BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re: Russell City Energy Center PSD Permit No. 15487	)	PSD Appeal Nos. 10-02; 10-03; 10-04; 10-08; 10-09; 10-10

RUSSELL CITY ENERGY COMPANY, LLC'S
CONSOLIDATED EXHIBITS TO ITS
RESPONSES TO PETITIONS FOR REVIEW
FILED BY:

CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT
(PSD APPEAL 10-02)

CITIZENS AGAINST POLLUTION
(PSD APPEAL 10-03)

ROBERT SARVEY
(PSD APPEAL 10-04)

HAYWARD AREA RECREATION AND PARK DISTRICT
(PSD APPEAL NO. 10-08)

MINANE JAMESON
(PSD APPEAL NO. 10-09)

IDOJINE J. MILLER
(PSD APPEAL NO. 10-10)

VOLUME 2 OF 2

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EXHIBIT INDEX

Date	Description	Vol:Exhibit
12/08/2008	Statement of Basis for Draft Amended Federal "Prevention of Significant Deterioration" Permit, Russell City Energy Center, Bay Area Air Quality Management District ("BAAQMD") Application Number 15487	1:1
02/04/2010	Letter to Rick Thomas, Calpine Corporation, from Brian Bateman, BAAQMD, Re: Application Number 15487, Plant Number 18136	1:2
08/03/2009	Additional Statement of Basis Draft Federal "Prevention of Significant Deterioration" Permit, Russell City Energy Center, BAAQMD Application Number 15487	1:3
02/03/2010	Prevention of Significant Deterioration Permit Issued Pursuant to the Requirements of 40 CFR § 52.21, BAAQMD, PSD Permit Number 15487, Permittee: Russell City Energy Center	1:4
02/00/2010	Responses to Public Comments, Federal "Prevention of Significant Deterioration" Permit, Russell City Energy Center, BAAQMD	1:5
02/04/2010	E-mail to Kevin Poloncarz from Barry Young, BAAQMD, Subject: Russell City Energy Center - Notice of Issuance of Final PSD Permit	1:6
04/06/2010	Notice of Issuance of Final Preservation of Significant Deterioration (PSD) Permit for the Russell City Energy Center	1:7
09/16/2009	Letter to Weyman Lee, BAAQMD, from Jewell J. Hargleroad, Re: Russell City Energy Center (RCEC) Application No. 15487: Response to Statement Of Basis for Proposed Draft Federal "Prevention of Significant Deterioration" Permit	2:8
09/25/2009	Letter to Weyman Lee, BAAQMD, from Jewell J. Hargleroad, Re: Addendum to Comments Submitted Concerning Russell City Energy Center (RCEC) Application No. 15487 re Additional SOB	2:9
07/30/2009	PM2.5 PSD Source Impact Analysis for the Russell City Energy Center Draft Prevention of Significant Deterioration (PSD) Permit, prepared by Atmospheric Dynamics, Inc.	2:10
03/00/2004	Site Permit Application, Mankato Energy Center, Mankato, Minnesota, Docket No. 04-76-PPS Calpine	2:11
	Spreadsheet: Mankato Energy Center Start profile for winter months	2:12
04/02/2009	E-mail to Alexander Crockett, BAAQMD, from Kevin Poloncarz, Subject: RCEC Startup/Shutdown Analysis of Annual Limits, Auxiliary Boiler and CO BACT (*attachments omitted*)	2:13
02/24/2010	E-mail to Helen Kang from Kevin Poloncarz, Subject: FW: RCEC Public Records Act Request	2:14

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EXHIBIT INDEX

Exhibit 8

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September 16, 2009

Via Email weyman@baaqmd.gov and U.S. Mail
Weyman Lee,
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939 Ellis Street,
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Re: **Russell City Energy Center (RCEC) Application No. 15487: Response to Statements Of Basis for Proposed Draft Federal "Prevention of Significant Deterioration" Permit**

Dear Weyman:

This is on behalf of Chabot-Las Positas College District, which community college campus Chabot is located just 1.25 miles southeast, downwind from this proposed facility referred to as Russell City Energy Center or RCEC.

As mentioned in our February 6, 2009 comments as well as subsequent correspondence on April 28, 2009, in which we requested administrative notice of this fact, the Chabot campus, which consists of over 15,000 students, faculty and staff, has qualified for designation as a Hispanic-Serving Institution, or HSI under federal law with its Latino students making up 32 percent of all new students on campus, and 26 percent of total enrollment. Although we requested that the permitting analysis take into account this as an important environmental justice consideration- an analysis which is absent from your December 2008 Draft Amended SOB- unfortunately this continues to be absent in your additional Statement of Basis ("SOB"). In this regard, we object to the absence of this analysis given its relevance in exercising your discretion on this permit application.

Preliminarily, the PSD program does not "'create an entitlement to degrade air quality in general or visibility in particular, **because nothing in the CAA provides for issuance of a PSD permit as a matter of right.'**" (*American Corn Growers Association v. Environmental Protection Agency* (D.C. Cir. 2002) 291 F.3d 1, 32-33, emphasis added.) As summarized by the July 2008 Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), Vol. 73 Fed. Reg. No. 96,

The PSD requirements include but are not limited to:

-Installation of Best Available Control Technology (BACT);

-Air quality monitoring and modeling analyses to ensure that a project's emissions will not cause or contribute to a violation of any NAAQS or maximum allowable pollutant increase (PSD increment);

-violation of any NAAQS or maximum allowable pollutant increase (PSD increment);

-Notification of Federal Land Manager of nearby Class I areas; and

-Public comment on the permit.

Nonattainment NSR requirements include but are not limited to:

-Installation of Lowest Achievable Emission Rate (LAER) control technology;

-Offsetting new emissions with creditable emissions reductions;

-Certification that all major sources owned and operated in the State by the same owner are in compliance with all applicable requirements under the Act;

-An alternative siting analysis demonstrating that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification; and

-Public comment on the permit.

Rules: Implementation of the New Source Review (NSR) Program for PM2.5, amending 40 CFR Parts 51 and 52.

Here, the Additional SOB purports to perform a "split" analysis applicable to PM2.5 given the District is not in attainment, although the designation was fully executed, but remains "ineffective" until finally published. (Addi. SOB, p. 52.) However, absent from the Additional SOB is the required analysis for non-attainment as outlined above in the 40 CFR Parts 51 and 52 relied on by the District. For that matter, Chabot-Las Positas takes administrative notice that the District remains in violation of the NAAQS for 8 hour Ozone, under which NOx must be analyzed applying the above nonattainment NSR analysis and requiring LAER. In exercising the District's discretion in deciding this application, these important factors likewise must be considered.

The Additional SOB Still Fails To Satisfy BACT Based On The Records Available From Caithness:

Under the Additional Statement of Basis, '[t]he Air District agree[d] . . . that based on all of the available information, including the examples from these three facilities, the facility should be able to achieve lower BACT startup emissions limits than the Air District initially proposed in several areas." (Addi. SOB, p. 59.) Although we are agree that the Caithness permit is helpful in these determinations, in examining these lower BACT startup emissions for Caithness, "one for when the auxiliary boiler is being used and one for when the auxiliary boiler is not being used," p. 64, we note that there is a substantial discrepancy with the information provided in the Additional Statement of Basis and the Siemen's vendor information provided in the 2004 Caithness application which we obtained from New York. Enclosed by mail is a copy of a portion of the application which we received.

Applying the Siemen's vendor information attached applicable to temperatures of 51 degrees, comparable to the Bay Area, the District must reexamine that "the costs associated with requiring such equipment at Russell City would not be justified." As established below, the startup emissions reductions are not "relatively small" at all.

Below is a comparison we compiled utilizing the proposed limits on RCEC and comparing the emission reductions identified by Siemen's in the Caithness application with and without the auxiliary boiler, the emission reductions gained with an auxiliary boiler in pounds compared to RCEC limits are bracketed:

Comparison of Caithness and Proposed Russell City Startup Emissions Limits ***without AND with*** Auxiliary Boiler

Startup Scenario	**Without Boiler**	**With Boiler**		**Proposed RCEC Limit**
	127 lbs. NOx	96 lbs. NOx	[1]	95 lbs. NO2
Hot Startup	891 1bs. CO	685 lbs. CO	[206]	891 lbs. CO
	488 lbs. NOx	125 lbs. NOx	[0]	125 lbs. NO2
Warm Startup	2813 lbs. CO	826 1bs. CO	[1,688]	2514 lbs. CO
	488 lbs. NOx	147 lbs. NOx	[333]	480 lbs. NO2
Cold Startup	2813 lbs. CO	833 1bs. CO	[1,681]	2514 lbs. CO

Total difference in CO emissions amount to 3,565 lbs and NOx emissions amount to 334 lbs., a dramatic two-thirds reduction in the emissions of CO for warm and cold start-ups and a two-thirds reduction for NO2 for Cold Start-ups. (*Compare* Table 5, p. 65 with attached Siemen's chart for emissions with boiler at 51 degrees.)

Although the assumption in the Additional SOB contradicts the representations and assumptions made before the California Energy Commission in 2007, which assumed

daily startups in response to Calpine's request for unlimited startups,[1] for comparison purposes we also applied the District's assumption of "an annual operating profile containing 6 cold startups and 100 warm startups." (ASOB, p. 69.) Applying the District's limited assumptions in the Additional SOB, we agree that the reduction for NOx for cold startups results in a difference of .9 tons (0 for warm start-ups).

Based on the Siemen's data provided in their application dated December 14, 2004, however, we disagree that "12.4 tons of CO per year" would be reduced. (ASOB, pp. 69-70.) Instead, applying the Additional SOB's limited assumed annual operating profile of 6 cold startups and 100 warm startups, to which we object as it contradicts Calpine's representations before the CEC, we arrive at 84.4 tons of CO reduced for warm-startups and 5 tons of CO reduced for cold start-ups, **resulting in an 89.9 ton reduction of CO, *eight times more* than the amount represented in the ASOB.** Applying the assumptions in the June 2007 CEC FSA, the emission reductions that would be achieved would be even far greater.

As a result, applying the "annualized cost of $1,029,521 for the installation and operation of the auxiliary boiler," as provided by Calpine, ASOB, p. 70, the cost effectiveness for the CO reduction as calculated by Calpine likewise falls from Calpine's "estimate of $83,025 per ton for CO reduction" by eight times to $11,515 per ton for CO reduction. As a result, BACT clearly requires an auxiliary boiler. Given Calpine's refusal to abide by BACT as documented by the record, requires that the application be denied.

The Air Analysis Is Inadequate And Incomplete Requiring That The Application Either Be Denied Or A Complete And Proper Full Impact Study Performed:

There Is No Class I Analysis:

As the Court of Appeal in *American Corn Growers, supra,* recently explained,

> While the PSD program generally allows for a small increment of air quality deterioration in Class I areas, section 165 of the CAA also provides for the additional protection of air quality-related values, "including visibility," in Class I Federal areas beyond that provided by the increments. **That is, where the FLM [Federal Land Manager] demonstrates that emissions from a new or modified source will have an adverse impact** on air quality-related values (AQRVs), notwithstanding the fact that the emissions from the source do not cause or contribute to concentrations in excess of the increment for a Class I area, ***"a permit shall not be issued***." Section 165(d). **Thus, under PSD there can be *no increase* in emissions from the construction or modification**

[1] Under the June 2007 Final Staff Assessment (Amendment), p. 4.1-5 "maximum **daily emissions were calculated** by using the emissions ***of two start up/shut*** down **cycle**s for each turbine." (Emphasis and italics added.) *Also see,* June 2007 FSA p. 4.1-6, Table 2, n. 3: "Daily emissions include *2* start-ups (480 pounds NOx *per* cold start-up . . .)."

> **of a major stationary source where that increase would result in adverse impacts on AQRVs in a Class I Federal area.**

(*American Corn Growers, supra*, 291 F.3d at 33-34.)

At pages 88-89 of the Additional SOB, under Class I Areas Analysis, the District identifies Point Reyes National Seashore as located approximately 62 km from the project requiring a Class I area impact analysis for PM 2.5. In doing so, the Additional SOB states that the "District used the previously-conducted AERMOD analysis for PM 10 impacts, and conservatively assumed that all of the PM 10 from the Project is PM2.5. The AERMOD analysis showed that the particulate matter impact would be on 0.06 ug/m3 at Point Reyes National Seashore" and therefore the project would "not have any significant air quality impact on any Class I area."

However, this conclusion is completely unsupported. Technically an AERMOD analysis is strictly applicable to a distance *within **50 km*** of the project. Point Reyes is 62 km. (USEPA Modeling Guideline or Appendix W: Appendix A of Part 51—Summaries of Preferred Air Quality Models, "a. Recommendations for Regulatory Use (1) AERMOD is appropriate for . . . '[t]ransport distances over which steady-state assumptions are appropriate, ***up to*** 50 km." Emphasis and italics added.) Therefore, the USEPA Modeling Guideline or Appendix W recommends the use of the model CALPUFF for applications beyond 50 km.[2] Here, only AERMOD was used which technically cannot analyze impacts the distance of Point Reyes. As a result, there is no Class I Analysis provided.

Using The Public Records' Modeling Files And The Same Criteria And Emission Sources, Our Run Resulted In A Project Only 24-Hour Maximum Concentration Of 6.33ug/m3, Requiring A Reexamination Utilizing The Official Approved EPA AERMOD Program.

As you might be aware, the District provided us the modeling files upon which the Additional SOB relies. According to the Additional SOB, relying on the Summary of Air Quality Impact Analysis for PM2.5 From the Russell City Energy Center prepared by Calpine, attached to Memorandum from Glen Long to Weyman Lee, July 27, 2009 (or "Summary of PM2.5 Air Quality Impact Analysis"),

> The Air District has found that emissions from the project by itself will cause ambient PM2.5 concentrations above both of these SILs. **For 24-hour average concentrations the project will have a maximum impact of 4.9** µg/m3, and for annual average concentrations the project will have

[2] "**AERMOD is appropriate for** . . . [t]ransport distances over which steady-state assumptions are appropriate, **up to 50km** . . ." (Appendix W, Appendix A1, p. 455-456, emphasis added.) *Compare*, "Recommendations for Regulatory Use: (1) CALPUFF is appropriate for long range transport (source-receptor distances of 50 to several hundred kilometers) of emissions from point, volume, area, and line sources. (Appendix W, Appendix A4, p. 463.)

> a maximum impact of 0.5 µg/m3.[fn.] Because the project's contribution will be above these significance thresholds, a full impact analysis must be conducted utilizing multi-source modeling.

(Addi. SOB, p. 84 & fn. 147, relying on fn. 141 & Table III, emphasis added.)

Given the close proximity of this major stationary source of pollution to the Chabot campus, and the significant health hazards presented by both PM2.5 and CO2, among the other hazardous pollutants generated, we sought to examine the air modeling analysis.[3] Utilizing the air modeling files provided from the District, the rural option (with which we disagree-see p. 7 & footnote 5), and the exact same inputs as the applicant, our modeling run resulted in a **24-hour average concentrations for the project only of a maximum impact of 6.33** µg/m3. The high 2nd high concentration was 5.53 µg/m3 and the high 8th high concentration was 3.75 µg/m3. The only difference between these runs, from what we can tell, is that our modeling run utilized the EPA's AERMOD Program.[4] Calpine utilized a commercial version as reflected on the air run files stating AERMOD software from BEE-Line:

> **BEE-Line Software: BEEST for Windows (Version 9.78a) data input file** Model: AERMOD.EXE Input File Creation Date: 4/30/2009 Time: 11:37:47 AM

The AERMOD program our modeling utilized is the official version obtained from the EPA, which is the appropriate protocol under Appendix W to Part 51. As reflected by Appendix W, Calpine's use of the private proprietary program is prohibited: *See*, Appendix W, "Preferred Modeling Techniques," Section 3.1., b. vi, page 68231: "**model and its [source] code *can not* be proprietary.**" (Emphasis and italics added.)

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[3] Chabot-Las Positas's air modeling files applied AERMOD version 07026 model, currently the latest version approved by the US Environmental Protection Agency (US EPA). Additionally, stack parameters such as location, stack height, diameter, temperature and exit velocity for RREC emissions sources were taken from the CD-ROM provided by your office; also, building dimensions necessary for the simulation of building wake effects were taken from the CD-ROM provided.

An emission rate of 1.134 g/s was used for each turbine, which is higher than the rate of 0.945 g/s specified in Table 2 of Calpine's SIA Report. In addition to two turbines, there are ten other point sources representing the cooling towers (9 point sources with an emission rate of 0.03066 g/s for each point source) and a fire pump (with an emission rate of 4.167E-04 g/s). Emissions rates modeled for these ten other sources are the same as those in Table 2 of Calpine's SIA Report.

[4] The results generated by our modeling run are documented and we would be happy to share those files with your office.

Given this significant difference in results and improper use of a proprietary program, absent denying the application, minimally the District must recalculate the air modeling determinations utilizing the appropriate AERMOD program such as provided by the EPA. In doing so, we urge the District to also apply the *multiple urban* option given this is a metropolitan area governed by different jurisdictions, zoned for light industrial, commercial and single and multi-family residential.[5]

A Full Impact Analysis Has Not Been Performed Of The Impact Area.

Under the Additional SOB's Air Quality Impact Analysis for PM 2.5, the District acknowledges the following at pp. 84-85:

> **If the concentrations from the project by itself would be above the Significant Impact Level, a full impact analysis is required based on multi-source modeling**. The full impact analysis considers the project's contribution to ambient air pollution levels in conjunction with the contributions from other nearby sources and background levels to determine what the total ambient air concentrations would be if the project is built. If the total ambient air concentrations would not exceed the NAAQS at any location, or the project's contribution is below the Significance level at every location where the NAAQS would be exceeded, then the project does not "cause or contribute to air pollution in violation [a] national ambient air quality standard" within the meaning of 40 C.F.R. section 52.21(k)(1). **If the total concentrations would exceed the NAAQS, and the project's contribution to that exceedance is above the Significance level at the location of the exceedance, then project is not eligible for a PSD permit.**

(Emphasis added.)

Here, the District proposed to use "the lowest of the proposed SIL:s, which are 1.2 ug/m3 for 24-hour average PM 2.5 concentrations and .3 ug/m3 for annual average PM 2.5 concentrations." Further, the Additional SOB finds "that emissions from the project by itself will cause ambient PM2.5 concentrations above both of these SILs," 4.9 ug/m3 (24 hours)[6] and .5 ug/m3 (annual) respectively. Therefore, the District concludes that "a full impact analysis must be conducted utilizing multi-source modeling." (Additional SOB, p. 85.)

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[5] In addition to intending to perform the modeling run to confirm the calculations provided by Calpine, we also performed a "single urban" run which also increased the concentrations above those reported here. However, given the zoning and use, as Hayward is known as the "Heart of the Bay," we suggest the multiple urban option is the appropriate choice.

[6] As shown by the modeling results run by Chabot-Las Positas, this concentration level is erroneous and must be re-run; by utilizing this erroneous concentration level for argument purposes, Chabot-Las Positas does not waive any arguments.

In making this analysis, the District relies in part on the September 21, 2007 Proposed Rule, "Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM2.5)—Increments, Significant Impact Levels (SILs) and Significant Monitoring Concentration (SMC)", 72 Fed. Reg. 54112, 54138-39 (Sept. 21, 2007) (otherwise referred to as "Proposed PM2.5 Increment, SIL & SMC Rule"). (Additional SOB, p. 85 & fn. 144.) However, the Proposed PM2.5 Increment, SIL & SMC Rule provides the following:

> Significant Impact Levels or SILs are numeric values derived by EPA that may be used to evaluate the impact a proposed major source or modification may have on the NAAQS or PSD increment. The SILs currently appear in EPA's regulations in 40 CFR 51.165(b), which are the provisions that require States to operate a preconstruction review permit program for major stationary sources that wish to locate in an attainment or unclassifiable area but would cause or contribute to a violation of the NAAQS. **The SILs in that regulation are the level of ambient impact that is considered to represent a "significant contribution" to nonattainment.**
>
> Although 40 CFR 51.165 is the regulation that establishes the minimum requirements for nonattainment NSR programs in SIPs, **the provisions of 40 CFR 51.165(b) are actually applicable to sources located in attainment and unclassifiable areas**. See 40 CFR 51.165(b)(4). **Where a PSD source located in such areas may have an impact on an adjacent non-attainment area, the PSD source must still demonstrate that it will not cause or contribute to a violation of the NAAQS in the adjacent area. This demonstration may be made by showing that the emissions from the PSD source alone are below the significant impact levels set forth in 40 CFR 51.165(b)(2). However, where emissions from a proposed PSD source or modification would have an ambient impact in a non-attainment area that would exceed the SILs, the source is considered to cause or contribute to a violation of the NAAQS and *may not be issued a PSD permit* without obtaining emissions reductions to compensate for its impact.** 40 CFR 51.165(b)(2)-(3).

(72 Fed. Reg. 54112, 541137-38, emphasis and italics added.)

Here, as acknowledged by the Additional SOL, the Bay Area is in nonattainment for PM2.5 and at any time that designation will become officially effective. Applying the Proposed PM2.5 Increment, SIL & SMC Rule, the concentrations from the project by itself are three to five times the Significant Impact Level and clearly fall within the provisions discussed above that "the source is considered to cause or contribute to a violation of the NAAQS and may not be issued a PSD permit without obtaining emissions reductions." (*Op cit.*, 54113738.) As a nonattainment region, this is where the analysis starts and stops.

Assuming the Bay Area was in attainment for PM2.5, which it is not, then under Proposed PM2.5 Increment, SIL & SMC Rule, then the District "must conduct a more extensive air quality analysis to demonstrate that [the major stationary source] **will not cause or contribute to a violation of the NAAQS or PSD increment** in the attainment or unclassifiable area." (*Op cit supra*.) Although the Additional SOB purports to conduct such an analysis, as established below, it does not and this application may not be approved without that necessary "full impact analysis . . . utilizing multi-source modeling." .

The NAAQS Dispersion Modeling Inputs Are Unrepresentative And Incomplete.

