STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	Docket No. 03-AFC-2
	)	
Application for Certification for the Los Esteros	)	
Critical Energy Facility 2 (Los Esteros Phase 2)	)	

APPLICANT'S OPENING BRIEF

July 29, 2005

DOCKET
03-AFC-2
DATE JUL 29 2005
RECD. JUL 29 2005

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I. INTRODUCTION

Pursuant to the Committee's direction at the close of Evidentiary Hearings on June 30, 2005, Los Esteros Critical Energy Facility, LLC ("Applicant") hereby files the following Opening Brief for the Los Esteros Critical Energy Facility 2 ("Los Esteros Phase 2" or "LECEF2") Application for Certification ("AFC"). The Staff of the California Energy Commission ("Staff") has proposed Conditions of Certification for LECEF2. The Applicant and Staff are in agreement regarding all but one of these Conditions.

More specifically, the Staff and Applicant disagree on the need for Condition AQ-SC11, wherein the Staff would require that the Selective Catalytic Reduction (SCR) system catalyst be replaced within twelve months of the time when measured ammonia concentrations exceeded 5 ppm, in the absence of any demonstrated air quality or public health need for such a requirement, and in contradiction to the judgment of the Bay Area Air Quality Management District ("BAAQMD"). As we explain below, the Applicant urges that the Committee rely upon the judgment of the agency charged with protecting air quality in the San Francisco Bay Area, rather than on the unsupported assertions of the Staff.

II. AIR QUALITY

A. LECEF2 Will Comply with the Applicable Federal, State and Local Laws, Ordinances, Regulations and Standards, and with Mitigation, Does Not Result in Any Significant Air Quality Impacts.

Substantial evidence in this record demonstrates that LECEF2 is safe, and will meet all applicable air quality standards. This is true 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. 1, p. 8.1-36 to 8.1-47; Applicant's Prepared Testimony – Air Quality,[1] p. 10; Ex. 30, p. 4.1-25). In addition, the record supports the conclusion that there are no significant, unmitigated air quality impacts associated with Los Esteros Phase 2 if the conditions proposed by the Staff (excluding Condition AQ-SC11) are adopted. (Applicant's Prepared Testimony – Air Quality, p. 19).

B. The LECEF2 Project Will Have No Significant Impacts to Local Air Quality.

With respect to local air quality effects, LECEF2 addressed those issues with three different types of analyses: (1) emissions control technologies, (2) air quality impacts analysis, and (3) preparation of a health risk assessment. (Applicant's Prepared Testimony – Air Quality, pp. 9-10).

1. LECEF2 Will Meet or Exceed the BAAQMD's BACT Requirements.

To address local air quality impacts, LECEF2 analyzed the appropriate emissions control technology and the "best available control technology" ("BACT"). (Ex. 1, pp. 8.1-71 to 8.1-73; Ex.1, App. 8.1-E2; Applicant's Prepared Testimony – Air Quality, pp. 9-10; Ex. 33, pp. 16-22;; 6/30 RT 63; 6/30 RT 81). BACT is the fundamental cornerstone of any licensing process,

[1] The Applicant's Testimony on the subject of Air Quality, sponsored by Gary Rubenstein, was included in Attachment B to the Applicant's Prehearing Conference Statement (Phase 2), filed and served June 23, 2005.

requiring that new facilities must use the cleanest technologies available. By ensuring that projects use the cleanest technologies, potential impacts on local air quality are minimized. (*Id.*).

In this case, the BAAQMD's Final Determination of Compliance ("FDOC") dated June 30, 2005 (Ex. 33), confirms that LECEF2 complies with BACT. (Ex. 33, pp. 16-22). While the Staff has questioned the District's BACT determination in the PDOC (Ex. 30, pp. 4.1-31 to 4.1-32), the Staff has indicated that the issue will be resolved by issuance of the FDOC. (Ex. 30, p. 4.1-33). The FDOC has been issued, and confirms that LECEF2 complies with BACT requirements. (Ex. 33, pp. 16-22).

With respect to carbon monoxide ("CO"), LECEF2 will comply with this BACT requirement through the use of an oxidation catalyst. (Ex. 1, p. 8.1-72). The BAAQMD has determined that BACT for CO <u>for this project</u> is an emission limit of 9.0 ppmvd @ 15% O_2, averaged over three hours. (Ex. 33, pp. 19-21). Although this CO level is higher than previous, recent determinations for similar projects, Applicant believes (and the BAAQMD concurred) that this level satisfies BACT requirements in this case. (Ex. 15; Ex. 33, p. 2).

Nitrogen oxides (NO_x) will be controlled through a combination of two technologies. One is the use of water injection in the combustors. The second is a system called selective catalytic reduction (SCR), a system that the Commission has reviewed many times before and found to be safe and effective. Each combustion gas turbine/heat recovery steam generator (HRSG) train will be designed to meet a NO_x emission concentration limit of 2.0 ppmvd NO_x @ 15% O_2, averaged over 1 hour, during all operating modes except gas turbine start-ups and shutdowns and brief periods of excursions. (Ex. 1, p.8.1-29; Ex. 15, pp. 6-7; Ex. 33, p. 2). This meets the current District BACT determination. (Ex. 33, p. 2).

Reactive organic gases ("ROGs") will also be controlled through the use of good combustion practices (Ex. 1, p. 8.1-73). The BAAQMD has determined that BACT for ROG is an emission limit of 2.0 ppmvd @ 15% O_2, averaged over three hours. (Ex. 33, p. 21).

Emissions of sulfur dioxide (SO_2) and particulate matter (PM_{10}) will be controlled through the use of natural gas as a fuel. LECEF2 will use exclusively PUC-regulated natural gas, which satisfies the BACT requirement for SO_2. (Ex. 33, pp. 21-22). Similarly, particulate matter (PM_{10}) emissions will be controlled through the use of clean burning natural gas for the combustion turbines, which will result in minimal PM_{10} emissions and minimal formation of secondary PM_{10}. (Ex. 33, p. 22).

2. Applicant's Air Quality Impact Analysis Confirms That There Will Be No Significant Local Air Quality Effects.

The Applicant has performed a thorough air quality impact analysis using dispersion models required by United State Environmental Protection Agency ("USEPA") and the BAAQMD and a number of worst-case assumptions. (Ex. 1, pp. 8.1-36 to 8.1-48; Applicant's Prepared Testimony – Air Quality, p. 10; 6/30 RT 64-65). Specifically, the analysis assumes worst-case operating scenarios, worst-case emissions, <u>and</u> worst-case weather conditions at the project site. (Applicant's Prepared Testimony – Air Quality, p. 10). The analysis makes these combined worst-case assumptions even if those conditions physically cannot occur at the same time.[2] (*ibid.*).

The air quality impact analysis shows the location and levels of the greatest air quality impact. By definition, all other locations would have lesser levels of air quality impacts.

