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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE EASTSHORE ENERGY CENTER IN HAYWARD BY TIERRA ENERGY	DOCKET NO. 06-AFC-6 (AFC Accepted 11/8/06)

EASTSHORE ENERGY LLC'S REPLY BRIEF ON CONTESTED SUBJECT AREAS

March 3, 2008

Jane E. Luckhardt
Maya R. Ferry
Nicolaas W. Pullin
Maja K. Haium
DOWNEY BRAND LLP
555 Capitol Mall, 10th Floor
Sacramento, California 95814
Telephone: (916) 444-1000
FAX: (916) 444-2100
E-mail: jluckhardt@downeybrand.com
Attorneys for Eastshore Energy, LLC

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EASTSHORE ENERGY CENTER'S REPLY BRIEF ON CONTESTED SUBJECT AREAS

March 3, 2008

Pursuant to the Notices of Evidentiary Hearing Dates and Hearing Order (dated December 4, 2007 and December 20, 2007), the Briefing and Scheduling Order (dated January 18, 2008), and Hearing Officer Gefter's Email Regarding Briefing Schedule (dated January 22, 2008), Eastshore Energy LLC ("Eastshore") hereby files its Reply Brief on Contested Subject Areas.

I. EASTSHORE HAS MET ITS BURDEN TO PRESENT SUBSTANTIAL EVIDENCE TO SUPPORT CERTIFICATION

As Eastshore demonstrated in its Opening Brief on Contested Subject Areas ("Eastshore's Opening Brief"), the record contains substantial evidence demonstrating the Eastshore Energy Center ("Eastshore Project") will be consistent with all laws, ordinances, regulations, and standards (LORS) and will not cause any significant environmental impacts. Opponents to the Eastshore Project have submitted various arguments to attack this evidence, but all of these arguments fall flat. This Reply Brief addresses the opponents' arguments and explains why each argument is groundless. Therefore, because the Eastshore Project satisfies the applicable legal standard under section 25525 of the California Public Resources Code, Eastshore respectfully requests that the California Energy Commission (CEC) certify the Eastshore Project.

II. GROUP INTERVENORS' OBJECTION TO SCOTT GALATI'S TESTIMONY IS UNTIMELY

Group Intervenors, in their Opening Brief, inappropriately object to Scott Galati's testimony, arguing that Mr. Galati was not "called as a witness by any party." (Group Intervenors' Opening Brief on Contested Issues at 3: 4-13.) First, Group Intervenors' objection is curious, given the genesis of Mr. Galati's testimony and Group Intervenors' response to Mr. Galati's testimony during the hearing. Mr. Galati testified at the request of the CEC's Hearing Officer, Susan Gefter. (1/14/2008 RT 344: 12-22 ("Mr. Galati, if you could come up. There are a couple of things that I wanted to ask you for clarification.").) Not only did Group Intervenors' attorney fail to object to Hearing Officer Gefter's request, but Group Intervenors' attorney even

took the opportunity to examine Mr. Galati during the hearing. (1/14/2008 RT 365: 7-25 – 366: 1-22.)

Regardless of the peculiarity of the Group Intervenors' objection, the objection is untimely. The appropriate time for parties to object to testimony was during the hearing, before the witness testified. Group Intervenors' attorney knew before the hearing that none of the parties had identified Mr. Galati as a witness and, thus, she could have make this objection during the hearing. (Eastshore's Prehearing Conference Statement at 3-5 (Nov. 19, 2007); Robert Sarvey's Prehearing Conference Statement at 2 (Nov. 23, 2007); Alameda County's Prehearing Conference Statement at 5-6 (Nov. 19, 2007); Paul Haavik's Prehearing Conference Statement at 3 (Nov. 19, 2007); City of Hayward's Prehearing Conference Statement at 4 (Nov. 16, 2007); Staff's Prehearing Conference Statement at 1 (Nov. 19, 2007).) Simply put, it is too late for Group Intervenors to wait until the filing of their Opening Brief to make this objection. (Group Intervenors' Opening Brief on Contested Issues at 3: 4-13.) Thus, the CEC should disregard Group Intervenors' evidentiary objection because the issue is no longer properly before the CEC.

III. TRAFFIC AND TRANSPORTATION

A. The Evidence In The Record Demonstrates The Eastshore Project Is Consistent With Transportation LORS And Will Not Cause A Significant Environmental Impact

1. The Applicable Legal Standard

First, Eastshore must clarify that the CEC has "exclusive" authority to certify power projects. (Cal. Pub. Res. Code § 25500.) Alameda County confuses this standard, arguing that the CEC "must show deference" to public agencies involved in this proceeding and should not "substitute[e] [Eastshore's] opinions for the findings of public bodies." (County of Alameda's Opening Evidentiary Brief at 13 ("the Committee must show deference to the ALUC's judgment"); *see also* County of Alameda's Opening Evidentiary Brief at 9 (stating that sufficient evidence does not exist for the CEC to overrule the opinions of regulatory agencies).) Contrary to Alameda County's assertions, the CEC need not defer to any of the parties or witnesses in this proceeding, including Eastshore. (County of Alameda's Opening Evidentiary Brief at 10, 13.) Instead, under the California Environmental Quality Act, Public Resources Code sections 21000

et seq. (CEQA), the CEC is the sole decision-maker and must make its decision based on "substantial evidence in light of the whole record." (Cal. Pub. Res. Code § 21082.2(a).)

2. The Evidence Satisfies The Legal Standard

In this case, substantial evidence exists to demonstrate that the Eastshore Project will be consistent with all applicable transportation LORS. (*See, generally*, Ex. 20.) As explained in Eastshore's Opening Brief, the Barrick Fly-Over Test Flight Program provides actual scientific measurements demonstrating the Eastshore Project will not create an aircraft hazard. (*See, generally, id.*, Final Report on Turbulence Felt in a Light Helicopter Caused by a Power Plant Thermal Plume.) Eastshore also has submitted solid scientific modeling results demonstrating that the Eastshore Project's thermal plumes will not interfere with aircraft safety. (*See, generally, id.*, Testimony of M. Graves Regarding Thermal Plumes and Aviation.) Moreover, the United States Federal Aviation Administration (FAA) has determined that the risk to aircraft safety caused by thermal plumes is "acceptable without restriction, limitation or further mitigation." (Ex. 39 at ii.)

This evidence refutes the underlying basis for the opponents' and Staff's position that the Eastshore Project will be inconsistent with applicable transportation LORS. (Staff's Opening Brief at 13-16; County of Alameda's Opening Evidentiary Brief at 3-9; City of Hayward's Opening Brief at 3-15.) First, the Eastshore Project is consistent with the current version of the Alameda County Airport Land Use Commission's (ALUC) Airport Plan ("1986 Airport Plan"). The Eastshore Project will not cause "electrical interference, glare, smoke, disorienting lighting . . . [or] large concentrations of birds." (Ex. 535 at 56; *see also id.* at 12-13.) Also, because the Eastshore Project will not have a negative impact on airspace, the Eastshore Project will not be inconsistent with the 1986 Airport Plan's policy to promote the orderly expansion of Bay Area airports. (*Id.* at 1-2.)

Moreover, even if the ALUC approves the newest draft version of the Airport Plan ("December 2007 Airport Plan"), the Eastshore Project will still be consistent. Although the December 2007 Airport Plan recommends avoiding "thermal plumes that may . . . create turbulence in the flight path," the highest point at which the Eastshore Project's thermal plume will create turbulence is 250 feet above ground level (AGL) and aircraft do not pass over the Eastshore site below 300 feet AGL. (Ex. 534 at 3-22; 12/18/2007 RT at 66: 13-20; Ex. 208; Ex. 417; Ex. 418.) Thus, the Eastshore Project will not "create turbulence within the flight path."

(Ex. 534 at 3-22.) Also, as confirmed by Staff's expert consultant, Dr. Suzanne Phinney, there are no other suitable sites for the Eastshore Project. (1/14/2008 RT at 81: 11-12; *see* Ex. 534 (prohibiting power plants at the Eastshore site unless "no other suitable site outside [the airport influence area] is available").)

Second, the Eastshore Project is consistent with the City of Hayward's ("Hayward") Airport Approach Zoning Regulations, Hayward Municipal Code Chapter 10, Article 6. As demonstrated by the Barrick Fly-Over Test Flight Program, the Eastshore Project will not create an airport hazard and, thus, is consistent with the purpose of the Airport Approach Zoning Regulations and the requirement that a land use not "endanger the landing, takeoff or maneuvering of aircraft." (Ex. 409 at §§ 10-6.00, 10-6.35.)

Third, the Eastshore Project will not result in significant adverse cumulative impacts due to mitigation measures complicating the airspace near Hayward Executive Airport. Even though the Russell City Energy Center's (RCEC) certification required both that pilots see-and-avoid RCEC's plume and that pilots fly over the RCEC at no less than 1,000 feet AGL, these mitigation measures are unnecessary for the Eastshore Project. (*See* Eastshore Energy Center's Opening Brief at 17-18; Ex. 200 at 4.10-29.) The Barrick Fly-Over Test Flight Program demonstrated that the highest altitude that would be affected by the thermal plume is 250 feet AGL, but aircraft do not pass the Eastshore site below 300 feet AGL. (Ex. 534 at 3-22; 12/18/2007 RT at 66: 13-20; Ex. 208; Ex. 417; Ex. 418.) Therefore, because the Eastshore Project will not impact aircraft, there is no need to consider mitigation measures or, for that matter, the combined effect of mitigation measures and RCEC's pre-existing airspace restrictions.

Fourth, the Eastshore Project will not impact funding from the FAA or United States Department of Transportation (DOT) to operate and develop the Hayward Executive Airport. (12/18/2007 RT at 283: 11-23.) The federal funding is subject to the condition that Hayward maintain the safety of the airport environment. (*Id.* at 283: 16-17.) Because the Eastshore Project will not create an aircraft hazard, the FAA and DOT could not revoke funding based on certification of the Eastshore Project.

Finally, as explained in the following section, opponents to the Eastshore Project have failed to discredit the results of the Barrick Fly-Over Test Flight Program, Eastshore's scientific modeling, or the FAA Safety Risk Analysis determination that the risk to aircraft from thermal

plumes is "acceptable." Therefore, the CEC should find that the Eastshore Project will not cause a significant aviation hazard, does not require further mitigation, and is in compliance with all applicable traffic and transportation LORS.

B. Opponents' Criticisms Of Eastshore's Evidence Are Inaccurate And Misleading

1. Barrick Fly-Over Test Flight Program

Opponents to the Eastshore Project have attempted to discredit the results of the Barrick Fly-Over Test Flight Program by asserting flimsy arguments that ignore a significant aspect of the test: aircraft and meteorological experts designed the Barrick Fly-Over Test Flight Program to obtain turbulence measurements over a *comparable power plant* in the *worst-possible weather conditions*. (*See* County of Alameda's Opening Evidentiary Brief at 6-7, City of Hayward's Opening Brief at 14-15 (challenging the Barrick Fly-Over Test Flight Program; *see also* 12/18/2007 RT 62: 1-7, 12/18/2007 RT 260: 11-14, Ex. 200 at 4.10-44 (describing the parameters of the test).) Contrary to Alameda County's characterization, the Barrick Fly-Over Test Flight Program was far from a "hastily assembled . . . series of helicopter overflights of the Barrick power plant." (County of Alameda's Opening Evidentiary Brief at 6.) The Barrick Fly-Over Test Flight Program was a carefully designed scientific test by renowned experts in this field. (*See* Ex. 20, Final Report on Turbulence Felt in a Light Helicopter Caused by a Power Plant Thermal Plume, Resume of Don Blumenthal (listing among Dr. Blumenthal's qualifications "his pioneering use of light aircraft to document pollutant spatial distributions, transport, and transformations; his design and management of large-scale field studies; and his ability to bring together government and industry to jointly and objectively study air quality issues"); *id.*, Resume of Clinton MacDonald (listing among Mr. MacDonald's qualifications "experience with atmospheric boundary layer radar wind profiler technology and associated application software . . . develop[ment of] a three-dimensional diagnostic wind field to perform trajectory and dispersion analysis, a database and software system to store and display surface meteorological and air quality data, and [use of] these tool to calculate, evaluate, and analyze surface fluxes and scaling parameters").) During execution of the test, Eastshore's experts gathered both quantitative turbulence measurements from calibrated instruments and qualitative observations from an experienced helicopter pilot who instructs student pilots. (12/18/2007 RT

63: 7-11; Ex. 20, Final Report on Turbulence Felt in a Light Helicopter Caused by a Power Plant Thermal Plume at 5; 12/18/2007 RT 68: 2-5; Ex. 20, Testimony of C. Bellotto at 1.)

Hayward and Alameda County baldly argue that there are differences between the Barrick power plant ("Barrick Plant") and Eastshore Project involving operations, mechanics, and weather conditions. (City of Hayward's Opening Brief at 14 (referencing stack arrangements, stack heights, weather conditions, and the number of operational stacks as "significant differences"); County of Alameda's Opening Evidentiary Brief at 6 ("The test involved one type and model of aircraft, one power plant, and one set of meteorological conditions.").) However, merely referencing these differences, without providing any explanation of the effect that those difference will have on overflying aircraft, is misleading. In fact, all of these differences would result in the Barrick Plant's thermal plumes creating similar—if not higher—turbulence levels for overflying aircraft than will the Eastshore Project. (Ex. 20, Testimony of G. Darvin and W. Corbin at 11; 12/18/2007 RT 62: 17-21 (explaining that the Barrick Plant's arrangement of stacks operating at higher altitudes would result in greater turbulence than aircrafts will experience when flying over the Eastshore Project); 12/18/2007 RT 260: 11-14; Ex. 200 at 4.10-44 (describing cold and calm weather as being the most conducive conditions for formation of thermal plumes); 12/18/2007 RT 63: 2-7 (describing the test helicopter as a lightweight aircraft that students at the Hayward Executive Airport use).) As explained in Eastshore's Opening Brief, the Barrick Plant was an ideal test facility because it will cause similar—in fact, more severe—effects on overflying aircraft than will the Eastshore Project. (12/18/2007 RT 62: 5-9; Ex. 20, Testimony of G. Darvin and W. Corbin at 11-12.)

Alameda County also misconstrues witnesses' comments about the Barrick Fly-Over Test Flight Program. Dr. Blumenthal's explanation of how the experts onboard the helicopter determined the location of the plumes did not indicate uncertainty regarding whether the helicopter encountered thermal plumes. (County of Alameda's Opening Evidentiary Brief at 7.) Instead, Dr. Blumenthal stated that, even though a couple of passes might have missed the plume, during the majority of the passes, "[w]e were pretty clear that we were in, you know, in the plume." (12/18/2007 RT at 77: 5-6.) Moreover, the FAA's representative, David Butterfield, did not discredit the Barrick Fly-Over Test Flight Program for "lack of scientific rigor." (County of Alameda's Opening Evidentiary Brief at 6.) In fact, Mr. Butterfield "applauded" the Barrick Fly-Over Test Flight Program. (12/18/2007 RT at 254: 13, 255: 1.) Mr.

Butterfield simply stated that, at the time of the hearing, he did not have enough information regarding the scientific parameters of the Barrick Fly-Over Test Flight Program to either refute or support the results. (*Id.* at 254: 20-25, 255: 1-5.) Simply because Mr. Butterfield was unaware of the detailed design of the Barrick Fly-Over Test Flight Program does not mean that the FAA rejects the evidence of aircraft safety over the Eastshore Project.

