

## DOCKETED

<b>Docket Number:</b>	13-AFC-01
<b>Project Title:</b>	Alamitos Energy Center
<b>TN #:</b>	215203
<b>Document Title:</b>	Applicant's Opening Brief Part 2 Issues
<b>Description:</b>	N/A
<b>Filer:</b>	Eric Janssen
<b>Organization:</b>	Ellison, Schneider & Harris L.L.P.
<b>Submitter Role:</b>	Applicant Representative
<b>Submission Date:</b>	1/9/2017 4:12:59 PM
<b>Docketed Date:</b>	1/9/2017

STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of: )  
 )  
Application for Certification for the ) Docket No. 13-AFC-01  
Alamitos Energy Center )

**APPLICANT'S OPENING BRIEF  
PART 2 ISSUES**

Jeffery D. Harris  
Samantha G. Neumyer  
ELLISON SCHNEIDER HARRIS &  
DONLAN LLP  
2600 Capitol Avenue, Suite 400  
Sacramento, CA 95816  
(916) 447-2166 – Telephone  
(916) 447-3512 – Facsimile  
[jdh@eslawfirm.com](mailto:jdh@eslawfirm.com) – Email  
[sgn@eslawfirm.com](mailto:sgn@eslawfirm.com) – Email

January 9, 2016

**TABLE OF CONTENTS**

I. INTRODUCTION.....1

II. AIR QUALITY .....2

    A. Construction Of The AEC Project Will Have No Significant Air Quality Impacts And Will Comply With Applicable LORS..... 2

    B. Commissioning Of The AEC Project Will Have No Significant Air Quality Impacts And Will Comply With Applicable LORS..... 4

    C. Operation Of The AEC Project Will Have No Significant Air Quality Impacts And Complies With Applicable LORS. .... 6

        1. The AEC Will Meet Or Exceed The SCAQMD’s BACT Requirements, And Will Avoid Or Minimize Potentially Significant Air Quality Impacts..... 6

        2. Potential Impacts From Operations Are All Reduced To Less Than Significant..... 9

        3. Startups And Shutdown Emissions From The AEC Are Properly Controlled And Mitigated To A Level Of Less Than Significant. .... 10

        4. The Operation Of AEC Will Comply With All Applicable LORS. .... 11

        5. The HHRA Performed For The AEC Confirms That There Are No Adverse Local Public Health Impacts From The AEC..... 11

    D. There Will Be No Significant Cumulative Air Quality Impacts From The AEC. .... 12

    E. The Trust’s Arguments That There Will Be Significant Cumulative Air Quality Impacts From The AEC As A Result Of Demolition Of The AGS Should Be Dismissed..... 13

III. PUBLIC HEALTH.....14

    A. The Human Health Risk Assessment Conducted In Compliance With Applicable LORS Demonstrates No Potentially Significant Effects Associated With The Construction And Operation Of The AEC..... 15

    B. The Construction Of The AEC Will Not Result In Any Significant Cancer Or Non-Cancer Risks..... 16

    C. The Operation Of The AEC Will Not Result In Any Significant Cancer Or Non-Cancer Risks..... 16

    D. The Operation Of AEC Will Comply With All Applicable LORS..... 17

IV. THE AEC HAS “FAST-STARTING” CAPABILITIES AS DEFINED BY INDUSTRY STANDARDS AND THE CAISO TARIFF.....18

V. PROPOSED CHANGES TO CONDITIONS OF CERTIFICATION.....19

VI. CONCLUSION .....20

**TABLE OF AUTHORITIES**

**Statutes**

Assem. Bill No. 32 (2005-2006 Reg. Sess.) (Health & Saf. Code, Div. 25.5 (commencing with § 38500))..... 10

Pub. Resources Code § 21080(b)(1)..... 14

**Other Authorities**

Long Beach Municipal Code, ch. 18.04 ..... 14

**Rules**

South Coast Air Quality Management District, Regulation XIII, Rule 1303 (Amended Dec. 6, 2002). ..... 6, 9

South Coast Air Quality Management District, Regulation XIII, Rule 1304(a)(2) (Amended Jun. 14, 1996)..... 9, 10, 18

South Coast Air Quality Management District, Regulation XIII, Rule 1304.1 (Amended Sep. 6, 2013). ..... 10

South Coast Air Quality Management District, Regulation XIV, Rule 1401 (Amended Oct. 7, 2016)..... 15

South Coast Air Quality Management District, Regulation XVII, Rule 1714 (Nov. 5, 2010)..... 8

South Coast Air Quality Management District, Regulation XX, Rule 2005 (Amended Dec. 4, 2015). ..... 6, 9

**Regulations**

Cal. Code Regs., tit. 14, § 15065(a)(3). ..... 12

Cal. Code Regs., tit. 14, § 15130. .... 12

Cal. Code Regs., tit. 14, § 15355(a)..... 13

Cal. Code Regs., tit. 14, § 15355(b)..... 12

Cal. Code Regs., tit. 14, § 15378(c)..... 13

**Orders and Rulings of the California Energy Commission**

Cal. Energy Com., Committee Ruling Re: Staff’s Motion For Summary Adjudication (Oct. 14, 2016) 13-AFC-01 ..... 13