[2] For example, the worst-case of emissions from a power plant might occur during winter conditions when the ambient temperatures are lowest and the mass flow through the engines are highest. The worst-case meteorological conditions for dispersion might occur in the summer. The air quality impacts analysis nonetheless assumes that those

The purpose of all of these conservative assumptions is to make sure that LECEF2 will not cause any violations of any state or air quality standards at *any* location at *any* time under *any* weather conditions and under *any* operating conditions. The air quality impacts analysis confirms that this is the case for LECEF2. (Ex. 1, p._8.1-46; Ex. 30, p. 4.1-25; 6/30 RT 64-65).

3. The Health Risk Assessment Performed for LECEF2 Confirms that there are No Adverse Local Air Quality Impacts.

The Health Risk Assessment (HRA) performed for LECEF2 confirms that there will be no significant adverse local air quality impacts associated with the LECEF2 project. (Ex. 1, pp. 8.1-49 to 8.1-50; Applicant's Prepared Testimony – Air Quality, p. 10; Ex. 30, pp. 4.7-12 to 4.7-13; Ex. 33, pp. 25-26; 6/30 RT 65). The results of the HRA show that the health risk is not significant at any location, at any time, under any operating conditions. The public health impacts associated with the project are not in dispute with Staff.

C. LECEF2 Will Have No Significant Impacts on Regional Air Quality.

LECEF2 will have no significant impacts on regional air quality. This finding of no significant impact is confirmed by the three components to the regional air quality studies performed for LECEF2: (1) the use of best available control technology; (2) cumulative impacts analyses regarding regional air quality; and (3) emission offset requirements.

Each of these three regional impact analyses is considered in turn below.

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worst-case emissions aspects of the wintertime apply during the summer meteorological conditions, even though that is not physically possible.

1. LECEF2 Will Use Best Available Control Technology to Minimize Regional Air Quality Impacts

As discussed above, LECEF2 will use best available control technology to minimize project emissions. Minimizing project emissions is one of the most effective techniques for minimizing regional air quality impacts. (Applicant's Prepared Testimony – Air Quality, p. 9).

2. LECEF2 Will Not Cause Any Significant Unmitigated Cumulative Air Quality Impacts.

There have been several cumulative air quality impacts analyses for LECEF2 that looked at the impacts of LECEF2 and other reasonably foreseeable projects against the backdrop of existing background air quality levels. As with the local air quality analysis, the Applicant used multiple conservative assumptions in its cumulative air quality impact analyses. The first such analysis was included in the AFC. (Ex. 1, pp. 8.1-46 to 8.1-47). In this analysis, if the highest PM_{10} levels currently in this region occurred in the wintertime, and if the highest project impacts for PM_{10} were to occur in the summertime, the analysis would nonetheless assume that they occurred at the same time. Even with this level of conservatism, LECEF2 will not cause any new violations of any state or federal air quality standards. (Ex. 1, p. 8.1-46; Ex. 31, p. 4.1-25; Applicant's Prepared Testimony – Air Quality, p. 10; 6/30 RT 64-65).

This analysis did show, not surprisingly, that LECEF2 would contribute to existing violations of the state ozone standard, and of the state particulate matter (or PM_{10}) standard, that occur during some times in the region. (*Id.*). Because of this contribution to those existing problems, air quality regulations require that LECEF2 provide the second element of the regional air quality analysis, emissions offsets, as discussed in the next section below.

A protocol for a second cumulative air quality impact analysis was included in the Application for Certification. (Ex. 1, Appendix 8.1F2). The analysis demonstrated that the

cumulative impacts of the proposed project and other new/modified sources in the project area are not expected to cause a new violation or contribute significantly to an existing violation of any state or federal air quality standard in the project area. (Ex. 26, pp. 4-5; Applicant's Prepared Testimony – Air Quality, p. 10).

A third analysis evaluated the project's increased emissions of ozone precursors and PM_{10} precursors in the context of other emission sources in the area, and taking into account proposed mitigation measures. This analysis, too, demonstrated that regional cumulative impacts would be negligible. (Ex. 26, p. 1)

Thus, there have been three cumulative air quality impact analyses prepared for LECEF2, and all of these analyses reached the same conclusion: LECEF2 will not cause any new violations of state or federal ambient air quality standards but will contribute to existing violations of the state standards for ozone and PM_{10}. These potential cumulative, regional air quality impacts are addressed through the provision of emission reduction credits, and supplemental mitigation to address Staff concerns. (Applicant's Prepared Testimony – Air Quality, pp. 10-11; 6/30 RT 65-66).

3. LECEF2 has Identified and Obtained Emission Offsets to Fully Mitigate Any Potential Regional Air Quality Impact.

Emission offsets are part of a regional mitigation program designed to ensure that new plants of any type can be constructed while still making sure that progress towards cleaner air is maintained. Emission offsets are a requirement of local regulations, state law and federal law. (Ex. 1, pp. 8.1-73; Applicant's Prepared Testimony – Air Quality, p. 10; Ex. 30, pp. 4.1-2 to 4.1-3; Ex. 33, pp. 22-23).

LECEF2 will provide offsets for this project as required by the BAAQMD. Specifically, LECEF2 will provide offsets for all criteria pollutants in the quantities required by applicable law and regulation. (*id.*). There is no dispute that LECEF2 has satisfied the emission offset requirements of the BAAQMD:

> "The applicant agreed to fully mitigate the NOx and POC emission increases, as required by District rules. The applicant further agreed to mitigate the fall and winter quarter PM10 increases. The proposed emissions offsets (AIR QUALITY Table 21) will be sufficient to fully mitigate all emissions increases from the project." (Ex. 30, p. 4.1-32) (emphasis added)

In addition, LECEF2 has agreed to surrender an additional 14.250 tons per year of SO_2 emission reduction credits to address the Staff's concerns regarding full mitigation of PM_{10} air quality impacts. LECEF2 agreed to this compromise without accepting the Staff's premise that there was a significant impact that required mitigation. (Applicant's Prepared Testimony – Air Quality, p. 10-11)

D. Most Points of Disagreement Between Applicant and Staff Have Been Resolved.

As a result of discussions between Applicant and Staff during workshops, most areas of disagreement between Applicant and Staff in the area of air quality have been resolved. The proposed conditions of certification for air quality contained in Staff's FSA (Ex. 30) are acceptable to Applicant with the exception of Condition AQ-SC11, which is discussed in further detail below.

In addition, the Applicant proposes conforming amendments to the conditions proposed by Staff for two purposes: 1) to match the changes made by the BAAQMD between the Revised PDOC and FDOC, and 2) to match the errata issued by the BAAQMD for the FDOC. Applicant's proposed conforming amendments addressing both sets of changes are contained in

Exhibit 1. It is Applicant's understanding that the Staff does not object to these conforming amendments.

