

## DOCKETED

<b>Docket Number:</b>	13-AFC-01
<b>Project Title:</b>	Alamitos Energy Center
<b>TN #:</b>	215087
<b>Document Title:</b>	Exhibit 2015 - Errata to Air Quality Section
<b>Description:</b>	N/A
<b>Filer:</b>	Muoi-Lynn Tran
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	12/21/2016 5:11:08 PM
<b>Docketed Date:</b>	12/22/2016

## EXHIBIT 2015

### Errata to Air Quality Section of the Alamos Energy Center (13-AFC-01) Final Staff Assessment (TN#214701)

The following edits, in underline and strikeout, reflect Staff’s proposed corrections to the Final Staff Assessment which were identified in the Applicant’s Exhibit 1610.

Page 4.7-30, Air Quality Table 21 – The controlled CO emission rate for the AEC combined-cycle gas turbines (CCGT) should be updated to 1.5 parts per million by volume, dry basis (ppmvd).

Response: The emission rate value in **Air Quality Table 21** in the FSA was updated to reflect the controlled CO emission rate of 1.5 ppmvd for the CCGT. The label in **Air Quality Table 21** is updated as follows:

**Air Quality Table 21**  
**Maximum Combined-Cycle Hourly Steady-State Emission Rates**

Combined-Cycle	Maximum Hourly Steady-State Emission Rates <sup>a</sup>					
	NO <sub>x</sub>	CO	VOC	SO <sub>x</sub> <sup>b</sup>	PM10/2.5	NH <sub>3</sub>
Controlled (ppmvd)	2 (1-hour)	<del>2</del> <u>1.5</u> (1-hour)	2 (1-hour)	N/A	N/A	5
Emission Rates (lb/hr)	16.5	7.53	5.75	4.86	8.5	15.3

Source: Source: CH2 2016s, SCAQMDe

Note: <sup>a</sup> Based on ambient temperature of 28°F and excluded start-up and shutdown

<sup>b</sup> Based upon 0.75 gr/100 scf; worst case, short-term sulfur content of natural gas.

Page 4.7-31, Air Quality Table 24 – The controlled CO emission rate for the AEC simple-cycle gas turbines (SCGT) should be updated to 2 ppmvd.

Response: The emission rate value in **Air Quality Table 24** in the FSA was updated to reflect the controlled CO emission rate of 2 ppmvd for the SCGT. The label in **Air Quality Table 24** is updated as follows:

**Air Quality Table 24**  
**Maximum Simple-Cycle Hourly Steady-State Emission Rates**

Simple-Cycle	Maximum Hourly Steady-State Emission Rates <sup>a</sup>					
	NOx	CO	VOC	SOx <sup>b</sup>	PM10/2.5	NH <sub>3</sub>
Controlled (ppmvd)	2.5 (1-hour)	4-2 (1-hour)	2 (1-hour)	N/A	N/A	5
Emission Rates (lb/hr)	8.23	4.01	2.30	1.62	6.23	6.09

Source: CH2 2016s, CH2 2016ii, SCAQMD 2016e

Note: <sup>a</sup> Based on ambient temperature of 28°F and excluded start-up and shutdown

<sup>b</sup> Based upon 0.75 gr/100 scf; worst case, short-term sulfur content of natural gas.

Page 4.7-35, Air Quality Table 31 – The maximum daily CO emissions for the AEC CCGT should be updated to 1,074.13 pounds per day.

Response: The 1,074.13 value in **Air Quality Table 31** had a .00 after the value. The extraneous text in **Air Quality Table 31** is deleted as follows:

**Air Quality Table 31**  
**Estimated Aec Total Operational Emissions**

Project Component	Total Emissions				
	NOx	CO	VOC	SOx <sup>a</sup>	PM10/2.5
<b>Maximum Daily Operations (lbs/day)</b>					
AEC CCGT	488.50	1,074.13 <del>.00</del>	256.75	116.64	204.00
AEC SCGT	225.11	177.47	63.61	38.89	149.49
Auxiliary Boiler <sup>a</sup>	10.88	69.62	12.17	3.54	12.46
Auxiliary Boiler <sup>b</sup> (30-day)	3.81	20.16	3.4	1.06	3.78
Equipment Total <sup>a</sup>	1,888	2,928	780	392	1,018
Equipment Total <sup>b</sup>	1,881	2,878	771	390	1,010
<b>Maximum Monthly Operations (lbs/month)</b>					
AEC CCGT	13,463.25	24,638.99	7577.38	3,615.84	6,324.00
AEC SCGT	6,983.64	5,504	1,973.32	1,206.55	4,638.14
Auxiliary Boiler <sup>a</sup>	114.39	604.70	101.91	31.8	113.49
Auxiliary Boiler <sup>b</sup>	326.37	2,088.59	365.06	106.18	373.90
AEC CCGT Separator	----	----	0.015	----	----
AEC SCGT Separator	----	----	0.0022	----	----
Equipment Total <sup>a</sup>	55,187	71,899	23,413	12,164	31,574
Equipment Total <sup>b</sup>	54,975	73,383	23,150	12,090	31,314

Project Component	Total Emissions				
	NOx	CO	VOC	SOx <sup>a</sup>	PM10/2.5
<b>Maximum Monthly Operation (tons/month)</b>					
Equipment Total <sup>a</sup>	27.49	35.95	11.57	6.04	15.66
Equipment Total <sup>b</sup>	27.59	36.69	11.71	6.08	15.79
<b>Maximum Annual Operation (lbs/year)</b>					
AEC CCGT	83,850	180,544	52,668	7,435	39,440
AEC SCGT	26,260	29,730	7,510	1,275	14,695
Auxiliary Boiler	1,350.8	7,256	1,223	382	1,362
AEC CCGT Separator	----	----	0.18	----	----
AEC SCGT Separator	----	----	0.0264	----	----
<b>Maximum Annual Operation (tons/year)</b>					
AEC CCGT	41.93	90.27	26.33	3.72	19.72
AEC SCGT	13.13	14.87	3.76	0.64	7.35
Auxiliary Boiler	0.68	3.63	0.61	0.19	0.68
AEC CCGT Separator	----	----	0.00009	----	----
AEC SCGT Separator	----	----	0.000013	----	----
<b>Maximum Combined Equipment Annual Operation (tons/year)</b>					
AEC CCGTs (total)	83.86	180.54	52.66	7.44	39.44
AEC SCGTs (total)	52.52	59.48	15.04	2.56	29.39
Auxiliary Boiler	0.68	3.63	0.61	0.19	0.68
Oil/Water Separators	----	----	0.000103	----	----
Total Facility	137	244	68	10	70

Source: CH2 2016s, CH2 2016aa, CH2 2016bb, SCAQMD 2016e and staff analysis.

Notes: <sup>a</sup> Emissions Includes two CCGTs and four SCGTs. Based on maximum auxiliary boiler heat input.

<sup>b</sup> Emissions Includes two CCGTs and four SCGTs. Based on auxiliary boiler reduced heat input used by SCAQMD

Page 4.7-37, Air Quality Table 32 – The commissioning year oxides of sulfur (SOX) emissions for the AEC SCGT should be updated to 11,312 pounds per year.

Response: The 11,312 value in **Air Quality Table 32** had extraneous numbers after that were not fully deleted. The extraneous text in **Air Quality Table 32** is deleted as follows:

**Air Quality Table 32  
Maximum Annual Emissions, Commissioning Year**

Project Component	Commissioning Year Emissions (lbs/year)				
	NOx	CO	VOC	SOx	PM10/2.5
AEC CCGT	108,377	249,162	60,146	26,536	46,410
AEC SCGT	68,575	74,931	18,596	11,312 <del>43,4</del>	43,487
Auxiliary Boiler	1,351	7,256	1,223	382	1,362

Source: SCAQMD 2016e

Page 4.7-67, Localized Cumulative Impacts, Last 2 Paragraphs – These paragraphs from the PSA describe the cumulative modeling data collection as not complete and state that the Applicant requested the continued use of the October 22, 2014 source list. A fully updated cumulative source assessment was submitted on August 22, 2016 as Data Response set 6-R4 (TN #212885). This conclusion from the PSA should be updated accordingly.