Finally, it is absurd for Alameda County to argue that the CEC should weigh Gary Cathey's flight over the Sutter power plant ("Sutter Facility")[1] equally with the Barrick Fly-Over Test Flight Program. (County of Alameda's Opening Evidentiary Brief at 7.) As explained above and in further detail in Eastshore's Opening Brief, the Barrick Fly-Over Test Flight Program was designed to account for operational and mechanical similarities between the Eastshore Project and Barrick Plant, and the worst-possible weather conditions. (*See* 12/18/2007 RT 62: 1-7; *id.* at 260: 11-14; Ex. 200 at 4.10-44 (describing the parameters of the test).) In contrast, Mr. Cathey's flight was not representative of the conditions that will exist over the Eastshore Project. The Sutter Facility is of a different mechanical design that would emit much higher updrafts than the Eastshore Project. (12/18/2007 RT 62: 7-11; CEC Final Decision 97-AFC-2 at 10 (April 1999); 12/18/2007 RT 75: 19; CEC Final Decision 97-AFC-2 at 99 (April 1999); 12/18/2007 RT 75: 19; CEC Final Decision 97-AFC-2 at 99 (April 1999).) Also, Mr. Cathey's flight failed to analyze weather conditions at all. (Ex. 728.) The only information gathered during Mr. Cathey's flight are anecdotal observations that are contradicted by his own testimony and should therefore be considered unscientific and unreliable. (*Compare id. with* 12/18/2007 RT 122: 23, 123: 204; *see* Eastshore's Opening Brief at 12-13.) Thus, in contrast to the reliable scientific evidence produced from the Barrick Fly-Over Test Flight Program, Mr. Cathey's experience flying over the Sutter Facility is irrelevant to these proceedings.

As shown above, the Barrick Fly-Over Test Flight Program is far from mere "anecdotal" evidence. (County of Alameda's Opening Evidentiary Brief at 7; City of Hayward's Opening Brief at 14.) Because the parameters of the Barrick Fly-Over Test Flight Program account for both operational and meteorological conditions, the Barrick Fly-Over Test Flight Program provides solid evidence on which the CEC should rely to determine that the Eastshore Project will not create a hazard to aircraft.

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[1] Alameda County's brief mistakenly states that Gary Cathey flew over the "Blythe plant." (County of Alameda's Opening Evidentiary Brief at 7.) Mr. Cathey's field notes and testimony indicate, however, that he flew over the Sutter Facility, not Blythe. (12/18/2007 RT 122: 2-25, 123: 1-22; Ex. 728.)

2. Eastshore's Modeling Results

Staff, Alameda County, and Hayward apparently misunderstand the results of Eastshore's scientific modeling. Marshall Graves, Eastshore's aviation and engineering expert, did not testify that aircraft never fly over the Eastshore Project site. (Staff's Opening Brief at 13; County of Alameda's Opening Evidentiary Brief at 7; City of Hayward's Opening Brief at 12.) Instead, Mr. Graves testified that aircraft do not fly over the Eastshore Project site *at altitudes that could be impacted by the Eastshore Project's thermal plume*. (Ex. 20, Testimony of M. Graves Regarding Thermal Plumes and Aviation at 12 (emphasis added).)

Moreover, Hayward has attempted to twist Mr. Graves' accurate references to aircraft regulations into evidence that Mr. Graves does not understand actual aircraft operations at Hayward Executive Airport. (City of Hayward's Opening Brief at 12; Ex. 20, Testimony of M. Graves Regarding Thermal Plumes and Aviation at 8-11.) Contrary to Hayward's claim, Mr. Graves' testimony expressly recognized that aircraft have flown near the Eastshore Project at lower altitudes than those set forth in the FAA's regulations regarding minimum safe altitudes (Federal Aviation Regulations (FAR) § 91.119). (Ex. 20, Testimony of M. Graves Regarding Thermal Plumes and Aviation at 12 (summarizing the penetration gate data for June 2007).) Even accounting for the aircraft that flew outside the range of safe altitudes, Mr. Graves concluded that the Eastshore Project's thermal plume would not have impacted any of these actual overflights based on the maximum limits of the thermal plume demonstrated by the Barrick Fly-Over Test Flight Program. (*Id.*) Therefore, Marshall Graves accurately testified to aircraft operations and regulations in the vicinity of the Eastshore Project site and concluded that the Eastshore Project will not create an aircraft hazard. (*Id.*)

C. Opponents Have Mischaracterized The FAA's Determinations

1. The FAA Safety Risk Analysis Applies

Opponents to the Eastshore Project have asserted two inconsistent positions regarding the FAA Safety Risk Analysis. On the one hand, they argue that the FAA Safety Risk Analysis conclusion that "the risk associated with plumes is deemed acceptable without restriction, limitation, or further limitation," does not apply to the Eastshore Project. (Ex. 39 at ii; County of Alameda's Opening Evidentiary Brief at 4: 24; City of Hayward's Opening Brief at 523-28, 6: 1-2.) At the same time, they argue that a generic recommendation in the FAA Safety Risk Analysis, which suggests that pilots avoid flying over thermal plumes below 1,000 feet AGL, is

directly applicable to the Eastshore Project. (Ex. 39 at 16; County of Alameda's Opening Evidentiary Brief at 6: 20-24; City of Hayward's Opening Brief at 19-20; *see also* Staff's Opening Brief at 14.) Opponents cannot have it both ways: either the FAA Safety Risk Analysis applies, or it does not.

Eastshore asserts that, because the Eastshore Project will emit a thermal plume, the FAA Safety Risk Analysis' determination that the risk of thermal plumes is "acceptable without restriction, limitation, or further limitation" applies. (Ex. 39 at ii.) The FAA Safety Risk Analysis does not contain any language limiting the types of thermal plumes that have an acceptable risk level. (Ex. 39.) Indeed, despite the opponents' arguments that the FAA Safety Risk Analysis is really only relevant to power plants with visible plumes, the express language of the document refers to "thermal 'plumes,' *visible or invisible*." (*Compare* County of Alameda's Opening Evidentiary Brief at 4: 11-15 *and* City of Hayward's Opening Brief at 5: 27-28 – 6: 1-2 *with* Ex. 39 at ii (emphasis added).) Moreover, Staff confuses the issue by determining that any level of risk—no matter how small—should be considered unacceptable. (Staff's Opening Brief at 13.) However, Staff's determination is directly contrary to the express language of the FAA Safety Risk Analysis, which explains that the level of "risk" associated with thermal plumes is "acceptable." (Ex. 39 at ii.)

Eastshore also notes that opponents have taken a recommendation in the FAA Safety Risk Analysis that "overflight at less than 1,000 feet vertically of plume generating industrial sites should be avoided" out of context. (*Id.* at 16.) First, Hayward's argument that the CEC should treat the recommendation as a regulation barring certification of the Eastshore Project is incorrect. (City of Hayward's Opening Brief at 6: 23-25.) The statement is merely a recommendation and, thus, does not qualify as a relevant LORS in this proceeding. If the FAA wished to turn the recommendation into a regulation, it could do so; however, despite the fact that the FAA Safety Risk Analysis is over two years old, the FAA has not revised its regulations to incorporate this recommendation. (*See* Ex. 39 (dated January 2006).) Second, one must read the FAA recommendation in the context that it was written: as a generic recommendation to make an already safe condition safer. (*Id.* at 16.) It is not a hard-and-fast requirement necessary to ensure the safety of aircraft.

Finally, it is important to note that Eastshore does not rely solely on the FAA's determination that the risk of thermal plumes are "acceptable without limitation." (*Id.* at ii.)

Eastshore has submitted evidence, such as the results of the Barrick Fly-Over Test Flight Program, which demonstrate that the Eastshore Project's thermal plume will not create an aircraft hazard. (*See, generally*, Ex. 20, Final Report on Turbulence Felt in a Light Helicopter Caused by a Power Plant Thermal Plume.) Where, as here, the evidence demonstrates that the thermal plume will not interfere with aircraft safety, the FAA's generic recommendation that aircraft fly at least 1,000 feet AGL over power plants is unnecessary. (Ex. 39 at 16.)

2. Part 77 Determination

Alameda County suggests that Eastshore misrepresented the effect of the FAA's Determination of No Hazard to Air Navigation ("Part 77 Determination"). (County of Alameda's Opening Evidentiary Brief at 15.) This is not correct. Eastshore's environmental expert, Jennifer Scholl, simply stated that the FAA was aware of and considered the emission of thermal plumes from the Eastshore Project when the FAA issued the Part 77 Determination. (Ex. 17 at 6.) The accuracy of Ms. Scholl's testimony is confirmed by the following notation included in the Part 77 Determination, which expressly acknowledges that the Eastshore Project will emit a thermal plume:

> Request Sponsor submit FAA Form 7460-2 within 5 days of these thermal-plume emitting stacks reaching their greatest heights. We will use this 7560-2 to notify the FAA Airports Division to incorporate a note into the Hayward Airport listing in the Airports Facility Directory about the possibility that the exhaust gases may cause unexpected localized thermal instability under certain atmospheric conditions overlying the Eastshore Energy Center project.

(Ex. 40 at 3.)

D. <u>Alameda County's Evidentiary Objections Are Untimely</u>

Alameda County makes a number of untimely evidentiary arguments regarding the admissibility of the July 2007 and December 2007 versions of the ALUC's Airport Plan. (County of Alameda's Opening Evidentiary Brief at 17-19.) This issue was directly addressed by the parties and resolved during the January 14, 2008 hearing. (1/14/2008 RT at 89: 9 – 93: 11.) The CEC should disregard Alameda County's evidentiary objections because the issue has been decided and is no longer properly before the CEC.

IV. LAND USE

A. The Evidence In The Record Demonstates The Eastshore Project Is Consistent With Land Use LORS And Will Not Cause A Significant Environmental Impact

As explained in the preceding section of this brief, "Traffic and Transportation," the CEC has "exclusive" authority to certify power projects. (Cal. Pub. Res. Code § 25500.) The CEC should not simply defer to other public agencies or "substitute[e] [Eastshore's] opinions for the findings of public bodies." (County of Alameda's Opening Evidentiary Brief at 13 ("the Committee must show deference to the ALUC's judgment"); *see also* County of Alameda's Opening Evidentiary Brief at 9 (stating that sufficient evidence does not exist for the CEC to overrule the opinions of regulatory agencies).) Instead, the CEC must make its decision based on "substantial evidence in light of the whole record." (Cal. Pub. Res. Code § 21082.2(a).)

In this case, substantial evidence demonstrates that the Eastshore Project will be consistent with all applicable land use LORS. (*See, generally*, Ex. 20.) As explained in Eastshore's Opening Brief, the Barrick Fly-Over Test Flight Program provides actual scientific measurements demonstrating that the Eastshore Project will not create an aircraft hazard. (*See, generally, id.*, Final Report on Turbulence Felt in a Light Helicopter Caused by a Power Plant Thermal Plume.) Eastshore also has submitted solid scientific modeling results demonstrating that the Eastshore Project's thermal plumes will not interfere with aircraft safety. (*See, generally, id.*) Moreover, the FAA has determined that the risk to aircraft safety caused by thermal plumes is "acceptable." (Ex. 39 at ii.)

This evidence refutes the underlying basis for all of the opponents' and Staff's aviation-based arguments that the Eastshore Project will be inconsistent with land use LORS.[2] (Staff's Opening Brief at 16-19; County of Alameda's Opening Evidentiary Brief at 10-16; City of Hayward's Opening Brief at 15-20.) First, the Eastshore Project is consistent with the current version of the ALUC's Airport Plan. The Eastshore Project will not cause "electrical interference, glare, smoke, disorienting lighting . . . [or] large concentrations of birds." (Ex. 535 at 56; *see also id.* at 12-13.) Also, because the Eastshore Project will not have a negative impact

[2] The only party that alleges non-aviation-based land use inconsistencies is Hayward. (City of Hayward's Opening Brief at 15-20.) This brief addresses Hayward's non-aviation-based arguments in section IV(D).

on airspace, the Eastshore Project will not be inconsistent with the 1986 Airport Plan's policy to promote the orderly expansion of Bay Area airports. (*Id.* at 1-2.)

Moreover, even if the ALUC approves the newest draft version of the Airport Plan, the Eastshore Project will still be consistent. Although the December 2007 Airport Plan recommends avoiding "thermal plumes that may . . . create turbulence in the flight path," the highest point at which the Eastshore Project's thermal plume will create turbulence is 250 feet AGL and aircraft do not pass over the Eastshore site below 300 feet AGL. (Ex. 534 at 3-22; 12/18/2007 RT at 66: 13-20; Ex. 208; Ex. 417; Ex. 418.) Thus, the Eastshore Project will not "create turbulence within the flight path." (Ex. 534 at 3-22.) Also, as confirmed by Staff's expert consultant, Dr. Suzanne Phinney, there are no other suitable sites for the Eastshore Project. (1/14/2008 RT at 81: 11-12; *see* Ex. 534 (prohibiting power plants at the Eastshore site unless "no other suitable site outside [the airport influence area] is available").)

Second, the Eastshore Project is consistent with Hayward's Airport Approach Zoning Regulations, Hayward Municipal Code chapter 10, Article 6. As demonstrated by the Barrick Fly-Over Test Flight Program, the Eastshore Project will not create an airport hazard and, thus, is consistent with the purpose of the Airport Approach Zoning Regulations and the requirement that a land use not "endanger the landing, takeoff or maneuvering of aircraft." (Ex. 409 at §§ 10-6.00, 10-6.35.)

Third, the Eastshore Project will not result in significant adverse cumulative impacts due to mitigation measures complicating the airspace near Hayward Executive Airport. Even though the RCEC's certification required both that pilots see-and-avoid RCEC's plume and that pilots fly over the RCEC at no less than 1,000 feet AGL, these mitigation measures are unnecessary for the Eastshore Project. (*See* Eastshore Energy Center's Opening Brief at 17-18; Ex. 200 at 4.10-29.) The Barrick Fly-Over Test Flight Program demonstrated that the highest altitude that would be affected by the thermal plume is 250 feet AGL, but aircraft do not pass the Eastshore site below 300 feet AGL. (Ex. 534 at 3-22; 12/18/2007 RT at 66: 13-20; Ex. 208; Ex. 417; Ex. 418.) Therefore, because the Eastshore Project will not impact aircraft, there is no need to consider mitigation measures or, for that matter, the combined effect of mitigation measures and RCEC's pre-existing airspace restrictions.

Fourth, the Eastshore Project will not impact funding from the FAA or DOT to operate and develop the Hayward Executive Airport. (12/18/2007 RT at 283: 11-23.) The federal

funding is subject to the condition that Hayward maintain the safety of the airport environment. (*Id.* at 283: 16-17.) Because the Eastshore Project will not create an aircraft hazard, the FAA and DOT could not revoke funding based on certification of the Eastshore Project.

Finally, as explained in the following section, opponents to the Eastshore Project have failed to discredit the results of the Barrick Fly-Over Test Flight Program, Eastshore's scientific modeling, or the FAA Safety Risk Analysis determination that the risk to aircraft from thermal plumes is "acceptable." Therefore, the CEC should find that the Eastshore Project will not cause a significant aviation hazard, does not require further mitigation, and is in compliance with all applicable land use LORS.