E. Proposed Condition AQ-C11 Relating to Ammonia Slip Should Not Be Adopted.

LECEF's main concern with the FSA is the proposed additional requirement that the SCR catalyst be replaced within one year after ammonia slip levels are determined to be in excess of 5 ppm. There is no technical justification for this requirement, as the FSA fails to establish a significant, adverse environmental impact that warrants mitigation beyond the requirements of the BAAQMD. Further, the Staff has failed to establish the technical feasibility of such a requirement for this facility.

In contrast, the FDOC issued by the BAAQMD has established a 10 ppm ammonia slip limit. (Ex. 33, p. 34, condition 19b). In a letter dated April 25, 2005, the Staff proposed to the BAAQMD that the ammonia slip limit be reduced from 10 ppm to 5 ppm in comments on the revised PDOC filed with the District. The BAAQMD reviewed this issue, responded to the Staff's comments, and concluded that a 10 ppm ammonia slip limit is appropriate for this project. Ex. 33, p. 8; Letter from Jack P. Broadbent, BAAQMD to Paul Richins, CEC, dated June 29, 2005, p. 2[3]). Notwithstanding the BAAQMD's determination, the Staff now proposes Condition AQ-SC11 to require that LECEF replace the selective reduction catalyst (SCR) within 12 months after 24-hour average ammonia concentrations are calculated or measured to exceed a 5 ppm ammonia slip limit. (Ex. 30, p. 4.1-31).

[3] At the conclusion of the evidentiary hearing, the Applicant requested that the record remain open to receive copies of any letters from the BAAQMD to any commenters on the revised PDOC. (6/30 RT 142-143) The Hearing Officer granted this request. (6/30 RT 143) This letter, which was one of such letters from BAAQMD, was docketed on July 6, 2005.

Because it is undisputed that there is no BACT requirement for ammonia emissions; the Staff attempts to base its proposed ammonia slip condition on the need to address environmental impacts under CEQA. (Ex. 31, p. 5) However, the Staff presents no technical analysis or credible scientific evidence to support its proposal. Furthermore, it is inappropriate for the Staff to argue that lower ammonia slip levels are needed to address CEQA regarding an air quality issue that has been expressly addressed by the BAAQMD. In addition, the Staff has not demonstrated the technical feasibility of achieving a 5 ppm slip level given the control technology used with this equipment, in combination with other emission limits imposed on the facility. Finally, even if a 5 ppm ammonia slip level is feasible for the LECEF2 units, the Staff has failed to evaluate the adverse environmental impacts associated with its proposal. Each of these issues is discussed in more detail below.

1. There Is No BACT Requirement for Ammonia Slip in the BAAQMD

BACT in the BAAQMD is required under District Rule 2-2-301. This rule identifies specific pollutants that are subject to BACT requirements; in contrast with other Districts with which the Commission is familiar, such as the South Coast AQMD, the BAAQMD does not regulate ammonia emissions directly. This is not an oversight that warrants correction by the Staff; rather, it is a conscious decision by the regulatory agency charged by the State with protecting air quality in the San Francisco Bay Area.

The Staff has attempted to suggest that there is some regulatory impetus from the California Air Resources Board and US EPA in support of a 5 ppm slip level. (Ex. 31, p. 4; 6/30 RT 77). However, the only evidence cited by the Staff in support of this conclusion is a 1999

report by the California Air Resources Board[4], and a 2000 letter from EPA Region 9 to the San Joaquin Valley APCD regarding the Pastoria Energy Facility. (Ex. 31, p. 5).

In the first place, the Staff mis-cites the ARB report, which states the following:

> "When selective catalytic reduction is the control method for NOX emissions, districts should consider establishing health protective ammonia slip levels at or below 5 ppmvd at 15 percent oxygen in light of the fact that control equipment vendors have openly guaranteed single-digit levels for ammonia slip." (ARB Report; p. 7)
>
> "The permit should include conditions to minimize the amount of ammonia slip to a health protective level when selective catalytic reduction is used as a control method; districts should consider establishing ammonia slip levels at or below 5 ppmvd at 15 percent oxygen." (ARB Report, p. 12)
>
> "Ambient particulate matter of 2.5 microns or less (PM2.5) is composed of a mixture of particles directly emitted into the air and particles formed in air from the chemical transformation of gaseous pollutants (secondary particles). Principle types of secondary particles are ammonium sulfate and ammonium nitrate formed in air from gaseous emissions of SOX and NOX, reacting with ammonia. Studies conducted in the South Coast Air Basin by Glen Cass of Caltech have indicated that ammonia is a primary component in secondary particulate matter. As a result, districts should consider the impact of ammonia slip on meeting and maintaining PM10 and PM2.5 standards. Where a significant impact is identified, districts should revise their respective new source review rules to regulate ammonia as a precursor to both PM2.5 and PM10." (ARB Report, p. 27)

The BAAQMD has considered the impact of ammonia slip on meeting and maintaining the PM10 and PM2.5 air quality standards, and has set an ammonia slip limit that is protective of public health. (Letter from Jack P. Broadbent, BAAQMD to Paul Richins, CEC, dated June 29, 2005, p. 2; 6/30 RT 83-85). Consequently, the BAAQMD's limit of 10 ppm for ammonia slip is fully consistent with the ARB's recommendations.

Second, the Staff fails to point out that while EPA Region 9 submitted comments to the BAAQMD regarding the LECEF2 PDOC, EPA did not raise any concerns with respect to the

[4] Guidance for Power Plant Siting and Best Available Control Technology as Approved by the Air Resources Board on July 22, 1999 ("ARB Report")

ammonia slip limit. (Letter from Jack P. Broadbent, BAAQMD to Gerardo C. Rios, EPA dated June 29, 2005.)[5]

In short, there is no regulatory basis for the Staff's proposed condition AQ-SC11.

2. The Staff Has Presented No Credible Technical Evidence to Support Its Proposed Ammonia Slip Condition

In its response to the Staff's comments on the Revised PDOC, the BAAQMD has indicated that further control of ammonia emissions, below the 10 ppm level required by the BAAQMD, will not result in any air quality or health benefits. (Letter from Jack P. Broadbent, BAAQMD to Paul Richins, CEC, dated June 29, 2005, p. 2). The Staff has not disagreed with any analyses performed by the BAAQMD – only with the conclusions reached by that agency.