Cal. Energy Com., Notice of Second Evidentiary Hearing, Scheduling Order, and Further Orders (Nov. 23, 2016) 13-AFC-01..... 1

STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	Docket No. 13-AFC-01
Application for Certification for the	)	
<u>Alamitos Energy Center</u>	)	

**APPLICANT’S OPENING BRIEF PART 2 ISSUES**

Pursuant to the Committee’s *Notice of Second Evidentiary Hearing, Scheduling Order, and Further Orders*,<sup>1</sup> AES Alamitos Energy Center, LLC (the “Applicant”) submits this Opening Brief Part 2 (“Brief”) in support of the Application for Certification (“Application”) of the Alamitos Energy Center (“AEC”).

**I. INTRODUCTION**

The Applicant and Staff agree with respect to all substantive issues set forth in the Final Staff Assessment (“FSA”) Part 2 on Air Quality, Public Health, and Greenhouse Gases. With the minor exception of one Condition of Certification discussed in Section IV below, the Applicant concurs with the Conditions proposed by Staff in the FSA Part 2 (Ex. 2014) and Errata to Air Quality Section, docketed on December 22, 2016 (Ex. 2015). The AEC will comply with all applicable laws, ordinances, regulations, and standards (“LORS”), and will not result in any significant environmental impacts with the implementation of these Conditions.

As with the FSA Part 1 subject areas, only one party, the Los Cerritos Wetlands Land Trust (“Trust”), has contested a limited number of issues during the second phase of the evidentiary hearing process. This Brief will summarize the Applicant’s affirmative case regarding these “contested” issues in Section II.E and IV below.

---

<sup>1</sup> TN#: 214564.

## **II. AIR QUALITY**

For the reasons set forth below, the Commission should find that the AEC will comply with all applicable air quality LORS under all operating conditions, under all meteorological conditions, and at all locations, based on conservative assumptions regarding background or existing air quality, operating levels, emission rates, and meteorology. (Ex. 1610, p. 4.) The Commission should further find that, with the Conditions of Certification proposed by Staff and the Applicant, the AEC will not result in any significant air quality impacts. (Ex. 1610, p. 4; Ex. 2014, p. 4.7-1.)

### **A. Construction Of The AEC Project Will Have No Significant Air Quality Impacts And Will Comply With Applicable LORS.**

Construction activities are expected to be completed during a 56-month period, with removal of former Unit 7's building and ancillary equipment, fuel storage tank, tank berms, small maintenance shops, and two wastewater retention basins occurring during the first 5 months. (Ex. 1047, p. 5.1-2; Ex. 1610, p. 6.)

Emissions were calculated for construction equipment exhaust, on- and off-site vehicle exhaust, and fugitive dust from vehicle and construction equipment, including grading, bulldozing, and truck loading/dumping. Daily, annual, and total project construction emissions of criteria pollutants were calculated using California Emissions Estimator Model ("CalEEMod") methodology, which relies on emission factors developed by the U.S. Environmental Protection Agency ("EPA") and California Air Resources Board ("ARB"), and the number and type of construction equipment, number of heavy-duty trucks, and workforce projected for each month of construction. (Ex. 1047, p. 5.1-12; Ex. 1610, p. 6.) Annual greenhouse gas ("GHG")

emissions resulting from construction activities were calculated using emission factors from The Climate Registry and ARB. (Ex. 1047, p. 5.1-13; Ex. 1610, p. 6.)

Construction activities are expected to overlap with operation of various units, such as the existing Alamitos Generating Station (“AGS”) units and the AEC combined-cycle turbines and auxiliary boiler (once built). Therefore, the maximum predicted impacts associated with the construction period were based on the combined impacts of the hypothetical worst-case construction-related emissions and emissions of the units operating during that same time period. This resulted in a “conservative” impact analysis. (*Id.*) “Conservative” means the analysis assumes that the worst-case operating conditions, worst-case emission rates, worst-case meteorological conditions, and worst-case background air quality conditions all occur concurrently, even if it is scientifically impossible for such conditions to occur at the same time. (*Id.*) These conservative assumptions are most protective of human health and the environment.

Despite these conservative assumptions, the modeled nitrogen dioxide (“NO<sub>2</sub>”), carbon monoxide (“CO”), sulfur dioxide (“SO<sub>2</sub>”), particulate matter with aerodynamic diameter less than or equal to 2.5 microns (“PM<sub>2.5</sub>”), and federal particulate matter with aerodynamic diameter less than or equal to 10 microns (“PM<sub>10</sub>”) emissions combined with the background concentrations do not exceed the Ambient Air Quality Standards (“AAQS”). Therefore, AEC construction activities will not cause or contribute to the violation of a standard, and the NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> impacts from construction will be less than significant. (*Id.*) For the 24-hour and annual state PM<sub>10</sub> standards, the background concentrations already exceed the California AAQS without the proposed project. As a result, the predicted impacts plus background also exceed the 24-hour and annual California AAQS and the construction activities associated with the proposed project would contribute to an existing violation of the standards,

absent proposed mitigation. (*Id.*) However, with mitigation, these potential impacts are less than significant. (Ex. 1610, pp. 3-4.)