According to the July 30, 2009 Summary of Air Quality Impact Analysis for PM2.5 referred to in footnote 140 as the "Applicant's Impact analysis for PM2.5,"[7] the NAAQS dispersion modeling inputs included emissions of PM2.5 from Highway 92, which were added to the source emissions data from RCEC. Additionally,

> **The Air District provided the emissions of PM2.5 from mobile sources** that were based on model year 2007 car/truck vehicle mix and emission factor data, **specific to Alameda County**. Additionally, traffic count data based on average daily east and westbound traffic were provided for the following segments:
>
> - **San Ramon Road Interchange**
> - **Palomares/Eden Canyon Road** Interchange
> - Crow Canyon Road/Center Street
> - Redwood Road
> - Strobridge Avenue
> - Junction Route 238

(Emphasis added.) Although we agree with CAP that the relevant impact area which should be examined is 50 km, within which these above interchanges fall, these road segments are located beyond the purported 8.1 km or 6 mile impact area to which the "full impact analysis " is limited. (Addi. SOB, p. 87.)

In fact, **the San Ramon Road interchange is not even in Alameda County**, but Contra Costa County. Depending upon "which" junction of route 238 is included,[8] these

[7] There is apparently some confusion among SIA Reports – one is dated July 27, 2009, which is posted on the web and available through your Public Records documents. Counsel, however, was provided a revised report dated July 30, 2009, from Calpine's attorney who anticipated this would be posted on the District's website. Although Calpine's attorney identified the modifications between the documents as "minor," we do not agree that changes, which "concern identification of the impact area and nearby sources for the cumulative impacts analysis and NAAQS compliance demonstration", are minor.

remaining interchanges are all located on highway 580 towards Dublin/Pleasanton. (The Palomares Eden Canyon Road interchange is the interchange prior to the Dublin/Pleasanton exit.) **On the other hand**, **highway 880**, or the Nimitz, which carries far more truck traffic than highway 92, **is completely excluded**. In fact, neither the Additional SOB, the December 2008 Amended SOB or the applicant's July 27 or July 30 Summary even mention highway 880 which clearly falls within the purported 6 mile impact area and must be included as part of emissions of PM2.5 mobile sources within the impact area.[9]

As the NSR Workshop Manuel explains:

> IV.C.1 THE NAAQS INVENTORY
>
> While air quality data may be used to help identify existing background air pollutant concentrations, **EPA requires that, *at a minimum, all nearby sources be explicitly modeled* as part of the NAAQS analysis**. The Modeling Guideline defines a **"nearby**" source **as any point source expected to cause a significant concentration gradient in the vicinity** of the proposed new source or modification. For PSD purposes, **"vicinity" is defined as the impact area**. **However, the location of such nearby sources could be anywhere within the impact area *or an annular area extending 50 kilometers beyond the impact area*.** (See Figure C-5.)

(C 32.) Here, the Impact Area is defined as a distance of 8.1 km radius from the project or a six mile radius. (Additional SOB, p. 87.) Given these significant interchanges fall within that impact area which presently are excluded, but "at a minimum" are nearby sources required to be explicitly modeled, leaves this "full impact study" materially incomplete.

Based on this error alone, disregarding all the substantial other sources falling within this six mile radius which were not included, applying the analysis under the Additional SOB, the modeling inputs must be corrected and runs performed excluding locations in Contra Costa County and towards Pleasanton/Dublin and including mobile sources for highway 880, among other sources, which fall within the impact area designated by the Additional SOB. Given the volume of traffic for nearby interchanges located within a two mile radius of the project, such as for 880 and 92, 880 and A Street, 880 and Winton, far exceeds the daily volume for those interchanges whose volumes

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[8] 238 has two distinct junctions: one at 880 and 238 at its western end, which and the other at its eastern end, 580 and 238. Unclear is which junction is being used.

[9] We additionally take administrative notice of the testimony of Sandra Witt in the Eastshore proceeding discussed in our earlier correspondence and attach a portion of her testimony that the zip codes of 94541 and 94544, where the project is located and which fall within the 8.1 km impact area, suffer from abnormally high respiratory problems. As reflected by the attached maps, highway 880 cuts straight through this impact area.

were inputted, applying this data will result in a material different result establishing a violation of the Clean Air Act.[10]

The Impact Analysis Is Fundamentally Flawed: The defined impact radius is underestimated.

Under the Additional SOB's 24-Hour NAAQS Analysis, in addition to receptor locations exceeding the signficiant impact level of 1.2 ug/m3 being mostly located within a "distance of up to 1.26 km," there were also "six specific more remote spots in the East Bay hills out to a furthest distance of 8.1 km." Although the Additional SOB states that "[f]or the full modeling analysis, the Air District considered the cumulative impact of the facilities emissions, background ambient air concentrations, and emissions from other nearby sources on receptors located within this impact area," as discussed above, this obviously did not take place given the exclusion of mobile emissions from 880.

Under the NSR Guidelines, "impact area(s) will be used to[] set the boundaries within which ambient air quality monitoring data may need to be collected, [] define the area over which a full impact analysis (one that considers the contribution of *all sources*) must be undertaken, and [] guide the identification of other sources to be included in the modeling analyses." (C31.)

> The proposed project's impact area is the geographical area for which the required air quality analyses for the NAAQS and PSD increments are carried out. This area includes **all locations where the significant increase in the potential emissions of a pollutant from a new source**, or significant net emissions increase from a modification, **will cause a significant ambient impact (i.e., equal or exceed the applicable significant ambient impact level**, as shown in Table C-4). ***The highest modeled pollutant concentration for each averaging time is used to determine whether the source will have a significant ambient impact for that pollutant.***
>
> The impact area is a circular area with a radius extending from the source to (1) the most distant point where approved dispersion modeling predicts a significant ambient impact will occur, or (2) a modeling receptor distance of 50 km, whichever is less. Usually the area of modeled significant impact does not have a continuous, smooth border. (It may actually be comprised of pockets of significant impact separated by pockets of insignificant impact.) Nevertheless, the required air quality analysis is carried out within the circle that circumscribes the significant ambient impacts, as shown in Figure C-4.

(C26)

[10] We refer you to Alameda County Congestion Management Agency 2006-7 Final Performance Report : http://accma.ca.gov/pages/HomeCongestionMgmt.aspx.

Under Calpine's Source Impact Analysis dated July 30, 2009 provided by Calpine's attorney, "the "impact area" is identified by drawing a circle around the site with a radius equal to the distance to the farthest location where an exceedance of the SIL is modeled to occur." (July 30, 2009 SIA, p. 11.) According to the Additional SOB, p. 87:

> For the 24-hour standard, modeling of the facility's potential ambient air quality impacts showed emissions over the most-conservative 1.2 µg/m3 SIL. The receptor locations where the facility's impacts were over the SIL were mostly within the immediate vicinity of the facility out to a distance of up to 1.26 km, **but also at six specific more remote spots in the East Bay hills out to a furthest distance of 8.1 km. The Air District therefore considers the "impact area" for the full impacts analysis to consist of a circle around the facility with a radius of 8.1 km**. For the full modeling analysis, the Air District considered the cumulative impact of the facility's emissions, background ambient air concentrations, and emissions from other nearby sources on receptors located within this impact area.

In addition to arriving at a different maximum concentration level for 24 hour analysis, Chabot's modeling results also arrived at a larger impact area, utilizing the maximum concentration point, the location of the east turbine as the center,[11] and applying the SIL of 1.2 ug/m3, our calculations result in a radius of 11,430 meters, 11.43 km or 7.1 miles.

Additionally, in making this run, we want to bring to your attention that rather than arriving at 6,019 receptors as contended by Calpine, "where the RCEC "first high" impacts (i.e., the maximum predicted concentration) exceeded 1.2 µg/m3 on a 24-hour basis," we arrived at 8,424 receptors. (See July 30, 2009 Source Impact Analysis, p. 11 ["the modeling receptor grid of 31,000 receptors was reduced to 6,019 receptors"; *compare with*, Glen Long's July 27, 2009 Memo to you on Air Quality Impact Analysis, pp.5-6, stating there were "approximately 18,400 receptors" within 1.26 km for the 24 hour average impact.].)

Based on our research, the procedure provided by the EPA to calculate the maximum 24-hour for comparison against the national ambient air quality standards (NAAQS) for PM2.5, with five years of meteorological data, is to utilize the maximum 24-hour concentration based on the high-eighth-high (H8H) for PM2.5. (Dec. 2006 ADDENDUM to USER'S GUIDE FOR THE AMS/EPA REGULATORY MODEL – AERMOD (EPA-454/B-03-001, September 2004), p. 5.)

Here, Calpine has relied on a background concentration of 29 ug/m3 for the compliance analysis of the Federal 24-hour ambient air quality standard (AAQS) of 35 ug/m3, which is the 3-year average of concentrations monitored at the Fremont station

[11] These peak concentrations occur at a receptor (UTM East = 576,359.25 m and UTM North = 4,165,627 m) located about 326 m northwest of the RCEC eastern turbine.

during the years 2006-2008. However, this 3-year averaging is only used to assess the attainment/non-attainment status of the area where the monitoring station is located. According to monitoring concentrations from the US EPA Airdate website,[12] in 2007 a 98th percentile concentration of 33.3 ug/m3 was measured as 24-hour concentration for the Fremont station. Given the time of RCEC's proposed operation will extend for 30 years, the more conservative estimate is to apply is this higher value of 33.3 ug/m3 should be used as background concentration. Most significantly, this also is consistent with the District's own Permit Modeling Guidance (2007) Section H, part 2(b), that within the most recent three years of air quality data, "the highest 2nd high concentration should be used as background for comparison with national standards." (Page 7.)

For PM2.5, the highest 98th percentile is used instead of the highest 2nd high. This highest 2nd high is applicable to other pollutants such as SO2 that allow one exceedance per year.

Applying the background of 33.3 ug/m3, the 98th percentile as recommended by the District's Guidelines, the AAQS of 35 ug/m3 will be exceeded by all peak concentrations, even utilizing Calpine's underestimated 24 hour project only maximum impact of 4.9 ug/m3. These violations of 24-hour PM2.5 AAQS are consistent with the (yet to be published) designation of the non-attainment status of the Bay Area.

The Air Modeling Improperly Assumes A Baseload Operation When The Application Seeks An Intermediate Operation Which Will Generate Additional Emissions That Must Be Modeled.

According to Calpine's July 30, 2009 Source Impact Analysis, page 9, "[t]he operation of the turbines and cooling towers were modeled with the assumption of 24-hours per day of emissions." We object to such an assumption. As reflected in Calpine's application to the CEC, Calpine has consistently sought unlimited startups and shutdowns and your December 2008 Amended SOB states this would be operated as a "load following" plant "operated to meet contractual load and spot sale demand" which would have a full shutdown "if market price of electricity falls below cost of generation." (Amended SOB, p. 11.)

In addition to failing to provide a full impact analysis, because this would operate as an intermediate facility, the emissions generated by the anticipated startups and shutdowns likewise must be modeled. (*See generally, American Corn Growers Association v. Environmental Protection Agency* (D.C. Cir. 2002) 291 F.3d 1.)

12

http://iaspub.epa.gov/airsdata/adaqs.monvals?geotype=st&geocode=CA&geoinfo=st~CA~California&pol=PM25&year=2007&fld=monid&fld=siteid&fld=address&fld=city&fld=county&fld=stabbr&fld=regn&rpp=25

Conclusion

As established above, Calpine has failed to satisfy its burden and the District's amended SOB and additional SOB must be revised to deny this application. Absent denial, the air modeling results submitted by Calpine are fundamentally flawed, incomplete, and inadequate, failing to satisfy minimum EPA Guidelines and statutory requirements, not even applying the proper modeling programs, which based on our review of the air modeling files provided by your office, resulted in a material differences in results. (As mentioned above, we will be happy to share our results with your office.)

Further, we agree with Citizens Against Pollution's correspondence by Earthjustice that the methodologies utilized by Calpine, among other problems, severely underestimates the cumulative impacts since nearby large emission sources, even highway 880 located within the (reduced) significant impact area, as well as power plants and oil refineries with tall stacks and high plumes, located beyond the significant impact area, may contribute significantly. Given the location of this plant in a the middle of a metropolitan urban area, "the Heart of the Bay," and the Bay Area's *de facto* nonattainment of PM2.5 and *de jure* nonattainment for 8 hour ozone, ***all*** emission sources located within a radius of 50 km of the proposed facility should be included in a full impact analysis, which is the limit of applicability of a Gaussian air quality model such as AERMOD. (*See generally*, Appendix W.)

Lastly, we agree with and incorporate those arguments by the other commentators and concerned citizens and Chabot-Las Positas's students, as well as CAP's by Golden Gate University Environmental Law Clinic and Communities for a Better Environment, urging you to revise your SOB and to deny this application.

Sincerely,

S/

Jewell J. Hargleroad

Cc: (Via Email Only)
California Native Plant Society, Laura Baker
Golden Gate Law School Clinic, Helen Kang
Earthjustice, Paul Cort
Communities for a Better Environment, Shana Lazerow
Sierra Club

EVIDENTIARY HEARING

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Application for Certification	)	Docket No.
for the Eastshore Energy	)	06-AFC-6
Center in Hayward by Tierra	)	
Energy of Texas	)	
_____	)	

VOLUME I

CITY COUNCIL CHAMBERS

HAYWARD CITY HALL

777 B STREET

HAYWARD, CALIFORNIA

MONDAY, DECEMBER 17, 2007

10:00 A.M.

Reported by:
John Cota
Contract No. 170-07-001

COMMITTEE MEMBERS PRESENT

Jeffrey D. Byron, Presiding Member

HEARING OFFICER, ADVISORS PRESENT

Susan Gefter, Hearing Officer

Gabriel Taylor, Advisor to Commissioner Byron

STAFF, CONTRACTORS AND WITNESSES PRESENT

Brian Bateman, Bay Area Air Quality Management District

Brewster Birdsall, PE, QEP, Aspen Environmental Group

Alvin J. Greenberg, PhD, REA, QEP, Risk Science Associates

Caryn Holmes, Staff Counsel

Brian K. Lusher, Bay Area Air Quality Management District

Bill Pfanner, Project Manager

PUBLIC ADVISER

Nick Bartsch

APPLICANT

June E. Luckhardt, Downey Brand, outside counsel
Dan L. Carroll, Downey Brand, outside counsel
Nicolaas W. Pullin, Downey Brand, outside counsel

Greg Trewitt, Tierra Energy

David A. Stein, PE, CH2MHILL

Gregory S. Darvin, Atmospheric Dynamics

James Westbrook, Westbrook Environmental

INTERVENORS

Paul N. Haavik

City of Hayward
Diana J. Graves, Pillsbury Winthrop Shaw Pittman, outside counsel to the City of Hayward

Robert A. Bauman, PhD, PE, City of Hayward

Alameda County
Andrew J. Massey, Office of County Counsel

Cindy Horvath, Alameda County Community Development Agency

Sandra Witt, PhD, Planning Policy and Health Equity, Alameda County Public Health Department

Paolo Zannetti, PhD, EnviroComp Consulting

Chabot-Las Positas
Laura Schulkind, Liebert Cassidy Whitmore, outside counsel to Chabot-Las Positas

Susan Sperling, Faculty Association

Group Petitioners
Jewell Hargleroad, outside counsel to Group Petitioners

Jay White, California Pilots Association

Mike Toth

Suzanne Barba

Robert Sarvey

ALSO PRESENT

Scott Galati, Galati|Blek, counsel to Pacific Gas and Electric Company

Michael W. Jarred, the Office of Senator Ellen M. Corbett

Christopher Parman, the Office of Assembly Member Mary Hayashi

Mayor Michael Sweeney, City of Hayward

Supervisor Gail Steele, Alameda County Board of Supervisors

Ahmad Asir

Chancellor Joel Kinnamon, EdD, Chabot-Las Positas Community College District

Trustee Hal G. Gin, EdD, Chabot-Las Positas Community College District

Diane Zuliani, the Academic Senate President, Chabot Community College

Rachel Ugale, Classified Senate President, Chabot Community College

Jove Meyer, Vice President, Associated Students of Chabot College, Chabot Community College

Lynn Tomkunas

Catherine Powell, Classified Employees of Chabot College, Chabot Community College

Audrey LePell, Citizens Against Pollution

Karen Kramer, Citizens Against Pollution

Professor Laurie Price, California State University East Bay

Wulf Bieschke, President, San Lorenzo Village Homes Association

Glenn Kirby, Sierra Club

ALSO PRESENT

Kimberley Finn

Harry Shin

Juanita McDonald

Barry Luboviski, Building and Construction Trades Council of Alameda County AFL-CIO

Stephania Widger

Sharon Cornu, Alameda Labor Council

Patricia Taylor

J. Edwards

J. V. McCarthy

Mitchell Medeiros

Bob Williams

Carol Ford, California Pilots Association

Juanita Gutierrez

Rob Simpson

Jesus Armas

I N D E X

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P R O C E E D I N G S

10:03 a.m.

PRESIDING COMMISSIONER BYRON: Good morning everyone. I would like to welcome you to the friendly confines of the Hayward Council Chambers once again.

My name is Jeff Byron, I am the presiding member of the Energy Resources Conservation Development Commission Committee on the application for certification for the Eastshore Energy Center in Hayward. This is an evidentiary hearing.

With me is my advisor, Gabriel Taylor, and also our hearing officer, Susan Gefter. I'll turn it over to her shortly. Unfortunately Commissioner Geesman is unable to attend today's proceedings. And also pending the expiration of his term as Commissioner, probably at the end of this month, he will likely not be participating in the Presiding Member's Proposed Decision.

We have a couple of days of hearing scheduled. I just want to open with a few remarks, if I may. I wanted to let you know that this take this very seriously at the Commission. These siting cases receive a great deal of

attention and this one is no exception.

I believe we have scheduled enough time for hearing all the evidence and cross examination and I have reviewed all the testimony and briefs. I would certainly like to thank the parties for their efforts in pulling all that information together in a timely way. As I said, I don't see why we cannot complete this within the prescribed time. We are all familiar with the issues and the important arguments.

And remember that the purpose of today and tomorrow's evidentiary hearing is to collect the evidence that we need in order to make a decision on the application for certification before the Commission.

I have also asked for briefs for us to be able to make a decision on the request for the override request on the LORS. And I believe it's one of those acronyms that is kind of -- it's laws, ordinances, resolutions?

HEARING OFFICER GEFTER: Regulations and standards.

PRESIDING COMMISSIONER BYRON: Regulations and standards, thank you.

But as we've seen from a lot of the e-

mail traffic that has been going back and forth and the docketing of information over the last couple of weeks there may be some of you here that are not completely familiar with the Warren-Alquist Act and our process at the Energy Commission. I believe we have extended a great deal of latitude over the last number of weeks since our prehearing conference in order to allow testimony to come in a little bit late.

But I also want to remind everyone that this process that we have been undertaking on behalf of the Commission is not new. This application has been before the Commission for over a year and we have an obligation to try and complete it in a timely manner. So I would like to thank you all for working so diligently on this. December is a very difficult month given the holidays to do this but we are intent upon seeing this through and completing this evidentiary hearing over the next two days.

I would like to ask that all parties to the process remain focused on presenting relevant evidence to this case. Our hearing officer, Ms. Gefter, will keep us on the straight and narrow with regard to process and on schedule for

the next two days. We have been thanked numerous times for coming here to Hayward and listening, that is our job.

My time is expendable but everyone else's time here is extremely important. I would ask that before you speak today that you consider a couple of questions. Is the information you are providing relevant to this case? If it has already been said during the hearing that we have been conducting thus far is it really necessary to say it again? And does it confuse or delay the proceeding? If we are confused about the process that's one thing but we do not want to continue to delay the proceeding.

Having said all that I'll turn this over to Ms. Gefter. I thank you all again for being here and to the City of Hayward for providing this wonderful facility for us. And I think Ms. Gefter has some important information instructions for the parties as well.

HEARING OFFICER GEFTER: Thank you, Commissioner Byron. I'd like the parties to introduce themselves before we get started, starting with Commission staff. Ms. Holmes.

MS. HOLMES: Thank you. Caryn Holmes,

staff counsel. On my right is Bill Pfanner, the CEC staff project manager for this project.

HEARING OFFICER GEFTER: Mr. Haavik.

MR. HAAVIK: Paul Haavik, intervenor.

HEARING OFFICER GEFTER: The applicant.

MS. LUCKHARDT: Hi, I'm Jane Luckhardt for Eastshore Energy. Also with me and going to be doing some cross today, sitting behind me, are Dan Carroll and Nick Pullin. Sitting next to me is Greg Trewitt representing the owner, project owner. On the other side of Greg is David Stein, the project manager for CH2MHILL on this project.

HEARING OFFICER GEFTER: I also wanted to ask the parties if you could please give your business cards to the reporters so they can spell your names correctly and identify you when you speak. So if you haven't already given your business cards it would be a good time right now.

Mr. Sarvey is an intervenor. I don't think your mic works over there, Mr. Sarvey.

MR. SARVEY: Yes it does.

HEARING OFFICER GEFTER: It's working. But does the reporter have you also on your system? The reporter doesn't have you on the system. You can hear him? Okay. Mr. Sarvey,

identify yourself for the record, please.

MR. SARVEY: Robert Sarvey. The last name is spelled S-A-R-V-E-Y.

HEARING OFFICER GEFTER: Thank you.

MR. SARVEY: Thank you.

HEARING OFFICER GEFTER: And the City of Hayward.

PRESIDING COMMISSIONER BYRON: I believe the microphones in front of you are for the recording.

HEARING OFFICER GEFTER: Yes, they are. We're going to go off the record. Let me go see if we can find out what happened to that microphone. I thought we had it.

(Brief recess)

HEARING OFFICER GEFTER: City of Hayward, please identify yourself and your attorney.

MS. GRAVES: I'm Diana Graves from Pillsbury Winthrop Shaw Pittman. We are outside counsel representing the City of Hayward. And with me I have Robert Bauman, the Director of Public Works for the City of Hayward.

HEARING OFFICER GEFTER: Thank you. And Alameda County, please.

MR. MASSEY: I am Andrew Massey with the Office of County Counsel for Alameda County. With me is Cindy Horvath from the County's Department of Planning.

HEARING OFFICER GEFTER: Thank you. And the group petitioners?

MS. HARGLEROAD: Hi, I'm Jewell Hargleroad, here for group petitioners, California Pilots Association. I have their counsel, Jay White here is attending. Also San Lorenzo Village Homes Association. And I also have Suzanne Barba here with me and Mike Toth. And also we have Hayward Area -- I am representing the Hayward Area Planning Association.

HEARING OFFICER GEFTER: Thank you. And also the Chabot College-Las Positas College District.