B. Opponents' Criticisms Of Eastshore's Evidence Are Inaccurate And Misleading

1. Barrick Fly-Over Test Flight Program

As explained in the Traffic and Transportation section of this brief, every criticism of the Barrick Fly-Over Test Flight Program ignores a significant aspect of the test: aircraft and meteorological experts designed the Barrick Fly-Over Test Flight Program to obtain turbulence measurements over a *comparable power plant* in the *worst-possible weather conditions*. (*See* County of Alameda's Opening Evidentiary Brief at 6-7, City of Hayward's Opening Brief at 14-15 (challenging the Barrick Fly-Over Test Flight Program; *see also* 12/18/2007 RT 62: 1-7, 12/18/2007 RT 260: 11-14, Ex. 200 at 4.10-44 (describing the parameters of the test).) This fundamental aspect of the test undermines Hayward's and Alameda County's arguments that there are differences between the Barrick Plant and Eastshore Project involving operations, mechanics, and weather conditions. (City of Hayward's Opening Brief at 14 (referencing stack arrangements, stack heights, weather conditions, and the number of operational stacks as "significant differences"); County of Alameda's Opening Evidentiary Brief at 6 ("The test involved one type and model of aircraft, one power plant, and one set of meteorological conditions.").) In fact, all of these differences would result in the Barrick Plant's thermal plumes creating similar—if not higher—turbulence levels for overflying aircraft than will the Eastshore Project. (Ex. 20, Testimony of G. Darvin and W. Corbin at 11; 12/18/2007 RT 62: 17-21 (explaining that the Barrick Plant's arrangement of stacks operating at higher altitudes would result in greater turbulence than aircrafts will experience when flying over the Eastshore Project); 12/18/2007 RT 260: 11-14; Ex. 200 at 4.10-44 (describing cold and calm weather as

being the most conducive conditions for formation of thermal plumes); 12/18/2007 RT 63: 2-7 (describing the test helicopter as a lightweight aircraft that students at the Hayward Executive Airport use).) As explained in Eastshore's Opening Brief, the Barrick Plant was an ideal test facility because it will cause similar—in fact, more severe—effects on overflying aircraft than the Eastshore Project. (12/18/2007 RT 62: 5-9; Ex. 20, Testimony of G. Darvin and W. Corbin at 11-12.)

Alameda County also misconstrues witnesses' comments about the Barrick Fly-Over Test Flight Program. Dr. Blumenthal's explanation of how the experts on-board the helicopter determined the location of the plumes did not indicate uncertainty regarding whether the helicopter encountered thermal plumes. (County of Alameda's Opening Evidentiary Brief at 7.) Instead, Dr. Blumenthal stated that, even though a couple of passes might have missed the plume, during the majority of the passes, "[w]e were pretty clear that we were in, you know, in the plume." (12/18/2007 RT at 77: 5-6.) Moreover, the FAA's representative, David Butterfield, did not discredit the Barrick Fly-Over Test Flight Program for "lack of scientific rigor." (County of Alameda's Opening Evidentiary Brief at 6.) In fact, Mr. Butterfield "applauded" the Barrick Fly-Over Test Flight Program. (12/18/2007 RT at 254: 13, 255: 1.) Mr. Butterfield simply stated that, at the time of the hearing, he did not have enough information regarding the scientific parameters of the Barrick Fly-Over Test Flight Program to either refute or support the results. (*Id.* at 254: 20-25, 255: 1-5.) Simply because Mr. Butterfield was unaware of the detailed design of the Barrick Fly-Over Test Flight Program does not mean that the FAA rejects the evidence of aircraft safety over the Eastshore Project.

Finally, Alameda County's argument that the CEC should weigh Gary Cathey's flight over the Sutter Facility[3] equally with the Barrick Fly-Over Test Flight Program is absurd. (County of Alameda's Opening Evidentiary Brief at 7.) As explained above, and in further detail in Eastshore's Opening Brief, the Barrick Fly-Over Test Flight Program was designed to account for operational and mechanical similarities between the Eastshore Project and Barrick Plant, and the worst-possible weather conditions. (*See* 12/18/2007 RT 62: 1-7; *id.* at 260: 11-14; Ex. 200 at 4.10-44 (describing the parameters of the test).) In contrast, Mr. Cathey's flight was not representative of the conditions that will exist over the Eastshore Project. The Sutter Facility is

[3] Alameda County's brief mistakenly states that Gary Cathey flew over the "Blythe plant." (County of Alameda's Opening Evidentiary Brief at 7.) Mr. Cathey's field notes and testimony indicate, however, that he flew over the Sutter Facility, not Blythe. (12/18/2007 RT 122: 2-25, 123: 1-22; Ex. 728.)

of a different mechanical design that would emit much higher updrafts than the Eastshore Project. (12/18/2007 RT 62: 7-11; CEC Final Decision 97-AFC-2 at 10 (April 1999); 12/18/2007 RT 75: 19; CEC Final Decision 97-AFC-2 at 99 (April 1999); 12/18/2007 RT 75: 19; CEC Final Decision 97-AFC-2 at 99 (April 1999).) Also, Mr. Cathey's flight failed to analyze weather conditions at all. (Ex. 728.) The only information gathered during Mr. Cathey's flight are anecdotal observations that are contradicted by his own testimony and should therefore be considered unscientific and unreliable. (*Compare* Ex. 728 *with* 12/18/2007 RT 122: 23, 123: 204; *see* Eastshore's Opening Brief at 12-13.) Thus, in contrast to the reliable scientific evidence produced from the Barrick Fly-Over Test Flight Program, Mr. Cathey's experience flying over the Sutter Facility is irrelevant to these proceedings.

As shown above, the Barrick Fly-Over Test Flight Program is far from mere "anecdotal" evidence. (County of Alameda's Opening Evidentiary Brief at 7; City of Hayward's Opening Brief at 14.) Because the parameters of the Barrick Fly-Over Test Flight Program account for both operational and meteorological conditions, it provides solid evidence on which the CEC should rely to determine that the Eastshore Project will not create a hazard to aircraft.

2. Eastshore's Modeling Results

Staff, Alameda County, and Hayward apparently misunderstand the results of Eastshore's scientific modeling. Marshall Graves, Eastshore's aviation and engineering expert, did not testify that aircraft never fly over the Eastshore Project site. (Staff's Opening Brief at 13; County of Alameda's Opening Evidentiary Brief at 7; City of Hayward's Opening Brief at 12.) Instead, Mr. Graves testified that aircraft do not fly over the Eastshore Project site *at altitudes that could be impacted by the Eastshore Project's thermal plume*. (Ex. 20, Testimony of M. Graves Regarding Thermal Plumes and Aviation at 12 (emphasis added).)

Moreover, Hayward has attempted to twist Mr. Graves' accurate references to aircraft regulations into evidence that Mr. Graves does not understand actual aircraft operations at Hayward Executive Airport. (City of Hayward's Opening Brief at 12; Ex. 20, Testimony of M. Graves Regarding Thermal Plumes and Aviation at 8-11.) Contrary to Hayward's claim, Mr. Graves' testimony expressly recognized that aircraft have flown near the Eastshore Project at lower altitudes than those set forth in the FAA's regulations regarding minimum safe altitudes (FAR § 91.119). (Ex. 20, Testimony of M. Graves Regarding Thermal Plumes and Aviation at 12 (summarizing the penetration gate data for June 2007).) Even accounting for the aircraft that

flew outside the range of safe altitudes, Mr. Graves concluded that the Eastshore Project's thermal plume would not have impacted any of these actual overflights, based on the maximum limits of the thermal plume demonstrated by the Barrick Fly-Over Test Flight Program. (*Id.*) Therefore, Marshall Graves accurately testified to aircraft operations and regulations in the vicinity of the Eastshore Project site and concluded that the Eastshore Project will not create an aircraft hazard. (*Id.*)

C. Opponents Have Mischaracterized The FAA's Determinations

1. The FAA Safety Risk Analysis Applies

Because the Eastshore Project will emit a thermal plume, the FAA Safety Risk Analysis' determination that the risk of thermal plumes is "acceptable without restriction, limitation, or further mitigation" applies. (Ex. 39 at ii.) The FAA Safety Risk Analysis does not contain any language limiting the types of thermal plumes that have an acceptable risk level. (Ex. 39.) Indeed, despite the opponents' arguments that the FAA Safety Risk Analysis is really only relevant to power plants with visible plumes, the express language of the document refers to "thermal 'plumes,' *visible or invisible*." (*Compare* County of Alameda's Opening Evidentiary Brief at 4: 11-15 *and* City of Hayward's Opening Brief at 5: 27-28 – 6: 1-2 *with* Ex. 39 at ii (emphasis added).) Moreover, Staff confuses the issue by determining that any level of risk—no matter how small—should be considered unacceptable. (Staff's Opening Brief at 13.) However, Staff's determination is directly contrary to the express language of the FAA Safety Risk Analysis, which explains that the low level of "risk" associated with thermal plumes is "acceptable." (Ex. 39 at ii.)

Eastshore also notes that opponents have taken a recommendation in the FAA Safety Risk Analysis that "overflight at less than 1,000 feet vertically of plume generating industrial sites should be avoided" out of context. (*Id.* at 16.) First, Hayward's argument that the CEC should treat the recommendation as a regulation barring certification of the Eastshore Project is incorrect. (City of Hayward's Opening Brief at 6: 23-25.) The statement is merely a recommendation and, thus, does not qualify as a relevant LORS in this proceeding. If the FAA wished to turn the recommendation into a regulation, it could do so; however, despite the fact that the FAA Safety Risk Analysis is over two years old, the FAA has not revised its regulations to incorporate this recommendation. (*See* Ex. 39 (dated January 2006).) Second, one must read the FAA recommendation in the context that it was written: as a generic recommendation to

make an already safe condition safer. (*Id.* at 16.) It is not a hard-and-fast requirement necessary to ensure the safety of aircraft.

2. Part 77 Determination

Alameda County suggests that Eastshore misrepresented the effect of the FAA's Part 77 Determination. (County of Alameda's Opening Evidentiary Brief at 15.) This is not correct. Eastshore's environmental expert, Jennifer Scholl, simply stated that the FAA was aware of and considered the emission of thermal plumes from the Eastshore Project when the FAA issued the Part 77 Determination. (Ex. 17 at 6.) The accuracy of Ms. Scholl's testimony is confirmed by the following notation included in the Part 77 Determination, which expressly acknowledges that the Eastshore Project will emit a thermal plume:

> Request Sponsor submit FAA Form 7460-2 within 5 days of these thermal-plume emitting stacks reaching their greatest heights. We will use this 7560-2 to notify the FAA Airports Division to incorporate a note into the Hayward Airport listing in the Airports Facility Directory about the possibility that the exhaust gases may cause unexpected localized thermal instability under certain atmospheric conditions overlying the Eastshore Energy Center project.

(Ex. 40 at 3.)

D. <u>Hayward's Determination that the Eastshore Project Will Be Inconsistent With Municipal Zoning Regulations Is Arbitrary</u>

In addition to its aviation-related arguments, Hayward erroneously argues that the location of the Eastshore Project is inconsistent with local land use regulations. Hayward asserts that the Eastshore Project could not obtain a conditional use permit (CUP) because it will deteriorate the appearance of the industrial corridor, is not necessary for public convenience or welfare, will emit significant amounts of particulate matter, and does not satisfy the General Plan's policy to encourage information-related business development. (City of Hayward's Opening Brief at 17-19.) These claims are patently false.

As explained in Eastshore's Opening Brief, the Eastshore Project satisfies the standards for a CUP. First, electricity is a necessity for everyday life and a healthy economy, and all other site alternatives "would not meet the project objectives." (Ex. 200 at 4.5-16; 1/14/2008 RT at 19: 19-20; *id.* at 81: 11-12.) Second, the Eastshore Project will be consistent with the character and integrity of the Industrial Corridor, which includes other manufacturing uses and emission stacks, and is one-third mile from any residential areas. (Ex. 200 at 4.5-17.) Third, no record evidence exists to support Hayward's claim regarding the significance level of particulate matter

emissions. Eastshore and Staff agree that, with appropriate mitigation measures, particulate matter emissions will be mitigated to a level of insignificance. (*Id.* at 4.1-26; Ex. 15. at 2-3.)

Moreover, it is inappropriate for Hayward to apply its vague General Plan policy to encourage information-related business development in the industrial zone against the Eastshore Project. (*See* Eastshore Energy Center's Opening Brief at 28-30 (explaining that Hayward has not adopted an ordinance or identified further zones to effectuate the stated policy).) Hayward did not apply this policy against the RCEC, which is the same type of land use as the Eastshore Project and also will be built in the industrial zone. (Ex. 404 at 2.) The same logic that Hayward applied when supporting the RCEC is applicable here: power plants are consistent uses in industrial zones because they are similar to manufacturing, which is a permitted use in the Industrial District. (Ex. 7 at 1.) Therefore, because the Eastshore Project (like RCEC) is a power plant, it is consistent with the permitted uses in the Industrial District. (Ex. 17 at 7-8.)

Hayward argues that its decision in RCEC should have no bearing on this proceeding because it has discretion to review projects on a case-by-case basis. (City of Hayward's Opening Brief at 15-16.) However, Hayward's inconsistent treatment of the Eastshore Project and RCEC, which constitute the same type of use in the same land use zone, strongly suggests that Hayward exercised its discretion in an arbitrary and capricious manner. (*See Endangered Habitats League v. Orange County (Rutter Development)* (2005) 131 Cal.App.4th 777, 782 (explaining that the arbitrary and capricious standard applies to a municipality's determination regarding a project's consistency with the municipality's general plan).) Indeed, even Staff characterized Hayward's non-aviation-related arguments regarding the inconsistency of the Eastshore Project with the General Plan as "arbitrary." (Staff's Opening Brief at 17.)

A municipality, such as Hayward, does not have unfettered discretion to apply—or not apply—policies in its general plan whenever it sees fit. Section 65852 of the Government Code demonstrates the Legislature's intent that municipalities treat land uses within land use zones uniformly.

> All . . . regulations shall be uniform for each class or kind of building or use of land throughout each zone, but the regulation in one type of zone may differ from those in other types of zones.

(Cal. Gov. Code § 65852.)

In this case, both the RCEC and the Eastshore Project are located in an area zoned "industrial." Thus, the same General Plan regulations must be applied to both projects. It is

contrary to the policy in section 65852 for Hayward to apply the General Plan's statement favoring information-based industry as a hard-and-fast requirement prohibiting the Eastshore Project from the industrial zone, but not the RCEC.

Furthermore, Hayward's inconsistent General Plan interpretations are constitutionally questionable. An agency's inconsistent enforcement of land use laws, where equal conditions exist, is subject to review under the due process and equal protection clauses of the United States Constitution. (*See, e.g., City of Banning v. Desert Outdoor Advertising, Inc.* (1962) 209 Cal.App.2d 152, 154 (unequal treatment of those who are entitled to be treated alike is unconstitutional if there is an element of intentional discrimination); *Kuzinich v. County of Santa Clara* (9th Cir. 1982) 689 F.2d 1345, 1349 (stating that inequitable application of a law between persons in similar circumstances can give rise to a constitutional claim in the plaintiff proves a prima facie case).) Hayward's inequitable treatment of the Eastshore Project and the RCEC is on shaky legal grounds, at best, and, thus, the CEC should disregard Hayward's decision in Resolution No. 07-028.

E. Alameda County's Redevelopment Plans Are Irrelevant To These Proceedings

Alameda County improperly points to its redevelopment plans as a reason for the CEC to disapprove the Eastshore Project. (County of Alameda's Opening Evidentiary Brief at 16-17.) As explained in Eastshore's Opening Brief and even admitted by Alameda County's attorneys, however, none of these documents qualify as a relevant LORS. (Eastshore Energy Center's Opening Brief at 30-31; County of Alameda's Opening Evidentiary Brief at 16.) These plans only apply to the unincorporated areas in Alameda County, whereas the Eastshore Project site is with within Hayward's boundaries. (Ex. 200 at 4.5-2 – 4.5-3; Ex. 17 at 11.)

Moreover, Alameda County has not submitted any studies that support its hypothesis that the Eastshore Project could harm neighboring property values. (1/14/2008 RT at 174: 6-9.) Alameda County's speculation that such an impact *could* occur is not a valid basis for the CEC to rely on when deciding whether to certify the Eastshore Project. (Cal. Pub. Res. Code § 21082.2(a).)