The Staff's argument with respect to the alleged need to reduce ammonia slip emissions is quite simple, and consists of two components:

- Ammonia compounds form particulate matter, and
- The Bay Area is designated as a nonattainment area for state PM_{10} and $PM_{2.5}$ air quality standards.[6]

The Staff's argument is missing a key element, however: the Staff has not established a cause-and-effect relationship between additional emissions of ammonia and increased PM_{10} or $PM_{2.5}$ levels in the San Francisco Bay Area Air Basin. As has been discussed before this Commission in numerous cases, ammonia reacts with other compounds (notably sulfur dioxide/sulfates and nitrogen dioxide/nitrates) to form particulate matter. However, it would be sheer coincidence if the concentrations of ammonia, sulfates and nitrates were in such perfect

[5] At the conclusion of the evidentiary hearing, the Applicant requested that the record remain open to receive copies of any letters from the BAAQMD to any commenters on the revised PDOC. (6/30 RT 142-143) The Hearing Officer granted this request. (6/30 RT 143) This letter, which was one of such letters from BAAQMD, was docketed on July 6, 2005.

balance that all of the available ions found pairs to form particulate compounds such as ammonium sulfate and ammonium nitrate. (6/30 RT 68) In reality, there is always a surplus of one ion or another. Which compounds are in surplus (ammonia or sulfates/nitrates) depends on the geographic region and, in some cases, the time of year. If, for example, ammonia compounds are in surplus, the formation of particulate matter will be limited by the amount of sulfates and nitrates available to react. If the reverse is true, then the formation of particulate matter will be limited by the amount of ammonia in the air. Air pollution control agencies in California perform this analysis, and base their regulatory judgments on the results of this analysis. (6/30 RT 68) The Staff has presented no analysis as to which is the case within the BAAQMD. However, the BAAQMD Staff has performed such analysis. For example, the BAAQMD Staff, in its determination on this issue with respect to the East Altamont Energy Center, concluded the following:

> "The ammonia emissions resulting from the use of SCR may have another environmental impact through its potential to form secondary particulate matter such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. <u>However, it is the opinion of the Research and Modeling section of the BAAQMD Planning Division that the formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and not driven by the amount of ammonia in the atmosphere. Therefore, ammonia emissions from the proposed SCR system are not expected to contribute significantly to the formation of secondary particulate matter within the BAAQMD.</u>" (emphasis added. Final Determination of Compliance, East Altamont Energy Center. Bay Area Air Quality Management District. July 10, 2002. 01-AFC-4, Ex. 2Y1)

Although the EAEC project's impacts carried into the San Joaquin Valley Air Basin, the SJVAPCD reached the same conclusion as the BAAQMD with respect to ammonia emissions.

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[6] Ex. 31, p. 4

Maximum annual ammonia emissions from the EAEC were approximately 411 tons/year, a quantity which did not affect the BAAQMD's conclusion. In comparison, the maximum annual ammonia emissions from LECEF2 are 118 tons/year.

The BAAQMD's conclusions with respect to LECEF2 are identical:

> "Based upon atmospheric conditions in the Bay Area air basin, the District concluded that ammonia emissions from the facility will not contribute to the formation of secondary particulate matter because the chemical reaction that forms ammonium nitrate – the type of secondary particulate matter of concern – is limited by the amount of nitric acid in the atmosphere, not by the amount of ammonia. As a result, additional ammonia emissions will not cause additional ammonium nitrate to be generated." (Letter from Jack P. Broadbent, BAAQMD to Paul Richins, CEC, dated June 29, 2005, p. 2)

The Staff's position is at odds with the only scientifically based analyses relevant for this project.

The Staff suggests that there is precedent at the Commission for their proposal. (Ex. 31, p. 4) However, the Staff's conclusions regarding the need for a 5 ppm ammonia slip limit are also at odds with the Staff's positions, and the Commission's decisions, in a number of other cases. As shown in Applicant's testimony (Applicant's Prepared Testimony – Air Quality, p. 13, Table 1), the Commission has approved no less than twenty power projects (nearly all combined cycle units) with ammonia slip levels of 10 ppm. These projects cover a broad range in time, a broad range in size and combustion technology, and a range of attainment designations. Of these with ammonia slip levels of 10 ppm, four (Cosumnes, East Altamont, Pico, and San Joaquin Valley) have been approved within the last 24 months. (*id.*) During this period, all of the

projects approved by the Commission with a 5 ppm slip level have either had that level required by the applicable air district[7], or have had that level proposed by the Applicant[8]. *(id.)*

Although the Staff has, in the past, made a case-by-case determination with respect to the need for lower ammonia slip levels, the Staff has more recently proposed that the Commission establish a "one size fits all" ammonia slip requirement. (Applicant's Prepared Testimony – Air Quality, pp. 13-14). This is illustrated in the Staff's testimony in the Turlock Irrigation District Walnut Energy Center ("WEC") proceeding:

> "Q With this staff's position that you're recommending, will you be recommending 5 ppm slip for all F class projects in the future throughout California?"
>
> "A I think it's staff's position right now that for combined cycle projects, nonpeaking projects, we've only had one class 7 peaker that I think that we've actually licensed, or excuse me, one peaker, but I believe that our current idea on how we're going to deal with ammonia is yes, that we are going to try to propose 5 ppm ammonia on all class 7 type projects."
>
> (02-AFC-4, Turlock Irrigation District, Walnut Energy Center. 9/29/03 RT 129:14-25)

Although the Staff's testimony in the WEC proceeding suggested they were going to propose 5 ppm ammonia slip levels for all "class 7 type projects", regardless of a demonstrated need for such levels, it is now clear that the Staff is intending to propose a 5 ppm slip level for all combined cycle projects, regardless of either demonstrated need or of the capability of the generating technology. As discussed further below, the Staff is now not only eliminating demonstrable air quality benefits as a basis for their proposals, but is also ignoring issues related to technical feasibility.

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[7] Moss Landing, Morro Bay, Mountainview, Magnolia, El Segundo, and Inland Empire all had 5 ppm slip limits imposed by the local air district.

[8] The applicant proposed a 5 ppm slip limit in the cases of Three Mountain Power, Palomar, Contra Costa, Metcalf, Russell City, Potrero and Tesla.

The Staff's position on this issue becomes more confusing, chronologically speaking, when one reviews the Final Staff Assessment for the Roseville Energy Park, prepared in November 2004. In that document, the Staff (properly) recognizes the need for a case-by-case determination as to the role that ammonia plays in particulate formation in a particular region.

> "For the purpose of determining the secondary PM10/PM2.5 potential impacts, it is necessary to determine first, if the area is either ammonia rich or ammonia limited as discussed above, and second, to determine what additional ammonium sulfate and ammonium nitrate are likely to form. Lastly, those impacts must be compared to the existing background measurements."
> (03-AFC-1, Roseville Energy Park, Final Staff Assessment, p. 4.1-8)

The Staff goes on to perform such a case-by-case analysis for the Roseville project, and concludes the following:

> "In comparison to the ammonia rich areas of San Joaquin Valley (368.7 tons/day) and the South Coast (181.7 tons/day), the estimated ammonia inventory of Placer County (36 tons/day) leads staff to presume that the area is most likely ammonia limited. Thus, as discussed above, it is likely that the release of further ammonia would lead to further PM10/PM2.5 formation downwind. However, it is not possible to determine the rate at which this could occur with the available information. Therefore, staff concludes that the release of ammonia slip from the REP facility has a high likelihood of forming additional PM10/PM2.5 downwind and thus contributing to an existing violation of the PM10 or PM2.5 state ambient air quality standards." (03-AFC-1, Roseville Energy Park, FSA, p. 4.1-9)

The Applicant does not argue the merits of the Staff's analysis in the Roseville case; rather, Applicant merely points out that the Staff has quite recently determined the need for performing a case-by-case analysis to determine whether ammonia reductions would result in particulate benefits, and has shown that it is capable of doing so. No such analysis was performed by the Staff for LECEF2.