Response: There were updates to the text that were not the published version. It should have read:

*On October 23, 2015 the applicant requested from SCAQMD an updated list of projects that are within six miles of the AEC site, that are either currently in the permitting process, undergoing CEQA review, or recently received a Permit to Construct (PTC). The SCAQMD provided a list on February 16, 2016. The facility owner requested copies of permit applications and source test reports for 12 sources. Information responsive to this request hads not been provided at the time the SAFC was prepared.*

*The applicant proposed the use of the list of sources previously submitted to the Energy Commission on October 22, 2014 as part of the original AFC analysis. Staff agreed to the use of the list of sources previously obtained for the PSA analysis, however staff requesteds a refined analysis using an updated list for the Final Staff Assessment.*

*The response from SCAQMD was received by the applicant on August 4 2016. Consequently, the updated cumulative source list was filed to the docket on August 15<sup>th</sup> and 17<sup>th</sup>, of 2016 (CH2 2016cc and CH2 2016dd). The updated cumulative analysis was docketed on August 22, 2016 (CH2 2016ee). One new source was included in the revised cumulative impacts analysis. The additional source is a regenerative thermal oxidizer (RTO) at Trend Offset Printing. The Trend Offset Printing facility has two additional RTO's that were included in the previous analysis.*

*The sources and assumptions (e.g., PM2.5 emission rates were assumed to be equivalent to PM10 emission rates) in the cumulative analysis include:*

Page 4.7-91, Rule 1325 – Federal PM2.5 New Source Review Program, 5th Paragraph – The reference to “ACE” in the third sentence should be updated to “AEC”.

Response: The reference is updated as follows:

*Amendments to SCAQMD Rule 1325 include establishing appropriate major source thresholds for direct PM2.5 and PM2.5 precursors,*

*including VOC and ammonia. The major polluting facility thresholds will be lowered from the current 100 tons per year per pollutant to 70 tons per year per pollutant. These amendments are not expected to apply to AEC because they will not be effective until after August 14, 2017 or upon the effective date of EPA's approval of these amendments (whichever is later) while the Energy Commission decision should occur well before then. The proposed amendments were adopted on November 4, 2016.*

Pages 4.7-110 through 4.7-115, Air Quality Table 55 – The Applicant recommends the following updates to Air Quality Table 55, for consistency with the full text of the conditions. Note that only the rows with proposed changes have been presented below:

Response: Changes to **Air Quality Table 55** were made in the FSA. Air Quality Table 55 summarizes the condition of certification according to equipment type. The CO emission limit in **AQ-12** was updated. The condition of certification description in **Air Quality Table 55** is updated as shown below, to match the changes that were made to the **AQ-12**. The CCGT table section was updated to include an additional **AQ-E14**. **AQ-E2** was updated to reflect changes made to SCAQMD conditions E193.5, E193.6 and E193.7. These updates were made to the CCGT section of **Air Quality Table 55** in the FSA, but need to be carried through in other section in the table as applicable. **Air Quality Table 55** is updated as follows:

**Air Quality Table 55  
SCAQMD Permit Conditions with Corresponding Energy Commission  
Conditions of Certification**

SCAQMD Permit Conditions	Energy Commission Condition of Certification	Condition Description
<b>Facility Conditions</b>		
F2.1	AQ-F1	Annual emission limit for PM2.5. Includes equation and emission factors. Semi-annual Title V report shall include monthly compliance demonstrations.
F9.1	AQ-F2	Exhaust opacity limits.
F18.1	AQ-F3	Acid Rain SO <sub>2</sub> allocations for existing boilers.
F24.1	AQ-F4	Accidental release prevention requirements. (existing)
F52.1	AQ-F5	Requires a retirement plan for the permanent shutdown of the existing boilers #1, 2, 3 and 6.
F52.2	AQ-F6	Provides specifications for SF6 circuit breakers including a maximum leakage rate of 0.5 percent by weight. Requires circuit breakers to include a 10% by weight leak detections system.