V. NOISE AND VIBRATION

The only other party to address the Eastshore Project's noise impacts in its opening brief was Staff. (Staff's Opening Brief at 22-23.) Staff's two primary concerns remain with the Project's impacts at the nearest residential receptor (R1) and the adjacent Fremont Bank Processing Center (R2). Eastshore maintains that the Project, as it is designed, would not cause any significant and adverse noise impacts at R1 or R2. However, Eastshore is willing to commit to a noise level of 48 dBA at R1 and 69 dBA at R2 and has demonstrated in its Opening Brief that such limits comply with even Staff's more restrictive evaluation of existing noise levels. (See Eastshore's Opening Brief at 31-41.)

A. The Eastshore Project Would Not Result In Significant Noise Impacts At Fremont Bank Processing Center (R2)

With regard to Fremont Bank Processing Center, Staff proposes Condition of Certification Noise-4 ("Noise-4") "that would require the applicant to ensure that the operation of the project does not cause exterior noise levels to exceed an hourly average of 60 dBA at the northern wall of the bank." (Staff's Opening Brief at 22.) As stated above, Eastshore no longer requests that the maximum hourly average be set at 70 dBA, but instead commits to 69 dBA. Although this may seem like a small concession, Eastshore insists that the Project, as designed, meets both the LORS and Staff's significance threshold at Fremont Bank Processing Center for the following reasons that were originally presented in Eastshore's Opening Brief and are summarized below.

First, Fremont Bank Processing Center is a commercial use located in an industrial zone. Staff has stated that uses such as Fremont Bank Processing Center are considered commercial uses. (12/18/2007 RT 338:11-12 and 346:4-5.) Pursuant to the Hayward Zoning Ordinance and Zoning Map, Fremont Bank Processing Center is situated within the Industrial Zone. (Ex. 18 at 2.) Therefore, it is a commercial use located within an area zoned for industrial uses, and such uses within an industrial zone should have no expectation of a quiet environment. (See Eastshore's Opening Brief at 37.)

Second, Hayward's noise guidelines (Figure 1 of Appendix N to the Hayward General Plan) present the acceptable levels of noise exposure measured in Ldn or CNEL for different land use categories in a chart labeled "Land Use Compatibility Standards for Community Noise Environments." (Ex. 1 at 8.5-7.) Figure 1 interprets noise levels to be either "normally

acceptable," "conditionally acceptable," "normally unacceptable," or "clearly unacceptable." (Ex. 1 at 8.5-7.) Staff conceded that the Fremont Bank Processing Center building would fit the "conditionally acceptable" description. (12/18/2007 RT 349:16-21.) For the industrial land use category, normally acceptable noise levels range up to 75 dBA Ldn and conditionally acceptable levels go up to 80 dBA Ldn. For the commercial land use category, normally acceptable noise levels range up to 70 dBA Ldn and conditionally acceptable noise levels extend up to 77 dBA Ldn. (Ex. 1 at 8.5-7 and 12/18/2007 RT 344:2-5; and Eastshore's Opening Brief at 37-38.) As explained below, the fact that Fremont Bank Processing Center employees may occasionally use the inner courtyard does not mean that the Project's noise impacts will be significant due to the fact that this courtyard is surrounded on three sides by a multi-story building.

In addition, as stated in Exhibit 18, Staff's limit at the Fremont Bank Processing Center is well below the limit that Caltrans would use for determining an impact at residential uses, let alone commercial facilities. (Ex. 18 at 2, referencing the 2006 Caltrans *Traffic Noise Analysis Protocol*).

Eastshore proposes a project-only contribution of 69 dBA at the northern wall of the north Fremont Bank Processing Center building. (Ex. 18 at 2; see proposed Noise-4 revision in Eastshore's Opening Brief at 35-36.) This noise level, in combination with the existing Ldn of 67 dBA would result in a combined noise level of less than 77 dBA Ldn. This complies with the applicable "conditionally acceptable" commercial guidelines. Even though Fremont Bank Processing Center and the Eastshore Project are both located within the area zoned for industrial uses, Eastshore proposes to conform to the more stringent commercial use guidelines. (Ex. 18 at 2; and Eastshore's Opening Brief at 38.)

As stated in the more restrictive commercial use LORS, the maximum conditionally acceptable level of noise exposure for a building of similar construction to Fremont Bank Processing Center is 77 dBA Ldn. (Ex. 1 at 8.5-7.) This is in contrast to Staff's misinformed attempt to depict the Fremont Bank Processing Center building as falling within the "normally acceptable" construction category which permits a lower noise level. (Staff's Opening Brief at 22.) Staff now acknowledges that this is not the fact because the Fremont Bank Processing Center building's construction falls within the "conditionally acceptable" description as "conventional construction but with closed windows and fresh air supply systems or air conditioning that will normally suffice as noise insulation features." (12/18/2007 RT 349:16-21;

Eastshore's Opening Brief at 38; and Ex. 1 at 8.5-7.) Therefore, when the correct "conditionally acceptable" label is applied to the Fremont Bank Processing Center building, the Eastshore Project's operational impact would comply with the 77 dBA Ldn, thus meeting the more restrictive commercial use LORS standard. That effectively negates Staff's claim that the Project would not comply with local LORS. Even when the more rigorous commercial use guidelines are applied to the Eastshore Project, the requirements set forth by the Hayward noise LORS would still be satisfied by the Project. (See Eastshore's Opening Brief at 38-39.)

While the above noise guidelines are stated in terms of L_{dn}, which includes a penalty for increased sensitivity to noise at night (while people are sleeping), commercial and industrial properties' sensitivity to noise does not increase at night. It is therefore not appropriate to include a nighttime penalty when evaluating noise from a potentially continuous noise source at commercial or industrial properties. (See Eastshore's Opening Brief at 39.)

Combining Eastshore's proposed 69 dBA level with Staff's daytime average of 62 dBA (Ex. 200 at 4.6-11) would result in a combined noise level of 70 dBA. This noise level conforms to the 70 dBA level specified as the limit of "normally acceptable" for commercial properties and is 5 dBA less than the limit for "normally acceptable" industrial properties. Even if Eastshore's argument regarding the inappropriateness of the nighttime penalty for a non-residential receiver are not taken into account, Eastshore has still demonstrated that a 69 dBA project level would result in compliance with the applicable "conditionally acceptable" LORS noise guidelines for commercial properties such as Fremont Bank Processing Center. (See Eastshore's Opening Brief at 39.)

Third, in Noise-4, Staff proposes Eastshore mitigate the project only noise level to below 60 dBA, thereby resulting in an ambient noise level of 64 dBA, a mere 2 dBA above the existing ambient noise level. (Ex. 200 at 4.6-11.) It is to be expected that a power plant operating within an industrial district will increase the ambient noise level within the immediately surrounding areas. But to require a power plant to limit its operational noise contribution to an increase of only 2 dBA above the current noise level is unreasonably restrictive and unobtainable. Eastshore's witness, Mr. Trewitt, declared that it could be technologically infeasible to mitigate the Eastshore Project's noise impacts to such a level. (12/18/2007 RT 351:14-16.) Any proposed mitigation measure must be feasible, as stated in California Public Resources Code § 21002. (See Eastshore's Opening Brief at 39-40.)

Lastly, Staff looks to Ms. Fancher's testimony for the idea that "employees frequently spend break and lunch time in an outside patio area of the facility." (Staff's Opening Brief at 22.) What Staff and Ms. Fancher decline to mention is that the "outside patio area" is really an inner courtyard located between the two main buildings of Fremont Bank Processing Center. This courtyard is shielded on the north, west and south sides from any potential noise impacts by the multi-story structure itself. Therefore, any noise created by the Eastshore Project that reaches the inner courtyard while an employee is actually outside will be severely reduced by the Fremont Bank Processing Center building itself. What's more, Ms. Fancher did not make any affirmative showing that the Eastshore Project's noise contribution would affect Fremont Bank Processing Center's ability to conduct its operations. Ms. Fancher testified that much of the work done at Fremont Bank Processing Center occurs on the telephone and offered the well-intentioned speculation that noise from the Eastshore Project could "very possibly . . . affect our business." (12/18/2007 RT 323:1-2.) This is not reliable evidence, particularly as Ms. Fancher also testified that she does not have any work experience analyzing facility noise impacts, nor does she have any formal training in noise analysis. (12/18/2007 RT 324:24-325:4; and Eastshore's Opening Brief at 37.) Furthermore, the previous use of Eastshore Project's location is not claimed to have impacted the operations at the bank and involved much more noise intensive auto parts stamping operation with heavy truck traffic. (Ex. 1 at 1-3; and 12/18/2007 RT 325:5-9.)

B. The Project Would Not Result In Noise Impacts At RI (Residential Monitoring Location at 2765 Depot Road)

The second major contention in Staff's Opening Brief is that Staff's proposed Noise-4 restrictions remain applicable at R1. Staff's proposed Noise-4 seeks to "limit project-related noise to 46 dBA, resulting in an increase of the ambient of 4 dBA." (Staff's Opening Brief at 23.) Eastshore emphasizes that it now proposes a project-only contribution of 48 dBA, rather than 49 dBA as originally offered. The Eastshore Project, as designed, will not result in noise impacts at R1 for the following reasons that were first addressed in Eastshore's Opening Brief. (See Eastshore's Opening Brief at 32-36.)

First, Staff recognizes that the Eastshore Project complies with LORS at R1. (See Eastshore's Opening Brief at 32-33.)

Second, Staff employs an inconsistent approach to measuring nighttime ambient noise levels. Given Staff's use of a four-hour average in the Eastshore case and an eight-hour average

in the RCEC case for the same residential receptor, Staff is advocating an inconsistent ambient noise measurement standard. It is not reasonable to apply a more restrictive limit to a peaking facility like the Eastshore Project that is not likely to fully operate at night. Staff should be consistent in its application of noise measurements. Eastshore recommends using the eight quietest hours between 10pm and 6am. That would result in an average L_{90} noise level at R1 of 45.7 dBA, as opposed to Staff's figure of 44 dBA. (12/18/2007 RT 331:19-24; and Eastshore's Opening Brief at 34.)

Third, Staff has declared that the threshold of significance for an increase in the ambient noise level is between 5-10 dBA. (Staff's Opening Brief at 23.) One of the factors identified by Staff in assessing the significance of an increase between 5 and 10 dBA is the duration of the increase. Staff correctly notes that the Eastshore Project will be permitted to operate up to 4,000 hours per year and that the expected annual average operation of the plant will be 1,739 hours per year (less than 20% of the year). (Ex. 200 at 4.6-16-4.6-17.) Given the limited hours and the intermediate/peaking nature of the facility, it is expected that nighttime operation would be limited and full-load nighttime operation (the conditions evaluated by Staff) would be even more limited. (See Eastshore's Opening Brief at 34-35.)

Nonetheless, Eastshore proposes to commit to a 48 dBA project-only noise level at R1. Using Staff's average of the four quietest nighttime hourly L_{90} metric of 44 dBA, this results in a combined level of 49 dBA. This is 5 dBA above the existing 44 dBA background level and is consistent with Staff's stated significance threshold of up to a 5 dBA increase at a residential setting. (Ex. 200 at 4.6-10.) As noted in Eastshore's Opening Brief, Staff utilized an existing level of 46 dBA for this same area for the RCEC project. (Eastshore's Opening Brief at 35.) Using an existing level of 46 dBA, combined with a project contribution of 48 dBA, yields 50 dBA or a 4 dBA increase over the existing ambient noise level. (See Eastshore's Opening Brief at 35.)

The resulting levels are generally below or consistent with the existing levels during the hours that full-load operation is most likely. In addition, the impact during nighttime hours would not represent a significant increase under the CEC's commonly applied significance criteria. In Footnote 7, Staff states that Eastshore did not account for the cumulative impact of the Eastshore Project with RCEC. (Staff's Opening Brief at 23.) This is not the case, as the cumulative impact of both projects at R1 is thoroughly discussed in Eastshore's Opening Brief.

(See Eastshore's Opening Brief at 40-41.) Therefore, the Eastshore Project will not result in noise impacts at R1.

VI. ENVIRONMENTAL JUSTICE

A. The Eastshore Project Will Not Result In A Disproportionate Impact On An Environmental Justice Population

Staff correctly concluded that the Eastshore Project will not result in a disproportionate impact on an environmental justice population. (Ex. 200 at 7-1 – 7.3; Staff's Opening Brief at 13.) The CEC's methodology complies with applicable policy and guidance, and Staff followed its methodology in concluding that the only unavoidable adverse impacts – insufficient aircraft maneuverability and land use compatibility — affect all people in the region equally and, therefore, do not disproportionately affect an environmental justice population. (Staff's Opening Brief at 11.)

1. The CEC's Methodology Complies With Applicable Policy And Guidance

Although there are no legally binding state or federal guidelines that direct the CEC's environmental justice analysis, CEC's methodology complies with all applicable guidance. (Staff's Opening Brief at 9-10.) Alameda County, Chabot College, and Robert Sarvey allege that CEC's methodology is inconsistent with United States Environmental Protection Agency's ("U.S. EPA") guidance.[4] (County of Alameda's Opening Evidentiary Brief at 27; Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 11; Opening Brief of Robert Sarvey at 9.) These allegations mischaracterize the guidance and seek to expand the applicable environmental justice analysis. (*Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses*, April 1998 [hereinafter U.S. EPA Guidance].)

First, Alameda County consistently mischaracterizes the U.S. EPA Guidance as containing mandates and requirements that must be followed in an environmental justice analysis. (County of Alameda's Opening Evidentiary Brief at 28 ("Staff has not satisfied the *requirements* of the 1998 EPA *Guidelines*); *id.* at 29 (Staff's definition of sensitive receptors

[4] Group Intervenors use the term "environmental justice" in the heading to one of its arguments, but fail to substantively address any environmental justice issue. (Group Intervenors' Opening Brief on Contested Issues at 18 ("Air Quality, Public Health and Environmental Justice- Analysis of Eye Irritation").)

"falls short of the detailed level of analysis the 1998 EPA *Guidelines demands*"); *id.* at 31 ("*required* aspects of the 1998 EPA *Guidelines*") (emphasis added).) In fact, the U.S. EPA Guidance is just that — guidance, and not strict mandates or requirements. For example, when the U.S. EPA Guidance recommends "factors that *should* be considered when identifying and evaluating environmental justice concerns," the Guidance also cautions that "almost every situation will have its nuances. As such, the U.S. EPA's National Environmental Policy Act (NEPA) analyst should be prepared to *apply these factors flexibly to fit a specific situation . . .*" (U.S. EPA Guidance at 2.3 (emphasis added).) Alameda County's interpretation of this section removes the flexibility specifically granted to the analyst by the Guidance. "The 1998 EPA Guidelines *requires* analysts to consider a wide range of demographic, geographic, economic, human health and risk factors." (County of Alameda's Opening Evidentiary Brief at 30 (citing U.S. EPA Guidance at 2.3) (emphasis added).)

Second, even if the U.S. EPA Guidance was binding, which it is not, Alameda County and Chabot College both seek to expand the environmental justice analysis beyond that contained in the Guidance. Alameda County claims that Staff's use of the California Air Resources Board (CARB) Office of Environmental Health Hazard Assessment (OEHHA) Hotspots Analysis and Reporting Program (HARP) modeling program "may be appropriate for public health risk assessment, [but] it is not appropriate for use in environmental justice impact analysis" because HARP "employs a less robust analysis." (County of Alameda's Opening Evidentiary Brief at 27-28.) But the Guidance specifically states that environmental justice impacts "may be analyzed or assessed *using the same analytical tools*" that are used in the development of Staff's Final Staff Assessment (FSA). (U.S. EPA Guidance at 5.0 (emphasis added).) In addition, when Chabot College's environmental justice witness testified, she candidly conceded, "[w]hether my testimony complies with the narrow, legal recommendations given the CEC is really not my issue." (12/17/2007 RT 343: 12-14; Staff's Opening Brief at 12.) Both Alameda County and Chabot College seek to expand the environmental justice analysis beyond that contained in the Guidance.