In several recent cases – including the East Altamont Energy Center and Turlock Irrigation District Walnut Energy Center - the Commission rejected the Staff's arguments that a 5 ppm slip level should be required, and sustained the opinions of the Applicant, Bay Area

AQMD and San Joaquin Valley APCD (Decision, East Altamont Energy Center, 01-AFC-04, p. 142; Decision, Walnut Energy Center, 02-AFC-04, pp. 101, 103). In those cases, the Staff argued that a more stringent ammonia slip level of 5 ppm was necessary because those projects would affect PM_{10} air quality in the San Joaquin Valley Air Basin – which has PM_{10} levels in excess of federal (as well as state) air quality standards. Although the Commission rejected the Staff's arguments in the both the EAEC and WEC cases, when alleged contributions to violations of both state and federal particulate air quality standards were at issue, the Staff raises the issue here again with respect to LECEF2, even though particulate air quality is indisputably better. (The Bay Area is in attainment of federal PM_{10} and $PM_{2.5}$ air quality standards.)

In the LECEF2 proceeding, the Staff argues, in essence, that there is no such thing as a region being "ammonia rich."

> "HEARING OFFICER FAY: So even though upwind of the Bay Area is the ocean, what is it, the relative low NOx that makes it more ammonia rich than say the South Coast District?
>
> MR. TAYLOR: That's correct. Although I would like to point out that I am skeptical of this term as ammonia rich versus ammonia poor. Since ammonia is a fairly active compound, and though there has been some discussion of limiting reactions here, that is -- while that's true in the laboratory where you actually have a reaction that precedes the completion wherein one reactant's completely consumed, I think that is an over-simplification of an air basin to look at it as a single beaker, so to speak." (6/30 RT 91)

However, this testimony is diametrically opposed to that recently taken by the Staff in the Roseville proceeding (cited above), and in the San Joaquin Valley Energy Center proceeding in which the Staff stated the following:

> "The ammonia emissions from the project would come from the SCR system, which controls the NOx emissions, as unreacted ammonia, or "ammonia slip," that remains in the exhaust after passing through the SCR catalyst system. The San Joaquin Valley, as a result of agricultural ammonia emissions, is ammonia rich, meaning that ammonia is not the limiting reactant for secondary PM_{10}

> formation. This means higher ammonia emissions will not necessarily result in additional secondary PM_{10} formation; however, reducing NOx emissions will almost certainly reduce secondary PM_{10} formation. While the ammonia emissions are recognized as a necessary by-product of the NOx control system, staff still encourages the Applicant to control their ammonia slip emissions to the lowest possible extent, while maintaining the guaranteed NOx emission limit." (San Joaquin Valley Energy Center, 01-AFC-22, Staff Assessment, p. 4.1-43)

The Staff recommended an ammonia slip limit of 10 ppm in the SJVEC case. The Staff has subsequently argued that their proposed acceptance of a 10 ppm slip limit in the SJVEC proceeding was "a mistake", or was part of "a compromise". However, the above quoted testimony reflects none of that, and presents a reasoned, and correct, analysis of the situation. The facts in the LECEF2 case are identical – the project area is ammonia rich - and an identical conclusion should be reached: a 10 ppm slip level is acceptable and sufficient to ensure proper operation of the SCR system without resulting in significant adverse air quality or public health impacts.

The Staff has presented no evidence in the LECEF2 proceedings to support a different conclusion in this case than that reached by the BAAQMD, or for second-guessing the judgment of the air pollution control agencies with principal responsibility for air quality in this region.

3. It Is Inappropriate for the Staff to Suggest that CEQA Is the Basis for Imposing a Requirement in an Area that Has Been Expressly Addressed by the Responsible Agency with Expertise in This Field.

The Staff has not contested the BAAQMD's regulatory determinations with respect to ammonia slip (although the Staff sought, in comments filed with the BAAQMD, to change that determination). Rather, the Staff argues that lower ammonia slip levels should be required under CEQA. However, CEQA does not give the Staff a basis for seeking mitigation under any circumstance chosen. Rather, CEQA requires mitigation only in the event that a significant, adverse air quality impact has been identified, and such mitigation would serve to reduce that

impact. The Staff's analysis with respect to these two critical issues is contained, in its entirety, in the following few sentences:

> "In addition, the project will emit ammonia, a PM_{10} precursor that has the potential to contribute to the existing PM_{10} problem in the region. Staff believes that measures can be taken to minimize significant secondary PM10 impact by controlling ammonia as much as feasible, as set forth in Condition AQ-SC11. That condition requires the project owner to retrofit or replace the SCR catalyst within one year of the ammonia emissions reaching 5 ppm. This will effectively limit the long term average emissions to 5 ppm or less, without forcing the facility to initiate maintenance at ammonia emissions levels significantly below 5 ppm. Staff believes this will minimize the contribution of ammonia emissions to secondary PM_{10} formation."
>
> (Ex. 30, p. 4.1-34)

Applicant believes that the Commission must make three findings before even considering imposing condition AQ-SC11:

- that ammonia emissions from LECEF2 will cause a significant adverse air quality impact, or will contribute significantly to an existing problem;
- that the imposition of condition AQ-SC11 will reduce that impact; and
- that the requirements of condition AQ-SC11 are technically feasible.

The Staff has not met its evidentiary burden with respect to any of these factors. Neither the Final Staff Assessment (Ex. 30) nor the Staff's Supplementary Testimony (Ex. 31) contains a demonstration of a significant adverse environmental impact; a mere assertion of an impact neither creates nor demonstrates a significant adverse impact. Further, neither document provides a basis for concluding that the proposed mitigation would, in fact, mitigate the identified impact. In fact, the clearest statement on this issue is from the BAAQMD's witness:

> HEARING OFFICER FAY: But you believe that reducing ammonia is not the most direct way to accomplish that?
>
> MR. HILL: With the current ratios of nitric acid and ammonia in the atmosphere, that reducing ammonia is not likely to reduce the fine particulate concentrations. (6/30 RT 87)

Moreover, even assuming, arguendo, that the emission of ammonia from LECEF at the rate of 10 ppm authorized by the BAAQMD would constitute a significant adverse impact, the appropriate action is not for the Commission to adopt emission standards on a piecemeal basis. Instead, as the ARB has advised, "Where a significant impact is identified, districts should revise their respective new source review rules to regulate ammonia as a precursor to both PM2.5 and PM10." (ARB Report, p. 27)

The Staff may seek to distinguish its proposed condition by arguing that it has an independent duty under CEQA to analyze the air quality impacts of a project. But in fact, it is the BAAQMD, not the Staff, that has the primary responsibility for performing the environmental assessment of the air quality impacts of a project.

