directly before the oxidation catalyst and in the auxiliary boiler exhaust stack for:~~

- ~~a. Carbon Monoxide, ppm at 3 percent O2 and lb/hr.~~
- ~~b. Non-methane Hydrocarbons, ppm and lb/hr.~~
- ~~c. Oxides of Nitrogen, ppm at 3 percent O2 and lb/hr.~~
- ~~d. Oxides of Sulfur, ppm at 3 percent O2 and lb/hr. and a test of the exhaust stack for:~~
- ~~e. Particulates, gr/scf and lb/hr. and the following process parameter:~~
- ~~f. Natural gas consumption.~~

~~**Verification:** Basic American Foods shall submit for approval a performance test protocol to the MBUAPCD and CEC staff 30 days before beginning testing of the auxiliary boilers. Basic American Foods shall notify the District at least 10 days before the test date and shall submit to the MBUAPCD and CEC staff a written report on the results of such performance test no later than 30 days after the test is concluded.~~

**AQ-10:** ~~DOC Condition 1\*:~~ The gas turbine pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits:

<u>Pollutant</u>	<u>lb/hr</u>	<u>lb/day</u>
NOx	30.1	722

CO	20.0	480
NH3	13.9	334
TSP	2.5	60
NMHC	1.0	24
SO2	0.5	12

These limits shall not apply during start up, which is not to exceed five (5) hours, or shut down, which is not to exceed two (2) hours, or during periods of oil firing. SCR catalytic controls, steam injection, and good engineering practices shall be used to the fullest extent practical during start up to minimize pollutant emissions.

**Verification:** The terms of this Condition shall be monitored as described in ~~DOC Conditions AQ-2617, AQ-28, AQ-29, and AQ-30, 19 through 21, and 25 AQ-34.~~ ~~\* Conditions 10 through 46 reflect those contained in the MBUAPCD's final Determination of Compliance, dated December 3, 1986, and as amended through its June 12, 1987 comments following the Committee hearing on the PMR.~~

**AQ-11:** ~~DOC Condition 2:~~ While firing on natural gas the emissions of oxides of nitrogen, as NO<sub>2</sub>, in the turbine exhaust discharged to the atmosphere shall not exceed 9 ppmvd, calculated as a clock hour average at 15 percent O<sub>2</sub> dry. This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions. ~~(10/8/97) (7/13/05)~~

**Verification:** The terms of this Condition shall be monitored as described in ~~DOC Condition AQ-2617 and AQ-3425.~~

**AQ-12:** ~~DOC Condition 3:~~ Emissions of ammonia in the turbine exhaust discharged to the atmosphere shall not exceed 10 ppmv calculated as a three hour rolling clock average at 15 percent O<sub>2</sub>, dry. ~~(7/13/05)~~

**Verification:** The terms of this Condition shall be monitored as described in ~~AQ- 29, AQ-34, AQ-36, DOC Conditions 20, 25, and 27.~~

**AQ-13:** ~~DOC Condition 4:~~ The gas turbine shall only be fired on natural gas, except that No. 2 fuel oil may be used during periods of natural gas curtailment by the utility, or in the event of natural gas supply malfunction or disruption. In any event, No. 2 fuel oil shall not be used for more than 240 hours per year.

**Verification:** The terms of this Condition shall be monitored as described in ~~AQ- 38, DOC Condition 29.~~

**AQ-14:** ~~DOC Condition 5:~~ During periods of No. 2 fuel oil firing, the gas turbine pollutant

mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits:

<u>Pollutant</u>	<u>lb/hr</u>	<u>lb/day</u>
SO <sub>2</sub>	48.38	1161
CO	22.0	528
NO <sub>x</sub>	47.8	1147
NH <sub>3</sub>	13.9	334
TSP	10.0	240
NMHC	1.0	24

These limits shall not apply during start up, which is not to exceed five (5) hours, or shut down, which is not to exceed two (2) hours. SCR catalytic controls, steam injection, and good engineering practices shall be used to the fullest extent practical during start up to minimize pollutant emissions.