Chabot College also claims CEC's methodology violates constitutional, statutory, and regulatory provisions. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 11-12.) Chabot College rests its claim on the argument that "the methodology utilized here does not allow any meaningful conclusions to be drawn regarding adverse impacts

on the affected population." (*Id.* at 12.) As discussed above, CEC's methodology complies with all applicable guidance in order to provide meaningful analysis of any disproportionate impact the Eastshore Project might have on an environmental justice population. Staff correctly concluded that there is no such impact.

2. Staff Followed Its Methodology In Correctly Concluding That The Eastshore Project Will Not Result In A Disproportionate Impact On An Environmental Justice Population

Chabot College's claim that Staff failed to follow its own methodology by failing to consider the unique circumstances of, or the cumulative impacts on, the affected population is based on the College's misunderstanding of both the methodology and the facts. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 7-11.) Staff's environmental justice impacts analysis calls for an analysis of the unique circumstances of the "affected population," meaning the population as a whole in the affected area surrounding the proposed project, not the environmental justice population as Chabot College claims. (Ex. 710; 12/18/2007 RT 11: 13-15; 12/17/2007 RT 455: 1-9; Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 7 ("analysis was conducted in terms of the general population, not the affected, *environmental justice* population.") (emphasis added).) Moreover, Staff did analyze the unique circumstances of the affected population. (12/18/2007 RT 12: 21-25; 12/18/2007 RT 15: 4-6, 12-15, 6-10; Ex. 200 at 4.8-13.) After Staff analyzed the unique circumstances of the affected population, Staff evaluated the Eastshore Project's direct, indirect, and cumulative impacts and recommended appropriate mitigation. (Ex. 200 at 7-1 – 7-3; Ex. 1 at 8.8A-3 – 8.8A-5.) Chabot College's allegations to the contrary simply are not true.

Finally, Chabot College claims that Staff failed to conduct proper public outreach and that Staff failed to give the College adequate notice or an opportunity to be heard. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 13.) Staff's aggressive public outreach included actual notice to Chabot College of the Eastshore Project through the Public Advisor's Office and constructive knowledge of the project as early as January 2007. (12/17/2007 RT 449: 12-19; 12/18/2007 RT 37: 17-19.) Chabot College has participated in the Project's briefing schedule and the Project's evidentiary hearings. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief; Ex. 601 (Chabot College's

submitted testimony of Dr. Sperling.) Chabot College's claim that it did not receive notice or that it did not have an opportunity to be heard is demonstrably untrue and must be rejected.

VII. SOCIOECONOMIC RESOURCES

A. No Further Socio-Economic Impact Analysis is Required

Group Intervenors argue that the location of the project will lead to socioeconomic impacts due to interference with existing airport operations. (Group Intervenors' Opening Brief on Contested Issues at 5-6.) Without citing applicable LORS, Group Intervenors contend that this impact requires analysis in order to satisfy a socioeconomic impact disclosure. (Group Intervenors' Opening Brief on Contested Issues at 6.) In addition, Chabot College makes a similar argument that Staff did not properly assess the socioeconomic impacts upon the Chabot-Las Positas Community College District. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 16-17.)

Both Staff and Eastshore have completed extensive analyses of the socioeconomic impacts of the Eastshore Project. (Ex. 200, Section 4.8; Ex. 1, Chapter 8.8.) Nonetheless, an economic or social change by itself is not considered a significant effect on the environment. (Section 15131 of the CEQA Guidelines.) Such a change is to be considered only to the extent it will lead directly or indirectly to an adverse physical change, or to determine if a physical change (either the cause or effect of economic and/or social changes) is a significant impact. (*Friends of Davis v. City of Davis* (2000) 83 Cal. App. 4th 1004, 1019; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal. App. 4th 1184.)

Here, Chabot College does not present a persuasive argument that the Project's alleged socioeconomic impacts will lead to a change in the environment. Chabot College's statement that "it is clear that Eastshore would have a significant effect on the environment since it will conflict with established educational uses" cannot be supported. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 17, citing *Goleta Union School District v. Regents of the University of California* (1995) 37 Cal.App.4th 1025, 1031.) The *Goleta Union School District* case cited by Chabot College does not even support its claim. That case involved the possibility that new classrooms would have to be built, thus constituting a physical change as a result of the social or economic change. (*Id.* at 1032.) But the court specifically finds that "classroom overcrowding, per se, does *not* constitute a significant effect on

the environment under CEQA." (*Id.*, emphasis added) Therefore, it stands to reason that Chabot College's claim of a potential "reduction in enrollment" constitutes a far less than significant effect on the environment than overcrowding because new facilities would not be required. (Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 17.) Thus, socioeconomic impacts on Chabot College, if they exist, would not be significant under CEQA.

Group Intervenors do not argue that socio-economic impacts will lead to a change in the environment. Therefore, just as with Chabot College, Group Intervenors' claimed socio-economic impacts on the airport(s) would not be significant under CEQA. Notwithstanding, there will not be socio-economic impacts because the plant will not affect operation of the airport(s) as discussed in Section III.

Several theories about how the Eastshore Project's thermal plume could ultimately impact the local economy have been presented. (12/18/2007 RT 208: 11-15.) One of the Group Intervenors' witnesses, Ms. Carol Ford, opined that if a dangerous thermal plume existed, pilots will avoid flying into the Hayward Executive Airport and, in turn, will not spend money at surrounding businesses. (12/18/2007 RT 210: 1-15.) A second witness, Mr. Andy Richards, noted that any changes in the traffic pattern at Hayward Executive Airport that might be necessary to avoid a hazardous thermal plume will affect operations at the Oakland International Airport and, in turn, "would have a significant impact on the economy of the Greater Bay Area." (12/18/2007 RT 178: 4-7.) Third, Hayward's witness, Dr. Robert Bauman, opined that a thermal plume hazard could result in the revocation of funding for construction projects to develop future operations the Hayward Executive Airport. (12/18/2007 RT 144: 10-21; and see Eastshore's Opening Brief at 18-19.)

Each of these theories, however, is based solely on the erroneous assumption that the Eastshore Project's thermal plume will actually cause a hazard to overflying aircraft. (12/18/2007 RT 210: 1-7; 12/18/2007 RT 269: 7-10.) No analysis supports that assumption. (12/18/2007 RT 265: 14-22; 12/18/2007 RT 274: 18-21.) In fact, Dr. Baumann even admitted during the hearing that he was "not certain . . . what the evidence is as to the safety issue." (12/18/2007 RT 143: 6-7.)

The best that any witness could do was point to the Staff's flawed modeling analysis. (12/18/2007 RT 265: 14-22; 12/18/2007 RT 272: 12-18.) As previously explained, however, Staff's modeling is technically flawed, inaccurate, unreliable and contradicted by the Barrick

Fly-Over Test Flight Program. Instead, the actual scientific evidence in these proceedings demonstrates that the Eastshore Project's thermal plume will have no impact on overflying aircraft. (*See generally* Ex. 20, Final Report on Turbulence Felt in a Light Helicopter Caused by the Power Plant Thermal Plume.) Therefore, the economic fears expressed by the opponents are completely unfounded. The Eastshore Project will not negatively impact the airspace and, in turn, will not affect current or future operations at the Hayward Executive Airport or the local economy. (See Eastshore's Opening Brief at 19.)

B. Fairness Does Not Require That The Eastshore Project Be Located Elsewhere

Hayward argues that it is inherently unfair and inequitable for it to bear the burden of an additional power plant within its territory. (City of Hayward's Opening Brief at 21.) Hayward provides no authority for this assertion. Rather its argument is premised on the assertion that the overall burden on the City of Hayward was not adequately addressed because it did "not fit neatly into the categories that the CEC uses to analyze the citing of a new power plant." (City of Hayward's Opening Brief at 21.)

Hayward's argument disregards the very premise and basis of the CEC's reliance on established LORS. Without the use of LORS, parties, and decision makers, would be engaging in an ad hoc creation and application of varying standards. This would lead to arbitrary and capricious results from matter to matter, and ultimately to a real form of inequity.

VIII. AIR QUALITY

Staff and the interveners touched upon numerous air quality issues in their opening briefs including the Eastshore Project's particulate matter, SO_2 and ammonia impacts and related mitigation; the appropriate air quality modeling protocol; and the efficacy of the Eastshore Project's Best Available Control Technology. Most of these issues were discussed in depth in Eastshore's Opening Brief. However, to the extent necessary to refute any new arguments or emphasize points previously discussed, Eastshore addresses these issues in the discussion below.

A. Eastshore's Particulate Matter Impacts Will Be Adequately Mitigated

1. AQ-SC8 Should Be Modified To Allow An Expansion Of The Offset Purchase Area

Eastshore maintains that its proposed modification of Condition of Certification AQ-SC8 ("AQ-SC8") to allow an expansion of the offset purchase area remains valid and necessary. Despite the comments of Staff, Alameda County and Mr. Sarvey in their respective opening briefs, a wider geographic area from which Eastshore can procure emission reduction credits (ERCs) may be necessary if Eastshore cannot first obtain them from Staff's preferred "Oakland, Hayward, Fremont, San Jose and San Francisco" areas. (Ex. 53 at 5-7; and see Staff's Opening Brief at 6, County of Alameda's Opening Evidentiary Brief at 21 and Opening Brief of Robert Sarvey at 3.) AQ-SC8's geographic limitation to the above-mentioned areas is unnecessarily and overly restrictive due to the regional nature of particulate matter dispersion and the uncertainty in obtaining specific ERCs during the period required by the proposed Condition of Certification.

Alameda County even goes so far as to suggest that interpollutant trading not be permitted at all. (County of Alameda's Opening Evidentiary Brief at 22.) This notion is easily refuted by the fact that both the CEC and the Bay Area Air Quality Management District (BAAQMD) have consistently and repeatedly employed interpollutant trading as an effective form of particulate matter mitigation. (Staff's Opening Brief at 4.) In fact, in response to Alameda County's cross-examination, Staff addressed Alameda County's concerns regarding the efficacy of interpollutant trading during the evidentiary hearing: ". . . I think what you're getting at is do I have faith in the interpollutant trading and the ratio we are recommending. And I do. Interpollutant trading, especially for a compound such as sulfur oxides is a useful way and is an effective way of reducing particulate matter." (12/17/2007 RT 67:11-16.) Staff later added: "I have faith that the interpollutant trading ratio is . . . an acceptable way of reducing ambient particulate matter . . . ." (12/17/2007 RT 67:23-25.)

Mr. Sarvey echoes a similar sentiment by questioning the efficacy of ERCs, stating that ERCs will not mitigate the particulate matter impacts on the surrounding area. (Opening Brief of Robert Sarvey at 3.) As stated in its Final Determination of Compliance (FDOC), the BAAQMD *requires* the use of ERCs to offset increases in air emissions, including particulate matter. (Ex. 201 at 20-21, emphasis added.)

Alameda County also misconstrues the BAAQMD Regulation 2-2-303.1, which states that ERCs may be used to offset increased PM_{10} emissions at ratios that result in a net air quality benefit. (County of Alameda's Opening Evidentiary Brief at 23.) However, the $PM_{10}/PM_{2.5}$ mitigation requirements for the Eastshore Project are established under CEQA, not the BAAQMD regulations. As stated in the BAAQMD's FDOC:

> District Regulation 2-2-303 requires that emission offsets must be provided for PM10 and SO2 emission increases at new facilities that will be permitted to emit more than 100 tons per year of PM10 and SO2 on a pollutant-specific basis. The proposed Eastshore Energy Center will not emit more than 100 tons of either of these pollutants, and so it is not subject to this requirement.

(Ex. 201 at 21.)

Therefore, Staff and Eastshore are not required to show that ERCs would result in a net air quality benefit. A 1 to 1 mitigation ratio with a reduction of either PM_{10} ERCs or SO_2 ERCs (because SO_2 is a particulate matter precursor) fully mitigate the impacts of the Eastshore Project. It should be noted, however, that Eastshore is designed to be a peakload facility and is expected to operate less than the maximum number of permitted hours in the wintertime period when ambient PM_{10} levels are high. (Ex. 200 at 4.1-26.) Eastshore is also expected to exhibit average PM_{10} emissions that are well below the maximum allowable PM_{10} emissions because the BAAQMD added a 30% compliance margin in establishing the PM_{10} emission limits. (Ex. 201 at 15.) Since Eastshore will be providing mitigation for the maximum number of wintertime operating hours based on maximum permitted PM_{10} emission levels, in all likelihood the required PM_{10} ERCs will exceed average PM_{10} emissions, resulting in a net air quality benefit.

As explained in Eastshore's Opening Brief, particulate matter is a regional issue as particulate levels in Hayward's ambient air on any given day may be from particulate transported from other locations in the Bay Area. (Ex. 15 at 1; and Eastshore's Opening Brief at 51.) Air flows in several different directions over Hayward and throughout the Bay Area, thereby emphasizing the regional nature of particulate matter transport and the difficulty in associating a particular ERC's benefit with a specific geographic location. (Ex. 15 at 1; and Eastshore's Opening Brief at 51.) Mr. Sarvey even points this out in his Opening Brief: "the effectiveness of mitigation depends on which way the wind blows." (Opening Brief of Robert Sarvey at 4.) Staff's insistence on constraining Eastshore's ability to obtain ERCs to a restricted radius is not based on the science of particulate matter dispersion and is therefore neither technically justified nor effective. Add to that the fact that the ability to obtain ERCs from the market is uncertain

and beyond Eastshore's control, then one can see that requiring Eastshore to procure offsets from Staff's restricted locale could severely hinder Eastshore's particulate matter mitigation efforts.

As the ultimate arbiter of Bay Area air quality matters, the BAAQMD provides the most persuasive authority supporting the contention that confining the offset purchase area is unwarranted. The BAAQMD's FDOC for the Eastshore Project and its regulations offer explicit direction. First, the BAAQMD does not place geographic restraints on the purchase of ERCs, in fact, the BAAQMD regulations allow for exactly the type of regional use of ERCs that Eastshore is proposing in its revised AQ-SC8. (12/17/2007 RT 159:15-20.) Second, the BAAQMD's FDOC does not contain any restriction on the location of the source of ERCs. (Ex. 201 at 21; and Ex. 201 generally.) The fact that the BAAQMD has issued the FDOC without restrictions on Eastshore's offset purchase area essentially renders moot the argument presented by Mr. Sarvey, Staff and Alameda County that local impacts will not be adequately mitigated. (Opening Brief of Robert Sarvey at 5; Staff's Opening Brief at 6; and County of Alameda's Opening Evidentiary Brief at 21.)

Eastshore agrees with Staff's general locational preferences and supports Staff's language in AQ-SC8 specifying the inner Bay Area as the preferred offset purchase area, but only as a first preference. Eastshore merely requests the ability to search beyond the inner Bay Area if, after a good faith effort, Eastshore is unable to obtain ERCs from Staff's preferred location.