SCAQMD Permit Conditions	Energy Commission Condition of Certification	Condition Description
		Leakage shall be calculated on an annual basis.
<b>Combined-Cycle Gas Turbine Generators</b>		
A63.2	AQ-A1	Monthly and annual contaminant emission limits (CO, VOC, PM10, & SOx).Includes emissions calculations equations and emission factors for commissioning and normal operation.
A99.1	AQ-A4	Establishes a NOx emission factor (16.66 lbs/mmescf) during the commissioning period for RECLAIM reporting. Records of natural gas are required for compliance.
A99.2	AQ-A5	Establishes a NOx emission factor (8.35 lbs/mmescf) during the interim period after commissioning but prior to CEMS certification. Records of natural gas are required for compliance.
A195.8	AQ-A9	NOx emission limit of 2.0 ppmv @ 15% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A195.9	AQ-A12	CO emission limit of <del>2.0</del> 1.5 ppm @ 15% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A195.10	AQ-A15	VOC emission limit of 2.0 ppm @ 15% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A327.1	AQ-A18	Relief from emission limits, under Rule 475; project may violate either the mass emission limit or concentration emission limit, but not both at the same time.
B61.1	AQ-B1	Annual H <sub>2</sub> S concentration limit of 0.25 grains/100 scf for natural gas.
C1.3	AQ-C1	Limits start-ups to 2 per day, 62 total per month (15 cold), and annually (80 cold,500 total). Defines cold and non-coldstarts and establishes duration and emission limits.
C1.4	AQ-C2	Limits shutdowns to 62 total per month and 500 annually. Limits shutdown events to 30 minutes and establishes emission limits.
D29.2	AQ-D10	Requires initial source tests for NOx, CO, SOx, VOC, PM10, PM2.5 and NH <sub>3</sub> . Establishes testing methods and protocol requirements.
D29.3	AQ-D11	Requires source tests for specific pollutants (SOx, VOC, and PM/PM10) once every three years. Establishes testing method and reporting requirements.
D82.1	AQ-D15	Requires the installation of CEMS for CO emissions.

<b>SCAQMD Permit Conditions</b>	<b>Energy Commission Condition of Certification</b>	<b>Condition Description</b>
D82.2	AQ-D16	Requires the installation of CEMS for NOx emissions.
E73.2	AQ-E14	Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).
E193.4	AQ-E1	Requires that the turbines are constructed, operated and maintained according to the mitigation measures stipulated in the Commission Decision.
E193.5	AQ-E2	The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.
E193.8	AQ-E3	Limits commissioning to 996 hours for each turbine from the date of initial start-up. Only 216 of the 996 hours can be without emission control. The equipment shall only operate when vented to the CO oxidation catalyst and SCR system after commissioning.
E193.11	AQ-E6	Requires compliance with 40 CFR 60 Subpart TTTT. Establishes a 1000 lb/MWhr (gross) CO <sub>2</sub> emission limit if the turbine supplies more than 1,481,141 MWh-net electrical output for distribution on a 12 operating month and 3yr average.
E193.12	AQ-E7	Requires compliance with 40 CFR 60 Subpart TTTT. Limits CO <sub>2</sub> emissions to 120 lbs/MMBtu if the turbine supplies less than 1,481,141 MWh-net electrical output for distribution on a 12 operating month and 3yr average.
E193.14	AQ-E9	Limits CO <sub>2</sub> emissions to 610,480 tons per year. Establishes a CO <sub>2</sub> emission rate of 937.88 lbs/gross megawatt hour on an annual basis. Includes emission equation and emission factor.
E448.1	AQ-E11	Limits total electric output from all the generators to 1094.7 MW-gross at 59 degree Fahrenheit. Establishes electrical output monitoring requirements.
I297.1, I297.2	AQ-I1	Prohibited from operation unless the project owner hold sufficient RTCs for the CTGs.
K40.4	AQ-K1	Source test reporting requirements.
<b>Simple-Cycle Turbines</b>		
A63.3	AQ-A2	Monthly and annual contaminant emission limits (CO, VOC, PM10, & SOx).Includes emissions calculations equations and emission factors for commissioning and normal operation.
A99.3	AQ- A6	Establishes a NOx emission factor (25.24 lbs/mmscf) during the commissioning period for RECLAIM reporting. Records of natural gas are required for compliance.