MS. SCHULKIND: Laura Schulkind, Liebert Cassidy Whitmore, for intervenor Chabot-Las Positas Community College District. Dr. Sperling representing the Faculty Association will be arriving shortly. We also will have Chancellor Kinnamon and Trustee Gin and the Faculty Senate President, Diane Zuliani, joining us during the public comment period.

HEARING OFFICER GEFTER: Thank you very much. We have them scheduled for public comment this evening, thank you.

I also understand that Scott Galati from PG&E will be here today. I don't know if he is here yet but when he gets here we'll introduce him.

And then I don't know if there are any elected officials here at this time. I don't have any blue cards yet but we're expecting them this evening.

The public adviser's representative, Nick Bartsch is in the back standing there by the door and can assist any members of the public if you have any questions on how to participate today.

I am going to describe the format for the evidentiary hearing. The evidentiary hearing is a formal adjudicatory proceeding to receive evidence from the parties. The technical rules of evidence are generally followed, however, any relevant, non-cumulative evidence may be admitted if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs.

The testimony offered by the parties shall be under oath and the Committee will administer the oath today. Each party has the right to present and cross-examine witnesses, introduce exhibits and to rebut the evidence of another party. Questions of relevance will be decided by the Committee. Hearsay evidence may be used to supplement or explain other evidence but shall not be sufficient in itself to support a finding.

The Committee will rule on motions and objections. After ruling is made no more time will be allowed for further argument since we want to spend our time taking testimony. Parties may assert a continuing objection that will be addressed in the Committee's written decision.

The Committee may take administrative notice of matters within the Energy Commission's field of competence and of any fact that may be judicially noticed by California courts.

The official record of this proceeding will include the sworn testimony of the parties' witnesses, the reporter's transcript, the exhibits received into evidence, the briefs, the pleadings, the orders, the notices and the oral and written

comments submitted by members of the public. And that is contained in our regulations.

The Committee's decision will be based solely on the record of competent evidence in order to determine whether the project complies with applicable law.

Members of the public who wish to speak should write their comments on blue cards and hand them to the public adviser's representative in the back of the room. The public comment period begins this evening at six p.m.

I also wanted to talk about the schedule today. If parties have not completed witness testimony by six p.m. we'll break for public comment and then we'll resume this evening to try to finish up the topics that we have scheduled for today.

I notice that Ms. Hargleroad has a question.

MS. HARGLEROAD: I just wanted to take notice for the record, and I'll try to do a short pleading on this too, is that we did not file a brief on the evidentiary standard.

HEARING OFFICER GEFTER: We know that.

MS. HARGLEROAD: But I want to make it

clear though that we are also, like the applicant and staff, relying on the entire record. Specifically we would also like to refer to the declaration of Jay White which sets forth various applicable statutes concerning airport hazards and state law. I just wanted to make that clear for the record.

HEARING OFFICER GEFTER: The exhibit list that lists the exhibits that we have received so far and have been proposed to be offered into the record has been distributed to the parties. It's a working list. We'll use it to organize and receive evidence into the record today.

We will also use the topic and witness schedule to keep track of the topics and that was attached to the Notice of Evidentiary Hearing. I hope everyone has a copy of that. There are 15 uncontested topics identified in that topic and witness schedule. None of the intervenors filed objection to submittal of these topics by declaration and we'd like to go forward with that at this time.

We'll allow applicant to offer into evidence the AFC, the relevant supplements and the testimony in support of the 15 uncontested topics.

Then we'll ask staff to offer the Final Staff Assessment, which constitutes staff's testimony. And also the Preliminary Staff Assessment, which is referred to as well in the parties' testimony.

As we have indicated previously the parties may litigate portions of the AFC and the FSA that are contested. Since the proceeding is based on these documents we will receive them into evidence at this time.

At this point before we do that I will swear the applicant's and the staff's project managers and environmental consultants so that they will be sworn through the entire proceeding because we know that you will all be testifying on various topics. So let's do that now and then we'll identify the 15 uncontested topics.

If you could stand up and state your name and then we'll swear you in. And applicant as well, if your project managers will stand and state your names. Thank you. Okay.

Whereupon,

BILL PFANNER
DAVID STEIN
GREG TREWITT

were duly sworn.

HEARING OFFICER GEFTER: Thank you very much. I am going to -- What I would like to do is actually list the uncontested topics and then ask the applicant to move your documents and testimony.

The uncontested topics include Project Purpose and Description, Power Plant Efficiency, Power Plant Reliability, Transmission System Engineering, Transmission Line Safety and Nuisance, Facility Design, Geological and Paleontological Resources, Cultural Resources, Soil and Water Resources, Hazardous Materials, Worker Safety and Fire Protection, Biological Resources, Waste Management, Visual Resources and Compliance.

And I would ask Ms. Luckhardt then to move your exhibits.

MS. LUCKHARDT: Okay, do you want me just to move them? Okay. Then I request that the hearing officer take into the record all of those exhibits that apply to the subject areas that have been previously identified.

HEARING OFFICER GEFTER: Well, would you give me the exhibit numbers. Because we have to identify them for the record.

MS. LUCKHARDT: Okay. The Exhibit numbers are as identified on exhibit number 21. In many instances they are parts of other exhibits so if you want me to go through each one I can. But I think it would be faster for the record to identify all those exhibits that are listed in our Exhibit 21, which includes the AFC, the data responses, the AFC supplement and various other items that are uncontested. Since each subject area is bringing in parts of some documents I think it would take an inordinate amount of time now to go through and identify the specific parts.

HEARING OFFICER GEFTER: That's fine with me and I can read Exhibit 21 just like everyone else can so we'll incorporate the list of exhibits in Exhibit 21 and receive them into the record. Thank you.

MS. LUCKHARDT: Thank you.

HEARING OFFICER GEFTER: And at this point I'll ask staff to move your documents.

MS. HOLMES: Thank you. Staff would move that Exhibit 200 and Exhibit 202 be received into evidence at this time.

HEARING OFFICER GEFTER: And we will receive Exhibit 200 and Exhibit 202 into the

record. And as we indicated earlier if there are any issues that are contested in those particular documents we will receive testimony and the parties are entitled to cross-examine on those issues as well. And this will be very efficient and we appreciate that.

And now we are moving on to our contested topic and the first topic is air quality. We know there is a lot of concern on that topic so the way I'd like to proceed on that is to ask the applicant to present its witnesses on air quality and we'll take your direct testimony first.

Then we'll have staff witnesses on air quality and we'll take your direct testimony. The staff will also sponsor the Air District's witness. Then we'll also receive the final determination of compliance at that point. The parties can then cross-examine the staff and applicant's witnesses on air quality.

Then we'll move on and have the County present its witness on air quality, Dr. Zannetti and then the parties may cross that witness.

And then Mr. Sarvey will present his testimony on air quality and the parties may

cross-examine him as well.

So in order for us to move along we would like to start with the applicant. Would you identify your witnesses and we'll swear them in.

MS. LUCKHARDT: Okay. Do you want to swear all the air quality witnesses in at once, then?

HEARING OFFICER GEFTER: Yes, all of applicant's.

MS. LUCKHARDT: We identify, we identify Greg Darvin, James Westbrook and David Stein. Mr. Stein has already been sworn. Both Mr. Darvin and Mr. Westbrook need to be sworn.

HEARING OFFICER GEFTER: Could witnesses please stand up, state your name for the record and I'll swear you in.

MR. DARVIN: Greg Darvin.

MR. WESTBROOK: I'm James Westbrook.

HEARING OFFICER GEFTER: Thank you.

Whereupon,

GREGORY S. DARVIN

JAMES WESTBROOK

were duly sworn.

MS. LUCKHARDT: Okay, I will start with Mr. Westbrook.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Was a statement of your qualifications attached to your testimony?

A Yes it was.

Q And is a list of exhibits that you are sponsoring attached to your testimony as well?

A Yes it is.

Q Do you have any corrections to your testimony at this time?

A I do have a correction.

Q Please identify the page and provide the specific corrections.

HEARING OFFICER GEFTER: Also would you identify the Exhibit. I'm sorry if I missed that.

WITNESS WESTBROOK: Exhibit 15. And it is under Q-11 or A-11, page three.

I would like to make a correction to, starting with the third sentence under A-11. It should read as follows: There are no SO2 data for the Hayward area. Only PM10 and sulfate data are available from the Hayward area. Ambient SO2 data are only available from areas in Bay Area with filings to the north.

And then below under A-12, the first

sentence should read: Yes, I independently obtained sulfate and SO2 data. And the rest is correct.

BY MS. LUCKHARDT:

Q Thank you. With those changes, insofar as your testimony contains statements of fact are those facts true and correct to the best of your knowledge?

A Yes they are.

Q And insofar as your testimony contains statements of opinion do they represent your best, professional judgment?

A Yes.

Q Do you now adopt all those exhibits identified as your sworn testimony?

A Yes I do.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Darvin, was a statement of your qualifications attached to your testimony?

A Yes it was.

Q And is a list of exhibits attached to your testimony?

A Yes.

Q Do you have any corrections to your

testimony?

A No corrections.

Q Insofar as your testimony contains --

HEARING OFFICER GEFTER: I'm sorry, what is his exhibit number, please, for his testimony?

MS. LUCKHARDT: He is also identified in Exhibit 20. Okay, I apologize. Mr. Darvin does not have a specific list of testimony or a specific list. He is identified under traffic and transportation.

BY MS. LUCKHARDT:

Q Mr. Darvin, did you support the work that is sponsored by Mr. Westbrook?

A Yes I did.

Q Did you perform the modeling that is sponsored by Mr. Westbrook?

A Yes.

Q Do you adopt that modeling and that effort as your testimony at this time?

A I do.

Q Do you -- You already said. Do you have any corrections to that?

A No corrections.

Q Is your testimony, is that work true

and correct to the best of your knowledge?

A Yes it is.

Q Do you adopt the testimony -- Let's forget that. Thank you.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Stein, did you supervise -- In your role as a project manager did you supervise the work that was performed by, or provide peer review to the work that was performed by Mr. Darvin and Mr. Westbrook?

A Yes.

Q We do not have any specific --

HEARING OFFICER GEFTER: Ms. Luckhardt, excuse me, I have a question with regard to Mr. Darvin's role in this. And when you asked him if he supported Mr. Westbrook's analysis, what do you mean by that? Did they work together?

MS. LUCKHARDT: Yes, they worked together on this. They both provided different parts and peer-reviewed each other's work. We have them both up here and available because the detailed modeling was initially performed by Mr. Darvin. So since there were questions about the detailed modeling we thought it would be most

appropriate to have him here to answer those questions.

HEARING OFFICER GEFTER: Thank you.

MS. LUCKHARDT: Mr. Stein is the project manager. He peer-reviewed the work that was done and so he is also available to respond to questions but is not independently sponsoring any specific piece of the air quality testimony.

Mr. Westbrook, can you please explain the two changes that the applicant is requesting to AQ-SC8

MR. WESTBROOK: Yes, the changes are a requested change in the condition to allow more flexibility to mitigate project PM10 emissions. While the applicant agrees with the preference to use local or upwind offsets for emission reduction credits to mitigate PM10 emissions from the project it may not be possible to get those offsets because of limitations in the marketplace.

Therefore, if the applicant has made a best faith effort to obtain those local, upwind emission reduction credits and cannot do so we would ask for some flexibility to go into other geographical regions where these emission reduction credits can be obtained if there is

meteorological justification for doing so.

Also we would like to change the trade-off ratio for using SO2 emission reduction credits for PM10. We don't agree with the staff's 5.3 to 1 ratio for that. Three to one is appropriate and a likely conservative tradeoff ratio for obtaining a conversion between SO2 offsets and PM10. And it is a ratio that is supported decisions on other projects, by district policy and also by technical analysis.

MS. LUCKHARDT: Thank you. These witnesses are available now for cross.

HEARING OFFICER GEFTER: Thank you.

I wanted to take staff's testimony first and then we will make all witnesses available at that point. So staff, do you want to swear your witness in, please.

MS. HOLMES: Staff's witness in air quality is Brewster Birdsall.

HEARING OFFICER GEFTER: And also do you want to ask the Air District's witness to come up too.

MS. HOLMES: And I believe there are Air District witnesses as well.

MS. LUCKHARDT: If I could make a quick

correction. Mr. Darvin has identified some of the air quality modeling in Exhibit 20 under Traffic and Transportation. So as the work that is identified there applies to this, that is one place to look where we identified the modeling.

HEARING OFFICER GEFTER: Is there a particular exhibit that is referred to?

MS. LUCKHARDT: It's all under Exhibit 20 so we can bring it in here or under Traffic and Transportation tomorrow.

HEARING OFFICER GEFTER: Okay, thank you. Okay, all right.

Do you want to ask your witnesses to stand and identify themselves, please. And would you please give your business cards to the reporter so they can spell your name correctly, thank you.

MR. BIRDSALL: My name is Brewster Birdsall. I work with Aspen Environmental Group as a Senior Associate and I prepared the CEC staff assessment for air quality on this project.

HEARING OFFICER GEFTER: Okay. Well wait a second, we're going to swear you. And I wanted to ask the Air District witnesses also to identify yourselves first.

MR. BATEMAN: Yes. I am Brian Bateman, Director of Engineering at the Bay Area Air Quality Management District.

MR. LUSHER: Brian Lusher, I am a permit engineer for the Bay Area Air Quality Management District.

HEARING OFFICER GEFTER: Thank you.

Whereupon,

BREWSTER BIRDSALL

BRIAN BATEMAN

BRIAN LUSHER

were duly sworn.

HEARING OFFICER GEFTER: Thank you very much. Please be seated. I'm going to ask the staff to proceed with Mr. Birdsall first.

MS. HOLMES: Thank you.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Brewster (sic), was the air quality portion of Exhibit 200 and 202, which are the PSA and the FSA, prepared by you or under your direction?

A Yes.

Q And was a statement of your qualifications included in the FSA?

A Yes it was.

Q And do you have any changes or corrections to your testimony at this time?

A I do have a correction to make to my testimony. My written testimony on page 4.1-1 of the Final Staff Assessment has a bullet point regarding NOx emissions from the facility.

The correction that I'd like to make is that the bullet be removed. The NOx emissions from the project during the ozone season would be fully mitigated through compliance with the Air District's local new source review program which requires offsets be supplied.

With that bullet removed the remainder of the testimony is unchanged. The details for this part of the analysis can be found on page 4.1-24 and 4.1-25 of the Final Staff Assessment.

MS. HOLMES: Thank you. With --

HEARING OFFICER GEFTER: I am not sure which bullet you're referring to. Is that on the first page of your testimony?

MR. BIRDSALL: Yes.

HEARING OFFICER GEFTER: There are three bullets.

MR. BIRDSALL: Yes. On the first page

of the testimony the second bullet would be removed.

BY MS. HOLMES:

Q With that correction are the facts contained in your testimony true and correct to the best of your knowledge?

A Yes they are.

Q And do the conclusions contained in your testimony represent your best professional judgment?

A Yes, they do.

MS. HOLMES: Thank you.

DIRECT EXAMINATION

MS. HOLMES: And Mr. Bateman and Mr. Lusher, did you prepare or was prepared under your direction the final determination of compliance which has been identified as Exhibit 201?

MR. LUSHER: Yes.

MS. HOLMES: Could you please briefly, since I don't believe 201 contains a statement of your qualifications, could each of you very briefly explain what your role is at the Bay Area Air Quality Management District.

MR. LUSHER: I'm the permit engineer

for this application. I have an environmental engineering degree from Cal Poly and I have been working in the environmental field for over 12 years, three years of other engineering experience.

MS. HOLMES: Thank you. Mr. Bateman?

MR. BATEMAN: And I am the Director of Engineering at the Air District so I oversee the work of Mr. Lusher and others in our division. I have been working at the Air District for about 26 years.

MS. HOLMES: Do either of you have any corrections to make to the Final Determination of Compliance?

MR. LUSHER: Not at this time.

MS. HOLMES: Are the facts contained in the Final Determination of Compliance true and correct to the best of your knowledge?

MR. LUSHER: Yes.

MS. HOLMES: And do the conclusions contained in the Final Determination of Compliance represent your best professional judgment?

MR. LUSHER: Yes.

MS. HOLMES: Thank you. Ms. Gefter, at this point I think it would be appropriate to have

staff give a very brief summary of their testimony. Mr. Birdsall.

HEARING OFFICER GEFTER: Right. And also please address applicant's concerns about AQ-SC8. Thank you.

MR. BIRDSALL: Okay. I will summarize the testimony by starting at, staff recognizes that this project is using a technology of internal combustion engines and that the use of internal combustion engines does relate to higher emissions of pollutants such as NOx and greenhouse gases and particulate matter. Higher on a count per megawatt hour basis than a combined cycle-combustion turbine facility.

However, we've taken the approach of mitigating all of the emissions that contribute to significant impacts. And that would be accomplished through AQ-SC8, which would offset the particulate matter impacts of the project.

The applicant is asking for flexibility on AQ-SC8 that staff disagrees with. The first item would be the flexibility to provide regional emission reduction credits as well as local emission reduction credits, with the argument that local emission reduction credits may not be

available.

Well, AQ-SC8 provides two options for compliance with the offset requirement. The first is through emission reduction credits. And we've confined these ERCs to be from, to be from the inner Bay Area region, meaning the part of the Bay Area that is bounded roughly by San Francisco to Oakland to Fremont to San Jose. And we believe that that provides the applicant with enough flexibility to shop around for emission reduction credits.

The applicant did not identify a time in the proceeding specifically in which emission reduction credits would be supplied to comply with AQ-SC8. So without that knowledge of which specific ERCs are coming forward we felt compelled to constrain the universe of ERCs to include those communities that I just mentioned.

The second request from the applicant is to adjust the interpollutant trading ratio for which SO2 ERCs can be traded to mitigate PM10 impacts. And the applicant provides information that says the Air District has in the past used a regional average of three to one, meaning three tons of SO2 productions for every one ton of PM10

increases.

Staff prepared in its analysis for this case a reflection of the analysis that was conducted for the Russell City Energy Center case that indicates a higher ratio would be appropriate for the sort of inner-Bay Area. Meaning this part of the Bay Area that is west of the East Bay Hills.

I think that the applicant's direct testimony and the data that's viewed from this perspective of what is interior to the Bay versus what is exterior to the Bay, I think that all of the parties including the applicant and myself indicate that the higher ratio is appropriate for sources and reductions occurring to the west side of the hills.

The lower ratio that the Air District has as sort of a policy of three to one is maybe appropriate on a regional average. But for the local effects of this project and for this project in particular, and as decided by the Energy Commission on the Russell City Energy Center case, we continue to stand by the ratio of 5.3 to 1.

MS. HOLMES: Thank you.

Mr. Lusher, could you please briefly

describe the summaries contained in the Final Determination of Compliance.

MR. LUSHER: Yes. Basically I had to review whether proposed project would comply with all the local air district rules and regulations as well as state rules and regulations as well as federal air quality rules and regulations. And I determined that the proposed project is capable of complying with all applicable air quality rules and regulations.

MS. HOLMES: Thank you. These witnesses are available for cross examination.

HEARING OFFICER GEFTER: Commissioner Byron has a question.

PRESIDING COMMISSIONER BYRON: All right. If I understood correctly from the applicant, Mr. Birdsall, we did use on the Russell City application the ratio of sulfur dioxide to PM2.5 of 5.3 to 1; is that correct?

MR. BIRDSALL: The ratio of 5.3 to 1 is a ratio that was determined appropriate for the Russell City case.

PRESIDING COMMISSIONER BYRON: And the reduced area, the geographic area. Was that also the same in Russell City?

MR. BIRDSALL: I am not sure that Russell City had a comparable -- I'm not sure that Russell City had a comparable focus for the emission reduction credits. That part of the Russell City case I'm not familiar with. The Russell City case, I think, and this is --

The Russell City case did have a geographic restriction on fireplace retrofit programs, which is the other component of AQ-SC8, which isn't contested by the applicant here. And the fireplace retrofit program is one that is also geographically focused to the sort of western Alameda County area.

PRESIDING COMMISSIONER BYRON: Is there someone on staff that can answer this question?

MS. LUCKHARDT: I believe Mr. Darvin may be able to answer that question for you.

MR. DARVIN: Actually, I worked on the Russell City project. We were not constrained for offsets except for the fireplace program was identified. We actually had offsets that we were providing on the project that sort of crossed the entire region.

But on the Russell City case the applicant, namely Calpine, did not contest the EC

findings that supported the 5 to 1, the 5.3 to 1. However, in the analysis that was provided by Calpine to the CEC the 3 to 1 ratio was proposed.

PRESIDING COMMISSIONER BYRON: Okay. But with regard to the geographic area that was not constrained.

MR. DARVIN: No.

PRESIDING COMMISSIONER BYRON: Okay. Can the can the staff summarize for me the reason, again, for the constrained geographical area.

MR. BIRDSALL: I think the reason for the geographical constraints on the ERCs is really coming from -- first of all there's a large local interest, obviously, in this project and that the reductions be local. But from a technical perspective we at staff have been working with the applicant over the course of the proceeding to identify how the mitigation plan would occur and how the mitigation plan would implement it.

And the applicant in this case, as compared to Russell City, hasn't identified specifically which ERCs must be surrendered. And since the applicant hasn't identified what ERCs from the bank of credits that's available, since the specific ERCs have not been identified we

can't at staff analyze the effectiveness of those credits. So this is why I felt compelled to constrain the ERCs geographically.

And I understand that it may be difficult and hard to find ERCs in this geographic area. But at the same time the fireplace retrofit program is an available mitigation halfway. And that is an option to the applicant as well.

PRESIDING COMMISSIONER BYRON: Would the applicant like to respond to that?

MR. WESTBROOK: Yes, I'd like to respond on the analysis that was presented in the Final Staff Assessment which referred to the Russell decision.

Basically as described in my written testimony, the analysis that was performed was a modeling analysis on a very specific, sort of the worst-case day and there were selective data chosen to come up with a ratio. As I have said in the testimony, there are a number of ways you can do the analysis. But one thing that is very clear is that very limited data was used to make a decision for such a very important issue for this project.

MS. LUCKHARDT: I think the

Commissioner had a question about the constraint on offsets and the identification of the offsets. And maybe Mr. Darvin can speak to the range of areas from which the Russell City project offsets came from.