Mitigation measures that will be in place during construction include the following. Emissions from construction equipment will be reduced by using equipment that meets the EPA's Tier 4 final emissions standards, limiting equipment idling to less than 5 minutes, and using electric motors, to the extent feasible. (*Id.*) Emissions from onsite vehicles will be reduced by limiting onsite vehicle speeds to 10 miles per hour, or other speeds approved by the California Energy Commission's ("CEC") Compliance Project Manager. Best management practices, like watering exposed surfaces, will be implemented to control fugitive dust. An approved Air Quality Construction Mitigation Plan, also referred to as a construction fugitive dust and diesel-fueled engine control plan, will be implemented during the construction period. This plan requires use of an onsite Construction Air Quality Mitigation Manager and sets forth requirements for implementing mitigation measures and reporting measures. (Ex. 1610, pp. 6-7.) With these mitigation measures in place, both the Applicant and Staff concur that the potential construction-related impacts will be less than significant. (Ex. 2014, p. 4.7-108.)

**B. Commissioning Of The AEC Project Will Have No Significant Air Quality Impacts And Will Comply With Applicable LORS.**

Emissions of criteria pollutants from commissioning of the six natural gas-fired combustion turbines were analyzed using manufacturer data and engineering estimates. Commissioning of the combined-cycle turbines and simple-cycle turbines would not occur during the same year. Nevertheless, for the purpose of analyzing the potential impacts of the AEC, it was conservatively assumed that the two combined-cycle turbines would be commissioned simultaneously, as would the four simple-cycle turbines. (Ex. 1610, p. 7.) It was



also conservatively assumed that each of these commissioning periods would be completed in less than one year, and total emissions for the commissioning years would be the sum total of the commissioning emissions and the operating emissions, based on the entirety of the operating limits. (*Id.*)

The maximum predicted impacts associated with commissioning were based on conservative emission estimates. For example, the 1-hour, 3-hour, and 24-hour impacts for combined-cycle commissioning were based on the assumption that both turbines would be commissioned simultaneously, and the impacts for the simple-cycle commissioning were based on the assumption that all four turbines would be commissioned simultaneously in conjunction with the worst-case operational impacts from the combined-cycle turbines and auxiliary boiler. (*Id.*) Annual impacts analyses assumed that the emissions from the respective turbines would be the sum total of the commissioning emissions and operating emissions, based on the entirety of the operating limits. (*Id.*)

Despite these conservative assumptions, the NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> commissioning impacts combined with the background concentrations do not exceed the AAQS. (*Id.*) Therefore, AEC will not cause or contribute to the violation of a standard, and the NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> impacts from commissioning will be less than significant. For the 24-hour and annual state PM<sub>10</sub> standards, the background concentrations already exceed the California AAQS without the proposed project. As a result, the predicted commissioning impacts plus background exceed the 24-hour and annual California AAQS. Commissioning of the proposed project would contribute to an existing violation of the standards, absent proposed mitigation. However, with mitigation, these potential impacts are less than significant.

Mitigation measures that will be in place during commissioning and operations include the following. The project would be required to provide Regional Clean Air Incentive Market (“RECLAIM”) Trading Credits (“RTCs”) for oxides of nitrogen (“NO<sub>x</sub>”) emissions under South Coast Air Quality Management District (“SCAQMD”) Rule 2005, and all PM, SO<sub>2</sub> and volatile organic compound (“VOC”) emissions would be offset with Emission Reduction Credits (“ERCs”) from the SCAQMD emissions offset bank under Rule 1303. (*Id.*) The amount of RTCs and ERCs required were conservatively estimated as the total commissioning emissions plus a full year of operation emissions. (*Id.*) With these mitigation measures in place, both Staff and the Applicant concur that the potential commissioning and operational impacts will be less than significant.

**C. Operation Of The AEC Project Will Have No Significant Air Quality Impacts And Complies With Applicable LORS.**

The Applicant conducted two different types of air quality analyses to determine that the AEC will not have significant impacts to local air quality: (1) evaluation of best available pollution control technologies and (2) preparation of a Human Health Risk Assessment (“HHRA”) (Ex. 1610, pp. 6-10.)

**1. The AEC Will Meet Or Exceed The SCAQMD’s BACT Requirements, And Will Avoid Or Minimize Potentially Significant Air Quality Impacts.**

First, to address potential local air quality impacts, the Applicant analyzed the appropriate pollution control technology and the “best available control technology” (“BACT”). (Ex. 1610, p. 8.) By ensuring that projects use the cleanest technologies, potential impacts on local air quality are minimized via BACT.