Consideration of CEQA is an integral part of the air quality analysis conducted by BAAQMD for every project subject to its review, including LECEF2. In this instance, BAAQMD has acted as a Responsible Agency under CEQA, acting to "coordinate the environmental review process with the District's permitting process, provide comments to the Lead Agency regarding potential impacts, and recommend mitigation measures." BAAQMD has performed its CEQA obligations fully and faithfully, and the Commission, therefore, may not lightly override the District's decision to reject the Staff's request for a lower ammonia slip level.

Indeed, CEQA is quite clear that when the Lead Agency's position is at variance with recommendations raised in the comments, especially the comments of other agencies, "these differences must be addressed in detail giving reasons why specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory

statements unsupported by factual information will not suffice." 14 CCR 15088(d) It is important to note that the FSA does not even acknowledge, much less provide detailed reasons, for the differences between the Staff's proposal and the findings of the BAAQMD. In absence to good faith, reasoned analysis responding to the District's determination, the conclusory statements in the FSA regarding ammonia impacts should be rejected by the Commission.

4. There Is No Evidence that a 5 ppm Slip Level Is Technically Feasible Given the Additional Limits that Have Been Imposed on this Facility Subsequent to Construction.

The LECEF project was originally licensed based on a NOx limit of 5.0 ppm, which represented BACT at that time for simple cycle projects. In anticipation of a conversion to combined cycle operation, and a lower NOx BACT level, the facility was designed to achieve a 2.5 ppm NOx level, 50% below the required level. The original PDOC for the LECEF2 combined cycle facility was issued with an indication that BACT was not required, and a proposed NOx limit of 2.5 ppm. (Ex. 17, p. 14)

However, based on comments received from a variety of regulatory agencies, including the Staff, the BAAQMD revised its determination, concluding that BACT was, in fact, required for the combined cycle facility, and established a BACT requirement for NOx of 2.0 ppm. (Ex. 33, p. 19). LECEF2 raised objections to this determination, questioning the technological feasibility of achieving this level for the specific combustion turbines already in use at LECEF. (Ex. 15). Specifically, these concerns were related to the fact that the LECEF combustion turbines were in operation, and were equipped with water injection (and not dry low NOx combustors) for initial NOx control.[9] There was (and still is) no documented case of a water-

[9] In his testimony before the Commission, the Staff's witness testified that the Roseville project used the "same type of turbine" as LECEF2. (6/30 RT 99). This is not correct. Although the project was licensed with two alternative configurations (03-AFC-01, Commission Decision, p. 8) , the project is being built with GTX-100 combustion

injected LM6000 gas turbine meeting a 2.0 ppm NOx level on a consistent basis – at any ammonia slip level.

In response to BAAQMD's concerns, LECEF performed an experiment in early December 2004 in which water injection was increased to reduce turbine exhaust NOx levels. During this test, turbine exhaust NOx levels were reduced from 25 ppm to 18 ppm by exceeding the combustion turbine original equipment manufacturer's (OEM's) recommended maximum amount of water injection that the engine could safely tolerate. It is important to note that the turbine OEM only guarantees a NOx level of 25 ppm from the turbine to protect the turbine from damage and excessive maintenance requirements. LECEF went beyond that guarantee to determine whether a NOx level of 2.0 ppm was feasible. (6/30 RT 119-120)

Based on this experiment, LECEF concluded that achieving a 2.0 NOx level was, in fact, technologically feasible for these units, and proposed to meet that level even though stack NOx levels during the experiment never dropped below 2.7 ppm. In our December 28, 2004 letter to the BAAQMD, we indicated that meeting the 2.0 ppm NOx level was contingent on being able to obtain a higher CO limit (due to the increase in CO emissions associated with increased water injection for NOx control), Due to the short duration of the test, no assessment of ammonia slip was performed. However, it is certain that performance of the SCR control system will be strained to the maximum to achieve these levels, which go beyond vendor guarantees. Thus, there is no evidence that the lower NOx levels can be reliably achieved in the event that lower ammonia slip levels are required at the same time. (*id.*)

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turbines equipped with dry low NOx combustors. (http://www.rosevilleelectric.org/aboutUs/energyPark/energyPark.html). These are not the same as the water injected LM6000 combustion turbines in use at LECEF.

5. The Staff has Failed to Address the Adverse Environmental Impacts Associated with a 5 ppm Slip Level at this Facility.

As indicated in Applicant's testimony, achieving a 2.0 ppm NOx level at this site is likely to require operation of the water injection system at rates in excess of the levels warranted by the turbine OEM. Although this may not result in an increase in overall water usage, as water injected for power augmentation may be reduced by a comparable amount, there are additional, adverse environmental and economic impacts that the Staff has failed to address. (Applicant's Prepared Testimony – Air Quality, pp. 17-18;

First, and perhaps most significant, is the increase in turbine maintenance costs and required outages. Increased water injection rates result in decreased combustor and nozzle life, requiring more frequent replacement of these components.

Second, the increased water injection rate decreased efficiency by approximately 0.5%. This will result in increased consumption of natural gas, as well as a smaller compliance margin for other pollutants (meaning that there will be a real increase in emissions). To counteract these adverse impacts, LECEF2 expects to operate the SCR system to its maximum effectiveness, within the limits constrained by the ammonia slip level, to increase combustor life and fuel efficiency. The water injection rate will be gradually raised, as SCR system efficiency declines, until the maximum water injection rate that the engine can safely tolerate has been reached. At that time, the SCR catalyst will be replaced and the cycle started anew. (*id.*; 6/30 RT 106-107)

Given this combination of control technologies and emission limits, a lower ammonia slip level will mean, quite simply, that more water injection will have to be used to reduce turbine NOx emissions throughout the life of the project, resulting in efficiency losses and emission increases of all pollutants. Increased fuel consumption will equal approximately

86,000 MMbtu per year, and increased emissions will be approximately 0.5 tons per year each of NOx and CO, and 0.2 tons per year each of POC and PM. (*id.*) While the emission increases may be small, they are real as compared with the hypothetical benefits associated with the lower ammonia slip level.

The Staff suggests that its proposed condition AQ-SC11 will also enable the Staff to document the rate of catalyst degradation over the life of the facility. (Ex. 30, p. 4.1-21). If the Staff wishes to track the rate of catalyst degradation (which is a maintenance and economic concern, and not an environmental issue), the Staff can do so through a review of the continuous emissions monitoring and source test data required to be collected and maintained pursuant to BAAQMD conditions. (Ex. 33, pp. 37 (Condition 26); p. 38 (Condition 32)

III. BIKE PATH

In response to the Committee's direction, the Staff and Applicant jointly propose a condition of certification to encourage timely repair of the bike path near the facility. This proposed condition, which is attached to the Staff Addendum filed July 14, 2005, requires the Project Owner to fund an endowment to be used by the City of San Jose for repair of the paved bikeway immediately to the north of, and parallel to Highway 237, between Zanker Road and Coyote Creek. The Project Owner and the City of San Jose are currently finalizing the terms of the Fund Transfer Agreement consistent with the provisions of the proposed condition. The Project Owner will submit the Fund Transfer Agreement to the Commission as soon as it is executed, and no later than 60 days following the Commission's final decision.