MR. DARVIN: Well you're testing my memory on that one. I believe some of the offsets were coming from the foundry operations to the north, the northeast part of the bay. I believe there were also some offsets coming from the San Francisco area along with some offsets provided locally.

PRESIDING COMMISSIONER BYRON: Okay, thank you.

HEARING OFFICER GEFTER: I have questions for Mr. Birdsall. Number one, with regard to AQ-SC8. When staff fashions a condition such as this in addition to the FDOC conditions which are incorporated into your FSA, my understanding is that this is to deal with the CEQA effects of the project and trying to mitigate CEQA impacts, is that correct?

MR. BIRDSALL: Yes, that's correct.

HEARING OFFICER GEFTER: Okay. So when staff proposes a 5.3 to 1 ratio you're looking at

a way to mitigate the cumulative impacts of this project for particulate matter, right?

MR. BIRDSALL: That's correct.

HEARING OFFICER GEFTER: And that's a CEQA issue?

MR. BIRDSALL: This is the recommendation for arriving at the CEQA conclusion that the impacts would be reduced to a level if insignificance.

HEARING OFFICER GEFTER: Right. And the Air District does not include a CEQA analysis when they issue the FDOC; is that right?

MR. BIRDSALL: None.

HEARING OFFICER GEFTER: Okay. So where staff is calculating 5.3 to 1 that's a staff calculation and your calculations are included in AQ Appendix 1; is that right?

MR. BIRDSALL: That's true.

HEARING OFFICER GEFTER: And you came up with this ratio to try to deal with the cumulative impacts regarding the particulate matter.

MR. BIRDSALL: Well right, the ratio is to deal with this CEQA cumulative impact.

HEARING OFFICER GEFTER: Would you say

that the Bay Area's 3.0 to 1 ratio is not particularly relevant to your CEQA analysis?

MR. BIRDSALL: The ratio is one that is not, to my knowledge, adopted by rule by the Air District, although it has been used in precedent and the applicant has provided a lot of information on why that ratio would be preferred. But it's a region-wide kind of a ratio in that the chemistry of the interior of the Bay Area warrants use of the higher ratios.

HEARING OFFICER GEFTER: And the emissions of PM, particulate matter, in the Bay Area by power plants, is that connected with the ammonia emissions, the ammonia slip ratio that the Air District imposes on the particular projects for their SCR?

MR. BIRDSALL: Indirectly. The ammonia slip limitation does help to reduce the ammonium sulfates, which are secondary particulates.

HEARING OFFICER GEFTER: And in this project ammonia slip is limited to ten PPM?

MR. BIRDSALL: That's right, that's an Air District limitation.

HEARING OFFICER GEFTER: All right. Is that because it is a peaker project or is that

just because it's the Air District's limit?

MR. BIRDSALL: It depends on the technology, the internal combustion engines and the selective catalytic reduction. It does not, it would not be affected by whether the project was a peaker or baseload.

HEARING OFFICER GEFTER: And also the Air District has actually in another project agreed to a lower ammonia slip of five PPMs in eastern Alameda County, the Tesla Project.

MR. BIRDSALL: Well, in the Tesla Project we used a different technology, the combined-cycle combustion turbines. That's why I say that limit depends on the technology.

HEARING OFFICER GEFTER: Okay. So because this is a peaker you're saying that -- And the technology being used here at ten PPM ammonia slip is reasonable in your opinion?

MR. BIRDSALL: Yes. The internal combustion engines being the basic technology of the power plant warrants use of the higher ammonia slip limit.

HEARING OFFICER GEFTER: But because of the higher ammonia slip limit you have a higher PM10 effect and there is a connection there. Is

that?

MR. BIRDSALL: Well, I think that that is would be subject to some debate and certainly some analysis.

HEARING OFFICER GEFTER: Okay.

MR. BIRDSALL: The staff approach to ammonia, however, is to reduce the ammonia slip to the level that is technologically feasible. And for the internal combustion engines it has been settled with the air district and staff that the ten PPM is the lowest achievable.

HEARING OFFICER GEFTER: Okay, thank you. And then with respect to the ERCs. You stated that the applicant has not identified their ERCs to be submitted. Now would that be only with respect to AQ-SC8 or is that with respect to the FDOC?

MR. BIRDSALL: That is only with respect to AQ-SC8. With respect to the FDOC the emission reduction credits are identified and that's reflected in AQ-SC6, where there's a list.

HEARING OFFICER GEFTER: Okay. And there is a table, I think it is table AQ-18, which lists a number of offsets. Is that the one that you're referring to?

MR. BIRDSALL: Probably Table 18. It is also, yes, reflected in --

HEARING OFFICER GEFTER: In AQ-6.

MR. BIRDSALL: In condition AQ-SC6, yes.

HEARING OFFICER GEFTER: Yes, okay. But that's with respect to the FDOC.

MR. BIRDSALL: Yes.

HEARING OFFICER GEFTER: And not with respect to your CEQA mitigation.

MR. BIRDSALL: Yes, that's with respect to the LORS compliance and the Final Determination of Compliance.

HEARING OFFICER GEFTER: Thank you. The other issue that apparently the applicant is concerned about is that the retrofit, the fireplace retrofit timing, whereas the staff's proposed condition requires the retrofits to be actually accomplished before commissioning of the power plant. And apparently the applicant is proposing a different time schedule, as I understand it. Is that what the difference is in terms of your proposal and their proposal?

MR. BIRDSALL: My understanding at this time is that the timing of the fireplace retrofit

program is not being debated. The applicant had some recommendations at the time of the public comment period on our Preliminary Staff Assessment and we incorporated a sequence for the fireplace program to be rolled out. I haven't heard a debate on that issue today.

HEARING OFFICER GEFTER: All right. And what is your opinion on the efficacy of this program, the fireplace insert program? Because the Russell City project is also incorporating that same sort of CEQA mitigation plan and I am curious as to whether this has ever been attempted in this particular air district and whether there is any information on whether it is effective.

MR. BIRDSALL: Well, programs like this have been attempted elsewhere in the District, the South Bay in Santa Clara County. At least that, to my knowledge, has been a mitigation strategy.

The efficacy of this program I think is yes, one that could be subject to debate. But the mitigation measure in a way corrects for any potential, any potential weakness that way. The mitigation measure seeks a certain quantity of emissions be reduced and the emission reductions per fireplace unit have been, have been researched

to some extent and documented.

And it is shown in the staff assessment that fireplaces are a very substantial source of particulate matter, especially on episode days when particulate matter concentrations get high. This is a local source that when reduced in the City of Hayward and other western Alameda County communities will, I think, directly and positively reduce particulate matter in this part of the Bay Area.

The Air District is pursuing wood stove regulations and fireplace regulations in the future for new fireplace installations. So that, to me, indicates that this is a serious source that requires some kind of control. In the current condition without, without staff's condition on the fireplace retrofit program these fireplaces might otherwise just continue to operate unregulated.

HEARING OFFICER GEFTER: Well with respect to that, at page 4.1-26 of the FSA there is a statement where you say staff has general concerns with the ability of retrofit programs to produce real and quantifiable reductions. So then you fashioned AQ-SC8 to address that concern. Is

that what you're proposing?

MR. BIRDSALL: That's right. AQ-SC8 has the ultimate target of particulate matter reductions and that's the 20.4. My reservation with the fireplace program is also reflected in the option that I provide the applicant to offset the power plant's emissions with the form of emission reduction credits and certificates. So there were two strategies here.

HEARING OFFICER GEFTER: And at page 4.1-32 the FSA states that Eastshore will result in cumulatively considerable impacts on existing violations for PM10 and ozone precursors. It's a pretty strong statement that you have in this particular FSA. The condition that we have been discussing, is that the only condition that you're proposing to deal with those cumulative impacts?

MR. BIRDSALL: That is essentially the keystone condition. It is not the only condition that influences the conclusions but it is the keystone condition. And this is why I feel strongly that the language for retaining the local focus of this measure be retained.

HEARING OFFICER GEFTER: Okay. And is the Air District aware of other sources for ERCs

in the East Bay and the local area other than the banked ERCs?

MR. BATEMAN: Our emissions reductions bank does include deposits from other facilities in the East Bay.

HEARING OFFICER GEFTER: And they can be identified to the applicant?

MR. BATEMAN: Yes.

MS. SCHULKIND: Ms. Gefter, could I raise an issue briefly? I didn't want to interrupt your questioning but on behalf of the Chabot intervenors. As you know, we represent a constituency that has been --

HEARING OFFICER GEFTER: We don't need to hear that right now. Commissioner Byron is going to speak, then I'm going to ask for cross examination. So then it will be your turn.

MS. SCHULKIND: I have a request regarding how the examination is conducted. That either we create a record that avoids the use of acronyms so it is readily understandable to the lay-public or suggest that you direct that the transcript include a glossary of acronyms so that lay-people will be able to understand this proceeding.

HEARING OFFICER GEFTER: There is a glossary at the end of the FSA, isn't there? Is there something in the FSA?

MS. SCHULKIND: With all the terms, for all of the initials that are being used in the questioning. Could we please include that in the transcript, then?

HEARING OFFICER GEFTER: It is in the FSA, which is part of the record.

Okay, let's move on. Commissioner Byron.

MS. SCHULKIND: I'm requesting that the transcript that the public may download off of the site readily have within a list of acronyms so they can understand the transcript.

HEARING OFFICER GEFTER: We'll talk about it later. Okay, we'll talk about that later. Let's move on.

MS. SCHULKIND: Well --

HEARING OFFICER GEFTER: No, we're not taking any more questions. Commissioner Byron --

MS. HARGLEROAD: Just for --

HEARING OFFICER GEFTER: We're not taking any more questions.

MS. HARGLEROAD: Can we say some of the

words rather than the acronyms.

HEARING OFFICER GEFTER: No.

Commissioner Byron, please.

PRESIDING COMMISSIONER BYRON: Could the applicant care to indicate in the first place why we are making the exchange for the -- why you are not providing direct PM10 mitigation.

MR. WESTBROOK: In the district bank that was described there are a limited supply of certificates for credits for PM10. And the problem one faces, you can try to get PM10 credits, they may not be available. What that means is that either they are not going to be local credits as asked for or it could mean that whoever has these is not going to sell because they're holding them for future expansion or for other reasons.

So you can go to those people and say, can you sell me credits, and they may not be able to. That's why I talk about a good faith effort of trying to get those sales to happen. What should we do?

If you can't get PM10 credits anywhere in the Bay Area there is a provision, it's in the District rules, for a case-by-case transfer of SO2

for PM10. And case-by-case in terms of the ratio we talked about.

PRESIDING COMMISSIONER BYRON: Right.

MR. WESTBROOK: The ratio of three to one. So you can after that SO2. And it may be that you can get SO2 instead of PM10. And because SO2 in the atmosphere converts to PM10 that is acceptable.

PRESIDING COMMISSIONER BYRON: Okay.

Mr. Bateman and Mr. Lusher, can you tell me, are PM10 credits available?

MR. LUSHER: There is a very limited amount of PM10 emissions reduction credits in our bank. Most of the credits are gaseous pollutants, primarily NOx and precursor organic compounds.

PRESIDING COMMISSIONER BYRON: Thank you.

HEARING OFFICER GEFTER: Okay. I just wanted to -- I apologize for getting angry with Ms. Hargleroad for jumping in but this is a formal hearing, this is not an informal workshop, and everyone will have their turn.

With respect to your request for acronyms, the FSA is Exhibit 200. At page 4.1-64 of the FSA is a list of acronyms. If people want

to look for that they can read the reference in the transcript because I just listed it for you and you can go to that page.

You have something, Mr. Birdsall?

MS. SCHULKIND: Ms. Gefter.

HEARING OFFICER GEFTER: And now we're going to move on.

MS. SCHULKIND: I respectfully understand the point that you are making. The experience that I am hearing from our constituent is that it is difficult to navigate the FSA on the web site. I believe that one of the principles of environmental justice is easy access to the system.

I simply made a request that people either refrain from using acronyms or that the actual list of acronyms with what they represent is readily available within the transcript itself at the back so that people don't have to sift through the transcript, find a reference to an exhibit, figure out how to find the exhibit. It is a simple request. I am simply asking that we make --

HEARING OFFICER GEFTER: We'll put it up on the web page.

MS. SCHULKIND: Thank you very much.

HEARING OFFICER GEFTER: Okay, now the next thing that we are going to do is allow for cross examination, one party at a time, and it will be your turn next. But first we're going to ask Chabot if you have any cross examination for the air quality witnesses.

MS. SCHULKIND: No we don't, thank you.

HEARING OFFICER GEFTER: Okay, Ms. Hargleroad.

MS. HARGLEROAD: Yes. And I was initially attempting simply to agree with Chabot that it would be helpful, I think, to everybody if we could just say what the acronym is. Emission reduction credit, that's all.

I do have a few questions.

MS. LUCKHARDT: Just before you start, I have a question. If you want to do all of air quality should we take Mr. Sarvey's testimony and Alameda County's testimony before we start cross, since they both have air quality witnesses?

HEARING OFFICER GEFTER: No, we're going to just go with your cross because their issues are different. Okay, so you may cross the staff and applicant's witnesses.

MS. HARGLEROAD: Okay, thank you.

CROSS EXAMINATION

BY MS. HARGLEROAD:

Q Mr. Birdsall, are you familiar with the California Environmental Protection Agency Air Resource Board guidance for power plant siting and best available control technology guidelines?

A Yes, I think that that was used as not a reference in the Final Staff Assessment but it was a reference that we at the Energy Commission sometimes use when reviewing determination of compliance from the air districts.

Q Okay. And also just as an initial housekeeping question too. If you could clarify again for me, I'm sorry, the correction you were talking about, bullet point number two. It was on 4.1-1 I believe, under summary of conclusions; is that correct?

A That's right, on page 4.1-1.

Q Right. And you suggested that you wanted to strike bullet number two.

A Right.

Q And the basis of striking that was, what was that again?

A Well, at the time of the Preliminary

Staff Assessment we had a different tack to addressing the ozone issues related to the project. At the time of the Final Staff Assessment the conclusion had been made that with compliance with the local Air District new source review program, that's NSR, that the ozone impacts generated by the project, and it's a secondary impact because the facility emits precursor pollutants, those impacts would be fully mitigated through compliance with the new source review requirements. Which means that offsets are surrendered into the Air District's -- they're removed from the Air District's bank rather, then the facility is allowed to emit the precursor, the precursor pollutants after the offsets are surrendered.

Q Okay. So you're suggestion is now that that be struck and that no additional local or upwind emission reduction credits should be surrendered?

A The recommendations that no additional emission reduction credits be surrendered for ozone, which would involve nitrogen oxides or particulate -- sorry, excuse me -- nitrogen oxides or precursor organic compounds. Now that's a

separate impact than the impact related to particulate matter where we do continue to request ERCs, emission reduction credits.

Q Okay. You mentioned that you are somewhat familiar with the guidance for power plant siting and best available control technology guidelines.

A Yes.

Q And that that's a reference material referred to in the staff report.

A It is not a citation and it is not a reference in the Final Staff Assessment but I believe you are referring to a document that perhaps we used in one of our comment letters to the local Air District in the earlier part of the proceeding.

Q Okay. But you do not rely on that document in support of your Final Staff Assessment?

A What I am saying is that I didn't list it as a reference in the Final Staff Assessment.

Q Okay.

A But I am familiar with the document.

Q Okay. Because one of the points made in those guidelines at page 38, which is a fairly

standard statement I think that we have all been talking about is, emission offsets must be real, quantifiable, surplus, permanent and enforceable.

MS. HOLMES: Excuse me, Ms. Gefter. If there is going to be cross-examination of this witness with another document I would request that the attorney for group petitioners provide a copy of that document to Mr. Birdsall.

HEARING OFFICER GEFTER: That's fine. What the attorney is citing to is just common Air District language. So, you know, basically she is saying that maybe he is not familiar with that. Obviously he is familiar with this.

MS. HOLMES: No, I think that staff is clearly familiar with that document. But I believe that it is only fair if counsel is going to be crossing the witness with an exhibit that a copy be provided, a copy of that exhibit be provided to the witness.

HEARING OFFICER GEFTER: And you're absolutely right, Ms. Holmes, in a formal setting we would do that. But at this point Mr. Birdsall knows the document and he is familiar with the issues that she is raising. If you could bring a copy up to him to look at.

MS. HARGLEROAD: Sure. I am mainly focusing in on that sentence at this point in time because we have referred to those terms before, which are real and verifiable.

BY MS. HARGLEROAD:

Q How do you verify the fireplace retrofit program?

A Well the fireplace retrofit program is a program that would be administered with the district's assistance and it is not something that occurs on an ad hoc basis. But the point is that with enough fireplace retrofits a certain average reduction per fireplace would be achieved.

The information that has been provided in this case in the applicant's request for a PM10 mitigation plan back in May and in our staff assessment indicates that there is a sufficient inventory of fireplaces and fireplace emissions that's available to be reduced. Now it's true on a unit-by-unit basis there may be some variation. But I think that on average the program is a program that would be effective and would achieve real reductions.

Q Do you have a presumption or assumption as to how many fireplaces are being used or how

much wood is being burned in the East Bay to come up with this?

A There have been -- In the applicant's proposal for this program there is some background information on, yes, how much wood is typically used.

Q So you're relying on -- Do you know from where the applicant attained this information?

HEARING OFFICER GEFTER: You can ask the applicant that question.

MS. HARGLEROAD: Well I'm simply asking the staff because staff is relying on it and I would presume that staff may have investigated that.

HEARING OFFICER GEFTER: Don't presume, just ask the question. If you have a question ask the applicant the question.

MS. HARGLEROAD: Well that's what I was asking and you -- Okay.

BY MS. HARGLEROAD:

Q Because we're trying to understand if you are recommending this adoption the basis for how much wood is being burned. Because I would presume that you got a number that you're

presuming people are burning a certain amount of wood.

A That's true, we are, and that would be on an average basis. The rates for this that you are looking for are part of the, part of the proceeding, part of the docket, and came to us as staff. I reviewed them. The rates seemed reasonable and they were coming from US EPA guideline documents. This is why I have a level of confidence that the measure would result in effective reductions as well as real reductions.

Q When you say US EPA guidelines is that applying a national standard or a state standard or an area. Because as we know we all have microclimates. The Bay Area is known for its microclimates.

THE REPORTER: Excuse me, could I get you to hold it closer. I'm really not getting you. Closer to your mouth, the mic.

MS. HARGLEROAD: Sure.

THE REPORTER: Thank you.

MS. HOLMES: Could you repeat the question, please.

BY MS. HARGLEROAD:

Q You say that you relied on US EPA

guidelines. And are those guidelines based on a national standard or a state standard assumption?

A At this moment I am reading through the response to the data request that provided the information for this plan and there is a combination of data points, one is population data from Alameda County, one is wood consumption data. I can't say if that is an annual average on the nationwide average. I don't have that citation in front of me. But the population and inventory they have are from this part of Alameda County.

HEARING OFFICER GEFTER: I have a question. Ms. Luckhardt, this is a data response that Mr. Birdsall is looking at. Do you have an exhibit number on that?

MR. BIRDSALL: I don't know which exhibit this would be. We're talking about --

HEARING OFFICER GEFTER: Well it would be an exhibit that the applicant has probably submitted.

MR. BIRDSALL: Shall I identify it informally? This is a --

HEARING OFFICER GEFTER: No. Let's just get the exhibit number.

MS. HARGLEROAD: Ms. Gefter, we're

perfectly willing to have that information provided later if that's more convenient.

HEARING OFFICER GEFTER: Right. But I want it in the transcript so that when we're looking at the record we can see which document you're referring to.

MS. HARGLEROAD: Just because we have a voluminous record and I certainly appreciate that.

HEARING OFFICER GEFTER: Okay, you can ask your next question while the applicant identifies this document for us.

MS. HOLMES: Hearing Officer Gefter, we believe it's Exhibit 12 but we would appreciate confirmation from the applicant.

MS. LUCKHARDT: We're looking right here. Yes, I do believe it is Exhibit 12.

HEARING OFFICER GEFTER: Okay, why don't you ask your next question and they'll confirm that.

MS. HARGLEROAD: Are you -- Have you heard or do you understand from the Air District, the local Air District here, are they seeking to regulate fireplace and wood stove usage presently? Is there a present proposal?

HEARING OFFICER GEFTER: You can ask

the Air District that question, they're right here. You can answer the question.

MR. BATEMAN: Yes, the Air District has proposed a rule that would limit emissions from wood-burning appliances like fireplaces. That rule has not been adopted yet and most likely will not be brought to our Board of Directors for adoption until late 2008, mid to late 2008.

HEARING OFFICER GEFTER: It's a public proposal on your web page?

MR. BATEMAN: That's correct.

HEARING OFFICER GEFTER: Thank you.

BY MS. HARGLEROAD:

Q Mr. Birdsall, if the air district does decide to regulate fireplace and wood stove usage are not the emission reduction credits generated from the fireplace retrofit program, aren't they really surplus?

A That's a good question. And I think that if the Air District passes a rule, which as Mr. Bateman has said would be a year away, the rule would have to go backwards to require retrofits of existing fireplaces. I am not certain that that rule addresses existing fireplaces, or the proposed rule rather, would

address existing fireplaces.

But the emissions from the existing fireplaces, if they are not subject to a backward-looking regulation, then they would continue to be surplus reductions. The regulations usually require a certain kind of operational change or limits on new installations. So I think that it would be hard to say exactly what part of the universe of fireplaces is surplus until the regulation is final.

So our condition is to accelerate these reductions and to get ahead of the Air District rule and to get the existing fireplaces. Not so much new fireplaces.

Q Okay. Well how does one verify, and I go back to perhaps Exhibit 12 of the applicant's data concerning the usage, of fireplace usage. There's a certain presumption we have generally in the San Francisco Bay Area a very mild climate compared to other areas of the country as we know are presently experiencing severe ice. Other parts of the country may burn more wood; is that correct? Other parts of the country may burn more wood than we do here?

MS. LUCKHARDT: Objection. Is the

attorney testifying at this point?

HEARING OFFICER GEFTER: If you could just ask the question directly that would be helpful.

MS. HARGLEROAD: We are on cross, though.

BY MS. HARGLEROAD:

Q So given -- The data you relied on, do you know whether or not the assumption on how much wood is being burned, does that apply to the climate of the San Francisco Bay Area?