**Verification:** The terms of this Condition shall be monitored as described in AQ-27  
~~DOC Conditions 18 and 26~~AQ-35.  
 (3/28/88)

**AQ-15:** ~~DOC Condition 6:~~ While firing on No.2 fuel oil the emissions of oxides of nitrogen, as NO<sub>2</sub>, in the turbine exhaust discharged to the atmosphere shall not exceed 15 ppmvd, calculated as a clock hour average at 15 percent O<sub>2</sub> dry. This limit shall not apply during start-up, which is not to exceed five (5) hours, or shutdown, which is not to exceed two (2) hours. SCR catalytic controls, steam injection and good engineering practices shall be used to the fullest extent practical during start-up to minimize pollutant emissions.  
 (10/8/97) (7/13/05)

**Verification:** The terms of this Condition shall be monitored as described in AQ-26  
~~DOC Conditions 17 and~~ AQ-3425.

**AQ-16:** ~~DOC Condition 7: Basic American Foods~~ Project owner shall submit a turbine start-up protocol for both hot and cold start-up, which details the procedures that will be used to minimize the pollutant emissions, prior to the initial start-up, and shall amend this protocol based on operating experience.

**Verification:** Project owner Basic American Foods shall submit a turbine start up protocol to the MBUAPCD and CEC staff at least 60 days before the initial start up of the gas turbine. Project owner Basic will provide the CEC staff a copy of the MBUAPCD's comments on the protocol and a revised protocol, based on operating experience, 30 days after receiving comments from the MBUAPCD and CEC staff.

**AQ-17: Deleted.**

**AQ-17:** ~~DOC Condition 8: Details of the selective catalytic reduction (SCR) system,~~

~~including but not limited to manufacturer, catalyst type, linear velocity, catalyst volume, ammonia injection rate; ammonia injection grid parameters, must be submitted to the Air Pollution Control District and receive District approval prior to starting construction.~~

~~**Verification:** Basic American Foods shall submit to the MBUAPCD the SCR system design details 120 days before construction begins. Basic American Foods shall submit to the CEC staff the MBUAPCD's approval 15 days after receipt of District approval.~~

**AQ-18:** ~~DOC Condition 9:~~ During periods of natural gas firing, the auxiliary boiler pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits from each boiler:

<u>Pollutant</u>	<u>lb/hr</u>
NOx	7.25
CO	2.65
TSP	0.60
NMHC	0.20
SO2	0.085

These limits shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up, and during operations at or below 40 percent load, procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.(11/29/1995)

**Verification:** The terms of this Condition shall be monitored as described in AQ-27 and AQ-35,DOC Conditions 18 and 26.

**AQ-19:** ~~DOC Condition 10:~~ During periods of natural gas firing, the emissions of oxides of nitrogen, as NO2, in the auxiliary boiler exhaust discharged to the atmosphere shall not the following concentrations, calculated at 3% O2 dry.

At boiler loads greater than 40 percent	40	ppmvd
At boiler loads 40 percent or less	100	ppmvd

*(11/29/95)*

**Verification:** The terms of this Condition shall be monitored as described in AQ-27 and AQ-35,DOC Conditions 18 and 26.

These limits shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up and during operations at or below 40 percent load,

procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

**AQ-20:** ~~DOC Condition 11:~~ The auxiliary boilers shall be fired on natural gas, except that No. 2 fuel oil may be used during training/testing, or periods of natural gas curtailment by the utility, or in the event of natural gas supply malfunction or disruption not within the control of project owner. ~~BAF Energy, Inc~~ In any event, No. 2 fuel oil shall not be used for more than 240 hours per year per boiler.

Protocol: Training/testing of the auxiliary boilers shall be allowed only under the following conditions:

- a. Only one boiler may be tested in a calendar day,
- b. The District has the authority to postpone training/testing of the auxiliary boilers due to adverse ambient air-quality conditions.
- c. Each boiler may be used for training/testing on fuel oil a maximum of two (2) times per calendar year, and
- d. Individual training/testing episodes on fuel oil shall not exceed two (2) full-load equivalent hours.

**Verification:** The District shall be notified a minimum of 30 calendar days prior to the date of training/testing on No.2 fuel oil. Project owner ~~Basic American foods~~ shall submit the fuel oil firing records to the District at the time of permit renewal, and shall submit the records to the CEC in their annual Compliance Report to the CEC OPM.