The SCAQMD's Final Determination of Compliance ("FDOC," Exs. 1608 and 1609) and Staff's FSA Part 2 confirm that the AEC complies with applicable BACT requirements. (Ex. 2014, p. 4.7-108.)

The proposed NO<sub>x</sub> emissions limit for the combined- and simple-cycle turbines will be achieved through the use of dry, low NO<sub>x</sub> combustors with selective catalytic reduction ("SCR"). (Ex. 1610, p. 8.) The proposed NO<sub>x</sub> emissions limit for the auxiliary boiler will be achieved through flue gas recirculation with SCR. (*Id.*) BACT for NO<sub>x</sub> is satisfied through concentration limits of 2.0 parts per million by volume, dry basis ("ppmvd") at 15 percent oxygen ("O<sub>2</sub>"), averaged over 1 hour, for the Combined Cycle Gas Turbines ("CCGT"); 2.0 ppmvd at 15 percent O<sub>2</sub>, averaged over 1 hour, for the Simple Cycle Gas Turbines ("SCGT"); and 0.47 pound per hour ("lb/hr") at 3 percent O<sub>2</sub>, averaged over 1 hour, for the auxiliary boiler. (Ex. 1610, Table 3, p. 8.)

The proposed CO and VOC emissions limits for the combined- and simple-cycle turbines will be achieved through best combustion design and installation of oxidation catalyst systems. The proposed CO emissions limit for the auxiliary boiler will be achieved through good combustion design. (Ex. 1610, p. 8.) BACT for CO is satisfied through concentration limits of 1.5 ppmvd at 15 percent O<sub>2</sub>, averaged over 1 hour, for the CCGTs; 2.0 ppmvd at 15 percent O<sub>2</sub>, averaged over 1 hour, for the SCGTs; and 50 ppmvd at 3 percent O<sub>2</sub>, averaged over 1 hour, for the auxiliary boiler. (Ex. 1610, Table 3, p. 8.) BACT for VOC is satisfied through concentration limits of 2.0 ppmvd at 15 percent O<sub>2</sub>, averaged over 1 hour, for the CCGTs; 2.0 ppmvd at 15 percent O<sub>2</sub>, averaged over 1 hour, for the SCGTs; and 5 ppmvd at 3 percent O<sub>2</sub>, averaged over 1 hour, for the auxiliary boiler. (Ex. 1610, Table 3, p. 8.)

The proposed PM<sub>10</sub>/PM<sub>2.5</sub> emissions limit for all three combustion sources will be achieved through best combustion practice, use of low-sulfur pipeline-quality natural gas, and use of inlet air filtration (for the combustion turbines). (Ex. 1610, p. 8.) BACT for PM<sub>10</sub>/PM<sub>2.5</sub> is satisfied through concentration limits of 8.5 lb/hr for the CCGTs, 6.23 lb/hr for the SCGTs, and 0.51 lb/hr for the auxiliary boiler. (Ex. 1610, Table 3, p. 8.)

The proposed SO<sub>2</sub> emissions limit for all three combustion sources will be achieved through the exclusive use of low-sulfur pipeline-quality natural gas. (Ex. 1610, p. 8.) BACT for SO<sub>2</sub> is satisfied for the CCGTs, SCGTs, and auxiliary boiler through a maximum allowable fuel sulfur concentration limit of 0.75 grain per 100 dry standard cubic foot (“dscf”). (Ex. 1610, Table 3, p. 8.)

The combustion turbines and auxiliary boiler ammonia emission factors satisfy BACT with ammonia limits of 5 ppmvd at 15 percent O<sub>2</sub> and 3 percent O<sub>2</sub>, respectively. (Ex. 1610, Table 3, p. 8.; p. 15.)

While BACT determinations are made by the SCAQMD, the EPA also requires a BACT analysis for GHG emissions as part of the Prevention of Significant Deterioration (“PSD”) permit application required under the EPA’s GHG Tailoring Rule and the SCAQMD’s Rule 1714. (Ex. 1610, p. 8, footnote 3.) BACT for GHGs is achieved through the thermal efficiency of the turbines. GHG emission rates are 896 pounds carbon dioxide per megawatt-hour (“lbs. CO<sub>2</sub>/MWh”) (net) from the CCGTs and 1,293 lbs. CO<sub>2</sub>/MWh (net) for the SCGTs, which includes startups, shutdowns, and non-baseload operation without performance degradation. (Ex. 1610, Table 3, Note “d,” p. 8.)

## **2. Potential Impacts From Operations Are All Reduced To Less Than Significant.**

The modeling conducted by the Applicant and independently verified by Staff and the SCAQMD confirms that, even with conservative modeling assumptions, the NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> operational impacts combined with the background concentrations do not exceed the AAQS. Therefore, AEC will not cause or contribute to the violation of a standard, and the NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> impacts from operation will be less than significant. (Ex. 1610, p. 9.) For the 24-hour and annual state PM<sub>10</sub> standards, the background concentrations already exceed the California AAQS without the proposed project. As a result, the predicted project impacts plus background also exceed the 24-hour and annual California AAQS and operation of the proposed project would further contribute to an existing violation of the standards, absent proposed mitigation. (*Id.*) Air quality mitigation for PM<sub>10</sub>, and its precursors species, will be provided in the form of ERCs, RTCs, SCAQMD emission offsets, generating unit shutdowns and funding for air quality improvement projects. (Ex. 1047, p. 5.1-49; Ex. 1610, p. 9.)