A I think that the assumptions used in the fireplace retrofit program are good on an average basis and would be, yes, appropriate for this area.

Q And why is that?

A Because like you say, there is a certain amount of variability. But on the other hand of things, this program is not meant to just isolate one or two fireplaces, it is going for an area average. And the Air District does have, like I say, some experience with implementing these programs before.

Q Also I asked the question going to, how do you verify the fireplace retrofit program?

Because what if you have people converting existing fireplaces but they have low usage? Yet isn't the applicant getting a PM2.5 credit for a fireplace retrofit when in fact no wood is being burned?

A I think what you're asking about is the actual roll-out and implementation of the program and I don't have personal, firsthand experience with how the Air District takes the, takes the application from a homeowner, for example, and then provides the funding to the homeowner. But when a homeowner would apply to the Air District for a subsidy to replace an existing fireplace there is a certain amount of information that has to come from the homeowner to the Air District.

From our perspective, with the implementation of the program being conducted by the Air Quality Resources Agency of the region that there is a certain amount of faith that I give to that agency to ensure that the homeowners are supplying true and correct information when they apply for a subsidy under the retrofit program.

Q Well this goes back to the assumption of how much, establishing how much wood is

presently being burned. And if we are relying on a national study where the weather differs then the presumption may be high. That we're presuming more wood is being burned than is actually being burned; is that correct?

A I think what you are contesting is whether or not the process rates in this table are accurate. And I think that they are accurate and useful for this study and for the use in our mitigation measure.

Q Well I go to quantifiable and I go back to the sentence I was quoting on guidance for power plant siting and best available control technology. At the very next sentence is, quantifiable means that the amount of emission reduction can be determined with reasonable certainty.

MS. HOLMES: Is there a question?

MS. HARGLEROAD: Well, we have been talking about the data which Mr. Birdsall has been relying to come up or to make that recommendation on the fireplace retrofit. So that's my question. How is the -- How is this quantifiable if you again had a situation where a low usage fireplace is being retrofitted and receiving a PM2.5 credit?

MS. HOLMES: I am going to object, asked and answered. We have been over this already.

HEARING OFFICER GEFTER: And I would sustain the objection. If you have another line of questioning let's do that because we need to move along.

MS. HARGLEROAD: Sure. Not at this time, thank you.

HEARING OFFICER GEFTER: Thank you. Alameda County, do you have cross examination of the applicant's and staff's witnesses on air quality?

MR. MASSEY: Yes I do. Okay, let me begin with Mr. Birdsall.

CROSS EXAMINATION

BY MR. MASSEY:

Q I am Andrew Massey with Alameda County, thanks for being here.

I wanted to start on the topic of the interpollutant trading of SO2 for PM10. Are you aware that EPA has expressed strong reservations about the use of interpollutant trading?

MS. HOLMES: Excuse me, that sort of assumes facts not in evidence. Could we have --

Again, can we have the cross document if there is going to be cross examination on a document that is being --

HEARING OFFICER GEFTER: What is the basis of your question? Where did you get that information? Do you have a document from EPA or do you have some sort of, something in the record?

MR. MASSEY: It was a series of Federal Register filings by the EPA. But for the sake of expediency I will withdraw the question.

It is my understanding that sulfur dioxide is a secondary pollutant, whereas PM10 is a primary pollutant.

HEARING OFFICER GEFTER: With respect to what?

MR. MASSEY: Let me rephrase.

BY MR. MASSEY:

Q It is my understanding that SO2 when emitted over time converts to PM10, correct?

A The power plant emits sulfur oxides and some quantity of sulfur oxides may react in the atmosphere to create a secondary downwind particulate matter, yes.

Q Now that's a process that happens over time, it is not immediately upon emission.

A That's true.

Q So the conversion to PM10 may take place in a geographically distant location from the power plant, correct

A Yes.

Q How far away are we talking about in terms of that conversion? What sort of distances do we see before we have a full conversion to PM10?

A Well I think what you're getting at is that as the precursor pollutants to PM10 such as sulfur oxides are emitted from the power plant they'll go downwind, they will mix with the ambient air, they'll mix with other, the other constituents including ambient ammonia and create a particle at some point downwind. Now this could be, this could be within the first hour, it could be within three hours or a day.

I think the -- I'm not quite sure what the concern is but the point of our mitigation measure is to provide emission reductions that are equal in quantity to the power plant's potential emissions. And with providing those emission reductions we essentially balance out the increases that will be caused by the project so

that the net effect downwind of particulate matter formation would be essentially zero.

Q But do you know the exact rate of conversion of the sulfur oxides into the PM10? And to give you a little background to my question. What I am trying to explore is whether PM10, the SO2 for PM10 interpollutant trading, is really going to have a significant improvement to the air quality here in Hayward when the Eastshore plant is constructed, if.

A Well I think what you're getting at is do I have faith in the interpollutant trading and the ratio that 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.

If you take away the sulfur component of the emissions or if you essentially offset the sulfur emissions from other sources you have fewer molecules of the sulfur oxides and the sulfates to attach on to the ammonia and the moisture and everything else to cut down on the particles.

So I have faith that the interpollutant trading is a, is an acceptable way of reducing ambient particulate matter and that the ratio that

we are proposing, which is the 5.3 to 1, is a conservative and protective ratio. Especially when there is information from the applicant supporting use of a lower ratio.

Q But in terms of mitigation it would be better, I assume, to get direct PM10 emission reduction credits rather than the sulfur oxide ones.

A I am not in a position to pick or choose direct PM10 reductions versus the precursor because if you are out there today sampling particulate matter you get all of the above. You get direct particulate matter that was directly emitted, you get a number of the reactive pollutants as well that are aerosols that are coming from sources of sulfur and sources of nitrogen oxides that react to form aerosol particulate matter.

So the particulate matter problem is much bigger than just direct particulate matter emissions. So to deal with that problem, allowing reductions to precursors like sulfur oxides, is useful as long as it is done in an appropriate ratio.

Q But if the sulfur dioxides are

converting to PM10 downwind then you're ending up when you're doing the trade for sulfur dioxides to PM10, the conversion to PM10 on the sulfur dioxides happens somewhere else whereas the direct emission of the PM10 from the Eastshore facility would occur here in Hayward. Is that a correct statement of the effect?

A Are you saying that I should value -- I suppose I should not be asking questions here in this position.

What I think you're getting at is that SO2 reductions locally don't have so much of a value. But what they do provide is the downwind improvement in particulate concentrations. I think that what we're trying to do here is to create a mitigation scheme that addresses the local and regional effects of the power plant.

I mean, we can't just say that Hayward is the only community that experiences the impact of a relatively large, natural gas-fired power plant. The mitigation needs to be local and it does provide regional benefit.

Q But in this case the conversion from sulfur -- I'm sorry, the trading between sulfur dioxide and PM10 will necessarily be to the

benefit of other regions more than to Hayward than if you were requiring direct PM10 emission reduction credits instead.

A I think that's hard to say because we don't have information from the applicant on where the sulfur oxide credits might come from. If they are for example coming from a source that was shut down in San Francisco then Hayward does benefit. And that is the kind of reduction that my measure AQ-SC8 requires.

Q How strong is the science on the interpollutant trading? Is that something that in your review when you were looking at the wisdom of doing interpollutant trading, is that something that is firmly established in the science or is the science still out on interpollutant trading?

A I think it is firmly established. The question is always the case-by-case nature of it. It does depend on the local meteorology, it depends on the local emission inventory. Sort of whether or not the area emits more of some things versus another. So it's very complicated.

But the Air District has in its adopted state implementation plan for ozone, for example, an interpollutant trading ratio for ozone

precursors. So there are ways to arrive at an appropriate ratio and these kinds of programs are approved by EPA. The sulfur oxides to particulate matter trade is a ratio that is normally determined on sort of a case-by-case analysis, which is what we're struggling with here today.

Q Thank you. I --

PRESIDING COMMISSIONER BYRON: Mr. Massey, if I may. I believe it is also dependant upon the reactivity of the sulfur dioxide, correct?

MR. BIRDSALL: That's true. The sulfur dioxide and the sulfates that are emitted are reactive as well as the other precursors are reactive. So the particulate matter issue in the ambient air is a mix of all of these issues, not just particulate matter.

PRESIDING COMMISSIONER BYRON: Okay. I was just trying to help Mr. Massey here. If there was anything you could add with regard to the reactivity. For instance, the half-life of the sulfur oxide, so that we do indeed know that they -- Forgive me, I may say the wrong word, transform.

MR. BIRDSALL: That's true. The sulfur

oxides have a certain kind of reactivity and they will react with the moisture in the air, they will react with any ambient ammonia from natural sources or from motor vehicle exhaust or these other kinds of precursors. So it's a complicated basket.

MR. MASSEY: Thank you, I appreciate those follow-up questions.

BY MR. MASSEY:

Q I also had some questions on the fireplace retrofit program and I don't want to duplicate what Ms. Hargleroad asked. I did want to explore that it is my understanding that the program will be both voluntary and will provide only a partial credit for the retrofit of an individual homeowner's fireplace. Is that correct?

A Well the program is made available to homeowners and then it is up to homeowners to participate or not participate. And if there isn't a successful uptake or if there aren't enough homeowners coming out of the City of Hayward interested in the program then the program in AQ-SC8 allows it to be expanded to other western Alameda County communities. But it is not

-- You're right, it is a voluntary program.

Q And the second part of that, it is only a partial credit in terms of the homeowner doing the retrofit, it is not fully funded per person.

A Yes, yes, that's my understanding. As I said, it is a financial incentive or a subsidy of the upgrade.

Q Have you conducted any studies in your view whether homeowners in the vicinity of the Eastshore plant are in a financial position to actually pay for the difference between whatever credit they would get towards the retrofit and the full cost of retrofitting their fireplace?

A I have not.

Q Wouldn't common sense dictate that persons on lower incomes or living paycheck to paycheck may not be able to pay for the difference between the credit and the full cost of the retrofit?

A I think that the City of Hayward is a diverse community and that there are probably customers out there who are in a position to participate in the program. There may be, yes, people who are not in a position to participate. I think that the program is something that needs

to be offered on a community-wide basis. And if it is not successful in Hayward it expands to other East Bay communities.

Q But did you conduct any studies to try to determine whether this program would be something that would actually be taken advantage of by people living in this area?

A I didn't conduct any study like that.

Q Does a person who wishes to take advantage of this fireplace retrofit program actually have to use their fireplace currently?

A Like I explained before, I am not so familiar with the exact implementation of the program but when the Air District offers a subsidy to the homeowner the homeowner would need to provide basic information on its use of that fireplace. And this goes to wood stoves as well as fireplaces. And if there are wood stoves out there that are being used for heating purposes then those would obviously have a much higher rate. But the point is that the homeowner needs to demonstrate that they even have a fireplace to retrofit.

HEARING OFFICER GEFTER: Mr. Massey, I think maybe if the Air District has experience

with this program perhaps it is best to ask them the direct question on how they implement the program. It seems that most of the intervenors have that very question.

MR. MASSEY: I appreciate that.

Mr. Bateman, would you be most appropriate to answer my questions?

MR. BATEMAN: Unfortunately not. The Air District is a fairly decent sized agency and the staff that has the expertise in that particular area are in our grants and incentives group, not in engineering, so I am not really able to answer that in terms of specifics of how the incentives program is implemented.

I am sure that there are some measures of determination that the fireplace was used. Probably there will be requirements for proof of purchase of qualifying devices, for example, natural gas inserts, that sort of thing. Perhaps some sort of an affidavit on behalf of the person that was applying for the grant, an incentive. I can't say with any certainty because that is not my area of expertise.

HEARING OFFICER GEFTER: Do you know if there is any report on progress or any sort of

follow-up on the program that was conducted in Santa Clara County? Is that where you -- the program near San Jose?

MR. BATEMAN: I do not.

HEARING OFFICER GEFTER: No, okay. What I would like to ask applicant and staff, to work together on checking with the Air District on whether or not there is any information on who the previous program was implemented. Whether there is a report, whether there are application forms, and put together a little package and serve it on the parties.

Because it seems to be the parties' big question. And if we can get them some information other than spending time here this morning asking the questions where our witnesses here today don't have the answers. Thank you.

Any more cross examination on another topic with respect to air quality?

MR. MASSEY: Not for Mr. Birdsall. Is this the time to ask of the applicant's witness?

HEARING OFFICER GEFTER: Yes.

MR. MASSEY: Thank you.

CROSS EXAMINATION

BY MR. MASSEY:

Q Mr. Westbrook, I wanted to explore with you the SO2 to PM10 ratio change that you're proposing. It is my sort of lay understanding that if we change from the 5.3 to 1 ratio to the 3.0 to 1 ratio, that will necessarily mean an increase in the amount of SO2 emissions because you're mitigating less of it. Is that a fair statement of the effect?

A You know, I wouldn't know the answer to that question. What I presented here was the fact that the staff did not analyze the uncertainty in deriving a value and that we have a precedent for using three to one in multiple projects like the San Francisco electric reliability project.

And while it laid out the analysis that shows you can get lower numbers such as one to one on a high PM2.5 day versus a high PM10 day, the staff shows where they got the number they got. There is a difference in the numbers.

So when you apply the method -- my point in all this is that staff needs to take a look at all the data and justify and back-up their presumption for 5.3 to 1. As far as you're question, I'm sorry, I can't answer that.

Q So if I am releasing three units of

SO2, versus if I'm releasing 5.3 units of SO2, 5.3 isn't bigger than three?

A Can you repeat that question.

Q My question is, if I am releasing three units of SO2 versus if I emit 5.3 units of SO2, isn't 5.3 bigger than three?

MS. LUCKHARDT: Are you referring to emissions from this project or are you referring to something else?

MR. MASSEY: I'm trying to get at the issue of the effect of the change in the ratio and what that will do in terms of the actual quantity of SO2. If we had two --

MS. LUCKHARDT: Are you talking about --

HEARING OFFICER GEFTER: Let me interrupt. I am not sure whether you are looking at Air Quality Appendix 1, which is at page 4.1-66 of the FSA, Exhibit 200, in which Mr. Birdsall has laid out his table on the 5.3 to 1 ratio. Perhaps if you take a look at that and frame your question more specifically perhaps the applicant can answer the question.

PRESIDING COMMISSIONER BYRON: Mr. Massey, I think I understand what you're

trying to say and that is, with the lower ratio of SO2 or sulfur oxides to PM10 -- 2.5 are you not going to be emitting more SO2?

BY MR. MASSEY:

Q Yes, that's my basic question.

A It's important to understand we're not talking about the project emissions, we're talking about using an emission reduction credit that is banked to mitigate particulate matter. So what we're doing is we're taking that banked SO2 credit and we're making an assumption that there is a conversion to PM10 in the atmosphere, which science shows there is. My point in all this is that there is a lot of uncertainty in how you derive that number and the staff's analysis is very limited in deriving that number.

Q But my question is going to, if you mitigate 5.3 units of SO2, versus if you mitigate three units of SO2, you're mitigating less SO2 when you use the 3 to 1 ratio than if you use the 5.3 to 1 ratio. Is that correct?

A It is not correct because what we're trying to do in the conversion is mitigate PM10.

Q So then using the 5.3 to 1 ratio as opposed to the 3.0 ratio you're mitigating under

your proposal less PM10; is that correct?

A You're mitigating less PM10? You know, again I am not saying the proposal, based upon the uncertainty we saw in the analysis. What I'm saying is that there is a background for 3 to 1 as an appropriate number.

As far as what is less or more, you have to look, you have to look at all the study to understand the uncertainty of what would happen. What I'm talking about is a number that has been established and justified in the record for what an appropriate value would be for this project.

HEARING OFFICER GEFTER: And this ratio, Mr. Massey, has to do with the purchase of ERCs from the Air District's bank and how much they're worth, basically. The Air District indicated they had fewer PM10 ERCs available than you might have for sulfates, SO2. So in terms of how much, how many ERCs they need to come up with, that's what this ratio deals with.

MR. MASSEY: I appreciate that clarification. Just a couple of follow-ups I guess on that, then.

If as you stated in your direct testimony there is uncertainty as to the science.

When there is uncertainty as to the science and the effect of making a bad policy choice here could be an increase in the amount of emissions in the local Hayward area. Wouldn't it be more prudent --

MS. LUCKHARDT: I'm sorry, I object. You're saying an increase in emissions in the local Hayward area. We're talking about offset ratios. I don't believe there is anything that is talking about any kind of increase.

MR. MASSEY: Let me rephrase that. When you say that there is uncertainty as to the science and you have a proposal that would require a smaller ratio, that the 3 to 1 versus the 5.3 to 1 ratio, is the 3.0 ratio more protective of the air quality in terms of the emissions when you -- And I understand Ms. Gefter's point that this is an emissions reduction credit.

HEARING OFFICER GEFTER: It is how much the applicant wants to pay for the credits and how much they're worth. And the other thing that I think you're trying to get at is, when science is unclear typically the analysis will go towards the more conservative analysis.

MR. MASSEY: Correct.

HEARING OFFICER GEFTER: So you are suggesting that the 5.3 to 1 as opposed to the 3.0 to 1 is a more conservative analysis. And I think that everybody here is on the same page with you on that question, it would be more conservative. It would be also more expensive for the applicant.

BY MR. MASSEY:

Q And then I guess this gets to my ultimate point that the primary motivator here for recommending a 3.0 to 1 versus the 5.3 to 1 ratio when the science is uncertain, and 5.3 is the more conservative view, is basically money.

A No. This number of 5.3 to 1 is not backed up or justified by staff. So, you know, what number do you want to make up without an analysis. We haven't seen calculations, we haven't seen peer review of this information. We don't know how staff came up with that number.

It has been referred to in another project, we just don't know how they derived that number. We know the method they used because they referred to that method. So it is not about money, it is about good science and about doing the science the way you're supposed to do it. And we have not seen that backup.

So three to one is a number which has been used in multiple projects recently including 2006 and it has a lot of history. And that number by itself is likely very conservative already.

Q But 5.3 to 1 is more conservative.

A It would be --

HEARING OFFICER GEFTER: I think the question has been asked and answered. If you have another line of questioning, otherwise we'll move on to another party.

BY MR. MASSEY: This question is for Mr. Bateman and this has to do with the use of the emissions reduction credits.

CROSS EXAMINATION

BY MR. MASSEY:

Q There's been the proposal from the applicant to expand the market from which they can -- the geographic region from which they can purchase these emissions reduction credits and I wanted to explore that issue with you.

It is my understanding that the Hayward area is out of compliance for a number of pollutants in the air; is that correct?

A Well, the entire San Francisco Bay area region is non-attainment for federal and state

ozone standards and the air quality standards. So that includes Hayward and every other part of the Bay Area.

Q When you propose to use these emissions reduction credits, it is my understanding that an emissions reduction credit is an existing reduction. It's the status quo, it's what we have presently. Somebody has banked it in the past and they're going to apply it to a different project; is that correct?

A Under our rules emission reduction credits can be in that category, yes. I should point out that the Air District's requirements for the use of emission reduction credits in this project, it is only with respect to two pollutants, precursor organic compounds and nitrogen oxides, not PM. Based on the emissions from the project under our rules the project did not trigger requirements for PM offsets.

Q So when you apply one of these emission reduction credits it has already been banked? The actual effect of doing that to a project that will produce X amount of conditions is to create an actual increase beyond the existing status quo.

A If you are defining the status quo as

current emissions.

Q Correct.

A That would be true depending on the age of the banked reductions. If they were, for example, from reductions that were achieved a long time ago then that would be true, yes.

Q You had explained to me previously that the Bay Area exceeds I believe it was ozone. Then given that won't the construction of the Eastshore plant using banked emissions credits result in an actual increase in emissions in this area?

A No it won't because we have a requirement under both the state and federal planning requirements to run a permitting program that would have no net increase for the pollutants that I mentioned in this case, precursor organics and nitrogen oxides. The permitting program has to have no net increase in those emissions, including the emissions from permitting projects.

MR. MASSEY: Thank you.

I realize I'd left out a line of questioning for Mr. Westbrook if I might go back and ask him a follow-up question.

HEARING OFFICER GEFTER: Yes.

FURTHER CROSS EXAMINATION

BY MR. MASSEY:

Q I was interested in your proposal to expand the scope geographically of where these emissions reduction credits could be purchased. You have proposed that the applicant need only use best efforts to purchase more local emissions reduction credits and that your understanding of best efforts is to consult the local market and see what is available; is that correct?

A That is correct. But what you would do is you would consult the market and you would keep a record of those consultations. You would go out to brokers, emission brokers who are knowledgeable about pending transactions as well as going to owners of the certificates and document the fact that you contacted them repeatedly over the period of time we are talking about. That's what a good faith effort consists of.

Q Now what happens if as a product of the good faith effort the applicant is able to find a local emissions reduction credit and there is a willing seller but it is very expensive? Would the applicant be under any obligation to purchase that very expensive credit?

MS. LUCKHARDT: So basically you're

asking whether someone can blackmail the project for a very high cost. Is that what you're asking?

MR. MASSEY: No, that's not my question.

BY MR. MASSEY:

Q My question is that in your testimony you had indicated that local credits are scarce. And I guess maybe I need to ask this foundational question. If local emissions are scarce does that not make them expensive?

A They are absolutely expensive, yes.

Q And are they more expensive than emissions reduction credits that could be purchased form some of the other more geographically distant areas that you are proposing?

A No, they might be less expensive or more expensive in other areas. And you know the reason for the justification for other areas is that you could have an emission of particulate matter in the northern part of the bay where the air can travel down to Hayward outside of the areas we are talking about.

So even though we are looking at this local preference, in terms of meteorology and

chemistry we talked about SO2 and conversion to PM10. It could be that on the worst PM10 days you are getting some impact from these other areas.

But when you look at the issues of what to get, if this project is not able to get the mitigation it can't go forward. So what staff has described is flexibility in terms of different ways to get the mitigation. It could be that one program is more difficult but less costly per ton of mitigation. It could be that another way is easier. We just don't know. We don't know sitting here today what we are going to do for mitigation. What specific location, what specific needs.

Q But if you are able to find a local emissions reduction credit but don't like the price would the applicant be under any obligation to purchase it under your proposed flexibility?

A I think that's a question for staff.

Q No, I believe it would be a question more appropriate for you because --

MS. LUCKHARDT: Are you asking whether it's at market price or whether it's above market price?