(7/28/93)

**AQ-21:** ~~DOC Condition 12:~~ During periods of No. 2 oil firing the auxiliary boiler pollutant mass emission rates in the exhaust discharged to the atmosphere shall not exceed the following limits, per boiler:

<u>Pollutant</u>	<u>lb/hr</u>
NOx	13.8
CO	2.85
TSP	12.65
NMHC	0.25
SO2	7.54

**Verification:** The terms of this Condition shall be monitored as described in AQ-27 and AQ-35.~~DOC Conditions 18 and 26.~~

(3/28/88)

**AQ-22:** ~~DOC Condition 13:~~ During periods of No. 2 fuel oil firing at boiler loads greater

than 40 percent, the emissions of oxides of nitrogen, as NO<sub>2</sub>, in the auxiliary boiler exhaust discharged to the atmosphere shall not exceed 69 ppmvd, calculated as a one hour average at 3% O<sub>2</sub> dry.

This limit shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start-up, for a period not to exceed three (3) hours, or during hot start-up, for a period not to exceed 30 minutes. During boiler shutdown or start-up, procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

**Verification:** The terms of this Condition shall be monitored as described in ~~DOC Conditions AQ-27 and AQ-35.18 and 26.~~  
(11/29/95)

**AQ-23:** ~~DOC Condition 14:~~ The sulfur content of any No. 2 oil used as fuel in the turbine or auxiliary boilers shall not exceed 0.05 percent by weight. All fuel received must be certified to contain 0.05 percent sulfur, or less, by weight.

**Verification:** ~~Project owner Basic American Foods shall obtain and maintain records certifying the sulfur content of the fuel oil. These records shall be made available to the MBUAPCD on request and shall be provided to the MBUAPCD at the time of the annual permit renewal.~~

(3/28/88)

**AQ-24: Deleted.**

~~**AQ-24:** DOC Condition 15: Details of the auxiliary boiler oxidation catalyst system, including but not limited to manufacturer, catalyst type, linear velocity, and catalyst volume must be submitted to the Air Pollution Control District and receive District approval prior to starting construction.~~

~~**Verification:** Basic American Foods shall submit to the MBUAPCD the oxidation catalyst system design details 120 days before construction begins. Basic American Foods shall submit to the CEC staff the MBUAPCD's approval 15 days after receipt of District approval.~~

**AQ-25: Deleted.**

~~**AQ-25:** DOC Condition 16: Details of the auxiliary boiler low NO<sub>x</sub> burners and flue gas recirculation system must be submitted to the Air Pollution Control District and receive District approval prior to starting construction.~~

~~**Verification:** Basic American Foods shall submit to the MBUAPCD the low NO<sub>x</sub> burners and flue gas recirculation system design details 120 days before construction begins. Basic American Foods shall submit to the CEC staff the MBUAPCD's approval 15 days after receipt of District approval.~~

**AQ-26:** ~~DOC Condition 17:~~ A continuous monitoring system must be installed, calibrated,

and operated to measure the HRSG exhaust stack for NOx, CO, and O2. The system shall continuously record the measured concentrations, and shall calculate and continuously record the NOx and CO concentrations corrected to a value of 15 percent O2, dry, and NOx and CO mass emission rates in pounds per hour. District approval for the system installation must be received prior to installation.

**Verification:** ~~Basic American Foods~~ Project owner shall submit a continuous monitoring plan for the gas turbine to the MBUAPCD and CEC staff 90 days before installing the monitoring system, but not later than 180 days before beginning operation of the facility. ~~Basic American Foods~~ Project owner shall submit to the CEC staff a copy of MBUAPCD's comments on the plan, and approval or disapproval of the plan within 10 days of receipt from the MBUAPCD.

**AQ-27:** ~~DOC Condition 18:~~ A continuous monitoring system must be installed, calibrated, and operated to measure the auxiliary boiler exhaust for NOx, CO, and O2. The system shall continuously record the measured concentrations, and shall calculate and continuously record the NOx and CO concentrations corrected to a value of 3 percent O2, dry, and NOx and CO mass emission rates in pounds per hour. District approval for the system installation must be received prior to installation.

**Verification:** ~~Project owner Basic American Foods~~ shall submit a continuous monitoring plan for the auxiliary boilers to the MBUAPCD and CEC staff 90 days before installing the monitoring system, but not later than 180 days before beginning operation of the facility. ~~Project owner Basic American Foods~~ shall submit to the CEC staff a copy of MBUAPCD's comments on the plan, and approval or disapproval of the plan within 10 days of receipt from the MBUAPCD.