2. Eastshore Will Not Exceed Particulate Matter Emission Limits

In its Opening Brief, Alameda County falsely declares that "Eastshore will exceed particulate matter emissions limits, both on its own and cumulatively with Russell City." (County of Alameda's Opening Evidentiary Brief at 21.) Mr. Sarvey makes the same allegation in his Opening Brief. (Opening Brief of Robert Sarvey at 3.) The City of Hayward makes a similar statement in its Opening Brief: "The EEC will emit particulate matter . . . that will substantially affect nearby residences, schools and other sensitive receptors." (City of Hayward's Opening Brief at 19.) The City of Hayward, Alameda County and Mr. Sarvey are grossly mistaken in their statements. As was determined by the BAAQMD in its FDOC, the Eastshore Project will not exceed limits nor cause an exceedance, either individually or cumulatively with RCEC. (Ex. 201 at 6, 9.) It is possible that Eastshore could contribute to an existing exceedance on the worst air quality days, but PM_{10} ambient air quality standards are only exceeded in the Fremont area 4-6 days per year (Ex. 200 at Table 5, 4.1-7), and PM_{10} background levels are

highest in the wintertime (Ex. 200 at 4.1-7 and Figure 5, 4.1-8) when Eastshore is not expected to operate the maximum number of permitted hours. (Ex. 200 at 4.1-26.) As a result, Eastshore may not be in operation when PM_{10} levels are above the standards; and even if it is, the offsets required by the proposed Conditions of Certification will ensure that this potential impact will be fully mitigated.

3. Eastshore Has Adequately Explained Its Proposed Good Faith Effort Language

Alameda County takes issue with the "good faith effort" language in Eastshore's proposed revision to AQ-SC8. (County of Alameda's Opening Evidentiary Brief at 25-26.) Alameda County declares Eastshore's proposed good faith effort language in AQ-SC8 to locate local ERCs to be unenforceable and undefined. (County of Alameda's Opening Evidentiary Brief at 25-26.) This is simply not the case, Eastshore's witness, James Westbrook defines "good faith effort" as: "regular and documented contact with emission brokers and known ERC holders to establish interest in and completion of ERC transactions, during the period from start of facility construction until two years after start of construction." (Ex. 15 at 2.)

4. Eastshore's Choice Of Generation Technology Conforms With All Applicable Air Quality Requirements

Mr. Sarvey points out that, when compared to other available engine technology, the Eastshore Project's "extremely large impacts are due to the poor choice of . . . 14 Wartzilla [sp] reciprocating engines." (Opening Brief of Robert Sarvey at 2.) Mr. Sarvey compares the Eastshore Project to the San Francisco Electric Reliability Project and notes that its particulate matter impact will be far greater due to Eastshore's choice of engine technology. (Opening Brief of Robert Sarvey at 2.) What Mr. Sarvey fails to recognize is that, with regard to air quality impacts, Eastshore's choice of generating equipment does not matter so long as the Project meets the applicable federal, state and BAAQMD standards. The BAAQMD's FDOC and the FSA clearly show that the Eastshore Project will meet all applicable air quality requirements. (Ex. 53 at 1; and Ex. 200 at 4.1-1.) Staff's Opening Brief even goes so far as to declare that "the EEC [Eastshore Energy Center] will Conform with All Applicable Air Quality Requirements." (Staff's Opening Brief at 2.) Therefore, it matters little what engine technology is used so long as it conforms to the appropriate federal, state and BAAQMD air quality requirements, which the Eastshore Project does.

5. AQ-SC8 Should Be Revised To Allow An Interpollutant Offset Trade Ratio of 3 To 1 For SO2 To PM10

Staff, Mr. Sarvey and Alameda County all claim that Staff's proposed interpollutant offset trade ratio of 5.3 to 1 is appropriate. (Staff's Opening Brief at 6; Opening Brief of Robert Sarvey at 4; and County of Alameda's Opening Evidentiary Brief at 26.) In its Opening Brief, Eastshore set forth the following reasons why Staff's interpollutant offset trade ratio should be modified from 5.3 to 1 to 3 to 1.

First, Mr. Westbrook arrived at the 3 to 1 ratio by employing the same methodology used to achieve the BAAQMD-approved ratio of 3 to 1 that has been applied in several recent power plant projects. (Eastshore's Opening Brief at 54.)

Second, Staff chose to deviate from the BAAQMD historic practice and selectively applied data to develop new ratio calculations that are technically flawed. In their opening briefs, Staff and Mr. Sarvey claim that Eastshore inappropriately relies upon ambient data from distant sites to justify the 3 to 1 ratio. (Staff's Opening Brief at 6; and Opening Brief of Robert Sarvey at 4.) However, Staff's own approach is fundamentally flawed because it is based on Staff's use of improperly-selected data from varied geographic areas and dates. Staff used data from only one day, the highest PM_{10} day, to calculate its offset ratio. Staff's conclusion that Eastshore's selected date "is not representative of normal conditions" is highly speculative and unfounded. (Staff's Opening Brief at 7.) It simply underscores the need to review multiple dates to produce a reliable and accurate analysis. Staff has not justified the single date selected, nor has it addressed the uncertainty or variability that may occur using its method. What's more, there are no SO_2 data for the Hayward area, only PM_{10} and sulfate data are available for Hayward. The ambient SO_2 data are only available from the areas near Bay Area refineries to the north. (Eastshore's Opening Brief at 55.) Even if Eastshore used the same sites as Staff in its calculations, the conclusion of a 3 to 1 ratio would be the same. In fact, the range of calculated ratios would be 1.31 to 1.66, well less than a conservative 3 to1 ratio. (See Attachment 1 to Eastshore's Reply Brief; and Attachment 2 to Ex. 15.)

Finally, the 3 to 1 offset trade ratio proposed by Eastshore is an already conservative figure that has been used in multiple recent projects and has been approved by the BAAQMD, as mentioned above. (12/17/2007 RT 83:1-4; Eastshore's Opening Brief at 56; and Ex. 15 at 4.) The ERC Banking contact at the BAAQMD, David Burnell, confirmed that the default regional

conversion ratio of 3 to 1 is still in effect and there are no plans to change the default value. (Ex. 13 at 6; and Ex. 15 at 4). Furthermore, Staff's witness, Mr. Birdsall, admitted that the 3 to 1 ratio had been used in past power plant cases. (12/17/2007 RT 37:3-5; and Eastshore's Opening Brief at 56.)

Alameda County attempts to undermine Mr. Westbrook's offset trade ratio calculations by claiming that his work was not properly "peer reviewed" because it was reviewed by Mr. Westbrook's "supervisor, Mr. Darvin." (County of Alameda's Opening Evidentiary Brief at 27.) Alameda County is mistaken in every regard. Mr. Darvin is not Mr. Westbrook's supervisor. The two are not employed by the same company, they work for two different entities focusing on two different, but related, areas of air quality analysis. Moreover, Alameda County cannot claim that Eastshore's proposed offset ratio should be rejected simply based on a mistaken belief that the calculations used to arrive at the 3 to 1 ratio were not subject to proper "peer review."

In its Opening Brief, Alameda County also misinterprets Staff's statement regarding Eastshore's supposed use of identical ratio calculations as Staff. (County of Alameda's Opening Evidentiary Brief at 26-27.) The fact is, the same methodology reference was followed, but with significant calculation differences. Mr. Westbrook's analysis demonstrated that using additional or different testing days can give different ratio results. (Eastshore's Opening Brief at 55-56.) The intent of Mr. Westbrook's analysis was to illustrate how Staff's application of the methodology was inadequate and inappropriate.

6. The Wood Stove And Fireplace Retrofit Program Is An Effective Particulate Matter Impact Mitigation Tool

Alameda County questions the efficacy of Eastshore's proposed wood stove and fireplace retrofit program as a mitigation tool. (County of Alameda's Opening Evidentiary Brief at 23.) Alameda County asserts "Staff and the Applicant have not provided any evidence that retrofitting fireplaces and stoves would be an effective form of mitigation for power plant PM emissions." (County of Alameda's Opening Evidentiary Brief at 23.) Alameda County is once again mistaken. Both Staff and Eastshore have provided ample evidence supporting the effectiveness of the wood stove and fireplace retrofit program.

Staff's Opening Brief specifically announces Staff's support for the wood stove and fireplace retrofit program. Staff starts off by describing Mr. Sarvey's challenge to the sufficiency of the retrofit program, but concludes by declaring "there appears to be a significant opportunity for reducing fireplace emissions." (Staff's Opening Brief at 5.) Staff goes on to state that by

initially offering the wood stove and fireplace retrofit program exclusively to Hayward residents and by implementing a phased program, "Staff believes that these requirements are sufficient to ensure that the project's particulate matter impacts will be fully mitigated, and urges the Committee to make that finding in the PMPD." (Staff's Opening Brief at 5.)

Contrary to Alameda County's allegations, Eastshore has provided ample evidence of the retrofit program's efficacy. Alameda County claims that Eastshore's Exhibit 55 "does not contain any evidence that fireplace or stove retrofitting would in practice provide an effective form of mitigation for power plant PM emissions." (County of Alameda's Opening Evidentiary Brief at 24.) The November 2007 "BAAQMD Workshop Report for the Wood Smoke Reduction Program" ("Workshop Report"), contained within Exhibit 55, underscores the effectiveness of wood burning device retrofit programs. (Eastshore's Opening Brief at 58; and Ex. 55 Workshop Report at 1). The Workshop Report states: "Wood-burning is the single greatest source contributing to PM concentrations, based on chemical analysis of deposited airborne PM." (Eastshore's Opening Brief at 58; and Ex. 55 Workshop Report at 3.) As shown in the Workshop Report, retrofitting high-emitting devices such as non-EPA certified stoves and inserts, as well as conventional fireplaces, with clean gas-burning inserts *will clearly be effective mitigation.* (Eastshore's Opening Brief at 58; and Ex. 55 Workshop Report at 5, emphasis added.) The particulate matter emissions from a conventional fireplace are 20 times higher than particulate matter emissions from an EPA-certified wood stove, and nearly 3,400 times more than from a fireplace insert that burns natural gas. (Ex. 55 Workshop Report at 5.) All of the above references easily refute Alameda County's allegation that Exhibit 55 does not discuss the effectiveness of the retrofit program. In fact, Eastshore's proposed wood stove and fireplace retrofit program would provide the local particulate matter mitigation about which several parties, including Alameda County, have claimed is not met by Eastshore's proposed ERC offset program.

In addition, Exhibit 55 provides evidence that the Santa Clara County program has proven to be very effective. The BAAQMD "Bay Area Woodstove Changeout Program" slides describe the detailed effectiveness for the Santa Clara County program (or Pico Power Plant program). (Ex. 55 Bay Area Woodstove Changeout Program.) The slide entitled "Mitigation Calculations" shows that 12,003 pounds per year of PM_{10} reductions were achieved from retrofitting 644 devices using $206,000 in incentives. At $17 per pound PM_{10} per year

eliminated, woodstove replacement in the South Bay Area has been demonstrated to be very effective. (Ex. 55 Bay Area Woodstove Changeout Program at slide 10.) The BAAQMD staff will administer the wood stove and fireplace retrofit program for the Eastshore Project, and will closely track and verify actual emission reductions by wood-burning device type. (See Eastshore's Opening Brief at 58.)

Alameda County also alleges that because the BAAQMD intends to adopt regulations limiting the use of wood burning stoves and fireplaces, Eastshore would somehow "get credit for wood smoke PM reductions that have nothing to do with its retrofitting proposal." (County of Alameda's Opening Evidentiary Brief at 24.) A wood stove and fireplace retrofit program that eliminates emissions from existing wood-burning devices, as is proposed by Eastshore, will be more effective than the BAAQMD's proposed rule. In addition, the BAAQMD's proposed restrictions would generally be limited to only a few "Spare the Air Tonight" periods each year. (Ex. 55 Workshop Report at 16.) The Workshop Report also states that the proposed prohibition for existing wood burning devices will reduce particulate emissions by less than 20%. (Ex. 55 Workshop Report at 13.) Alameda County's suggestion is largely based in uncertainty. Eastshore emphasizes that the BAAQMD has not yet adopted these *proposed* regulations and even if they are indeed adopted, no one can predict when and where they would go into effect. On the other hand, Eastshore's proposed retrofit program has a clear timeline and defined geographic scope. (Eastshore's Opening Brief at 53.)

Eastshore agrees with Staff's conclusion that the interveners failed to demonstrate that the wood stove and fireplace retrofit program will be ineffective in preventing particulate matter impacts. (Staff's Opening Brief at 4.) But Eastshore would like to clarify for the record that Staff's quoted offset of "20.4 tons per year of PM10 emissions" is for ERCs. (Staff's Opening Brief at 4.) In addition, the mitigation amount with the wood stove and fireplace retrofit program is 6.8 tons over the nonattaintment season. AQ-SC8 will need to be updated to accurately reflect the difference between annual (ERCs) and seasonal (wood stove and fireplace retrofit program) mitigation options. The second sentence of the fourth paragraph of AQ-SC8 should read as follows: "For meeting the 20.4 ton per year PM10 mitigation requirement, one ton of woodstove and fireplace retrofit program PM10 emission reductions shall be credited as equivalent to three tons of PM10 ERCs." (For the rest of Eastshore's proposed revision to AQ-SC8 see Eastshore's Opening Brief at 52-54.)

B. Dr. Zannetti's Testimony Does Not Provide Any Relevant Information

As set forth in its Opening Brief, Eastshore questions the relevance of Alameda County's witness, Dr. Zannetti. (Eastshore's Opening Brief at 60.) Dr. Zannetti has no experience with the BAAQMD's modeling protocols. When questioned about his familiarity with the BAAQMD's program or work on the Eastshore Project, Dr. Zannetti answered that he is not an expert in regulatory compliance nor is he familiar with the local regulatory process. (Eastshore's Opening Brief at 60; and 12/17/2007 RT 148:15-21.) Moreover, Dr. Zannetti confirmed that he did not follow the BAAQMD's modeling guidelines for NO_2 emissions impacts. (Eastshore's Opening Brief at 60; and 12/17/2007 RT 150:8-10.) In conducting his own modeling, Dr. Zannetti did not use the exit velocity stated by Eastshore and also used a different temperature. (Eastshore's Opening Brief at 60; and 12/17/2007 RT 150:22-151:9.) Essentially, Dr. Zannetti failed to adhere to the BAAQMD's and CEC's guidelines and requirements for air quality modeling procedure. Staff's Opening Brief echoed these points. "Dr. Zannetti conceded on cross-examination that he didn't know whether the modeling technique he used is consistent with the BAAQMD's modeling guidelines." (Staff's Opening Brief at 3.) As a result, Dr. Zannetti's modeling results and conclusions should not be given great weight.

In addition, Dr. Zannetti questions the use of Selective Catalytic Reduction (SCR) as a control device to reduce NO_x emissions, claiming that there is "sparse history of use" in the United States. (Ex. 500 at 5). This is simply not true, the BAAQMD FDOC for the Eastshore Project states that SCR is the typical technology used for NO_x control. (Ex. 201 at 12.) Perhaps Staff's statement in its Opening Brief is most telling: "In fact, Dr. Zannetti's statement that 'there is sparse history of use of SCR in the United States' . . . indicates a complete lack of familiarity with projects licensed by the California Energy Commission." (Staff's Opening Brief at 3.)

C. The Project's NO_2 Impacts Do Not Exceed The California Standard

Mr. Sarvey alleges that the Eastshore Project's NO_2 emissions will exceed the proposed new California standard. (Opening Brief of Robert Sarvey at 5.) This issue was previously addressed in Eastshore's Opening Brief. (Eastshore's Opening Brief at 61.)

In response to Mr. Sarvey's assertion in his testimony, Staff testified that it was aware of the new standard but that it had not yet been approved by the Office of Administrative Law and that the new standard is not being used in CEC staff assessments until it becomes law.