BY MR. MASSEY:

Q I'm asking if you are able to identify an emissions reduction credit using your best efforts within the local area proposed by staff would the applicant be under any obligation under your proposal to purchase that local emissions reduction credit despite the high cost?

A The proposed condition, the language currently does require justification of the location of the offsets. So of course location and price, those are folded in as a consideration.

Q If you end up with conditions of compliance as the staff has proposed, the applicant would be required to purchase emissions reduction credits within the localized area, correct?

A Without our changes that's correct.

Q And that credit, the credits you might be able to find in this local area might be very expensive.

A I don't know the answer to that. I have no way of knowing whether they are going to be expensive or not expensive and what that means, I'm sorry. I don't know what is going to happen with that search in terms of availability and cost.

Q Assuming that you identify an emissions reduction credit in the local area proposed by staff that is more than the applicant wants to pay. Under your modified compliance conditions would you be under any obligation to purchase it as opposed to a more geographically distant emissions reduction credit that is much cheaper?

A In that respect I don't see a difference between the staff's proposal or our proposed condition language.

HEARING OFFICER GEFTER: Mr. Massey, I don't believe the witness is going to answer your question the way you want him to answer it. It sounds like it is a business decision on the part of the applicant. If they can't provide the required ERCs they can't go forward, bottom line. So I don't think you're going to get an answer to your question. But you certainly can brief it.

MR. MASSEY: I am getting that impression.

HEARING OFFICER GEFTER: Another line of questioning or let's move on.

MR. MASSEY: No, I believe that was my last question, thank you.

HEARING OFFICER GEFTER: Thank you very

much.

Does the City of Hayward have any questions of the witness, of the applicant and staff witnesses?

MS. GRAVES: No.

HEARING OFFICER GEFTER: Okay.

Mr. Sarvey do you have any air quality cross examination?

MR. SARVEY: Yes I do, thank you.

HEARING OFFICER GEFTER: Okay. Let's try to keep it brief, thank you.

MR. SARVEY: I'll do my best. It depends on the answers that I receive.

HEARING OFFICER GEFTER: Thank you.

CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Lusher, is the fireplace retrofit the only program available in the district to mitigate this project's particulate matter and other emissions from this project?

A We have no PM mitigation requirements for this project under our rules and regulations. We have been following what CEC staff has been proposing and taking a look at that. Fireplace mitigation programs, to my knowledge, have been

used for other power plants in the state in other air districts and we have a program before us today that people are discussing.

Q And do you have like other programs like vehicle scrappage and a Carl Moyer program that also could be utilized to reduce the project's particulate matter impacts locally?

A We certainly are actively looking for opportunities under the Carl Moyer program to fund removal of diesel engines off the road to reduce diesel particulate matter. But when you retrofit a diesel bus, for example, it is very expensive and it is a very toxic particulate matter. But having a mitigation for diesel particulate I think the District would be interested in but it is very difficult because you may not be able to get a ton for ton in diesel particulate matter.

Q Would these types of programs be more effective for mitigating the local particulate matter impact than the ERCs that are being proposed since these emissions would occur in the future rather than in the past?

A Well I am not sure what the final mitigation program will be. I have certainly considered the program and it appears to be

consistent with other programs I have seen. I am not going to speak to whether it is the perfect mitigation or not.

HEARING OFFICER GEFTER: There is a Carl Moyer program available for the Bay Area?

MR. LUSHER: Yes. I am not an expert on the Carl Moyer program but it is on our web site and there is an outreach and incentive staff. And grants are given to people to retrofit diesel engines under that program.

HEARING OFFICER GEFTER: Has staff considered that for this project? Have you looked into that program from the Bay Area?

MR. BIRDSALL: Yes, we have looked into a Carl Moyer program-kinds of reductions before and also on this case. There may be some potential for reductions in PM through a more aggressive Carl Moyer program, providing incentives for local companies and local fleet owners like the City of Hayward to retire diesel equipment or for AC Transit, for example, to retire diesel-emitting busses.

Those programs have been in place from the California Air Resources Board and the local Air District for awhile. What we tend to find is

that the reductions that you gain in particulate matter are relatively small in quantity.

So what we did for Eastshore and what we have been doing for some of the other power plants that I'm sure you're aware of, Mr. Sarvey, is we take a look at the stationary source inventory rather than the mobile source inventory.

The emissions from wood stoves during wintertime conditions are a big component of the local inventory. That combined with the stationary source emission reduction credit program, we think those are two very highly effective pathways to mitigation and that it would be very difficult to achieve the kinds of tons in reductions that we are looking for using Carl Moyer. But Carl Moyer has been, has definitely been considered.

MR. SARVEY: Some of these next questions require that the witnesses have this, which I have already given out, but I want to give them a copy real quickly if I could.

HEARING OFFICER GEFTER: Okay, and identify the exhibit. This is one of Mr. Sarvey's exhibits.

MR. SARVEY: This is Exhibit 804.

HEARING OFFICER GEFTER: It's listed in the exhibit list.

MR. SARVEY: Mr. Lusher, how long does it take to get an ERC certificate after the emission source has been retrofitted or shut down?

MR. LUSHER: I don't process those applications personally. I would say it would be a matter of months. You have to submit an application, a district engineer gets assigned to it, they review and quantify what they think the emission reduction is and then that generates an ERC.

MR. SARVEY: So in terms of months then, okay.

CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Brewster, you mentioned earlier that SO2 emissions could take as long as three hours or three days to form particulate matter. How about three months?

A I would say not three months. You've got precipitation, you've got wind currents and that tends to move the air along.

MR. SARVEY: Okay, I would like to ask all the witnesses this question. Would increasing

the project stack height lower the project's ambient air quality impacts?

MR. DARVIN: Yes it would.

MR. LUSHER: I would agree.

MR. SARVEY: Okay, thank you.

MR. BIRDSALL: Yes.

FURTHER CROSS EXAMINATION

MR. SARVEY: Mr. Lusher, according to your response to Mr. Toth on his comments in the PDOC, and that's Exhibit 804 page 72, there are no generic cancer potency values or reference exposure levels for fine particulate matter so it is not included in the health risk assessment, is that correct?

MR. LUSHER: Well let me clarify that. OEHHA does not have relative exposure values for PM2.5 by itself but I think everybody would recognize that combustion particulate is made up of a dominant species called PAHs, which is polynuclear aromatic hydrocarbons and those are also a particulate matter. So we do look at the particulate matter species that we have reference exposure values for from OEHHA.

PRESIDING COMMISSIONER BYRON: Could you -- Excuse me, for all of us not familiar with

all these acronyms. OEHHA, please.

MR. LUSHER: Office of Environmental Health Hazard Assessment. Sorry, folks.

PRESIDING COMMISSIONER BYRON: That's all right, thank you.

MR. SARVEY: Is he done with his answer?

MR. LUSHER: Yes.

MR. SARVEY: Okay, thank you.

BY MR. SARVEY:

Q Mr. Lusher, in the PDOC, Appendix A page one, you estimate that the facility's SO2 emissions using a fuel sulfur limit of .182 grains.

A Um-hmm.

Q Do you have a condition that guarantees compliance with that fuel sulfur limit for the gas supplied to the project?

A Well they have to track the fuel gas sulfur and they have to manage underneath the limit. I don't have a specific limit that limits it. What really drives the sulfur emissions from the project is not the fuel gas sulfur content, it is the lube oil content that was provided by the applicant. And I believe that the fuel gas

portion is actually quite small versus the lube oil portion. So they have vendor guarantee data that they believe they can live with that number.

MR. SARVEY: Mr. Birdsall, do you have a condition in your conditions of certification to test the fuel sulfur in the gas, the natural gas supplied to this project?

MR. BIRDSALL: We have the same conditions that the Air District put forth in its final determination of compliance for that issue so I would have to look through. But I do believe --

MR. LUSHER: Maybe I misunderstood the question.

MR. BIRDSALL: I'll stop.

MR. SARVEY: Should I repeat the question?

MR. LUSHER: No, no, no, sorry. I'm trying to add on to my response.

MR. SARVEY: I'm sorry.

MR. LUSHER: We allow the applicant to use PG&E data because PG&E tests the system on a weekly basis for sulfur. So they will track the sulfur in the fuel gas using PG&E data.

MR. SARVEY: A lot of power plants

recently have been amending their conditions of certification to raise their fuel sulfur limit. And I would quote most recently the Los Esteros project has increased their limit from 25 to 33 grains. Shouldn't that factor into your assessment of the fuel sulfur limit for the natural gas for this project?

MR. LUSHER: Like I tried to state earlier, the fuel gas sulfur component is a small portion of the sulfur emissions from the facility. And that they have to meet their permit limit and they have to track emission calculations over the year to demonstrate they meet their permit limit. And they are subject to enforcement action if the sulfur goes over the permit limit.

HEARING OFFICER GEFTER: Are you saying that there is a condition in the FDOC relating to the sulfur content of the natural gas? If there is why don't we find it and identify it for the record.

I also have a question. Mr. Sarvey, when you asked the question about if the height of the stacks is increased then the emissions of pollutants would be less. Is that what your question was?

MR. SARVEY: Better dispersion, yes.

HEARING OFFICER GEFTER: Okay. And what was the point of that question? Are you suggesting that the applicant should raise the height of the stacks?

MR. SARVEY: Most definitely and that is in my testimony. When you look at the ambient air quality impacts from this project, and I'll address that in my testimony, it's already there.

HEARING OFFICER GEFTER: Okay.

MR. SARVEY: Compared to other projects that the Energy Commission has approved and other projects that are being sited throughout the country, the ambient air quality impacts from this project are very, very high.

HEARING OFFICER GEFTER: Okay. Well we'll wait for your testimony on that and that will come up pretty soon. Do you have any other questions on cross?

MR. SARVEY: Yes I do.

HEARING OFFICER GEFTER: Okay.

FURTHER CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Birdsall, how many of the projects you have analyzed for the Energy Commission have

had particulate matter impacts as high as this Eastshore project?

A Your direct testimony that was filed, Mr. Sarvey, pointed out that the ambient air quality impacts of Eastshore are higher than typical power plant impacts.

Q In Air Quality Table 16 in your exhibit, could you look at that briefly, please.

MS. HOLMES: I'm sorry, could you repeat the reference again.

BY MR. SARVEY:

Q Air quality Table 16 in Exhibit 100.

A Yes.

Q According to your testimony there under the pollutant PM10 you list the project's annual impacts as 3.1 and the background as 20 and then in the bold color you have the total impact is 23.1. Are you indicating that that is a violation of the PM10 standard there, for annual PM10 standard?

A The testimony makes it clear that the project most definitely contributes to violations of PM10 standards. The PM10 standard on a daily basis is already violated. The project most definitely contributes to those violations. Which

is why we are proposing AQ-SC8.

Q And then in the annual PM2.5 standard you have the modeled impact as 3.1. That represents 25 percent of the annual federal PM2.5 impact; is that correct?

A The 3.1 being about one-quarter of the standard of 12. That would be yes, about one-quarter.

Q And then when combined with the background you indicate there could possibly be a violation of the federal PM2.5 standard for this project?

A That's right. Well the federal standard for PM2.5, as explained in the testimony, is relatively new, the 35 microgram per cubic meter standard. And the Air District is still going through its formal demonstration of attainment on non-attainment. It is pretty clear -- I think the testimony spells this out, that the area looks like it will be designated non-attainment for PM2.5. This project would definitely contribute to that violation. Then that's again what leads us to our mitigation.

Q Are you familiar with the new NO2 standard that is being promulgated by the Air

Resources Board?

A Yes. We have been watching that closely over the year or so. In February of 2007 I think the Air Resources Board adopted a lower standard for nitrogen dioxide, NO2, and the standard has yet to be approved by the Office of Administrative Law. We have been watching this standard but we aren't using it in our staff assessments until it becomes law.

Q You said you have ben watching the standard. Have you seen the staff report on the standard?

A I don't think I've read the staff report on that standard.

Q Okay, thank you, thank you. Do you know what the new standard is per micrograms per cubic meter?

A The newer standard is mentioned in the footnote to my table, my table that summarizes the ambient air quality standards in the beginning of my staff assessment so that's the footnote to Air Quality Table 2.

Q Thank you, Mr. Birdsall. And the 314.3 micrograms per cubic meter NO2 impact from this project is about 90 to 95 percent of that

standard; is that correct?

A Right. The modeled impact for NO2 on this project is close to but not exceeding the new standard that would become law if it becomes law. The points that you have raised in your direct testimony, just to kind of jump ahead a little bit, I think are very relevant in the fact that a newer standard and lower standard may come down from the Office of Administrative Law is something that I say we're watching very closely.

I think what will need to occur when and if that becomes law is that we will have to be working very closely with the Air Districts and the Air Resources Board to determine what is the proper way and the methodology to model a project's impacts against that standard.

Nitrogen dioxide is a reactive pollutant and as you know the power plant emits nitrogen oxides, which is a blend of nitric oxide and nitrogen dioxide. So modeling compliance with the NO2 standard always involves a certain amount of reactivity in the equations or reactivity in the analysis. And that is a little bit more difficult to model than a direct pollutant impact like the direct impact of sulfur oxides, for

example, where we don't assume any reactions.

The analysis that is in the staff assessment does assume a certain level of reactivity. 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 NO2 standard.

Q If the Office of Administrative Law approves this amendment before this project is certified how does that affect the project?

HEARING OFFICER GEFTER: That is a question of law and, you know, the attorneys can brief that as well.

MR. SARVEY: Okay, thank you. I'll move on.

HEARING OFFICER GEFTER: I want to interrupt just one minute.

MR. SARVEY: Sure.

HEARING OFFICER GEFTER: Because, Mr. Sarvey, I know that you have air quality testimony which actually is very connected to your cross examination.

MR. SARVEY: Yes.

HEARING OFFICER GEFTER: And it makes sense, perhaps, to have you actually do your

direct now.

But let me ask Mr. Haavik if you have any cross examination of any of the air quality witnesses at this point? Because if not what I think I'll do is have Mr. Sarvey testify and then have Dr. Zannetti testify afterwards.

MR. HAAVIK: I have only one comment on the cross for Mr. Lusher.

HEARING OFFICER GEFTER: Thank you.

CROSS EXAMINATION

BY MR. HAAVIK:

Q Are you familiar with the Russell City proponent and the discussions they have had in regards to the fireplace retrofit program?

A I am aware of it just because I know the engineer in my group who's working on it but I am not directly involved in all of that.

Q You do not know the components of that particular proposition?

A I am not, I have not been reviewing that very extensively recently. I mean, I know that they had proposed -- I was at the evidentiary hearing for the proceeding obviously so I know that we were discussing many of the same issues at that proceeding but I am not, I do not know where

the mitigation is going to fall out.

MR. HAAVIK: Okay, thank you, nothing else.

HEARING OFFICER GEFTER: That's it? Okay.

MS. HARGLEROAD: Excuse me.

HEARING OFFICER GEFTER: Yes.

MS. HARGLEROAD: Before we move on to Mr. Sarvey's direct I just wanted to qualify that I have a few more follow-up. I didn't expect to be the first one to ask the cross. So if I could follow-up if the intervenors or any other cross examination is complete.

HEARING OFFICER GEFTER: All right, after everything is complete, including Dr. Zannetti's direct, you can come back and ask questions at that point.

MS. HARGLEROAD: Okay, I can come back to staff and the Bay Area, okay, thank you.

HEARING OFFICER GEFTER: Yes, because we need to move along. You know, we are supposed to break at one o'clock and I thought we might be through public health by now. We're not even starting public health.

So Mr. Sarvey, if you would like to

present direct testimony now. I know that you have offered yourself as an expert witness on air quality. As you know, I haven't ever qualified you as an expert witness on air quality, however, I will qualify you as an expert intervenor and very knowledgeable in our proceedings. So if you want to, you know, be sworn in I'll take your testimony.

MR. SARVEY: I'd have to object to that.

HEARING OFFICER GEFTER: Okay. Do you want to be sworn in?

MR. SARVEY: I'd have to object to your not qualifying me as an expert witness. I have the educational background and the experience.

HEARING OFFICER GEFTER: I know and other hearing officers have qualified you but I won't. However, I will accept your testimony and if you want to be sworn I will swear you in.

MR. SARVEY: I'll do so under objection.

HEARING OFFICER GEFTER: Okay.

Whereupon,

ROBERT SARVEY

was duly sworn.

HEARING OFFICER GEFTER: Thank you,

Mr. Sarvey. Okay, go ahead.

MR. SARVEY: I also had some more cross examination questions. Will I be allowed to ask those later?

HEARING OFFICER GEFTER: Sure, yes.

MR. SARVEY: Okay.

HEARING OFFICER GEFTER: But I thought it would make sense to hear your direct because it is very interconnected with your cross examination. So right now this will be considered your direct testimony, thank you.

DIRECT EXAMINATION

MR. SARVEY: My direct testimony pretty much speaks for itself. I don't have a lot to add to it.

HEARING OFFICER GEFTER: Okay.

MR. SARVEY: I have offered a condition of certification, AQ-SC8, which would allow the CEC, the applicant, the Bay Area Air Quality Management District to provide a mitigation program for PM10 that includes advanced street sweeping, school bus retrofits, vehicle scrappage, fireplace/wood stove retrofits or any other CEC-approved emission reduction program in the modeled area of impact with the highest impact areas

mitigated first.

And I believe that that's the correct way to mitigate the PM10 impacts from this project. I do not believe that the SO2 credits do mitigate the project. The SO2 credits are basically a piece of paper like this.

MS. LUCKHARDT: I'm sorry, is this brand new? Is this something that you provided just today? I mean, I'm scrambling to find AQ-SC8.

MR. SARVEY: I gave it to all the witnesses, would you like a copy of it?

MS. LUCKHARDT: I notice that my witnesses have it. I just want to note that this is something that has just been presented today.

MR. SARVEY: Yes, I just provided it today, yes.

HEARING OFFICER GEFTER: But Mr. Sarvey, didn't you submit other information in your previous exhibits or is this new testimony that I haven't seen either?

MR. SARVEY: This is a new condition.

HEARING OFFICER GEFTER: A new condition that you are proposing today?

MR. SARVEY: That I am offering today,

yes.

MS. LUCKHARDT: I would like to object.

HEARING OFFICER GEFTER: We all need to see a copy of that.

MR. SARVEY: Okay.

MS. LUCKHARDT: I also would like to object in general to the provision of new testimony today. Everyone was required to pre-file. Every other party did that. Mr. Sarvey is showing up just now and providing new testimony. I am very concerned that if we continue to allow new testimony in at this point that the process will never be completed. So I would like to see some limits put on the process.

HEARING OFFICER GEFTER: Mr. Sarvey is admonished, was admonished previously when you moved to intervene as a petitioner and we told you at that time that that was the last time that we would accept your late filing.

I understand that Ms. Luckhardt is concerned that this is the first time we've seen this. So I will take your objection under advisement, Ms. Luckhardt, and we will take Mr. Sarvey's testimony and give it whatever weight it is worth in the context of the whole record.

MR. SARVEY: I'm done, thank you.

HEARING OFFICER GEFTER: Mr. Sarvey, again, if you can connect this to the previous filings that would be helpful.

MR. SARVEY: The condition itself? In the applicant's errata today I received a new condition of certification for AQ-SC8 so I don't think it's all that unusual.

MS. LUCKHARDT: I object.

HEARING OFFICER GEFTER: No, we had seen that.

MS. LUCKHARDT: Those are the documents that were filed with the prehearing conference statement. I provided them to everyone because we did not include them on our exhibit list but I intended to. I wanted to give everyone an opportunity to see them. But they are not new.

HEARING OFFICER GEFTER: We have seen them before.

MR. SARVEY: You can toss the condition. I'll put it in my brief and then you can brief it if you'd like, that's fine.

HEARING OFFICER GEFTER: And what we could do is if you brief it actually the parties need to comment on this because it won't, it is

out of context if you just include it in a brief without the comment from the experts on your proposal. And if your proposal has validity it might be useful for both the staff and the applicant's and the Air District's witnesses to see this condition and comment on it. So if you would, if you want to tell us what it's about real quickly in your direct and then we'll move on.

MR. SARVEY: I basically already did tell you. What I am trying to do is to get a real-time emission reduction program started here with this condition. I believe that it is much more beneficial to the community because it is actually improving their air quality rather than providing precursor emission reductions, which may or may not provide the mitigation necessary.

We have a disagreement between the staff and applicant as to how effective the SO2 ratio is and we also have a disagreement on the location of the ERCs. And I believe that this particular condition deals with both those issues in that it provides emission reductions and improves the quality of life for the people who are most affected by this plant.

And as I mentioned earlier, the impacts

from this project are huge compared to any other project that I have ever been involved with.

HEARING OFFICER GEFTER: Mr. Sarvey, I would like to identify this proposed condition as Exhibit 806 in your series of exhibits so that as you speak about it the record will reflect that is Exhibit 806.

MR. SARVEY: That's fine.

HEARING OFFICER GEFTER: Thank you.

MR. SARVEY: Thank you.

HEARING OFFICER GEFTER: Do you have any additional cross examination that you would like to finish?

MR. SARVEY: Yes I do.

HEARING OFFICER GEFTER: Okay, thank you.

FURTHER CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Birdsall, did the Energy Commission recommend a particulate matter limit of less than .6 pounds per hour for this project in its comments on the PDOC?

A I believe we did. I don't have that letter in front of me at the instant.

Q Okay. And did the Air Resources Board

recommend a similar limit?

A In our letter to the Air District, and I think there was a very brief e-mail correspondence between the Air Resources Board and the Air District. In our letter to the Air District we recommended setting the lowest particulate matter limit possible.

And we had been using some ARB guidelines to urge the Air District to consider the use of an emission rate as the particulate matter emission rate for the -- as the particulate matter emission limit for the project that is lower than the 1.3 an 1.9 pound per hour that ultimately came in the Final Determination of Compliance.

We think, though, that the Air District emission limit does satisfy the ACT and complies with the local and federal laws, ordinances and regulations and standards. To address the potential particulate matter emissions and the impacts of these emissions we have gone forward with the AQ-SC8.

So to tie it all together, I think if we asked the applicant to emit a lower level of particulate matter. First of all we have heard

throughout the proceeding that the applicant would not accept a lower limit for whatever business reasons. The unintended or the un-intention --

The kind of consequence that might come about if we had a lower particulate matter emission rate though would be that staff would not be in a position to ask for such a high level of PM10 mitigation. So our mitigation being at the level that it is today reflects the Air District's permitted emission limit and I believe that the project will emit less than that, much less than that.