**AQ-28:** ~~DOC Condition 19:~~ A continuous monitoring system must be installed and operated to monitor and record the fuel consumption and the mass ratio of steam to fuel being fired in the turbine. This system must be accurate to within +/- 5 percent.

**Verification:** ~~Basic American Foods~~ Project owner shall maintain records of continuous fuel consumption and the steam to fuel mass ratio monitoring. These records shall be maintained on file for at least two years and shall be made available to the MBUAPCD and CEC staff upon request.

**AQ-29:** ~~DOC Condition 20:~~ The ammonia emissions shall be monitored by the using the following ammonia slip calculation:

$$\text{NH}_3 \text{ slip (ppmvd @15\% O}_2\text{)} = ((\text{NH}_3 \text{ fed ppm} - (\text{NO}_x \text{ in ppm} - \text{NO}_x \text{ out ppm})) * ((20.9 - 15)/(20.9 - \text{O}_2\%))) / * b$$

Where:

$$\text{NH}_3 \text{ fed in ppm} = ((\text{NH}_3 \text{ injection rate, lb/hr} * a) / (\text{Q} * \text{Fd} * 4.4096\text{E-}8)) / ((20.9 - \text{O}_2\%) / 20.9)$$

4.4096E-8 = (K-factor constant) corrects for the molecular weight of ammonia

a = Ammonia Concentration (in % by weight/100)

b = Correction Factor based on source test data

Q = Fuel Flow mmbtu/hr

Fd = 8710 scf/mmbtu

(7/13/05)

**Verification:** ~~Project owner Basic American Foods~~ shall maintain records of the ammonia slip calculation ~~of the mole ratio of injected ammonia to gas turbine outlet NOx monitoring.~~ These records shall be maintained on file for at least two years and shall be made available to the MBUAPCD and CEC staff upon request.

**AQ-30:** ~~DOC Condition 21:~~ Instrumentation shall be installed to measure SCR catalyst inlet temperature and pressure differential across the SCR catalyst.

**Verification:** ~~Basic American Foods~~ Project owner shall maintain records of the measured inlet temperature and pressure differences across the SCR catalyst. These records shall be maintained on file for at least two years and shall be made available to the District and CEC staff upon request.

**AQ-31:** ~~DOC Condition 22:~~ Instrumentation shall be installed to measure the auxiliary boiler oxidation catalyst inlet temperature and pressure differences across the oxidation Catalyst.

**Verification:** ~~Basic American Foods~~ Project owner shall maintain records of the measured inlet temperature and pressure differences across the auxiliary boiler oxidation catalyst. These records shall be maintained on file for at least two years and shall be made available to the District and CEC staff upon request.

**AQ-32:** ~~DOC Condition 23:~~ Four sampling ports must be provided in the turbine exhaust stack, 8 to 10 duct diameters downstream and 2 duct diameters upstream of any flow disturbance, 90 degrees apart and shall consist of 4 inch NPT couplings welded to the stack and with 4 inch pipe plugs. A 5 foot wide sampling platform or other means of providing safe access to the sampling ports must be installed. The location of the sampling ports and platform must be approved by the Air Pollution Control District prior to installation.

**Verification:** Project owner ~~Basic American Foods~~ shall submit the location of the sampling ports and platform for the gas turbine to the MBUAPCD and CEC 90 days before installation. Project owner ~~Basic American Foods~~ shall submit to the CEC staff a copy of MBUAPCD's comments on the locations, and approval or disapproval of the locations within 10 days of receipt from the MBUAPCD.

**AQ-33:** ~~DOC Condition 24:~~ Four sampling ports must be provided in the auxiliary boiler exhaust stack, 8 to 10 duct diameters downstream and 2 duct diameters upstream

of any flow disturbance, 90 degrees apart and shall consist of 4 inch NPT couplings welded to the stack and with 4 inch pipe plugs. A sampling platform or other means of providing safe access to the sampling ports must be installed. The location of the sampling parts and platform must be approved by the Air Pollution Control District prior to installation.

**Verification:** ~~Project owner Basic American Foods~~ shall submit the location of the sampling ports and platform for the auxiliary boilers to the MBUAPCD and CEC staff 90 days before installation. ~~Project owner Basic American Foods~~ shall submit to the CEC a copy of MBUAPCD's comments on the locations, and approval or disapproval of the locations within 10 days of receipt from the MBUAPCD.