IV. CONCLUSION

With only one exception, Applicant and Staff have agreed upon all of the conditions of certification proposed for this Project. As shown in this Brief, in the case of the one disputed

issue, related to ammonia slip, the Applicant's position has merit and should be adopted by the Commission. Staff's position regarding ammonia slip in Condition AQ-SC11 is inconsistent with the requirements of the BAAQMD, and is without any supporting foundation under CEQA. Condition AQ-SC11 should not be adopted.

Respectfully submitted,

Dated: July 29, 2005

ELLISON, SCHNEIDER & HARRIS L.L.P.

By _____

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EXHIBIT 1
Applicant's Proposed Conforming Amendments
Los Esteros Critical Energy Center, Phase 2

Los Esteros Critical Energy Center, LLC is requesting approval of conforming amendments to the Conditions of Certification proposed by the CEC staff in the Final Staff Assessment for the Los Esteros Critical Energy Center, Phase 2. These amendments are needed to allow the Conditions of Certification to conform to the final permit conditions issued by the Bay Area Air Quality Management District in its Final Determination of Compliance (FDOC) for the project, issued on June 28, 2005, and subsequent errata.

The requested amendments are divided into two parts: changes that result from revisions made by the District staff between the Revised Preliminary Determination of Compliance (RPDOC) and the FDOC, based on public comments; and changes that result from the subsequent errata to the FDOC that will be issued by the District. These proposed amendments are shown separately in Attachments 1 and 2, respectively, and are discussed in more detail below.

Revisions Based on Public Comments

Condition AQ-10 Condition AQ-10 limits emissions during the commissioning period. While the NOx and CO emissions shown in the RPDOC condition correctly reflected the temporarily elevated emission rates of those pollutants that are expected to occur during commissioning activities after the control equipment is installed, the applicant believes the POC emissions will continue to be elevated after the oxidation catalyst is installed. The BAAQMD staff revised the POC limit with controls to 288 lb/day, the same as the POC limit without controls. This limit is still slightly lower than the mass emission limit of 320.8 lb/day that applies during normal, controlled operation of the CTGs.

The BAAQMD staff also made changes to the PM_{10} and SO_2 limits in this condition, but has indicated that these changes will be modified so that the daily PM_{10} and SO_2 limits during the commissioning period are identical to the limits during normal operation in Condition AQ-22.

Conditions AQ-20 and AQ-21 At the request of EPA Region 9 staff, these conditions were revised to include a more specific definition of "good engineering practice" as it relates to startup and shutdown periods.

Condition AQ-22 The daily and annual CO limits during normal operation were revised to reflect the corrected calculations proposed by the CEC staff.

Condition AQ-24 The daily heat input limit for each gas turbine without duct firing has been corrected. In the RPDOC, this condition limited daily heat input for each gas turbine without duct firing to 11,342 MMBtu/day. Since the hourly heat input limit for Phase 2 of the project has been increased to 500 MMBtu/hr, the correct daily limit is 24 x 500, or 12,000 MMBtu/day. The corrected value is consistent with the analyses submitted to the District and the CEC.

Condition AQ-35 As the result of a typographical error, Condition AQ-35 required LECEF to provide only 7.3 tons/yr of valid POC emission reduction credits prior to the issuance of the Authority to Construct; this value was corrected in the FDOC to 7.5 tons/yr. However, LECEF also needs to provide 27.945 tons/yr of NOx or POC ERCs to offset the increase in annual NOx emissions from the project. To provide mitigation for potential nitrogen deposition impacts from the project as well as for ozone impacts as required under District regulations, LECEF will provide the required NOx offsets using NOx ERCs rather than a combination of NOx and POC ERCs. The revised ERCs to be used for the project are as follows:

Emission Reduction Credits to be used for the LECEF (Phase 2)					
Current Owner	Cert. No.	Pollutant Quantity (tpy)		Origin, Location	Date Banked
		POC	NOx		
Calpine	856	26.522	0	Myers Container, San Pablo	4/23/02
Calpine	822	0	1.029	Philips Semiconductor, Sunnyvale	8/6/93
LECEF	724	0	7.100	Cardinal Cogen, Palo Alto	3/13/96
Calpine	699	0	20.900	Colgate Palmolive Co, Berkeley	4/26/84
Total Offsets Available		26.522	29.029		
Offset Obligation		7.500	27.945		
Balance (to be refunded)		19.022	1.084		

Additional Amendments Based on BAAQMD FDOC Errata

Condition AQ-29 As proposed, Condition AQ-29 would have required fuel sulfur monitoring as required under 40 CFR 60, Subpart GG, in accordance with a custom schedule approved by EPA on August 14, 1987. However, EPA recently revised Subpart GG to eliminate most sulfur testing requirements for natural gas fuel (69 FR 41345, July 8, 2004). The revisions provide that sulfur content of the fuel need not be monitored if a demonstration is made that the fuel meets the definition of natural gas that is now included in the subpart (at 60.331(u)). The revisions further provide that a current, valid purchase contract, tariff sheet, or transportation contract for the gaseous fuel may be used to demonstrate that the total sulfur content of the fuel is below 20.0 grains per 100 scf. The revised NSPS also allows the use of continuous emissions monitoring as a substitute for continuous monitoring of the water:fuel ratio.

On this basis, the applicant requested, and the BAAQMD agreed, that Condition 29 of the RPDOC should be amended or eliminated. The FDOC indicates that the condition has been eliminated, but due to a typographical error, it was carried forward in the FDOC conditions.

Condition AQ-34 This condition includes a requirement to submit to the District and the CEC staff copies of the results of the quarterly fuel analyses. Since these analyses will no longer be required when Condition AQ-29 is eliminated, subsection (g) of this condition should also be deleted.

Condition AQ-45 This condition specifies the conditions under which biennial toxic source testing will no longer be required. The proposed amendment would correct the reference to the condition that specifies the calculation method to be used.

Attachment 1
Changes between FSA and FDOC
Los Esteros Critical Energy Facility, Phase 2

AQ-10 The owner/operator shall not operate the facility such that the pollutant mass emissions from each turbine (S-1, S-2, S-3, and S-4 Gas Turbines) and corresponding HRSG (S-7, S-8, S-9, and S-10 Heat Recovery Steam Generators) exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the S-1, S-2, S-3, and S-4 Gas Turbines.

	Without Controls		**With Controls**	
a. NOx (as NO_2)	1464 lb/day	102 lb/hr	1464 lb/day	61 lb/hr
b. CO	1056 lb/day	88 lb/hr	984 lb/day	41 lb/hr
c. POC (as CH_4)	288 lb/day		~~114~~ 288 lb/day	
d. PM_{10}	60 lb/day		60 lb/day	
e. SO_2	~~53.6~~ 41.6 lb/day		~~53.6~~ 41.6 lb/day	
(basis: cumulative increase)				

(No changes to verification requirement.)