Q And your comments on the PDOC also mentioned that there were two facilities that have achieved the levels of particulate matter you are recommending in practice; is that correct?

A Yes, I think that lower limits, lower levels rather, are definitely achievable. And for that the applicant can sleep well at night.

Q Does your analysis include particulate matter emissions from the lube oil?

A My analysis includes the total particulate matter emissions from the project. However that originates, yes.

Q Okay. Exhibit 802, page 3.2-2, says

that it is not unusual to test emissions from two identical reciprocal engines in the same plant, operated by the same personnel, using the same fuel and have the test results show significantly different emissions. Do you agree with that assessment?

MS. HOLMES: Excuse me, can you --

MR. SARVEY: Exhibit 802 page --

MS. HOLMES: Are you referring to what you handed out as Exhibit 702?

MR. SARVEY: No, it's in the pre-filed exhibits that I have, 802.

HEARING OFFICER GEFTER: Exhibit 802 is identified on the list of exhibits as an EPA emission factors for reciprocating engines.

MS. HOLMES: It is, but I have it listed as Exhibit 702.

HEARING OFFICER GEFTER: Yes, he misnumbered his exhibits. They are 800 if you look on your exhibit list.

MS. HOLMES: So which page of Exhibit 802 are you referring to?

MR. SARVEY: 3.2-2.

MS. HOLMES: Thank you.

MR. BIRDSALL: Mr. Sarvey, I would

agree that there is a high degree of variability in the testing results.

BY MR. SARVEY:

Q And have you proposed a condition for this project that it will be source-tested after construction and determine if the project's impacts are accurate and should any additional emission reductions be provided?

A There are conditions of certification to require testing to demonstrate compliance with the 1.3 and the 1.9 limitations. I don't know what you're asking. Are you asking is there -- if you're asking if there's another staff condition on top of the Air District conditions the answer is no.

Q Okay, thank you.

FURTHER CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Lusher, in Exhibit 804-13 you have done some testing on some HCO emissions from a Berrick Gold Strike Mine. And it says, in fact, the standard deviation from this project is more than the average emission rates for the turbines. Is that true?

A We obtained formaldehyde emissions data

from the Berrick facility from the Nevada Department of Environmental Quality. We reviewed those results. Those were in the application for certification. And I did prepare a spreadsheet. I think you're referring to some of the e-mails that you requested in your public records request. And I did look at the average and the standard deviation of that data.

MR. SARVEY: Mr. Birdsall --

HEARING OFFICER GEFTER: This is referring to Tierra Energy's project in Nevada? Is that what we're talking about?

MR. LUSHER: It is not Tierra Energy's project in Nevada, it's a twin facility.

HEARING OFFICER GEFTER: A facility that is similar to the proposed --

MR. LUSHER: It is more than similar, it has the identical engines.

HEARING OFFICER GEFTER: It's the exact same one.

MR. LUSHER: The abatement devices might be different.

HEARING OFFICER GEFTER: Okay.

MR. LUSHER: But the engines themselves are identical.

HEARING OFFICER GEFTER: All right. So you were looking at data from that facility.

MR. LUSHER: Which was provided in the application for certification.

HEARING OFFICER GEFTER: Right, okay, thank you.

FURTHER CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Birdsall, do you agree with the applicant's assessment that almost 100 percent of the particulate matter emissions from these engines are PM2.5?

A Yes, at the stack the emissions from the engines are generally below PM2.5, maybe even PM1 and under.

Q Could you say that again, I'm sorry.

A The particulate size is small, less than PM2.5, yes.

Q And can you explain why in your PM10 impacts, estimates, that the PM10 micrograms per cubic meter would be 27.5 and the PM2.5 would be 17? Why is that different?

A The notes at the bottom of the two tables in my staff assessment that summarize operational impacts, and this is regarding staff

assessment table Air Quality 16 and Air Quality Table 20, the note at the bottom of the table explains that PM2.5 is calculated based on a three-year average of maximum eighth highest or 98th percentile 24 hour impacts.

And this is consistent with the federal standard for PM2.5, which is not calculated based on the one, single 24 hour highest concentration but rather the 98th percentile as I explained here.

Q So the applicant when he did his estimates, his PM2.5 and PM emission impacts were the same. Was that incorrect, was that wrong?

A I don't know to what part of the applicant's testimony you're referring. Because as the applicant worked forward in the project the last filing that I remember looking at just before coming here was around the time of May regarding cumulative impacts. And the applicant was following this calculation method at that time. I suppose you can ask them whether or not they were doing it incorrectly.

Q So is this a new concept by staff? I have never seen this before. I have always seen the PM2.5 impacts be equal to the PM10 impacts.

A The new federal PM2.5 standard is calculated based on this statistical approach. So to that effect, yes, it is relatively new.

Q What mitigation is the project offering for nitrogen deposition or for the nitrogen emissions, the NOx emissions?

A We did not find a significant impact regarding nitrogen deposition so there is no additional mitigation measure. But for nitrogen oxide emissions, they are a precursor to ozone and the applicant has offered a package of credits to comply with the new source review requirements.

Q Okay. You mentioned that this project is dirtier than most technology the CEC permits.

MS. LUCKHARDT: I'm sorry, I believe that that is an incorrect statement to say that Mr. Birdsall referred to this project as dirtier than any other project.

MR. SARVEY: I'll move on.

HEARING OFFICER GEFTER: Just restate your question.

MR. SARVEY: I'll move on.

BY MR. SARVEY:

Q Staff's status report number four, page two, states that the community requested that the

PSA address the difference in emission rates for reciprocating engines versus turbines. Have you completed that comparison for the community?

A Yes, in the final staff assessment there are a couple of bullets kind of in the back of the staff assessment that address the different emission characteristics of combustion turbines versus internal combustion engines. This is around page 4.1-35 and page 4.1-36 of my Final Staff Assessment.

Q Okay, thank you.

CROSS EXAMINATION

BY MR. SARVEY:

Q Mr. Westbrook, your testimony in the AFC states that the PM2.5 impact and the PM10 impacts are around 49 micrograms per cubic meter. Have you revised that estimate?

MS. LUCKHARDT: I'm sorry, could you refer to the page number you're talking about. The AFC?

MR. SARVEY: Yes, I'm speaking to the AFC, his air quality testimony. We're in operating impacts.

MS. LUCKHARDT: Okay, which page?

MR. WESTBROOK: That was based on the

old emission rate, which was adjusted and staff updated the modeling in the staff assessment. We did not actually make the change.

BY MR. SARVEY:

Q So you haven't provided any new estimates then?

A No, we have not.

Q Okay. Your testimony states that there is a benefit from the line loss that the Eastshore project displaces. Doesn't the project's high emission rates offset any benefit that would be gained from the project's line loss benefits?

A Can you repeat that question.

HEARING OFFICER GEFTER: Who are you addressing that to?

MR. SARVEY: That would be Mr. Westbrook.

MR. WESTBROOK: I'm sorry, I couldn't hear you, could you repeat the question.

MR. SARVEY: I'm sorry. Your testimony, Mr. Westbrook, states that there is a benefit from the line loss that the Eastshore project displaces. Doesn't the project's high emission rates offset any benefit that would be gained from the project's line loss benefits?

MS. LUCKHARDT: I'm sorry, are you just saying high emissions rate or modeling impacts?

MR. SARVEY: High emissions rate.

MS. LUCKHARDT: When you say high emissions rate to which pollutant are you referring?

MR. SARVEY: Compared to the Los Medanos project, the SF area ERP, Contra Costa.

MS. LUCKHARDT: I think Mr. Darvin --

HEARING OFFICER GEFTER: Mr. Sarvey, actually --

MS. LUCKHARDT: I think Mr. Darvin may need to answer that particular question.

HEARING OFFICER GEFTER: But actually this question actually goes more to sort of a legal analysis about whether the benefits of the project are offset by the emissions or whether the emissions are offset by the benefits. And this is a legal issue so let's ask another -- if you could ask a different question.

MR. SARVEY: I don't think you understand the question but that's okay, I'll move on.

HEARING OFFICER GEFTER: Okay, perhaps if you reframe the question.

MR. SARVEY: I'll move on. No, no, no, that's fine, I'll move on.

HEARING OFFICER GEFTER: Okay, thank you.

MR. SARVEY: I don't think you quite understand the question.

BY MR. SARVEY:

Q In your cumulative analysis of the project did you include the emissions from the adjacent train and freight terminals nearby?

A No.

Q Why not?

A Typically when we do cumulative analysis mobile sources are not looked at. Basically it is sources that are recently permitted but not yet operational. The background air quality actually already contains existing sources such as mobile sources, trains, cars, things like that. So it was not explicitly modeled but it was contained in the background air quality data that was added to the model concentration.

Q So you believe that those emissions are reflected in the background, right?

A Those emissions were reflected as

concentrations in the background, yes.

Q Okay. Wouldn't the emission reduction credits you're proposing for use in this project also be reflected in the current background?

A I'm not sure I understand your question.

Q You're proposing emission reductions to offset your emissions. Aren't those emission reductions already included in the current background that you're assessing this project by?

A The emission reduction credits are banked based upon facilities that shut down with emissions that were in the background. I think what you're doing is you're mixing and matching emission reduction issues and modeling questions. I'm still not sure what you're trying to state.

MR. SARVEY: Okay, I'll move on.

And Mr. Stein, previous testimony that you've given in the Tesla siting cases that 23 percent of the emissions from the Hayward area impacts the Tracy area and San Joaquin Valley; isn't that true?

HEARING OFFICER GEFTER: I don't know that Dr. Stein can remember what he testified to in Tesla.

MR. STEIN: I don't recall the specifics.

HEARING OFFICER GEFTER: But I understand that Mr. Sarvey is concerned because he lives in the Tracy area so he was very involved in the Tesla case. So it speaks for itself. If he said that it probably is in the transcript.

MR. SARVEY: Okay.

BY MR. SARVEY:

Q Does your mitigation package offer any NOx mitigation for this project? Actual NOx mitigation ERCs.

A Staff has already stated that NOx mitigation is not necessary under CEQA.

Q Thank you. Are you familiar with the rules for NOx to VOC substitutions in the San Joaquin Valley Air Pollution Control District?

MS. LUCKHARDT: I'm sorry, I'm going to object to relevance here because we're talking about the Bay Area District and not San Joaquin.

HEARING OFFICER GEFTER: Yes, sustained. San Joaquin Valley is not part of this case right now. I know it is of interest to you and your concerned but we have the Bay Area Air District here.

MR. SARVEY: Okay.

HEARING OFFICER GEFTER: I think we need to move on.

MR. SARVEY: That's all my questions, thank you.

HEARING OFFICER GEFTER: Thank you very much, Mr. Sarvey.

All right, now we have a couple of housekeeping matters. I understand that representatives from Assemblywoman Hayashi and also from Senator Corbett's office wanted to address us this afternoon. I don't know if those folks are here. Yes.

And also I think Mayor Sweeney might be here. I don't know if you wanted to address us this afternoon also or if you wanted to wait until later tonight.

But let's hear from -- I am going to interrupt the air quality testimony at this point because these folks have been waiting patiently. I know you have statements from your elected representatives so we're going to take a little break and you can present your statements at this time. If you would like to come forward, identify yourself please. There is a microphone right

there at the podium. Tell us your name and who you represent.

MR. JARRED: Hi, my name is Michael Jarred. I represent Senator Ellen Corbett and I am reading a statement on her behalf.

HEARING OFFICER GEFTER: Thank you. I might ask if both you and the representative from Assemblywoman Hayashi if it would be all right with you, rather than reading it verbatim into the record, if we just incorporate it into the record. The transcript can incorporate it without having you read it. It's your choice.

MS. SCHULKIND: We would request that it be read.

MR. PARMAN: We would like to read our statement.

HEARING OFFICER GEFTER: All right. It is just a question of time.

MR. JARRED: But I also have a written copy.

HEARING OFFICER GEFTER: You have copies for the reporter as well, yes?

MR. JARRED: Yes.

HEARING OFFICER GEFTER: Okay, thank you. I was just trying to save us some time but

go ahead, please.

MR. JARRED: It's very brief.

HEARING OFFICER GEFTER: Okay, thank you.

MR. JARRED: It was addressed to both of the Commissioners but since there is only one here this is to Commissioner Byron. Senator Corbett says:

> "I am in support of the City of Hayward's efforts to prevent the siting of the proposed Eastshore Energy Center.
>
> "As you know, the California Energy Commission has already approved the siting of the 600 megawatt Russell City Energy Center in Hayward. The cumulative air quality impact of two plants in a single community places an undue burden on Hayward residents and raises questions of environmental justice.
>
> "The Hayward City Council is opposed to the siting of the Eastshore Energy Center because

the proposed plant is in conflict with the city's General Plan, local zoning ordinances and the Airport Approach zoning regulations. The Federal Aviation Administration has expressed concerns about siting two power plants in close proximity to the Hayward Executive Airport. A number of environmental groups, including the Sierra Club, have expressed concerns that the pollution caused by the plant. Even the CEC's own staff preliminary recommendations were against siting this plant.

"For all these above reasons I urge the CEC not to approve the siting of the proposed Eastshore Energy Center. I would like to thank the Energy Commission for holding these hearings in Hayward and for allowing people who will be affected by the plant to

participate. And I am very interested in working closely with the CEC on strategies to improve conservation efforts and to support the establishment of renewable energy projects to lessen the need for siting of these plants. I look forward to working with you in the future on our shared goals to protect the environment and improve energy efficiency in California. Thank you for your consideration of my concerns.

"Sincerely, Ellen M. Corbett, Senator of the Tenth District."

HEARING OFFICER GEFTER: Thank you very much for being here.

MR. JARRED: You're welcome.

PRESIDING COMMISSIONER BYRON: Mr. Jarred, thank you very much for bringing the comments. And please let the Senator know they take a great deal of weight and we appreciate her willingness to put them on the public record. Thank you.

MR. JARRED: Great, thank you.

HEARING OFFICER GEFTER: Thank you for coming.

And please tell us your name and your representative.

MR. PARMAN: I'm Chris Parman, I'm the District Director for Assembly Member Mary Hayashi. And she has a statement to read and put into public comment.

HEARING OFFICER GEFTER: Do you have a copy?

MR. PARMAN: I do have a copy as well.

"Dear Commissioners Byron and Geesman, who is absent today, Ms. Gefter, CEC Staff, Intervenors and residents of Hayward.

"It was my hope to be with you today in person at this very important evidentiary hearing to discuss the construction of a second power plant proposed within the City of Hayward. Unfortunately, I was called to Sacramento during this legislative special session to

vote on a new healthcare reform package; another critical issue facing the constituents of my district.

"As I have previously stated, I am urging the CEC to reject Tierra Energy's application to build the Eastshore Energy power plant in Hayward for many reasons.

"Most important is the plant's close proximity to homes, schools and businesses and its potential affects on human health, air quality, and our environment in general. Within a mile of the Eastshore Energy Plant are three colleges with a combined student population of more than 16,000 students. Within a mile of the power plant are single and multi-family homes with a population of approximately 8,000 residents. Within a mile of the power plant

is the Eden Gardens Elementary School educating 540 kindergarten to sixth grade children. If approved, the power plant is permitted to release 54 tons of nitrogen oxides, 84 tons of carbon monoxide, 64 tons of particulate matter known as PM10 and 6 tons of sulfur dioxide on an annual basis.

"These emissions will create enormous environmental problems and adversely impact the region's air quality resulting in higher rates of respiratory ailments such as asthma among our seniors and children. According to the California Department of Health Services, more than 37,000 Californians sought hospital care due to asthma in the year 2000. Those most affected were children under age five, women and seniors. The 2007 Asthma Disparities Summit held in

Berkeley reported that low-income communities and communities of color experienced disparities in asthma prevalence, hospitalization, and deaths. Reasons given were access to health care, differences in asthma medication, and the environmental injustice their communities face.

"The neighborhoods immediately affected by Eastshore are lower income, Minority-Majority communities who need greater access to health care.

"Secondly, the City of Hayward has done its fair share by recently approving an energy plant several miles away from the proposed Eastshore Power Plant. The residents of Hayward, and the surrounding communities, have done their fair share in shouldering the burden of California's energy demands.

"I urge the CEC to reject Tierra Energy's application to build the Eastshore Energy Plant in Hayward.

Sincerely, Mary Hayashi."

HEARING OFFICER GEFTER: Thank you very much for coming today.

PRESIDING COMMISSIONER BYRON: Mr. Parman, thank you as well. The Assembly Member expressed some similar concerns to me privately and I appreciate her putting her comments on the record today, thank you.

HEARING OFFICER GEFTER: Thank you.

And Mayor Sweeney, do you want to wait until later or do you want to address us now?

MAYOR SWEENEY: On Tuesday.

HEARING OFFICER GEFTER: Tuesday, all right. Okay.

We had originally planned to break at one for lunch and we all do need a break. I just want to ask Alameda County, you do have your witness, Dr. Zannetti. How long do you expect him to testify on direct?

MR. MASSEY: I had envisioned him briefly summarizing his report so I guess that is

contingent on how many questions others have for him.

HEARING OFFICER GEFTER: Okay. Just a second, let me just see whether we want to break now and then come back. But we really can't begin again until 2:30 because I noticed the hearing to begin at 2:30.

Let's try it this way. Do you think we can have his direct before we break and then take a break and he can come back on cross at that point? Would that be possible? Is that reasonable to plan that? In other words, take his direct before we break and then take our break. This way we can be more expeditious in terms of our time.

MR. MASSEY: I informed him to be as brief as possible because he had already submitted a written report.

HEARING OFFICER GEFTER: Okay. Well then let's do that. Why don't you have your witness come forward. We'll have his direct and then we'll take a break and he'll come back on cross later. Thank you. Dr. Zannetti.

Dr. Zannetti, we'll find you a seat. Perhaps one of the Air District folks could move

away. But don't go too far because we may need you later. And then Dr. Zannetti can come forward. There we go, thank you.

And depending on how much cross examination, we might just press on and then take a break and still be back here by 2:30. Let's see what happens.

MR. MASSEY: I think we'll probably be able to do that.

HEARING OFFICER GEFTER: Okay, okay. Dr. Zannetti, if you could please stand up, tell us your name and I will swear you in.

DR. ZANNETTI: My name is Paolo Zannetti.

HEARING OFFICER GEFTER: Thank you.

Whereupon,

DR. PAOLO ZANNETTI

was duly sworn.

HEARING OFFICER GEFTER: Please sit down and identify yourself for the record.

MR. MASSEY: Dr. Zannetti, could you please identify yourself for the record.

DR. ZANNETTI: Give me 30 seconds to get my computer out just in case.

HEARING OFFICER GEFTER: While we're

waiting for Dr. Zannetti I do have a housekeeping matter, which is the parties to move their air quality testimony and exhibits into the record. So after Dr. zannetti completes testimony and cross I will ask all the parties to move their air quality exhibits into the record.

DIRECT EXAMINATION

BY MR. MASSEY:

Q Dr. Zannetti, could you please identify yourself for the record.

A My name is Paolo Zannetti. I am the president of EnviroComp Consulting. I have my own company.

Q Did you submit a statement of qualifications to accompany your declaration and proposed testimony?

A Yes, I sent you my CV.

Q Do you have any changes or amendments to make to that statement of qualifications?

A No.

Q You submitted along with your declaration a report; is that correct?

A Yes I did.

Q Do you have any --

HEARING OFFICER GEFTER: Do you want to

identify that for the record as an exhibit under your exhibits?

MR. MASSEY: It is marked as Alameda County Exhibit 500.

HEARING OFFICER GEFTER: Thank you.

BY MR. MASSEY:

Q Dr. Zannetti, do you have any changes to the written report that you submitted as evidence in this proceeding?

A Yes, I would like to clarify one point. At page nine on my report, point number two. I wrote the air modeling to address the concern in item one was proposed but we couldn't find it. And now I found the information in all the documents I received describing the accidental modeling of ammonia releases. So I found the document. I never received, however, the computer files to be able to replicate the results.

Q Thank you. And could you please give a brief summary of the main points you make in your report.

A Certainly. As described in section two, page five, there are three points of concern that were raised. On the first point of concern was the difficulties in estimating the selected

catalytic reduction system that was proposed.

Now here I am testifying on behalf of my chemical engineer because I am a physicist, an atmospheric scientist. But I had a team helping me in the review of these documents. My chemical engineer, my senior chemical engineer, Dr. -- Professor Aaron Jennings has reviewed the document and he is very uncomfortable with the information he found in relation to maintenance, malfunctions, the details of the system. We wrote down some of our questions in our report and we continue to be uncertain about the system itself.

I also have a note that I received from Professor Jennings in which he says, the question is whether the plant would incorporate the latest development in SCR technology. Since the technology was not defined in terms of the type of catalyst, the operating conditions and the optional sources of ammonia it was not clear what technology will actually be applied.

So it will be hard for me to answer questions on this topic but this is what my chemist has reported. The other two issues I will be able to have a more complete discussion, I hope.

Number two is the modeling. That is my field of expertise, air pollution modeling. That is what I have done all my life. And we look at the modeling results presented in the documents and we recalculated the worst-case, one hour impact of NO2. Because we believe there is an error in what they have done.

The conditions for the start-up have not been included and we are talking about 300 start-ups a year. So during the starting of the system the exit velocity of the plumes and the temperature is going to be lower. So it is incorrect to simulate start-up with normal operating conditions of more than 600 degrees Fahrenheit and 20 meters per second of exit velocity. So by redoing the worst-case, one hour scenario we obtained data that are higher and they exceed the current California standard for NO2.

The results that we have are -- So if we try to take into account the fact that at the beginning of the start-up the temperature is lower or the fumes is lower, and the exit velocity is lower we have that the maximum one hour concentration of NO2 is calculated to be 431 micrograms per cubic meter. And if we add the

background, which is 143, we obtain a total concentration of 574 micrograms per cubic meter, which is exceeding the current standard in California of 470. And of course we also exceed the new standard, which is even more conservative.

The third point is the offsets. As a scientist I feel very concerned about everything I heard this morning on the offsets. The physics and the chemistry of the atmosphere does not support what has been said here today.

Of course if you have an emission like a particulate matter, and you want to mitigate that emission, the only way to do it is to have local emissions very close to the source to be reduced. That is the only way that has a potential of working. And the only way to be 100 percent sure is to do proper modeling. You run the model with the emissions, and by reducing the other emission you calculate whether the entire area is protected.