SCAQMD Permit Conditions	Energy Commission Condition of Certification	Condition Description
A99.4	AQ- A7	Establishes a NOx emission factor (11.21 lbs/mmscf) during the interim period after commissioning but prior to CEMS certification. Records of natural gas are required for compliance.
A195.11	AQ- A10	NOx emission limit of 2.5 ppm @ 15% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A195.17	AQ- A13	CO emission limit of 2.0 ppm @ 15% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A195.10	AQ- A15	VOC emission limit of 2.0 ppm @ 15% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A327.1	AQ- A18	Relief from emission limits, under Rule 475; project may violate either the mass emission limit or concentration emission limit, but not both at the same time.
B61.1	AQ-B1	Annual H <sub>2</sub> S concentration limit of 0.25 grains/100 scf for natural gas.
C1.5	AQ-C3	Limits start-ups to 2 per day, 62 total per month, and 500 annually. Establishes duration and emission limits.
C1.6	AQ- C4	Limits shutdowns to 62 total per month and 500 annually. Limits shutdown events to 13 minutes and establishes emission limits.
D29.2	AQ-D10	Requires initial source tests for NOx, CO, SOx, VOC, PM10, PM2.5 and NH <sub>3</sub> . Establishes testing methods and protocol requirements.
D29.3	AQ-D11	Requires source tests for specific pollutants (SOx, VOC, and PM/PM10) once every three years. Establishes testing method and reporting requirements.
D82.1	AQ-D15	Requires the installation of CEMS for CO emissions.
D82.2	AQ-D16	Requires the installation of CEMS for NOx emissions.
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>
E193.4	AQ-E1	Requires that the turbines are constructed, operated and maintained according to the mitigation measures stipulated in the Commission Decision.
E193.5	AQ-E2	The Permit to Construct expires one year from the date of issuance unless extended. <a href="#">Establishes construction timelines.</a>

E193.6	AQ-E2	<del>The Permit to Construct is invalid if construction does not commence within 18 months after the issuance date.</del>
E193.7	AQ-E2	<del>The Permit to Construct is invalid if construction does not commence within 24 months after the issuance date.</del>
E193.9	AQ-E4	Limits commissioning to 280 hours for each turbine from the date of initial start-up. Only 4 of the 280 hours can be without emission control. The equipment shall only operate when vented to the CO oxidation catalyst and SCR system after commissioning.
E193.13	AQ- E8	Requires compliance with 40 CFR 60 Subpart TTTT. Limits CO <sub>2</sub> emissions to 120 lbs/MMBtu.
E193.15	AQ- E10	Limits CO <sub>2</sub> emissions to 120,765 tons per year. Establishes a CO <sub>2</sub> emission limit of 1,356.03 lbs/gross megawatt hour on an annual basis. Includes emission equation and emission factor.
E448.1	AQ- E11	Limits total electric output from all the generators to 1094.7 MW-gross at 59 degree Fahrenheit. Establishes electrical output monitoring requirements.
I297.3-6	AQ-I2	Prohibited from operation unless the project owner hold sufficient RTCs for the simple turbines.
K40.4	AQ-K1	Source test reporting requirements.
<b>Auxiliary Boiler</b>		
A63.4	AQ-A3	Monthly and annual contaminant emission limits (CO, VOC, PM10, & SOx).Includes emissions calculations equations and emission factors for commissioning and normal operation.
A99.5	AQ-A8	Establishes a NOx emission factor (38.46 lbs/mmscf) during the commissioning period for RECLAIM reporting. Records of natural gas are required for compliance.
A195.13	AQ-A11	NOx emission limit of 5.0 ppm @ 3% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
A195.14	AQ-A14	CO emission limit of 50 ppm @ 3% O <sub>2</sub> averaged over 1-hour. Does not apply during commissioning startup, and shut down periods.
C1.7	AQ-C5	Limits start-ups to 1 per day, 10 total per month (2 cold, 4 warm, 4 hot), and annually (24 cold, 48 warm and 48 hot). Defines cold, warm and hot starts and establishes duration and emission limits.
D29.5	AQ-D13	Requires initial source tests for NOx, CO, SOx, VOC, PM10, PM2.5 and NH <sub>3</sub> . Establishes testing methods and protocol requirements.
D29.6	AQ-D14	Requires source test for CO at full load according to testing frequency requirements in Rule 1146. Establishes testing method and reporting requirements.