(12/17/2007 RT 103:2-9). Staff provided further evidence that if and when the NO_2 standard becomes law, additional modeling would need to be created to assess a project's impacts against the new standard due to the difficulty in modeling the reactivity of NO_2 in the analysis. (12/17/2007 RT 104:17-25). "If the new, lower standard becomes law we would have to work with the Air Resources Board to figure out the proper modeling protocol for that short-term NO_2 standard." (12/17/2007 RT 105:4-7). In addition, the BAAQMD witness confirmed that the BAAQMD's "rules and regulations in this particular case did not require an ambient air quality impact analysis for NO2." (12/17/2007 RT 160:10-13). Therefore, the evidence indicates that the Eastshore Project will comply with the current California NO_2 standard as analyzed by the BAAQMD and Staff.

D. The Eastshore Project Complies With Best Available Control Technology (BACT) Requirements

Mr. Sarvey challenges the conclusion of both Staff and Eastshore that the Project complies with applicable federal, state and BAAQMD BACT requirements. (Opening Brief of Robert Sarvey at 7.) This argument simply cannot be sustained. The BAAQMD's FDOC sets forth its BACT determination and finds that the Eastshore Project meets BACT requirements for all engines and each pollutant, including particulate matter. (Ex. 201 at 10-20.) The CEC is not in a position to reject the BAAQMD's BACT determination. In fact, the Project will set a new, more strict BACT NOx emissions limit for the Project's engine technology. (Ex. 201 at 12-13.)

Staff expresses its support in its Opening Brief, stating that "Intervener Sarvey's assertions ignore the detailed discussion of this issue that is contained in the DOC. After reviewing the data from 22 source tests, the BAAQMD determined that the emission rate specified in the DOC would clearly be achievable, with a compliance margin." (Staff's Opening Brief at 2, referencing Ex. 201 at 15.) Staff is correct in its conclusion that "[n]ot only is BAAQMD's determination reasonable, but the Commission has no authority to reject its BACT determination. Mr. Sarvey's contention is without merit and should be rejected." (Staff's Opening Brief at 2.)

E. The Eastshore Project's SO2 And Ammonia Emissions Are Well Within Acceptable Limits

Mr. Sarvey claims that the CEC "should establish a realistic fuel sulfur limit for this project and provide a condition to test for fuel sulfur content" because "the SO_2 emissions

estimates for this project have been calculated using unrealistically low fuel sulfur content." (Opening Brief of Robert Sarvey at 6.) Eastshore points out that sulfur is added as an odorant to natural gas by PG&E as a precautionary measure. The pipeline quality natural gas that Eastshore receives comes directly from PG&E through PG&E natural gas pipelines. The constituents of pipeline quality natural gas are carefully controlled and measured by PG&E. There is very little variation over time. (Ex. 1 at 8.1-6.)

In addition, Mr. Sarvey declares the Eastshore Project's lack of mitigation for ammonia slip "a failure as it ignore the fact that PM2.5 precursors are already in abundance in the BAAQMD." (Opening Brief of Robert Sarvey at 7.) The Eastshore Project's ammonia contribution is regulated by the BAAQMD FDOC Condition 14 which requires that Eastshore achieve an ammonia slip level of 10 ppmvd, which is a permitted limit of 27.5 tons per year NH3. (Ex. 201 at 35; and Ex. 200 at 4.1-19 to 20.) Because the Eastshore Project will meet the BAAQMD's ammonia slip limits, Eastshore need not consider Mr. Sarvey's suggestion that it provide additional mitigation.

IX. PUBLIC HEALTH

A. The Eastshore Project Will Not Create A Public Health Impact On The Local Environmental Justice Community

Alameda County, Hayward, Chabot College and Group Intervenors touch upon public health issues in their discussion of environmental justice. (County of Alameda's Opening Evidentiary Brief at 27-32; City of Hayward's Opening Brief at 19; Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 8; and Group Intervenors' Opening Brief on Contested Issues at 6-10.) Although the topic of environmental justice has already been more thoroughly discussed in this brief, Eastshore addresses these Intervenors' environmental justice arguments as they relate to the topic of public health here.

All of the above-named Intervenors expressed concern that Staff's environmental justice analysis did not adequately address "sensitive receptors" because they claim Staff used a too-narrow definition of the term that did not take into account the environmental justice population. Simply put, these Intervenors did not present any evidence to show that Staff's analysis failed to follow the applicable regulatory scheme.

The CEC's environmental justice approach is consistent with guidance from both the California Resources Agency and the federal government. The CEC's approach "consists of: (1) specific public outreach efforts to notify, inform and involve community members, including non-English speaking people; (2) analysis of the applicable demographics to determine the percentage of minority and low-income population living in the potentially affected area; and (3) assessing the potential environmental and health impacts of the proposed project." (Ex. 710 (California Energy Commission website, Environmental Justice: Frequently Asked Questions); and see Ex. 1 at 8.8A-1.).) The CEC's methodology, which has been relied upon in numerous siting case decisions in recent years, mirrors the three primary factors outlined by the California Resources Agency (public outreach, demographics, impact assessment) and includes both factors identified by the federal government (demographics and impact assessment). (Eastshore's Opening Brief at 43.)

After completing the prescribed environmental justice approach, Staff accurately concluded that the Eastshore Project will not create significant public health impacts to the sensitive receptors in the population. (Staff's Opening Brief at 8; and Ex. 200 at 7-1–7-3.) In criticizing Staff's methodology, Alameda County and Chabot College specifically attack Staff's definition of the term "sensitive receptors." (County of Alameda's Opening Brief at 28; and Chabot-Las Positas Community College District Intervenors' Post-Hearing Brief at 8.) Alameda County goes on to criticize Staff's one-mile radius for evaluating maximum emissions impact. (County of Alameda's Opening Evidentiary Brief at 31.) Staff states in its Opening Brief, "[a]ll the evidence in the record demonstrates that staff incorporated every conservative assumption called for by state and federal agencies responsible for establishing methods for analyzing public health impacts." (Staff's Opening Brief at 7.) It simply does not matter what definition or methodology the Intervenors' propose, Staff accurately followed the existing California policy and guidelines.

Staff provides additional comment on the testimony of Alameda County's witness, Dr. Witt, in its Opening Brief. (Staff's Opening Brief at 8.) First, Staff questions whether Dr. Witt had even read the public health analysis because Dr. Witt was not able to "testify that any of the steps taken by staff in its analysis were flawed or failed to follow regulatory guidance." (Staff's Opening Brief at 8.) Then, Staff reiterates its conclusion that the Eastshore Project will not create a significant public health impact to the sensitive receptors in the population. (Staff's

Opening Brief at 8.) Finally, Staff states that the use of standard health risk assessment methods to identify potential public health impacts is the method approved by California regulatory agencies and they incorporate margins of safety. (Staff's Opening Brief at 8-9.)

B. The Current Acrolein Emission Factor Employed By Staff Is Adequate And Public Health-1 Need Not Require Testing For Acrolein

Although Staff, in its Opening Brief, continues to agree with Eastshore on most public health issues, it insists on requiring Eastshore to test for acrolein in Condition of Certification Public Health-1 ("Public Health-1"). (Staff's Opening Brief at 7-9, Footnote 4 and Attachment 1.) Eastshore has reviewed Staff's Revised PublicHealth-1 and finds that Staff has not made any changes concerning Eastshore's primary problems with Public Health-1, namely the requirement to test for acrolein and to test four engine exhaust stacks. (See Attachment 1 to Staff's Opening Brief; and Eastshore's Opening Brief at 62-68.) In addition, Group Intervenors contest Staff's finding of no significant risk. (Group Intervenors' Opening Brief on Contested Issues at 11.) Group Intervenors continue to press the CEC to employ a different methodology in determining acrolein emission factors. (Group Intervenors' Opening Brief on Contested Issues at 8-13.) The issue of acrolein testing was previously addressed in Eastshore's Opening Brief, the argument is summarized below. (See Eastshore's Opening Brief at 66-68.)

Public Health-1 requires testing for acrolein, this is despite Dr. Greenberg's admission that he did not believe the Eastshore Project's acrolein emissions would reach any level of public health concern. (12/17/2007 RT 201:3-12; Ex. 200 at 4.7-14 and 4.7-21; and Eastshore's Opening Brief at 66.)

Although Group Intervenors continue to debate in their Opening Brief the health risks associated with acrolein and what methodology Staff should have used, a very simple answer exists: Staff was required to use the risk assessment methodologies adopted by California agencies. (Group Intervenors' Opening Brief on Contested Issues at 8-14; and 12/17/2007 RT 202:17-21, see below.) Group Intervenors even attempt to bring in quotations from documents that were not previously submitted as exhibits. (Group Intervenors' Opening Brief on Contested Issues at 14.) Group Intervenors can continue to debate the merits of Staff's methodology, but the fact remains that the risk assessment methodology was consistent with promulgated regulatory guidelines and requirements and could not have been legally conducted in any other fashion. (Eastshore's Opening Brief at 66-67.)

The fact that Staff is required to use California methodology for assessing risk is a major point that must be emphasized, particularly in light of Group Intervenors' and the public's hesitance to accept that fact. Dr. Greenberg testified that he employed the appropriate California values in arriving at his conclusion. (12/17/2007 RT 202:16-22.) He was careful to make it clear to both the public and the Intervenors that he was required to use the values promulgated by the California Environmental Protection Agency ("Cal-EPA"), CARB, and OEHHA. (12/17/2007 RT 202:17-21 and Ex. 200 at 4.7-5.) In fact, CARB has advised all of the California air districts not to base any type of permit decision on acrolein emissions. (12/17/2007 RT 220:6-9; and Eastshore's Opening Brief at 67.)

Based on its experience with the emission of aldehydes, which includes acrolein, the BAAQMD witness testified that he was not overly concerned about acrolein because its emissions are generally very low. (12/17/2007 RT 257:20-22 and 258:1-8.) In its FDOC, the BAAQMD states that per its Health Risk Screening Analysis Guidelines, acrolein is not included in the health risk assessment results. (Ex. 201 at 24.) This is because, as stated above, CARB does not have certified emissions factors or an analytical test method for acrolein. (Ex. 201 at 24; and Eastshore's Opening Brief at 67-68.)

Furthermore, during Eastshore's cross examination, Dr. Greenberg revealed that the data obtained from the Barrick facility, which uses the same engines as the Eastshore Project, show that the formaldehyde emissions are more than a hundred-fold less than what Dr. Greenberg used in Staff's health risk assessment. (12/17/2007 RT 262:14-17; and Eastshore's Opening Brief at 68.)

Mr. Westbrook also disagrees with Staff's requirement to conduct source testing for acrolein because no accepted analytical test method for acrolein exists in California. (Ex. 19 at 3.) However, if a method is developed by BAAQMD or CARB prior to the Eastshore compliance air toxics testing, then testing for acrolein would be appropriate. Otherwise, Mr. Westbrook suggests that the default emission factor for acrolein should be used for the updated health risk assessment. (Ex. 19 at 3.) Eastshore has revised Public Health-1 to incorporate this suggestion. (Ex. 53 at 43; and see Eastshore's Opening Brief at 62-64, 68.)

C. Group Intervenors' Other Public Health Concerns Are Adequately Addressed

Group Intervenors also raise the issues of the statistical confidence interval and the acute hazard index used by Staff, the lack of Project startup and shutdown conditions in Staff's health risk assessment and Eastshore's request to remove the multiple engine testing requirement from Public Health-1. (Group Intervenors' Opening Brief on Contested Issues at 15, 16, 17, 18.) These issues are addressed in Eastshore's Opening Brief and are summarized below. (See Eastshore's Opening Brief at 64-66 and 68-69.)

With regard to Staff's declining to include startup and shutdown conditions in the health risk assessment, Dr. Greenberg first replied that his analysis did not consider start-up because the start-up period is such a minimal amount of time and start-up test data do not exist. (12/17/2007 RT 273:8-16.)

Group Intervenors also question whether a statistical confidence interval was incorporated into the health risk assessment. (Group Intervenors' Opening Brief on Contested Issues at 15; and 12/17/2007 RT 216:12-13.) In his testimony, Dr. Greenberg explains at length that his methodology for conducting a health risk assessment is very conservative and protective of health and that based on a number of factors, it is likely to overpredict the health risk. (12/17/2007 RT 195:3-21.) Dr. Greenberg indicated that no statistical confidence interval was used in the health risk assessment because OEHHA does not require confidence intervals when conducting health risk assessments. (12/17/2007 RT 217:14-15; and Eastshore's Opening Brief at 69.) Dr. Greenberg also commented that a statistical analysis is not needed because the risk estimate is already an upper bound estimate and more than likely a stochastic analysis would come up with a very similar or lower result. (12/17/2007 RT 217:21-24.)

Group Intervenors' comments regarding the difference between Staff's and Eastshore's hazard indices are unwarranted. (Group Intervenors' Opening Brief on Contested Issues at 15.) Dr. Greenberg conclusively stated that if a hazard index created by a project fell below the level of significance, no one who was affected by the project, including all sensitive receptors, would experience a significant adverse health impact. (12/17/2007 RT 267:17-25; and Eastshore's Opening Brief at 68-69.) Therefore, it does not matter that the differences cannot be explained, so long as both are below the level of significance, and they are.

Finally, Group Intervenors contest Eastshore's request to eliminate from Public Health-1 the requirement to test four of the 14 stacks. (Group Intervenors' Opening Brief on Contested Issues at 18.) The BAAQMD does not require such an unnecessarily redundant evaluation process. The BAAQMD is just as concerned about the emission of toxics as Staff. However, this concern is addressed in the BAAQMD's FDOC Permit Condition 24 and Permit Condition 24 requires a source test on only one of the 14 stacks. (Ex. 201 at 38.) This Permit Condition is included in the FSA as Condition AQ-24. (Ex. 200 at 4.1-60.) The BAAQMD witness testified that he was satisfied by the testing of only one engine because he reviewed the toxics data for the identical engines located at the Barrick Plant in Nevada and found that the emissions were very low. (12/17/2007 RT 256:19-25.) Eastshore proposes a compromise condition that is more stringent than the BAAQMD's Permit Condition. (Eastshore's Opening Brief at 65.)

Condition AQ-24 requires source testing of one engine. Eastshore's proposed revisions address Staff's concerns about ensuring collection of adequate data. If after a source test on a single engine does not result in three valid test runs, Eastshore proposes that additional engines would be tested until three valid runs are obtained from an engine. (Ex. 19 at 2 and Ex. 53 at 44.) All valid source test data will be used to calculate air toxic emission factors. (Ex. 19 at 2; Ex. 53 at 44; and Eastshore's Opening Brief at 65.)

Although it is possible that there will be some air toxic emissions variability among the 14 engines given the inherent limitations of source testing for trace constituents, Mr. Westbrook does not expect any variability to have an impact on risk assessment conclusions. (Ex. 19 at 2.) Many of the substances being tested have extremely low emissions and toxicity, meaning that even wide variability among the emission factors obtained from testing for these substances will still yield a small average change to the total risk contribution for these substances. (Ex. 19 at 2.) It should be stressed that both Eastshore and Staff's health risk assessments show results well below the level of significance. (See Public Health Table 4; Ex. 200 at 4.7-13; and Eastshore's Opening Brief at 65.)

Staff's proposal to evaluate four engines presents a much more costly testing program than is necessary to validate the emission factors or the total risk predicted in the public health risk analysis. (Ex. 19 at 1.) Staff's measurement program requires the collection of an inordinate amount of duplicative and extraneous data from multiple and identical engines. Such duplicative testing is burdensome, costly and not necessary to validate engine performance. As stated by

Mr. Westbrook, the Eastshore Project will consist of 14 identical reciprocating engines. A source test on a single engine, with three valid test runs, is sufficient to confirm the emission factors used for Eastshore's health risk assessment, as well as the health risk assessment produced by the CEC for the FSA. (Ex. 19 at 1-2; and Eastshore's Opening Brief at 66.)