Emissions of criteria pollutants and GHGs would be reduced primarily through compliance with the proposed BACT limits. (Ex. 1610, pp. 7-8.) Additionally, the project would be required to provide ERCs for PM<sub>10</sub>, SO<sub>2</sub>, and VOC emissions under SCAQMD Rule 1303, and RTCs for NO<sub>x</sub> emissions under SCAQMD Rule 2005. (Ex. 1610, p. 9.) Under SCAQMD Rule 1304(a)(2), the AEC is not required to provide SCAQMD Rule 1303 offsets for emissions from the combustion turbines because they are considered a replacement for the existing electric utility steam boilers with no increase in energy output rating. Instead, the offsets required to satisfy Rule 1303 and federal New Source Review requirements will be provided by the SCAQMD directly. (*Id.*) The AEC's auxiliary boiler and oil water separators are not, however,

eligible for the exemption under SCAQMD Rule 1304(a)(2). (*Id.*) The Applicant has secured sufficient VOC, PM<sub>10</sub>, and SO<sub>2</sub> ERCs to offset emissions from the auxiliary boiler and oil water separators, per SCAQMD Rule 1303(b)(2). (*Id.*) Furthermore, the Applicant is required by SCAQMD Rule 1304.1 to provide the SCAQMD with fees to fund air pollution improvement projects commensurate with the pollutant being offset (i.e., PM<sub>10</sub> for PM<sub>10</sub>, VOC for VOC). These fees will be used to create emission reductions consistent with the SCAQMD's Air Quality Management Plan, with priority given to air quality improvement projects in the communities surrounding the AEC. In the case of AEC, the Applicant will be required to submit an Offset Fee of *over \$90 million* to fund local and regional air quality mitigation projects. (Ex. 1608, p. 212.) The AEC will also comply with California's Global Warming Solutions Act of 2006 (AB 32), and will be required to provide California GHG Compliance Instruments for every ton of carbon dioxide equivalent emissions (CO<sub>2e</sub>) emitted.

### **3. Startups And Shutdown Emissions From The AEC Are Properly Controlled And Mitigated To A Level Of Less Than Significant.**

Startup and shutdown periods are a normal part of the operation of natural gas-fired power plants. Emissions are greater during startup and shutdown than during steady-state operation. During startup and shutdown, the turbines are not operating at full load, which is where they are most efficient, and the exhaust temperatures are lower during startup and shutdown compared to steady-state operations. Post-combustion emissions control systems, such as the proposed SCR and oxidation catalyst, are designed to function at steady-state exhaust temperatures. (Ex. 1610, p. 8.) Therefore, the SCR and oxidation catalyst systems will be expected to achieve partial abatement for NO<sub>x</sub>, CO, and VOC for a portion of the startup and shutdown period.

Because emissions are greater during startups and shutdowns than during steady-state operation, the BACT limits established for steady-state operations are not technically feasible during these periods. Therefore, SCAQMD has established separate BACT limits for startups and shutdowns. (Ex. 1610, p. 9.) As outlined in the SCAQMD FDOC, combined-cycle turbine cold startups will be limited to 60 minutes, while non-cold startups and shutdowns will be limited to 30 minutes. (Ex. 1068, p. 22, Condition C1.3; Ex. 2014, pp. 4.7-136 to 4.7-137, Condition AQ-C1.) Simple-cycle turbine startups and shutdowns will be limited to 30 minutes and 13 minutes, respectively. (Ex. 1068, p. 23, Condition C1.3; Ex. 2014, pp. 4.7-137, Condition AQ-C1.) The shutdown cycle for the auxiliary boiler is nearly instantaneous and, therefore, does not need to be developed. The cold, warm, and hot startup times for the auxiliary boiler will be limited to 170 minutes, 85 minutes, and 25 minutes, respectively. (Ex. 1068, pp. 50-51, Condition C1.7; Ex. 2014, pp. 4.7-139; Condition AQ-C6.)

#### **4. The Operation Of AEC Will Comply With All Applicable LORS.**

AEC's compliance with all applicable LORS is set forth in the *Supplemental Application for Certification, Revised Air Quality, Biological Resources, and Public Health Assessment*, Tables 5.1-47, 5.1-48, and 5.1-49. (Ex. 1047, p. 5.1-49 to 5.1-66.) Moreover, the FSA Part 2 also confirms AEC's compliance with all applicable LORS. (Ex. 2014, pp. 4.7-71 to 4.7-96.) AEC complies with the LORS applicable to the project.