D82.3	AQ-D17	Requires the installation of CEMS for NOx emissions and establishes requirements for CEMS plan.
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>
E193.4	AQ-E1	Requires that the equipment is constructed, operated and maintained according to the mitigation measures stipulated in the Commission Decision.
<a href="#">E193.5</a>	<a href="#">AQ-E2</a>	<a href="#">The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.</a>
E193.10	AQ-E5	Limits commissioning to 30 hours from the date of initial start-up. The equipment shall only operate when vented to the SCR system after commissioning.
H23.7	AQ-H1	Establishes CO requirements according to Rule 1146.
I297.7	AQ-I3	Prohibited from operation unless the project owner hold sufficient RTCs for the boiler.
K40.5	AQ-K2	Source test reporting requirements.
<b>SCR/CO Catalyst for Combined-cycle</b>		
A195.15	AQ-A16	Establishes the 5.0 ppm ammonia slip limit. Requires a NOx analyzer.
D12.9	AQ-D1	Requires a flow meter for the ammonia injection and maintain continuous record. Requires ammonia injection between 44 and 242 pounds per hour.
D12.10	AQ-D2	Requires a temperature gauge at the SCR inlet and maintain continuous record. Requires temperature be maintained between 570 and 692 degree Fahrenheit.
D12.11	AQ-D3	Requires a pressure gauge to measure the differential pressure across the SCR grid and maintain continuous record. Limits the pressure differential to 1.6 inches water column.
D29.4	AQ-D12	Requires initial, quarterly for the first year, and then annual source tests for NH <sub>3</sub> . Establishes testing methods and protocol requirements.
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>
E193.4	AQ-E1	Requires that the equipment is constructed, operated and maintained according to the mitigation measures stipulated in the Commission Decision.
<a href="#">E193.5</a>	<a href="#">AQ-E2</a>	<a href="#">The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.</a>

<b>SCR/CO Catalyst for Simple</b>		
A195.15	AQ-A16	Establishes the 5.0 ppm ammonia slip limit. Requires a NOx analyzer.
D12.12	AQ-D4	Requires a flow meter for the ammonia injection and maintain continuous record. Requires ammonia injection between 110 and 180 pounds per hour.
D12.13	AQ-D5	Requires a temperature gauge at the SCR inlet and maintain continuous record. Requires temperature be maintained between 500 and 870 degrees Fahrenheit.
D12.14	AQ-D6	Requires a pressure gauge to measure the differential pressure across the SCR grid and maintain continuous record. Limits the pressure differential to 3.0 inches water column.
D29.4	AQ-D12	Requires initial, quarterly for the first year, and then annual source tests for NH <sub>3</sub> . Establishes testing methods and protocol requirements.
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>
E193.4	AQ-E1	Requires that the equipment is constructed, operated and maintained according to the mitigation measures stipulated in the Commission Decision.
<a href="#">E193.5</a>	<a href="#">AQ-E2</a>	<a href="#">The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.</a>
<b>SCR for the Auxiliary Boiler</b>		
A195.16	AQ-A17	Establishes the 5.0 ppm ammonia slip limit. Requires a NOx analyzer.
D12.15	AQ-D7	Requires a flow meter for the ammonia injection and maintain continuous record. Requires ammonia injection between 0.3 and 1.1 pounds per hour.
D12.16	AQ-D8	Requires a temperature gauge at the SCR inlet and maintain continuous record. Requires temperature be maintained between 415 and 628 degrees Fahrenheit.
D12.17	AQ-D9	Requires a pressure gauge to measure the differential pressure across the SCR grid and maintain continuous record. Limits the pressure differential to 2.0 inches water column.
D29.4	AQ-D12	Requires initial, quarterly for the first year, and then annual source tests for NH <sub>3</sub> . Establishes testing methods and protocol requirements.
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>

E193.4	AQ-E1	Requires that the equipment is constructed, operated and maintained according to the mitigation measures stipulated in the Commission Decision.
<a href="#">E193.5</a>	<a href="#">AQ-E2</a>	<a href="#">The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.</a>
<b>Ammonia Storage Tanks</b>		
C157.1	AQ-C6	Requires the installation of a pressure relief valve maintained at 50 psig.
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>
E144.1	AQ-E12	Requires venting of the storage tank during filling only to the vessel from which it is being filled.
E193.4	AQ-E1	Requires that the ammonia storage tank be operated according to the mitigation measures stipulated in the Commission Decision.
<a href="#">E193.5</a>	<a href="#">AQ-E2</a>	<a href="#">The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.</a>
<b>Oil Water Separator</b>		
<a href="#">E73.2</a>	<a href="#">AQ-E14</a>	<a href="#">Requires the BACT/LAER determination to be reviewed prior to the commencement of Phase II construction (simple-cycle).</a>
E193.16	AQ-E13	Requires that the oil water separator be equipped with a fixed cover to minimize VOC emissions.
E193.4	AQ-E1	Requires that the oil water separator be operated according to the mitigation measures stipulated in the Commission Decision.
<a href="#">E193.5</a>	<a href="#">AQ-E2</a>	<a href="#">The Permit to Construct expires one year from the date of issuance unless extended. Establishes construction timelines.</a>

Page 4.7-135, AQ-A17 – Consistent with SCAQMD FDOC A195.16, this condition should be updated to reflect that ammonia emissions from the auxiliary boiler will be averaged over 1 hour, dry basis at 3 percent oxygen.