- AQ-34:** ~~DOC Condition 25:~~ An annual compliance test shall be conducted prior to January 1 of each year in accordance with the MBUAPCD test procedures, and the written results of the compliance test shall be provided to the District within sixty days after testing. A testing protocol shall be submitted to the District 30 days prior to testing and the District shall be notified at least 10 days prior to the actual testing day so that a District observer can be present. The performance test shall include, but will not be limited to, a test of the exhaust stream directly after the turbine and in the exhaust stack for:
- a. Oxides of Nitrogen, ppm at 15 percent O<sub>2</sub> dry and lb/hr.
  - b. Carbon Monoxide, ppm at 15 percent O<sub>2</sub>, dry and lb/hr.
  - c. ~~Oxides of Sulfur, ppm and lb/hr.~~
  - ~~and a test of the exhaust stack for:~~
  - d. ~~Particulates and particle size distribution, gr/sdscf and lb/hr.~~
  - e. Ammonia, ppm at 15 percent O<sub>2</sub>, dry and lb/hr.
  - f. Volatile Organic Compounds: ppm and lb/hr.
  - g. Natural gas consumption.
  - h. Electricity generated during the test.
  - i. Ammonia injected.
  - j. Steam injection rate and steam to fuel ratio.

**Verification:** The project owner shall submit for approval a performance test protocol to the MBUAPCD and CEC staff 30 days before beginning testing of the gas turbine. The project owner shall submit to the MBUAPD and CEC staff a written report on the results of such performance tests within sixty days after testing.  
(7/13/05)

- AQ-35:** ~~DOC Condition 26:~~ Within 60 days after achieving the maximum auxiliary boiler operating conditions, but not later than 180 days after initial start up, and annually thereafter, performance tests shall be conducted in accordance with the MBUAPCD test procedures, and written results of the performance tests shall be provided to the District within 30 days after testing. A testing protocol shall be submitted to the District 30 days prior to testing and District notification at least 10 days prior to the actual testing date shall be provided so that a District observer can be present. The performance test shall include, but will not be limited to, a test of the exhaust stream directly before the oxidation catalyst and in

the auxiliary boiler exhaust stack for:

- a. Carbon Monoxide, ppm at 3 percent O<sub>2</sub> dry and lb/hr.~~b. Non-methane Hydrocarbons, ppm and lb/hr.~~
- c. Oxides of Nitrogen, as NO<sub>2</sub>; ppm at 3 percent O<sub>2</sub> dry and lb/hr.
- d. ~~Oxides of Sulfur, ppm at 3 percent O<sub>2</sub> and lb/hr.  
and a test of the exhaust stack for:~~
- e. ~~Particulates and particle size distribution, gr/sdscf and lb/hr.  
and the following process parameters:~~
- f. Natural gas consumption

**Verification:** ~~Project owner Basic American Foods~~ shall submit for approval a performance test protocol to the MBUAPCD and CEC staff 30 days before beginning testing of the auxiliary boilers. ~~Project owner Basic American Foods~~ shall submit to the MBUAPCD and CEC staff a written report on the result of such performance tests within 30 days after testing. Written notice of the performance test shall be provided to the MBUAPCD 10 days prior to the test so that an observer can be present.

**AQ-36:** ~~DOC Condition 27:~~ The project owner shall conduct quarterly tests in the first year, and on an annual basis to determine turbine stack discharge ammonia emissions. Tests shall be conducted in accordance with MBUAPCD test procedures and the District shall be notified at least 7 days prior to testing. The test results shall be submitted to the District within sixty days after testing.  
(7/13/05.

**Verification:** ~~Basic American Foods~~ Project owner shall submit to the MBUAPCD the results of the ~~quarterly~~ tests within thirty days of completing the tests. ~~Basic American Foods~~ Project owner shall provide the CEC staff with a summary of the test results in the quarterly or annual compliance report. Project owner ~~Basic American Foods~~ shall provide written notification to MBUAPCD and the CEC staff 7 days prior to conducting the test so that an observer may be present.