#### **5. The HHRA Performed For The AEC Confirms That There Are No Adverse Local Public Health Impacts From The AEC.**

The HHRA confirms that there will be no significant adverse local public health impacts associated with the AEC. (Ex. 1610, pp. 13-16.) The HHRA is discussed in detail in the Public

Health section of this Brief. The results of the HHRA show that the health risk is not significant at any location, at any time, under any operating conditions. (Ex. 1610, p. 16.)

**D. There Will Be No Significant Cumulative Air Quality Impacts From The AEC.**

Section 15355(b) of the California Environmental Quality Act (“CEQA”) Guidelines defines “cumulative impacts” in pertinent part as follows: “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.” Under Section 15130 of the CEQA Guidelines, an Environmental Impact Report (“EIR”) is required to discuss cumulative impacts when the project’s incremental effect is “cumulatively considerable.” Section 15065(a)(3) defines “cumulatively considerable” as meaning “that the incremental effects of an individual project are significant when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects.”<sup>2</sup>

The evidence in the record demonstrates that the potential cumulative air quality impacts of the AEC are not cumulatively considerable. As part of the cumulative impacts analysis, potential nearby emission sources located within 6 miles of the AEC which had submitted permit applications but were not yet represented in the ambient background were identified. (Ex. 1061; Ex. 1610, pp. 9-10.) The resulting cumulative source screening identified 17 sources at three facilities for inclusion in the cumulative impact assessment. (Ex. 1610, p. 10; Ex. 1061; RT p. 96, lines 7-16 and lines 20-25; RT p. 97, lines 1-17.)

---

<sup>2</sup> Remy *et al.*, Guide to the California Environmental Quality Act (10th ed. 1999), p. 465 (stating that “a cumulative impact consists of an impact created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts”). (Emphasis added.)



Maximum permitted emission limits for each of the sources were modeled in combination with the worst-case AEC operational scenario. (Ex. 1610, p. 10; Ex. 1065.) Despite the conservative nature of the analysis, the maximum modeled cumulative NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> concentrations combined with the background concentrations do not exceed the AAQS. Therefore, AEC will not cause or contribute to the violation of a standard, and the NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>2.5</sub>, and federal PM<sub>10</sub> impacts from cumulative operation will be less than significant. (Ex. 1610, p. 10.) For the 24-hour and annual state PM<sub>10</sub> standards, the background concentrations exceed the California AAQS without the proposed project. As a result, the predicted cumulative impacts plus background also exceed the 24-hour and annual California AAQS and operation of the proposed project with cumulative air quality impact sources would contribute to an existing violation of the standard absent proposed mitigation. (*Id.*) The Conditions of Certification proposed by the Staff and Applicant will ensure that any cumulative impacts from the AEC will be mitigated to less than significant.

**E. The Trust's Arguments That There Will Be Significant Cumulative Air Quality Impacts From The AEC As A Result Of Demolition Of The AGS Should Be Dismissed.**

The Trust continues to use its “testimony” to collaterally attack the Committee’s decision that demolition of the existing AGS is not part of the AEC project.<sup>3</sup> (See, Ex. 3076, pp. 11-15.) As explained in Section 15355 of the CEQA Guidelines, the cumulative impacts analysis focuses on “changes resulting from a single project or a number of separate projects.” (14 C.C.R. § 15355(a).) As defined in Section 15378, “The term “project” refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies.” (14 C.C.R. § 15378(c).)

---

<sup>3</sup> *Committee Ruling Re: Staff's Motion For Summary Adjudication*, 13-AFC-01 (Oct. 14, 2016)

In this case, demolition of the existing AGS is not a “project” as defined by the CEQA Guidelines because it is not an activity which will be subject to discretionary approval. CEQA defines a project as a discretionary agency action, and excludes ministerial actions. (Pub. Resources Code § 21080(b)(1).) Demolition of the AGS is not a “project” for the purposes of CEQA, as issuance of a demolition permit by the City of Long Beach is ministerial. (See, Long Beach Municipal Code Chapter 18.04.)

Because cumulative effects examine the potential combined effects of two or more “projects,” the Commission was not required by CEQA to consider the cumulative impacts of activities, such as the demolition of AGS, which would be subject only to ministerial approval. If the Commission elects to include in its cumulative impacts analysis consideration of activities subject only to ministerial approval, such consideration is for informational purposes, but is not required by CEQA.

The Applicant agrees with the Staff’s conclusions related to cumulative impacts from operations: “The project owner would mitigate emissions through the use of BACT, RTCs, emission offsets from the district’s internal bank, and ERCs for the auxiliary boiler. Therefore, the cumulative operating impacts of AEC, after mitigation, are considered to be less than significant.” (Ex. 2014, p. 4.7-70.) Further, the Applicant agrees with the Staff’s conclusion that the AEC “would result in a cumulative overall reduction in GHG emissions from the state’s power plants, would not worsen current conditions, and would thus not result in impacts that are cumulatively significant.” (Ex. 2014, p. 4.7-184.)