AQ-20 The owner operator shall operate the gas turbines so that the duration of a startup is kept to a minimum, consistent with good engineering practice. The startup period begins with the turbine's initial firing and continues until the unit is in compliance with all applicable emission concentration limits. For purposes of this Part, a startup period of ~~does not exceed~~ 240 minutes ~~per event~~ or less shall be considered kept to a minimum consistent with good engineering practice. Should it be determined that good engineering practice requires a different time period for a startup, the owner/operator may operate the gas turbines such that startups do not exceed that time period, as approved in writing by the APCO. ~~or other time period based on good engineering practice that has been approved in advance by the District. The startup period begins with the turbine's initial firing and continues until the unit is in compliance with all applicable emission concentration limits.~~

(No changes to verification requirement.)

AQ-21 The owner operator shall operate the gas turbines so that the duration of a shutdown is kept to a minimum, consistent with good engineering practice. Shutdown begins with the initiation of the turbine shutdown sequence and ends with the cessation of turbine firing. For purposes of this Part, a shutdown period of ~~does not exceed~~ 30 minutes ~~per event~~ or less shall be considered kept to a minimum consistent with good engineering practice. Should it be determined that good engineering practice requires a different time period for a shutdown, the owner/operator may operate the gas turbines such that shutdowns do not exceed that time period, as approved in writing by the APCO. ~~or~~

~~other time period based on good engineering practice that has been approved in advance by the District. Shutdown begins with the initiation of the turbine shutdown sequence and ends with the cessation of turbine firing.~~

(No changes to verification requirement.)

AQ-22 **Mass Emission Limits**: The owner/operator shall operate the LECEF so that the mass emissions from the S-1, S-2, S-3 & S-4 Gas Turbines and S-7, S-8, S-9, & S-10 HRSGs do not exceed the daily and annual mass emission limits specified below. The owner/operator shall implement process computer data logging that includes running emission totals to demonstrate compliance with these limits so that no further calculations are required.

Mass Emission Limits (Including Gas Turbine Start-ups and Shutdowns)

Pollutant	Each Turbine/HRSG Power Train (lb/day)	All 4 Turbine/HRSG Power Trains (lb/day)	All 4 Turbine/HRSG Power Trains (ton/yr)
NOx (as NO_2)	252.4	1,009.4	99
POC	80.2	320.8	28.3
CO	~~419.6~~ 417.2	~~1,678.4~~ 1,668.8	~~98.6~~ 98.5
SOx (as SO_2)	41.6	166.4	8.4
PM_{10}	60	240	43.8
NH_3	198	792	118

(No additional changes to condition or verification requirement.)

AQ-24 **Operational Limits**: In order to comply with the mass emission limits of this rule, the owner/operator shall operate the gas turbines and HRSGs so that they comply with the following operational limits:

a. Heat input limits (Higher Heating Value):

	Each Gas Turbine w/o Duct Burner	**Each Gas Turbine w/ Duct Burner**	**Four Turbine/HRSGs Power Trains combined**
Hourly:	500 MMBtu/hr	639 MMBtu/hr	--
Daily:	~~11,342~~ 12,000 MMBtu/day	15,336 MMBtu/day	--
Yearly:	--	--	18,215,000 MMBtu/yr

(No additional changes to condition or verification.)

AQ-35 **Emissions Offsets**: The owner/operator shall provide ~~7.3~~ 7.5 tons of valid POC emissions reduction credits and 27.945 tons of valid NOx emission reduction credits

prior to the issuance of the Authority to Construct. The owner/operator shall deliver the ERC certificates to the District Engineering Division at least ten days prior to the issuance of the Authority to Construct. (Basis: Offsets)

(No change to verification requirement.)

Attachment 2
Changes to FSA Conditions and Verification Requirements: BAAQMD Errata
Los Esteros Critical Energy Facility, Phase 2

AQ-29 [delete] ~~The owner/operator shall comply with the applicable requirements of 40 CFR 60 Subpart GG, excluding Sections 60.334(a) and 60.334(c)(1). The sulfur content of the natural gas fuel shall be monitored in accordance with the following custom schedule approved by the USEPA on August 14, 1987:~~

~~a. The sulfur content shall be measured twice per month for the first six months of operation.~~

~~b. If the results of the testing required by **AQ-29a** are below 0.2% sulfur by weight, the sulfur content shall be measured quarterly for the next year of operation.~~

~~c. If the results of the testing required by **AQ-29b** are below 0.2% sulfur by weight, the sulfur shall be measured semi-annually for the remainder of the permit term.~~

~~d. The nitrogen content of the fuel gas shall not be monitored in accordance with the custom schedule. (Basis: NSPS)~~

~~**Verification:** The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.~~

AQ-34 **Reporting:** The owner/operator shall submit to the District a written report for each calendar quarter, within 30 days of the end of the quarter, which shall include all of the following items:

a. Daily and quarterly fuel use and corresponding heat input rates
b. Daily and quarterly mass emission rates for all criteria pollutants during normal operations and during other periods (startup/shutdown, breakdowns)
c. Time intervals, date, and magnitude of excess emissions
d. Nature and cause of the excess emission, and corrective actions taken
e. Time and date of each period during which the CEM was inoperative, including zero and span checks, and the nature of system repairs and adjustments
f. A negative declaration when no excess emissions occurred
~~g. Results of quarterly fuel analyses for HHV and total sulfur content.~~

(Basis: recordkeeping & reporting)

(No changes to verification requirement.)

AQ-45 Within 60 days of start-up of the Los Esteros Critical Energy Facility and on a biennial (once every two years) basis thereafter, the owner/operator shall conduct a District-approved source test at exhaust point P-1, P-2, P-3, or P-4 while the Gas Turbines are at maximum allowable operating rates to demonstrate compliance with Part 43. If three consecutive biennial source tests demonstrate that the annual emission rates for any of the compounds listed above calculated pursuant to part ~~43~~ 44 are less than the BAAQMD Toxic Risk Management Policy trigger levels shown below, then the owner/operator may discontinue future testing for that pollutant.

Formaldehyde	<	132 lb/yr
Acetaldehyde	<	288 lb/yr
Specified PAHs	<	0.18 lb/yr
Acrolein	<	15.6 lb/yr
(Basis: BAAQMD 2-1-316, TRMP)		

(No changes to verification requirement.)

STATE OF CALIFORNIA

Energy Resources Conservation
and Development Commission

Application for Certification for the LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 2 (LOS ESTEROS 2)	)))))	Docket No. 03-AFC-2

PROOF OF SERVICE

I, Ron O'Connor, declare that on July 29, 2005, I deposited copies of the attached *Applicant's Opening Brief* in the United States mail in Sacramento, California, with first-class postage thereon fully prepaid and addressed to all parties on the attached service list.

I declare under the penalty of perjury that the foregoing is true and correct.

Ron O'Connor

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