**AQ-37: Deleted.**

~~AQ-37: DOC Condition 28: BAF shall~~

- a. ~~Secure the NO<sub>x</sub> Emission Reduction Credits (ERC) purchased from AMSTAR Corp., and shall surrender them to the District, finalizing this acquisition of offsets as follows:~~
  - 1. ~~BAF Energy shall cause AMSTAR Corp., or its grantee, Speckles Sugar Company, to submit to the District its ERC transfer request no later than 60 days from the issuance of the Authorities to Construct for the auxiliary boilers or as extended by the APCO for good cause shown.~~
  - 2. ~~BAF Energy shall surrender to the District the ERCs transferred to it from the date it receives notice from the District of the completion of the transfer.~~
- b. ~~Commit to this project any emission reductions of any kind achieved at~~

~~either the BAF Energy Cogeneration plant, the boilers, or the Basic American Foods plant in King City, or acquired from any other source, for credit to this project as further offsets. This requirement shall terminate at the anniversary of the issuance of the Authorities to Construct in 1991, or upon the complete offsetting of the project's emissions by BAF Energy, whichever is earlier. BAF Energy will thus be ineligible to bank any ERC's until either of these events occurs. In the event of shutdown of the cogeneration plant, its emissions will be eligible for banking only to the extent they have been offset.~~

~~**Verification:** Basic American Foods shall submit to the MBUAPCD and CEC an emission offset package which contains the necessary offsets for the project 45 days before construction begins.~~

~~(5/28/88)~~

**AQ-38:** ~~DOC Condition 29:~~ Project owner Basic American Foods shall monitor and record all periods of oil firing in a log maintained on site and shall submit a summary of this data on an annual basis, at the time of permit renewal.

**Verification:** ~~Basic American Foods~~ Project owner shall submit the fuel oil firing records to MBUAPCD at the time of permit renewal, and shall submit the records to the CEC in their annual compliance report to the CEC staff.

**AQ-39:** ~~DOC Condition 30:~~ Basic American Foods Project owner shall monitor and record all start-up, shut-down and operational profiles in a log maintained on site.

**Verification:** ~~Basic American Foods~~ Project owner shall submit the start-up and shut-down records to MBUAPCD upon request, and shall submit the records to the CEC staff in their annual compliance report to the CEC staff.

**AQ-40: Deleted.**

~~**AQ 40:** DOC Condition 31: The turbine shall undergo no more than one start-up and one shut-down per day.~~

~~**Verification:** The terms of this Condition shall be monitored as described in DOC Condition 30.~~

**AQ-41:** ~~DOC Condition 32:~~ Operation must be conducted in compliance with all data and specifications submitted with the application.

**Verification:** Project owner Basic American Foods shall submit, in its quarterly or annual compliance report to the CEC staff, a statement on the status of compliance with AQ-41.~~DOC Condition 32.~~

**AQ-42:** ~~DOC Condition 33:~~ Equipment must be properly maintained and kept in good operating condition.

**Verification:** ~~Basic American Foods~~ Project owner shall provide the MBUAPCD and

CEC staff access to the project site to inspect all equipment. ~~Basic American Foods~~ Project owner shall submit, in its quarterly or annual compliance report to the CEC staff, a statement on the status of compliance with ~~AQ-42, DOC Condition 33.~~

**AQ-43:** ~~DOC Condition 34:~~ The equipment must not be operated unless it is vented to air pollution control equipment which is in full use.

**Verification:** Project owner ~~Basic American Foods~~ shall submit, in its quarterly or annual compliance report to the CEC staff, a statement on the status of compliance with ~~AQ-43, DOC Condition 34.~~

**AQ-44:** ~~DOC Condition 35:~~ ~~Basic American Foods~~ Project owner shall cause to be operated an ambient monitoring station at a site approved by the Air Pollution Control Officer, for NO<sub>2</sub>, PM<sub>10</sub>, and O<sub>3</sub> and standard meteorological parameters on a continuous basis, in accordance with the EPA requirement contained in 40 CFR 58, and in accordance with the California Air Resources Board guidelines as deemed necessary, for the life of the project or until the Air Pollution Control Officer determines that good cause exists to discontinue the monitoring of a pollutant. Data gathered pursuant to this Condition shall be reported to the Air Pollution Control District on a monthly basis, no later than 30 days from the end of the month during which the data is collected.