X. ALTERNATIVES

Staff correctly concluded that no feasible alternative exists for the Eastshore Project and no party argues otherwise. (1/14/2008 RT: 73 13-15; Staff's Opening Brief at 22.) Because no feasible alternative exists and the Eastshore Project will provide significant local systems benefits, the CEC can, if it determines it is necessary, make findings of overriding consideration and license the Project.

XI. LOCAL SYSTEM EFFECTS

Staff correctly concluded that the Eastshore Project will provide significant benefits to the local system and no party argues otherwise. (Ex. 200 at 5.6-1; Staff's Opening Brief at 20-21.) One of the Eastshore Project's primary benefits is that it will serve as a local generation facility in an area that currently imports the vast majority of its power. (Ex. 200 at 5.6-1, 5.6-2.) Furthermore, the Eastshore Project will reduce transmission system losses between 6.5 MW and 19 MW per year. (Ex. 200 at 5.6-4; Staff's Opening Brief at 20-21.) Staff calculated that a reduction of this magnitude will save ratepayers $1.2 to $1.7 million per year. (*Id.*) Staff's conservative calculation minimized the economic benefits attributable to the Eastshore Project by, first, arbitrarily carving out RCEC's portion of any cumulative benefits before considering Eastshore's contribution, and, second, failing to include the value of lower emissions associated with the reduced transmission system losses. (Ex. 200 at 5.6-5; Ex. 14 at 4; Ex. 15 at 4-5; Staff's Opening Brief at 21 (acknowledging Staff's failure to quantify the value of lower emissions if Eastshore were built.) Staff's analysis, while extremely conservative when calculating Eastshore's economic benefits, still results in significant savings to ratepayers of approximately $16 million over a twenty-year period. (Ex. 200 at 5.6-5.)

The Eastshore Project will provide additional significant benefits to the local system. First, the Eastshore Project will increase reactive margins and thereby improve voltage stability and system reliability. (Ex. 200 at 5.6-1; *Id.* at Appendix B; Staff's Opening Brief at 20.)

Second, the Eastshore Project will reliably connect to the existing California Independent System Operator (CAISO)-controlled grid without the need for additional system upgrades. (Ex. 200 at 5.6-1, 5.6-6; Ex. 1 at 5-1 – 5-5; Staff's Opening Brief at 20.) Third, the Project will add operating flexibility to Pacific Gas & Electric ("PG&E") and the CAISO. (Ex. 14 at 3-4.) It is undisputed that the Eastshore Project will result in a variety of significant benefits to the local system.

XII. CONCLUSION

The above discussion clearly demonstrates that the Eastshore Project will be consistent with all applicable state, local, and regional laws, ordinances, regulations and standards and, with the specified mitigation, will not cause a significant environmental impact. Therefore, Eastshore respectfully requests that the CEC certify the Eastshore Project.

DATED: March 3, 2008

DOWNEY BRAND LLP

By: Jane E. Luckhardt
Jane E. Luckhardt

ATTACHMENT 1

O_2 to PM10 Trade-Off Ratio Calculations

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ılfur Compound Conversion for Mass Concentrations

ompound	MW	Conversion Factors			
		SO_2	SO_4^-	$(NH_4)_2SO_4$	$(NH_4)_2SO_4 \cdot 2H_2O$
SO_2	64	1.00	1.50	2.06	2.63
SO_4^-	96	0.67	1.00	1.38	1.75
$(NH_4)_2SO_4$	132	0.48	0.73	1.00	1.27
$(NH_4)_2SO_4 \cdot 2H_2O$	168	0.38	0.57	0.79	1.00

AI Paper Calculations - SO_2 Trade-Off Ratio Calculations for 12-7-90

ocation	Measured PM10 (ug/m3)	Measured SO_4 (ug/m3)	SO_2 Equivalent of SO_4 (ug/m3)	Measured SO_2 (ppb)	SO_2 (ug/m3)	SOx (ug/m3)	$(NH_4)_2SO_4$ (ug/m3)	$(NH_4)_2SO_4 \cdot 2H_2O$ (ug/m3)	Trade-Off Ratios	
oncord	147	4.6	3.07	10	26.2	29.3	6.3	8.1	3.6:1	4.6:1

astshore Analysis for 10-26-2006

ocation	Measured PM10 (ug/m3)	Measured SO_4 (ug/m3)	SO_2 Equivalent of SO_4 (ug/m3)	Measured SO_2 (ppb)	SO_2 (ug/m3)	SOx (ug/m3)	$(NH_4)_2SO_4$ (ug/m3)	$(NH_4)_2SO_4 \cdot 2H_2O$ (ug/m3)	Trade-Off Ratios	
oncord	52.8	0.4	0.27	0.6	1.57	1.84	0.55	0.70	2.63:1	3.34:1
an Pablo	52	0.2	0.13	1.8	4.72	4.85	0.28	0.35	13.86:1	17.63:1
an Francisco	58	1.1	0.73	3.5	9.17	9.90	1.51	1.93	5.14:1	6.55:1
rea Average	54.3	0.6	0.4	2.0	5.2	5.5	0.8	1.0	**5.58:1**	**7.10:1**

astshore Analysis for 12-7-2006

Location	Measured PM10 (ug/m3)	Measured SO_4 (ug/m3)	SO_2 Equivalent of SO_4 (ug/m3)	Measured SO_2 (ppb)	SO_2 (ug/m3)	SOx (ug/m3)	$(NH_4)_2SO_4$ (ug/m3)	$(NH_4)_2SO_4 \cdot 2H_2O$ (ug/m3)	Trade-Off Ratios	
oncord	36.2	1.0	0.67	1.2	3.1	3.81	1.38	1.75	2.18:1	2.77:1
an Pablo	42.4	1.0	0.67	3.8	10.0	10.62	1.38	1.75	6.07:1	7.73:1
an Francisco	53.1	2.1	1.40	5.5	14.4	15.81	2.89	3.68	4.30:1	5.48:1
rea Average	43.9	1.4	0.9	3.5	9.2	10.1	1.9	2.4	**4.22:1**	**5.36:1**

Eastshore Analysis for 12-25-2006

Location	Measured PM10 (ug/m3)	Measured SO_4 (ug/m3)	SO_2 Equivalent of SO_4 (ug/m3)	Measured SO_2 (ppb)	SO_2 (ug/m3)	SOx (ug/m3)	$(NH_4)_2SO_4$ (ug/m3)	$(NH_4)_2SO_4 \cdot 2H_2O$ (ug/m3)	Trade-Off Ratios	
Concord	60.9	7.1	4.73	1.0	2.62	7.35	9.76	12.43	0.59:1	0.75:1
San Pablo	58.2	14.7	9.80	1.8	4.72	14.52	20.21	25.73	0.56:1	0.72:1
San Francisco	57.7	10.4	6.93	4.3	11.27	18.20	14.30	18.20	1.00:1	1.27:1
Area Average	58.9	10.7	7.2	2.4	6.2	13.4	14.8	18.8	**0.71:1**	**0.90:1**

Eastshore Analysis - 3 day average

Location	Measured PM10 (ug/m3)	Measured SO_4 (ug/m3)	SO_2 Equivalent of SO_4 (ug/m3)	Measured SO_2 (ppb)	SO_2 (ug/m3)	SOx (ug/m3)	$(NH_4)_2SO_4$ (ug/m3)	$(NH_4)_2SO_4 \cdot 2H_2O$ (ug/m3)	Trade-Off Ratios	
Concord	50.0	2.8	1.89	0.9	2.45	4.33	3.90	4.96	0.87:1	1.11:1
San Pablo	50.9	5.3	3.53	2.5	6.46	10.00	7.29	9.28	1.08:1	1.37:1
San Francisco	56.3	4.5	3.02	4.4	11.62	14.64	6.23	7.93	1.85:1	2.35:1
Area Average	52.4	4.2	2.8	2.6	6.8	9.7	5.8	7.4	**1.31:1**	**1.66:1**

Hourly SO2 Measurements

	Pittsburg			Bethel Island			Concord			San Pablo			San Francisco (Ark.)			Vallejo		
	10/26/2006	12/7/2007	12/25/2007	10/26/2006	12/7/2007	12/25/2007	10/26/2006	12/7/2007	12/25/2007	10/26/2006	12/7/2007	12/25/2007	10/26/2006	12/7/2007	12/25/2007	10/26/2006	12/7/2007	12/25/2007
12:00 AM	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.002	0.001	0.004	0.003	0.001	0.002	0.000
1:00 AM	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.002	0.001	0.003	0.002	0.001	0.001	0.000
2:00 AM	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.002	0.001	0.002	0.002	0.001	0.001	0.000
3:00 AM																		
4:00 AM																		
5:00 AM	0.001	0.001	0.001	0.001	0.002	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.006	0.003	0.002	0.002	0.001	0.000
6:00 AM	0.001	0.001	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.004	0.004	0.001	0.005	0.003	0.002	0.001	0.001	0.000
7:00 AM	0.000	0.001	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.003	0.005	0.001	0.005	0.005	0.003	0.001	0.001	0.000
8:00 AM	0.000	0.001	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.002	0.006	0.001	0.005	0.007	0.003	0.001	0.001	0.000
9:00 AM	0.000	0.001	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.002		0.001	0.003	0.006	0.003	0.002	0.001	0.000
10:00 AM	0.000	0.002	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.002		0.001	0.002	0.007	0.004	0.001	0.001	0.001
11:00 AM	0.001	0.002	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.003		0.001	0.002	0.007	0.006	0.001	0.001	0.001
12:00 PM	0.000	0.002	0.001	0.001	0.002	0.001	0.000	0.002	0.001	0.003	0.007	0.001	0.003	0.006	0.007	0.001	0.001	0.001
1:00 PM	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.002	0.001	0.005	0.006	0.002	0.003	0.007	0.004	0.001	0.001	0.002
2:00 PM	0.001		0.002	0.001	0.002	0.001	0.001	0.002	0.001	0.002	0.008	0.002	0.004	0.009	0.003	0.001	0.000	0.002
3:00 PM	0.001		0.001	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.008	0.002	0.003	0.007	0.003	0.001	0.000	0.001
4:00 PM	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.005	0.002	0.002	0.007	0.006	0.001	0.001	0.001
5:00 PM	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.002	0.001	0.002	0.007	0.002	0.002	0.006	0.006	0.001	0.001	0.001
6:00 PM	0.001	0.001	0.002	0.002	0.001	0.000	0.001	0.001	0.001	0.001	0.005	0.002	0.004	0.006	0.006	0.001	0.001	0.001
7:00 PM	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.005	0.006	0.005	0.001	0.001	0.001
8:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.005	0.007	0.001	0.001	0.001
9:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.006	0.005	0.001	0.001	0.001
10:00 PM	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.009	0.005	0.006	0.001	0.000	0.001
11:00 PM	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.005	0.007	0.001	0.000	0.001
Average (ppm)	0.0006	0.0010	0.0011	0.0013	0.0017	0.0010	0.0006	0.0012	0.0010	0.0018	0.0038	0.0018	0.0035	0.0055	0.0043	0.0011	0.0009	0.0007
Average (ppb)	0.6	1.0	1.1	1.3	1.7	1.0	0.6	1.2	1.0	1.8	3.8	1.8	3.5	5.5	4.3	1.1	0.9	0.7

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE EASTSHORE ENERGY CENTER IN CITY OF HAYWARD BY TIERRA ENERGY	DOCKET NO. 06-AFC-6 (AFC Accepted 11/8/06) **PROOF OF SERVICE** (Revised 1/18/08)

INSTRUCTIONS: All parties shall either (1) send an original signed document plus 12 copies or (2) mail one original signed copy AND e-mail the document to the address for the docket as shown below, AND (3) all parties shall also send a printed or electronic copy of the document, which includes a proof of service declaration to each of the individuals on the proof of service list shown below:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

Greg Trewitt, Vice President Tierra Energy 710 S. Pearl Street, Suite A Denver, CO 80209 greg.trewitt@tierraenergy.com	David A. Stein, PE, Vice President CH2M Hill 155 Grand Avenue, Suite 1000 Oakland, CA 94612 dstein@ch2m.com
Jennifer Scholl, Senior Program Manager CH2M Hill 610 Anacapa Street, Suite B5 Santa Barbara, CA 93101 jscholl@ch2m.com	Harry Rubin, Executive Vice President RAMCO Generating Two 1769 Orvietto Drive Roseville, CA 95661 hmrenergy@msn.com
Jane Luckhardt, Esq. Downey Brand, LLP 555 Capitol Mall, 10th Floor Sacramento, CA 95814 jluckhardt@downeybrand.com	Larry Tobias CA Independent System Operator 151 Blue Ravine Road Folsom, CA 95630 ltobias@caiso.com
Pillsbury Winthrop Shaw Pittman LLP Attn: Diana Graves, Esq. Attn: Michael Hindus, Esq. 50 Fremont Street San Francisco, CA 94120 diana.graves@pillsburylaw.com michael.hindus@pillsburylaw.com	Richard Winnie, Esq. Alameda County Counsel Att: Andrew Massey, Esq. 1221 Oak Street, Rm. 463 Oakland, CA 94612 richard.winnie@acgov.org andrew.massey@acgov.org

James Sorrenson Alameda County Development Agency Attn: Chris Bazar & Cindy Horvath 224 West Winton Avenue, Room 110 Hayward, CA 94544 james.sorensen@acgov.org chris.bazar@acgov.org cindy.horvath@acgov.org	Greg Jones, City Manager City of Hayward 777 B Street Hayward, CA 94541 greg.jones@hayward-ca.gov maureen.conneely@hayward-ca.gov michael.sweeney@hayward-ca.gov david.rizk@hayward-ca.gov
Law Office of Jewell J. Hargleroad Jewell J. Hargleroad, Esq. 1090 B Street, No. 104 Hayward, CA 94541 jewellhargleroad@mac.com Paul N. Haavik 25087 Eden Avenue Hayward, CA 94545 lindampaulh@msn.com	Jay White, Nancy Van Huffel, Wulf Biueschke & Suzanne Barba San Lorenzo Village Homes Assn. 377 Paseo Grande San Lorenzo, CA 94580 jwhite747@comcast.net slzvha@aol.com wulf@vs-comm.com suzbarba@comcast.net
Charlotte Lofft & Susan Sperling Chabot College Faculty Association 25555 Hesperian Way Hayward, CA 94545 clofft@chabotcollege.edu ssperling@chabotcollege.edu	Libert Cassidy Whitmore Attn: Laura Schulking, Esq. Attn: Arlin B. Kachalia, Esq. 153 Townsend Street, Suite 520 San Francisco, CA 94107 lschulkind@lcwlegal.com akachalia@lcwlegal.com
Robert Sarvey 501 W. Grantline Rd. Tracy, CA 95376 sarveybob@aol.com	
Jeffrey D. Byron, Presiding Member jbyron@energy.state.ca.us	
Susan Gefter, Hearing Officer sgefter@energy.state.ca.us	Caryn Holmes, Staff Counsel cholmes@energy.state.ca.us
Bill Pfanner bpfanner@energy.state.ca.us	Public Adviser pao@energy.state.ca.us

DECLARATION OF SERVICE

I, Lois Navarrot, declare that on March 3, 2008, I deposited copies of the attached **EASTSHORE ENERGY CENTER'S OPENING BRIEF ON CONTESTED SUBJECT AREAS** in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of the California Code of Regulations, title 20, sections 1209, 1209.5 and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

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

Lois Navarrot