### **III. PUBLIC HEALTH**

No Conditions of Certification are proposed for Public Health. The AEC will comply with all applicable LORS, and potential public health impacts, if any, are mitigated to a level of

less than significant. (Ex. 1610, p. 16; Ex. 1047, pp. 5.9-16 to 5.9-17.) Even using extremely conservative assumptions in analyzing AEC, the facility will not result in any significant increases in risks to human health. (Ex. 1610, p. 16.)

**A. The Human Health Risk Assessment Conducted In Compliance With Applicable LORS Demonstrates No Potentially Significant Effects Associated With The Construction And Operation Of The AEC.**

The Applicant conducted the HHRA using guidance developed by the Office of Environmental Health Hazard Assessment (“OEHHA”), EPA, ARB, and SCAQMD. The HHRA characterized potential public health impacts associated with construction and operation of the AEC in terms of the following three categories: acute or short-term non-cancer health effects, chronic or long-term non-cancer effects, and excess cancer risk. (Ex. 1610, pp. 13-14; Ex. 1047, pp. 5.9-4 to 5.9-8.)

According to SCAQMD Rule 1401, the predicted incremental increase in cancer risk for the entire project must be less than 10 in 1 million. Rule 1401 also requires the application of Best Available Control Technology for Toxics (“T-BACT”) to any new source of toxic air contaminants (“TAC”) where the cancer risk for each individual source is predicted to be greater than 1 in 1 million. A cancer burden greater than 0.5 excess cancer cases in areas with an incremental increase greater than 1 in 1 million individuals is considered significant. (Ex. 1610, p. 14; Ex. 1047, p. 5.9-10.) An acute or chronic hazard index of less than 1 for the entire project is considered less than significant by SCAQMD. Based on the results of the HHRA, predicted public health impacts associated with the project’s construction activities and operations are less than significant. (*Id.*)

**B. The Construction Of The AEC Will Not Result In Any Significant Cancer Or Non-Cancer Risks.**

Based on the OEHHA methodology and the diesel particulate matter (“DPM”) exhaust emission rates, the construction HHRA estimated chronic non-cancer and cancer risks at the maximum exposed resident, sensitive receptor, and offsite worker locations. (Ex. 1610, p. 15.)

Results of the construction HHRA indicate that the excess cancer risks at the maximum exposed resident, sensitive receptor, and offsite worker locations are less than the significance threshold of 10 in 1 million, and that the chronic hazard indices at each of these locations are significantly less than 1. (Ex. 1610, p. 15; Ex. 1047, p. 5.9-15.) Therefore, predicted public health impacts associated with the project’s construction activities are less than significant. These less-than-significant impacts would be further reduced with implementation of a construction fugitive dust and diesel-fueled engine control plan. (Ex. 1610, p. 15; Ex. 1047, pp. 5.9-16 to 5.9-17.)

**C. The Operation Of The AEC Will Not Result In Any Significant Cancer Or Non-Cancer Risks.**

Emissions of TAC from the six natural gas-fired combustion turbines and one natural gas-fired auxiliary boiler were analyzed using emission factors provided by SCAQMD, with the exception of ammonia. The combustion turbines and auxiliary boiler ammonia emission factors were based on operating exhaust ammonia limits of 5 ppmvd at 15 percent O<sub>2</sub> and 3 percent O<sub>2</sub>, respectively. (Ex. 1610, p. 15; Ex. 1047, pp. 5.9-5 to 5.9-6.) Additionally, polycyclic aromatic hydrocarbon emissions from the combustion turbines were conservatively assumed to be controlled up to 50 percent through the use of an oxidation catalyst. (Ex. 1610, pp. 16-17; Ex. 1047, p. 5.9-5.) The hourly and annual emission rates for the combustion turbines were conservatively estimated based on the maximum and annual average heat input rating,

respectively, and the maximum number of startup and shutdown events. The hourly and annual emission rates for the auxiliary boiler were conservatively estimated based on the maximum hourly and annual heat input rating, respectively. (Ex. 1610, p. 16.) The pollutant dispersion modeling and risk assessment were conducted following EPA, ARB, and SCAQMD guidance. (*Id.*)

Results of the operation HHRA indicate that acute and chronic hazard indices are significantly less than 1; that the incremental increase in cancer risk from operation of the project at the maximum exposed resident, sensitive receptor, and offsite worker are all less than the significance threshold of 10 in 1 million; and that the cancer risk from each individual source at the maximum exposed resident, sensitive receptor, and offsite worker are all less than the significance threshold of 1 in 1 million. (Ex. 1610, p. 15; Ex. 1047, p. 5.9-15 to 5.9-16.) Additionally, the cancer burden for the AEC is well below the significance threshold of 0.5. Therefore, predicted public health impacts from project operation are less than significant. Although not required, the emission control technologies included in the AEC for all emission sources are considered to be Best Available Control Technology for Toxics (“T-BACT”). (Ex. 1610, pp. 15-16; Ex. 1047, p. 5.9-16.)