**Verification:** Project owner ~~Basic American Foods~~ shall submit to the MBUAPCD and CEC staff, for approval, 90 days before initial start up of the facility an ambient monitoring plan. Project owner ~~Basic American Foods~~ shall submit to the CEC staff MBUAPCD's approval of the plan 15 days after receipt. ~~Basic American Foods~~ Project owner shall submit to the MBUAPCD the results of the monitoring on a monthly basis, no later than 30 days from the end of the month during which the data is collected, and summarize the results and status of the monitoring in the annual compliance report to the CEC staff.  
(3/16/94)

**AQ-45:** ~~DOC Condition 36:~~ Any authorized representative of the Monterey Bay Unified Air Pollution Control District shall be permitted:

- a. to enter upon those premises where the source is located or in which any records are required to be kept under the terms and conditions of the Authority to Construct;
- b. to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct;
- c. to inspect any equipment, operation, or process described or required in this Authority to Construct; and
- d. to sample emissions from the source.

**Verification:** ~~Basic American Foods~~ Project owner shall provide the MBUAPCD and CEC staff access to the project site. ~~Basic American Foods~~ Project owner shall

submit, in its quarterly or annual compliance report to the CEC, a statement on the status of compliance with ~~DOC condition 36~~ AQ-45.

AQ-46: Deleted.

~~AQ-46: DOC Condition 37: Ten (10) Proctor and Schwartz three stage vegetable dryers may not be fired with fossil fuel upon start-up of the gas turbine or auxiliary boiler(s).~~

~~Verification: Basic shall submit to the CEC CPM a copy of the amended permit(s) to operate for the ten dryers by May 15, 1989.  
(4/26/89)~~

**AQ-47:** The gas turbine and the auxiliary boilers must not be operated simultaneously for more than 6 full load equivalent hours during any 24-hour period.

**Verification:** Basic-Project owner shall monitor and record all periods of simultaneous operation of the auxiliary boilers and gas turbine. The record shall include the hours of operation and percent of capacity of the auxiliary boilers. Project owner ~~Basic~~ shall maintain a log of these records on site and submit the records to MBUAPCD at the time of renewal of the permit. Basic-Project owner shall submit the records to the CEC staff in their annual compliance report to the CEC.

**AQ-48:** Basic-Project owner shall purchase a cooling tower with a guaranteed drift rate not to exceed 0.002 percent of the flow rate of the circulating cooling water.

**Verification:** Basic-Project owner shall submit to the MBUAPCD and the CEC staff the cooling tower manufacturer's design specifications and guaranteed drift rate at least 60 days prior to the construction of the cooling tower, and shall receive the MBUAPCD's and CEC staff's written approval prior to beginning construction of the cooling tower.

**AQ-49:** Basic-Project owner shall install and operate a flow meter to monitor the circulating cooling water flow rate, or equivalent method for measuring flow may be used as approved by the MBUAPCD.

**Verification:** Basic-Project owner shall submit to the MBUAPCD a circulating cooling water flow rate monitoring plan at least 60 days before installation. The plan shall include, but not be limited to, the method of monitoring, reporting frequency, and the calibration techniques.

**AQ-50:** Basic-Project owner shall conduct monthly compliance tests to measure the total dissolved solids (TDS) concentration of the cooling tower circulating water.

**Verification:** Project owner ~~Basic~~ shall submit the test results to the MBUAPCD and to the CEC staff on a quarterly basis. Project owner ~~Basic~~ shall maintain the monitoring records on site for two years and shall make them available to the MBUAPCD and CEC staff upon request.

**AQ-51:** Basic Project owner shall design and operate the cooling tower so that the PM10 emissions from the cooling tower do not exceed 20 pounds per day. The PM10 emissions shall be calculated as the product of circulating cooling tower flow rate times TDS concentration times the circulating cooling water drift rate, as follows:

$$\text{(PM10 in lbs/day)} = \text{(flow rate in gpm)} \times \text{(TDS in ppm)} \times \text{(drift loss = 0.002 percent)} \times \text{(conversion factor = 0.012)}$$

**Verification:** The terms of ~~AQ-51 this Condition~~ shall be monitored as described in ~~Conditions AQ-49 and AQ-50~~.

**AQ-52:** Basic Project owner may request approval from MBUAPCD and CEC staff for revisions to the PM10 daily emission limit from the cooling tower after the first year of operation provided that project owner ~~Basic~~ can substantiate that the actual PM10 monitored pursuant to ~~DOC Condition 35 AQ-44~~ shows a lower background 24-hours ambient concentration than the assumed existing value of 42 ug/m3.

**Verification:** The terms of this Condition shall be monitored as described in ~~AQ-44 DOC Condition 35~~. Basic Project owner shall submit its request for approval of revising the TSP daily emission limit to MBUAPCD and CEC staff no sooner than one year after start of operation. The request shall include ambient air quality monitoring data and justification for the requested revision.