Response: **AQ-A17** is updated as follows:

**AQ-A17** The 5.0 PPMV NH<sub>3</sub> emission limit is averaged over 1 hour, dry basis at **15 3** percent oxygen.

The project owner shall calculate and continuously record the NH<sub>3</sub> slip concentration using the following equation:

$$\text{NH}_3 \text{ (ppmvd)} = [a-b*(c*1.2)/1,000,000]*1,000,000/b, \text{ where:}$$

a = NH<sub>3</sub> injection rate (lb/hr)/17(lb/lb-mol)

b = dry exhaust gas flow rate (scf/hr)/385.3 scf/lb-mol)

c = change in measured NO<sub>x</sub> across the SCR (ppmvd at 15% O<sub>2</sub>)

The project owner shall install and maintain a NO<sub>x</sub> analyzer to measure the SCR inlet NO<sub>x</sub> ppmv accurate to within plus or minus 5 percent calibrated at least once every 12 months. The project owner shall use the method described above or another alternative method approved by the Executive Officer.

The ammonia slip calculation procedure shall be in effect no later than 90 days after initial startup of the auxiliary boiler.

The ammonia slip calculation procedures described above shall not be used for compliance determination or emission information without corroborative data using an approved reference method for the determination of ammonia.

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition: C183 (auxiliary boiler)]

**Verification:** The project owner shall install, calibrate, maintain, and the monitoring system according to a District-approved monitoring plan. Prior to the installation the project owner shall submit a monitoring plan to the CPM for review and approval. The project owner shall include exceedances of the hourly ammonia slip limit and calibration reports as part of the Quarterly Operation Reports (**AQ-SC7**).

Page 4.7-148, AQ-D13 – Consistent with SCAQMD FDOC D29.5, this condition should be updated to require SO<sub>x</sub> emissions measurements during a source test using a “District-Approved Averaging Time.”

Response: **AQ-D13** is updated as follows:

**AQ-D13** The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be Tested	Required Test Method(s)	Averaging Time	Test Location
NO <sub>x</sub> emissions	District Method 100.1	1 hour	Outlet of the SCR serving this equipment
CO emissions	District Method 100.1	1 hour	Outlet of the SCR serving this equipment
SO <sub>x</sub> emissions	AQMD Laboratory Method 307-91	<del>NA-District-</del> <u>Approved Averaging Time</u>	Fuel Sample

VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM10 emissions	EPA Method 201A / District Method 5.1	District-Approved Averaging Time	Outlet of the SCR serving this equipment
PM2.5 emissions	EPA Method 201A / 202	District-Approved Averaging Time	Outlet of the SCR serving this equipment
NH <sub>3</sub> emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR serving this equipment

The test shall be conducted after District approval of the source test protocol, but no later than 180 days after initial start-up. The District shall be notified of the date and time of the test at least 10 days prior to the test.

For each firing rate, the following operating data shall be included: (1) the exhaust flow rates, in actual cubic feet per minute (acfm), (2) the firing rates in Btu/hour, (3) the exhaust temperature, in degrees Fahrenheit, (4) the oxygen content of the exhaust gases, in percent, and (5) the fuel flow rate.

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the SCAQMD engineer no later than 90 days before the proposed test date and shall be approved by the District before the test commences.

The test protocol shall include the identity of the testing lab, confirmation that the test lab is approved under the District Laboratory Approval Program for the required test method for the CO pollutant, a statement from the testing lab certifying that it meets the criteria of Rule 304 (no conflict of interest), and a description of all sampling and analytical procedures.

The sampling facilities shall comply with the District Guidelines for Construction of Sampling and Testing Facilities, pursuant to Rule 217.

The sampling time for the PM and PM2.5 tests shall be 1 hour or longer as necessary to obtain a measureable amount of sample.

The test shall be conducted when this equipment is operating at maximum, minimum, and normal operating rates.

For purposes of this condition, an alternative test method may be allowed for any of the above pollutants upon concurrence by EPA, ARB, and SCAQMD.