#### **D. The Operation Of AEC Will Comply With All Applicable LORS.**

AEC’s compliance with all applicable LORS is set forth in the *Supplemental Application for Certification, Revised Air Quality, Biological Resources, and Public Health Assessment*, Table 5.9-7. (Ex. 1047, p. 5.9-18 to 5.9-19.) Moreover, the FSA Part 2 confirms AEC’s compliance with all applicable LORS. (Ex. 2014, pp. 4.1-183 to 4.1-184.) Therefore, operation of the AEC complies with the LORS applicable to the project.

#### **IV. THE AEC HAS “FAST-STARTING” CAPABILITIES AS DEFINED BY INDUSTRY STANDARDS AND THE CAISO TARIFF.**

One primary project objective of the AEC is to construct and operate a modern, state-of-the-art, efficient, fast-starting, combined-cycle and simple-cycle natural gas power plant that satisfies the local area electrical reliability needs while fulfilling the requirements of the SCAQMD’s Rule 1304(a)(2). (Ex. 1500, p. 1-4, 1-6.) Furthermore, the operational characteristics of the AEC will “allow the integration of the renewable energy into the electrical grid in satisfaction of California’s Renewable Portfolio Standard, displacing older and less efficient generation.” (*Id.*) As described in the Supplemental AFC:

The fast-starting, flexible AEC SCGT will be available to help facilitate renewable generation and provide additional reliability in this critical Southern California reliability area. The AEC SCGT units will help “shape and firm” renewable resources, providing grid much needed reliability. The AEC SCGTs will provide fast ramp rates, up to 53 MWs per minute, when operating above minimum gas turbine turndown capacity. In addition to individual dispatchability, these units can provide valuable services to the grid, including, capacity, frequency response, voltage support, reactive power, inertia, and other ancillary services. (Ex 1500, p. 1-2.)

In its Part 2 Opening Testimony, the Trust raises for the first time its argument that the AEC “does not meet one of the project objectives” of being a “‘fast start’ facility”. (Ex. 3076, pp. 3-4.) The Trust’s argument is incorrect and devoid of any factual support.

The Trust has confused start time defined for the air quality analysis with the start time for purposes of electrical generation. The air quality startup emission estimates focus on the time required for the emission control systems to warm up (30 minutes for a non-cold start and 60 minutes for a cold start) sufficiently for the required emission control levels to be achieved and not the electrical output. (Ex. 1611, p. 2; RT p. 75, lines 23-25 and p. 76, lines 1-3.) Both the

simple-cycle and combined-cycle gas turbine generating units can achieve full power within 10 minutes. (Ex. 1611, pp. 2-3.)

It is the steam cycle and emission control equipment that require additional time to complete the startup process. (*Id.*) Reaching full power on the steam generator depends on ambient conditions and the associated start curve of the steam turbine associated with those conditions. (Ex. 1611, p. 3; RT p. 76, line 25 and p. 77, lines 1-4; RT, p. 80, lines 14-21.)

The time for the steam generator unit on the combined-cycle unit to achieve full load depends on the temperature of the steam system prior to a start. A cold start of the steam system will take 45 to 60 minutes for the steam generator to synchronize with the electrical grid and come online at minimum power output. (Ex. 1611, pp. 2-3; RT p. 75, lines 23-25 and p. 76, lines 1-3.) The AEC CCGT also utilizes an auxiliary steam boiler to maintain seals in the steam turbine, which allows the steam generator to be synchronized with the electrical grid and online at minimum power output faster than conventional non-fast start CCGT units. (*Id.*)

Finally, the AEC does meet the California Independent System Operator's ("CAISO") definition of fast starting. Specifically, the CAISO Tariff defines a "Fast Start Unit" as "A Generating Unit that has a Start-Up Time less than two hours and can be committed in the [Fifteen Minute Market] and [Short-Term Unit Commitment]." (Ex. 1611, p. 3.) The AEC gas turbines can reach full output in 10 minutes. (Ex. 1611, p. 2; December 20, 2016 Record Transcript ("RT"), p. 76, lines 18-25 and p. 77, lines 1-4; RT p. 80, lines 6-21.) Therefore, the Trust's arguments are without merit.

## **V. PROPOSED CHANGES TO CONDITIONS OF CERTIFICATION**

Consistent with changes to AQ-SC1 proposed for the Huntington Beach Energy Project, the Applicant for the AEC proposes the following revisions to AQ-SC1:

~~\*\*\*The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the Compliance Project Manager (CPM). The AQCMM may be replaced only after compliance with the selection process outlined below.~~

This change will ensure that the Project Owner is able to exercise control over personnel decisions, without unneeded oversight by the Compliance Project Manager.

## **VI. CONCLUSION**

The AEC is the right project in the right location. The AEC will provide needed reliability in the transmission constrained western Los Angeles Basin Local Reliability Area and will do so without any significant environmental impacts and in compliance with all applicable LORS. The Commission should approve the AEC.

Dated: January 9, 2016

ELLISON SCHNEIDER HARRIS & DONLAN LLP

By:



---

Jeffery D. Harris  
Samantha G. Neumyer  
2600 Capitol Avenue, Suite 400  
Sacramento, CA 95816  
Tel: (916) 447-2166

Attorneys for the Applicant