**AQ-52: Deleted.**

~~**AQ-52:** BAF Energy shall tender a growth allowance program funding fee to the District in the amount of \$60,000, payable within 60 days of the issuance of the Authorities to Construct (AC), and \$60,000 plus an increase each year based on the California Consumer Price Index, each year thereafter for three (3) years, on the anniversary date of the AC. (The last payment will be due on the AC anniversary date in 1990).~~

~~a. BAF Energy has acquired additional offsets for its cogeneration project in accordance with Condition 37 (b) above. The growth allowance value of any such additional offsets shall be deducted from the back end of any remaining growth allowance funding fee. The growth allowance value of additional offsets for this projects is determined by dividing the annual funding fee by the total unoffset emissions of the project. Or,~~

~~b. An intervening rulemaking action or other action results in the District's receipt of significant additional funding for the unoffset emission growth allowance provided to BAF Energy for this project.~~

~~**Verification:** The MBUAPCD shall submit to the CEC Compliance Project Manager, BAF Energy Company, and the Air Resources Board (if they so desire), on a~~

quarterly basis, a report describing accomplishments resulting from the position funded by this condition. The quarterly reports will continue to be due for the term of the position as specified above (Condition 52).

(5/28/88)

**AQ-53:** The emission limits contained in Conditions AQ-19 and AQ-22 shall not apply during boiler shutdown, for a period not to exceed 30 minutes, or during cold start up, for a period not to exceed 30 minutes. During boiler shutdown or start up, and during operations at or below 40 percent load, procedures incorporating good engineering practices shall be utilized to the fullest extent practical to minimize all pollutant emissions.

**Verification:** The project owner shall maintain appropriate logs of start up and shutdown operation time periods as required by the above condition. Logs shall be maintained on site for two years and made available to the District and the CPM at any time.

(11/29/95)

**AQ-543:**

	NOx (lb.)	CO (lb.)	PM10 (lb.)	VOC (lb.)	SO2 (lb.)
<b>1st Quarter</b>	72,452	58,445	12,071	4,762	1,748
<b>2nd Quarter</b>	73,178	59,095	12,204	4,815	1,768
<b>3rd Quarter</b>	73,905	59,744	12,339	4,868	1,787
<b>4th Quarter</b>	73,905	59,744	12,339	4,868	1,787
<b>Annual</b>	293,440	237,028	48,953	19,313	7,090

**Protocol:** The total quarterly emission for NOx and CO shall be reported based on actual recorded CEM data. Quarterly emission of SOx (as SO2), PM10 and VOC (as methane) shall be reported as follows:

Volume of natural gas consumed x Emission Rate (lb/MMft3) + Start/Stop Increment

- Note:**
- 1) Emissions rate (lb/MMft3) is established by latest source test
  - 2) Start/Stop Increment for each event is:

Pollutant	Hot Start (lbs)	Cold Start (lbs)	Shutdown (lbs)
NOx	27.8	381.8	22.9
CO	59.5	149.4	41.3
SOx (as SO2)	0	0	0
PM10	0	0	0
VOC	0.8	1.5	1.5

Note: During periods of oil firing as allowed for on the permits for the Frame 7 Turbine and the Boilers, the allowable emissions are increased by the incremental hourly limit for oil firing versus the natural gas hourly limit for all hours the equipment was actually operated on fuel oil.

**Verification:** The owner/operator shall report the actual emissions to the District for each calendar quarter within 30 (thirty) days from the end of that quarter. The owner/operator shall submit the four quarterly actual emissions reports to the CPM as part of the annual report.

~~(6/21/00)~~

**AQ-55:** The gas turbine emission limits contained in AQ-6, AQ-10, AQ-11, and AQ-12 shall not apply during periods of combustion tuning, or non-Air District regulatory mandated performance testing. These periods shall not exceed 100 hours per year per turbine.

Project owner shall notify the District prior to initiating any of these activities, and shall monitor and record all periods of these activities in a log maintained on-site and shall submit a summary of this data to the District on an annual basis.

**AQ-56:** The auxiliary boiler emission limits contained in AQ-18, AQ-19 shall not apply during periods of boiler tuning. Auxiliary boiler tuning shall not exceed 50 hours per year per boiler.