[RULE 1303(a)(1)-BACT, RULE 1703(a)(2)-PSD-BACT, RULE 2005]

[Devices subject to this condition: D181 (auxiliary boiler)]

**Verification:** The project owner shall submit the proposed protocol for the initial source tests no later than 90 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall submit the source test results no later than 60 days following the source test date to both the District and CPM. The project owner shall notify the District and CPM no later than 10 days prior to the proposed initial source test of the date and time of the scheduled test.

Page 4.7-149, AQ-D14 – Consistent with SCAQMD FDOC D29.6, this condition should be updated to only require source testing for CO emissions.

Response: Text from **AQ-D14** was not fully deleted in the FSA. The update should be made as suggested. **AQ-D14** is updated as follows:

**AQ-D14** The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be Tested	Required Test Method(s)	Averaging Time	Test Location
SOx emissions	AQMD Laboratory Method 307-94	NA	Fuel Sample
VOC emissions	District Method 25.3	1 hour	Outlet of the SCR serving this equipment
PM10 emissions	EPA Method 201A / District Method 5.1	District-Approved Averaging Time	Outlet of the SCR serving this equipment
CO emissions	District Method 100.1	1 hour	Outlet of the SCR serving this equipment

The test(s) shall be conducted in accordance with the testing frequency requirements specified in Rule 1146.

The test shall be conducted and the results submitted to the District within 60 days after the test date. The SCAQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted when this equipment is operating at 100 percent of maximum load.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration and/or monthly emissions limit.

For purposes of this condition, an alternative test method may be allowed for any of the above pollutants upon concurrence by EPA, CARB, and SCAQMD.

[Rule 1146, RULE 1303(a)(1)-BACT, RULE 1303(b)(2)-Offset, RULE 1703(a)(2)-PSD-BACT]

[Devices subject to this condition: D181 (auxiliary boiler)]



**Verification:** The project owner shall test according to the original protocol. If changes to the testing methods or testing conditions are proposed then the project owner shall submit a revised protocol for the source tests no later than 45 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall submit the source test results no later than 60 days following the source test date to both the District and CPM. The project owner shall notify the District and CPM no later than 10 days prior to the proposed initial source test of the date and time of the scheduled test.

Page 4.7-152, AQ-E2 – Consistent with SCAQMD FDOC E193.5, the first sentence of this condition should be updated as follows: The project owner shall **install** construct this equipment according to the following requirements:

Response: **AQ-E2** is updated as follows:

**AQ-E2** The project owner shall ~~construct~~**install** this equipment according to the following requirements:

The Permit to Construct shall expire one year from the issuance date, unless an extension has been granted by the Executive Officer or unless the equipment has been constructed and the operator has notified the Executive Officer prior to the operation of the equipment.

Construction of Phase 1 of the project (defined as the combined-cycle turbines and associated control equipment, the auxiliary boiler and associated control equipment, storage tank D163, and oil water separator D209), shall commence within 18 months from the date of the Permit to Construct, unless an extension is granted by the Permitting Authority (SCAQMD).

Construction of Phase 2 of the project (defined as the simple cycle turbines and associated control equipment, storage tank D164, and oil water separator D210) shall commence within 18 months of May 31, 2020 unless an extension is granted by the Permitting Authority (SCAQMD).

Construction shall not be discontinued for a period of 18 months or more at any time during Phase 1 or Phase 2.

[RULE 205, 40 CFR 52.21 - PSD]

[Devices subject to this condition: D165, D173 (combined-cycle), D185, D191, D197, D203 (simple-cycle), D181 (auxiliary boiler), C170, C178 (combined-cycle control), C188, C194, C200, C206 (simple-cycle control), C183 (auxiliary boiler control), D163, D164 (ammonia tanks), D209, D210 (oil-water separators)]

**Verification:** The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Energy Commission.

Page 4.1-179, Global Climate Change and California, 1st Paragraph – The reference to “PRP” in the second sentence should be updated to “AEC”.

Response:. The text is updated as follows:

*Staff’s GHG analysis assumes the cap-and-trade provisions of AB32 would continue as envisioned in Concept 1. If a carbon tax replaces cap-and-trade as envisioned in Concept 4, the effect on ~~PRP~~ **AEC** is expected to be approximately the same, depending on how the carbon tax is levied. However, if the cap-and-trade approach is abandoned as in Concepts 2 and 3, the only programmatic approach currently in place would apply to reducing GHG emissions from power plants would be the federal New Source Performance Standard requirements being developed by the U.S. EPA. As currently proposed, AEC would comply with these federal GHG requirements.*