But once you start reducing the emissions that are miles away for PM10 it is almost ridiculous. There is no way that these emissions that are 10, 20, 30 miles away of PM10 are going to mitigate the impact of PM10 in

Hayward. They are negligible, they are completely negligible.

It is always good to reduce emissions, I agree with that. But there is no way to justify with science, with the physics of the atmosphere and with modeling, the reduction of PM10 twenty miles away with benefits in Hayward. By the time the plume reach Hayward it is going to be absolutely negligible in comparison with the local emissions. So this is one issue.

The other issue even more troubling from a point of view of science is the interpollutant offsets. The idea that you reduce SO2 and you have a benefit in PM10 is absolutely theoretical and is something that needs to be proven with real analysis and with modeling.

I can tell you that yes, if you reduce SO2 you are going to have eventually a reduction in sulfates. And sulfates are a small particle that contributes to PM10 and also even more to PM2.5. But the science is very shaky here. It may take days for the plume to convert SO2 to SO4. A typical, a typical value of conversion rate SO2 to sulfate is one percent per hour. That means that it will take typically in normal condition

will take days.

There can be exceptions. There can be stagnant conditions, there can be -- there are all these exceptions in science. But in normal condition if you reduce SO2 in California, in the Bay Area, the benefits will be almost negligible and probably you will be able to measure them in Nevada. I am not exaggerating here. It takes typically one percent per hour for SO2 to convert to SO4.

So as a scientist I know the physics and the chemistry of air pollution and I am very surprised of all this discussion on emission credits. I am not convinced.

Q Does that conclude your summary of your direct testimony?

A I can talk much longer if you want because I am known for this, but I think that's enough.

(Laughter)

MR. MASSEY: Well thank you.

Dr. Zannetti is available for cross examination to the extent any parties wish.

HEARING OFFICER GEFTER: Well thank you very much.

My first question to you, Dr. Zannetti, is how familiar you are with the Air District protocol and scenario on how the Air District works with the California Air Resources Board, US EPA, the federal air resources. You know, the entire protocol for analyzing a new source review program. Because it sounds like from your description that you --

I am asking, have you ever worked with the Air District in terms of their program or are you familiar at all with what the Air District has done in this case? Have you read the FDOC in this case, have you read the FSA?

DR. ZANNETTI: I am an atmospheric scientist more than anything else. I am not really an expert in regulatory application. I have done regulatory modeling in the past, especially in the '80s when I was working in Pasadena for AeroVironment. But most of my current work is not regulatory process and I give my opinion mostly on scientific issues.

HEARING OFFICER GEFTER: Thank you. So more of your work is done in sort of more of an academic setting rather than in a regulatory setting like this.

DR. ZANNETTI: No, I wouldn't call it academic. Half of my work is dealing with accidental releases of air pollution so I am heavily involved in litigation cases in California and Louisiana. And the other half of my work is research and development.

HEARING OFFICER GEFTER: Okay. Does anyone have cross examination of Dr. Zannetti, putting in context his experience and background and his concerns about the protocol and the regulatory scheme that, you know, we are constrained by. Is there any questions?

MS. HOLMES: I guess I just would have one question just so that I can make sure that the record is clear.

CROSS EXAMINATION

BY MS. HOLMES:

Q When you conducted your modeling for the NO2 emission impacts you didn't follow then the BAAQMD's modeling guidance, did you?

A I got the computer files from the applicants and I ran the model exactly as they have done. The only modification I made is a variation in the temperature of the release and the exit velocity for the first half an hour.

Which I think is more correct, let's say, than what has been done by the applicants to take some account of the fact that the plume is not at normal temperature at the very beginning.

Q And I am asking you whether or not that is consistent with the Bay Area Air Quality Management's modeling guidelines?

A I don't think -- I don't know if my approach has been submitted to the Bay Area District. I believe that -- I would expect any scientist at the District to agree more with our modeling approach than what has been done by the applicants. But of course I look forward to hearing their opinions.

Q Perhaps that would be a redirect question I could ask the Air District.

HEARING OFFICER GEFTER: Perhaps so. Do you have any questions, Ms. Luckhardt?

MS. LUCKHARDT: I do.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Zannetti, isn't it correct that you did not get the exit velocity out of the modeling files that you used in your analysis out of the applicant's modeling files?

A Yes, I think that's what I said, that they are using 20 meters per second and we used about 14, 15 meters per second to take some account on the fact that the start-up is different from normal operating conditions.

Q Okay. So you created your own exit velocity; is that correct?

A I changed the exit velocity to better represent the physics of the phenomena.

Q And in addition you changed the temperature.

A That is correct.

Q As well; is that correct?

A Using the same logic.

MS. LUCKHARDT: Thank you.

HEARING OFFICER GEFTER: Dr. Zannetti, do you have any comments on a mitigation plan in this project based on what you have heard today and what you read in terms of the documents you have looked at?

DR. ZANNETTI: Maybe yes. My comments agree with this text I found on the web. They say, EPA continues to discourage interpollutant trading due to the scientific uncertainty of acceptable pollutant trading ratios.

HEARING OFFICER GEFTER: This is what you say in your report?

DR. ZANNETTI: Pardon?

HEARING OFFICER GEFTER: This is what you say in your report?

DR. ZANNETTI: No, this is something else that I am replying to your question. That will be my opinion too, that I would really discourage interpollutant tradings like reducing SO2 to have benefit of PM10 within an area. That really doesn't make sense to me.

MS. LUCKHARDT: I'm sorry, what document are you referring to?

DR. ZANNETTI: I am referring to a web page of comments of the EPA on interpollutant tradings that I am using to answer a question.

HEARING OFFICER GEFTER: This is his opinion and he is qualified as an expert. Unfortunately, Dr. Zannetti, you have indicated to us that you are not an expert on the regulatory scheme under which we all are operating here. So I think to some extent a lot of your observations which may be scientifically based don't really fit into the process under which we are operating. So it is as if, you know, we are talking across

currents here.

At some point I had recommended that Alameda County provide you with the FDOC and the FSA and the AFC so that you could see, in fact, what the Air District has required. Because the Air District has required a number of conditions which address a lot of your questions and they are contained in the FDOC.

So any other questions of the witness?

DR. ZANNETTI: I would disagree with you. After 35 years of study of air pollution I am very familiar with all the issues related to science.

HEARING OFFICER GEFTER: No, I am not questioning your expertise.

DR. ZANNETTI: And regulations deal with science. And interpollutant trading is science, it's not just a regulation. So it is not just picking up a number like 3 or 5.1, it has to be justified.

Because you asked me a question and I couldn't finish. The EPA says that the ratio will be determined after adequate modeling, public notice and EPA concurrence. No serious modeling has been done or I have seen that would justify

three or five or ten or 100. It is an issue that doesn't take into account the science of air pollution.

HEARING OFFICER GEFTER: Thank you. And I am not questioning your expertise. I was just saying that in this context we are in a regulatory program and there is a disconnect somehow.

MR. MASSEY: Ms. Gefter, I recognize that Dr. Zannetti is taking a different approach to the same information and we thought it was a valuable point of view that you should take into consideration. Particularly because the applicant has requested an override and that expands the scope of the kind of issues that you need to consider and the factors that will go into the override balance in question.

And we think that Dr. Zannetti, in addition to offering an important contribution to the mitigation issues, also his testimony goes to the ultimate override question as well in terms of the weighing that the Commission will ultimately have to do on the value of this project.

HEARING OFFICER GEFTER: I understand and I really appreciate that also. And I did not

mean to undermine your testimony. I am just explaining to the parties and also to the members of the public how we are constrained by the regulatory system.

MR. MASSEY: Thank you.

HEARING OFFICER GEFTER: Thank you. Any other questions. Okay.

Dr. Zannetti, thank you very much.

DR. ZANNETTI: Thank you.

HEARING OFFICER GEFTER: Do you have any redirect at this point?

MS. HOLMES: I do.

HEARING OFFICER GEFTER: Let's do it before we break for lunch.

MS. LUCKHARDT: Do we get an opportunity to ask questions of staff and the Air District? I do have a few questions.

MS. HARGLEROAD: And I also had mentioned that too.

HEARING OFFICER GEFTER: Yes, I know that. Staff has some redirect of her witnesses and then applicant and then Ms. Hargleroad and then we'll break.

MS. HOLMES: Thank you. I will try to keep it very short. My first two questions are

for the staff witness, Mr. Birdsall.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Birdsall, earlier this morning you were asked questions about guidance that the Air Resources Board has provided regarding permitting of power plants in California. Do you recall that line of questioning?

A Yes I do.

Q Is that guidance provided by the Air Resources Board to the Energy Commission or Air Districts or any other lead agencies to govern how they deal with adverse impacts under CEQA?

A No, I view the environment or the guidance or that the purpose of the guidance is to provide guidance to permitting agencies in their implementation of a new source review, which is the responsibility of the local air district and that the CEQA process would be separate.

Q Thank you. Secondly, there was extensive discussion this morning regarding the project's particulate impacts. Do you believe that the project's impacts will be local, regional or both with respect to particulate matter?

A Clearly they are both. The pollution

is transported.

MS. HOLMES: Thank you.

And I have a couple of questions of the District.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q There was discussion including some discussion by the most recent witness regarding the use of banked emission reduction credits. Could you please briefly explain how allowing the use of banked emission reduction credits, that is shutdowns of sources that have happened in the past, nonetheless allows for an air quality improvement throughout the basin.

A Well every year we have to demonstrate that our permit program has no net increase of ozone precursors in particular. So we go through that exercise and we do that every year to show that the permit system has not allowed an increase in ozone precursors.

There was a baseline, I forget the exact year, I think it's 1991, and that was kind of the zero year. Credits are put in and out and there's a lot of confusion about it. But basically what happens is when a project shuts

down we don't give them all of those emissions that they had. So they only get a portion of them based on what is reasonably available to control those emissions. When the shutdown occurs they don't get the whole delta, they get a portion of it.

And then when a new project comes in they have to provide a 15 percent surplus in tonnage of emissions for ozone precursors. And so 15 percent of the tonnage is kind of taken off the bank and that is not available for use by other facilities.

And that is the simplest way I can state it. And if Brian has anything to add I would appreciate it.

MR. BATEMAN: Yes, I could add one element to that. Banked emission reductions are retained in the District's emissions inventory for planning purposes. So the Air District is required to prepare air quality plans.

I mentioned before that the District is non-attainment for both state and federal ambient air quality standards for ozone. So the emission reductions of precursor organic compounds and NOx, which are precursors to ozone formation, banked

emission reductions are retained in the plan. So those excess emissions, if the District has to achieve standards, have to come from other places. There have to be additional emission reductions to make up for those banked credits, in essence.

BY MS. HOLMES:

Q Thank you.

There are times, are there not, when the District does require particulate matter emission reduction credits?

A Under our current rules you would have to emit over 100 tons a year and then you would have to provide particulate emission reduction credits.

Q When that kind of a requirement is applicable to a project does the district typically apply any kind of locational restraints on those emission reduction credits?

A Our rules allow regional use of credits.

MS. HOLMES: Thank you.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q And then my last question goes to the discussion that we just heard about the modeling

protocol for NO2 impacts. I believe, if I have it correctly, the witness stated that if asked the District would -- I don't want to mischaracterize what he said, but agree that the approach that he was referencing was better than the approach that was used by the staff and the applicant. I was wondering whether or not the District could talk about how their modeling guidelines address modeling NO2 impacts.

A First of all the Air District's rules and regulations in this particular case did not require an ambient air quality impact analysis for NO2. And second, we have not reviewed in any level of detail Dr. Zannetti's analysis. So I really can't comment on that in terms of whether or not it would conform with Air District modeling guidance. We would need to take a look at that in more detail.

Q Maybe I can just ask you a specific question about that. Does any of the modeling guidelines that you provide for NO2 modeling call for modeling NO2 impacts in 15 minute increments?

A No, typically the averaging period for the air quality models that we use, the regulatory dispersion models, is one hour. However, if there

was a condition where the emissions within a one hour period -- I think his main comments were on the stack parameters, the exit velocity and the temperature.

If during that one hour period the conditions were such that the average temperature or the average exit velocity during that period might be something other than what it would be, say at full load, then yes you would model it at those, at those reduced conditions. That would be the appropriate procedure to do that.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: Ms. Luckhardt.

MS. LUCKHARDT: Okay, starting with Mr. Birdsall.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Isn't it true that your testimony does not provide supporting calculations for the SO2 to PM10 ratio you propose?

A The testimony is mainly a reflection of the Russell City Energy Center testimony. It has some elements that are -- this is Appendix A of the air quality staff assessment. It has data from ambient monitors that is, that is taken and

used in a ratio with itself. Meaning that the data from the ambient monitors is essentially just divided from one column to the next in order to get at the ratio. So the calculation is very easy to reproduce.

I think what I have heard from your side of the table is that our analysis was not transparent and not good science. And I have reviewed Mr. Westbrook's testimony and he follows a very similar path to arrive at what actually are very similar conclusions when looking at the Concord station and the San Pablo station and the San Francisco station. Which I think are the three locations that are most relevant to this project.

So I don't think that the method of analysis provided by Mr. Westbrook and myself or the Russell City Energy Center decision, I don't think the method is all that different.

Q But there are no calculations provided in your testimony, correct?

A That's true, there are no calculations. But the calculation is very simple, divide one column from the next.

Q But it is not there, correct?

HEARING OFFICER GEFTER: Are we referencing Air Quality Appendix 1 --

MS. LUCKHARDT: The FSA.

HEARING OFFICER GEFTER: -- at the end of your section on air quality? This is a table that you brought in from Russell City, apparently.

MR. BIRDSALL: Yes, in Air Quality Appendix 1 there is simply a table, the calculation is not explained. But I would be happy to do that for you if you'd like.

MS. LUCKHARDT: Okay, turning to the District. And I'll let you guys pick who should respond.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Is selective catalytic reduction the best available control technology for NOx control for this project?

A Yes, we determined that that is the best available control technology.

Q Are you aware of the District's prior use of SO2 for PM10 trades?

A I don't have an extensive background. I know that it was done in the Russell City proceeding and I know that the San Francisco

Electric Reliability project that has been brought up also had interpollutant trading for SO2 for PM. That's about my level of knowledge of it.

Q Are you aware of what ratio the District has used in the past?

A I think as has already been established in the record, the San Francisco project was three tons of SO2 to one ton of particulate matter.

CROSS EXAMINATION

MS. LUCKHARDT: Thank you. I understand that neither of you run the fireplace retrofit program but isn't it true that providing 100 percent funding for a program such as this encourages replacement of unused fireplaces?

MR. BATEMAN: I would assume that would be true, yes.

HEARING OFFICER GEFTER: But we were going to ask the parties, both applicant and staff, to work with the Air District to locate information on the existing program, as we mentioned earlier.

MS. LUCKHARDT: Does the District's new source review rule allow the use of emission reduction credits from anywhere within the district?

MR. LUSHER: I think that has been stated in the record, yes it does.

MS. LUCKHARDT: When you are analyzing projects that are not power plants do you perform the CEQA analysis?

MR. BATEMAN: At times the lead agency for CEQA is more typically a city or county agency. But if the city or county does not have approval over an aspect of the project then that can fall to the Air District, yes.

MS. LUCKHARDT: Is the project setting a new level for NOx impacts, NOx emission rate?

MR. LUSHER: Well on an emission rate basis, other plants in California have tried to meet the five PPM standard proposed for this project and had some difficulty. But there is also a facility in Nevada that appears to meet that requirement so this is -- to my knowledge there is the Nevada facility, which has emission rates expressed in pound per hour that are corresponding roughly to five PPM. And this would be a new achievement practice back level for the source category.

MS. LUCKHARDT: And then isn't it correct that ammonia slip is tied to NOx control?

Nitrous oxides control, sorry.

MR. LUSHER: Yes it is. And it is also tied to catalyst life. Because the applicant has proposed a very low NOx limit I think they were very conservative initially with 20 PPM ammonia slip and now they are at 10.

And that being said, some of the data that I have looked at from other facilities, we usually see early in catalyst life very low slip levels. And then just before they change it you'll have a short period where the slip level would approach the permit limit.

That being said, over the average lifetime of the catalyst you are not going to be emitting at ten PPM slip the entire time.

MS. LUCKHARDT: And would you rather see a lower NOx level or a lower ammonia slip?

MR. BATEMAN: There are more stringent regulatory requirements for NOx than there are for ammonia so I think the answer to that question is we would rather see NOx reductions than ammonia reductions.

MS. LUCKHARDT: I have nothing further.

HEARING OFFICER GEFTER: Thank you. Ms. Hargleroad.

MS. HARGLEROAD: I just have some quick follow-up questions also.

RECROSS EXAMINATION

BY MS. HARGLEROAD:

Q To start off with, Mr. Birdsall, if you could go your Table 20, 4.1-31. And that reflects, that page says, the applicant in conjunction with the Energy Commission and Bay Area Air Quality Management staff identified the following potential new sources within six miles of the project. And listed is the, the first item on the list is the Russell City Energy Center.

My question is, does this include the daily start-ups and shutdown operations in Table 20 for Russell?

A Table 20 in my staff assessment shows the combined cumulative effects of the Eastshore power plant then the Russell City power plant and the other new sources that you are asking about. The Russell City modeling assessment does include its short-term emission rates for the short-term averaging periods. Meaning for carbon monoxide one hour averaging period there would be the short-term carbon monoxide emission rate from both Eastshore and Russell.

Q Because presently Russell is authorized to start up and shut down twice a day I believe; is that correct?

A I couldn't say what it is authorized to.

Q Well if it's authorized to do it isn't that going to be relevant to your analysis as to whether or not it is included in this table?

A The emissions from Russell during its start-up phase happen on a short-term basis. For example, like I was saying, the carbon monoxide. And if those start-up emissions during its start-up, whether it be once or twice a day, if those are included in the analysis of the one hour carbon monoxide concentration in Table 20 then it doesn't matter if it starts more than once or twice a day. We are assuming, basically, it is starting every hour in that modeling assessment.

Q Okay. Additionally there is the toxic air contaminants.

MS. HOLMES: Could you please reference a page of the testimony.

BY MS. HARGLEROAD:

Q Well I'm just referring to the toxic air contaminants. Can you tell me, is there a

complete inventory of the toxic air contaminant levels in the Hayward area? Not just the ones that the Bay Area Air Quality Management District regulates but in general a total inventory.

A If you are asking about a total inventory of toxic air contaminant emissions for all of the sources in the Bay Area.

Q That exist now.

A I don't know. I am not preparing an assessment on toxic air contaminant emissions in this air quality section of the analysis.

Q Okay. So your analysis is going towards new, additional, potential emissions.

A My analysis is focused on air quality criteria pollutants and not toxic air contaminants, which are addressed in public health.

Q Okay.

A And yes, I am addressing new stationary sources in this Table 20 that we are talking about.

Q Also there is a predicted, the localized generation of PM10 and PM2.5 impacts. As far as the generation of that number and what those impacts are, did you also include the

contribution of ammonia slip?

MS. HOLMES: Again, can you please reference a page in the testimony to which you are referring so that we can look, make sure we're looking at the same numbers.

MS. HARGLEROAD: Well, the air quality section.

MS. HOLMES: Right, which page? There's a number of tables in there.

MR. BIRDSALL: Maybe if you rephrase the question.

BY MS. HARGLEROAD:

Q Okay, thank you.

Well, we have a contribution. This project is going to emit a certain amount of PM10 and PM2.5 impacts, is that correct? Right?

A Yes.

Q Okay. So in calculating what those impacts are did you also include the contribution of ammonia slip, which takes place with the production of the energy?

A The ambient air quality impacts that I have modeled in Table 20 do not include the reactivity of ammonia slip and whatever secondary pollutants may come of that.

Q Okay.

A In order to address those impacts we mitigate the other precursors like sulfur oxides and nitrogen oxides and go for essentially the full PM10 mitigation in the AQ-SC8 and also essentially require the lower ammonia slip emission limit of ten PPM.

Q Also group petitioners submitted Exhibit 705. I don't know if you have had an opportunity to look at that.

A Maybe if you summarize it.

Q It's the emission factor documentation for AP-42 section 3.2, natural gas-fired reciprocating engines.

HEARING OFFICER GEFTER: Right, that's the same as Mr. Sarvey's 802.

MS. HARGLEROAD: We missed a duplication.

HEARING OFFICER GEFTER: Yes. So Mr. Sarvey already asked a question about that.

MS. HARGLEROAD: Okay.

HEARING OFFICER GEFTER: I don't know if you're repeating the same question.

MS. HARGLEROAD: All right. Well I'd like to follow up on that.

BY MS. HARGLEROAD:

Q Can you tell me how many engines will be tested. There are several engines in this project.

A I think that information is in our conditions of certification that come from the Air District's requirements.

Q Is that maybe more appropriate for the Air District to respond to?

A Yes, or we can all read together if we go and find it in the conditions. It's up to you.

CROSS EXAMINATION

BY MS. HARGLEROAD:

Q Well I'll ask the Air District, they might have the answer to that.

A Let me try to understand what you're asking. It appears you're asking about what data is available now for these engines.

Q Well no, my question is --

A Or how often do they get tested.

Q How many engines are going to be tested?

A For particulate matter all 14 will be tested one year out. Actually when they start up, one year out and then it goes to a three year or

8700 hour schedule.

Q Okay.

A And all 14 are tested for particulate matter. They will have continuous emission monitors for nitrogen oxides and carbon monoxide so that will be an ongoing thing. And there's also requirements to test for organics and toxics as well.

Q Well related to that also is will the applicant be allowed to use the emission factors or banking in lieu of a physical -- wait one second. I take banking away. Will the applicant be allowed to use emission factors in lieu of or to waive a physical source test?

A We spell out the frequency of source testing in the permit. The applicant will track emissions using that source test data if that is your question. But it doesn't get them out of a source test, specifically.

Q Okay. So they --

A And if --

Q The source test, the physical source test is going to be required regardless?

HEARING OFFICER GEFTER: Ms. Hargleroad, let me interrupt here. If you look at

the FSA it incorporates all of the conditions from the FDOC and they explain all the source testing that the Air District requires. So if you take a look you can ask the Air District specifically, you know, condition by condition. But we can all read them as well.

MS. HARGLEROAD: Okay, I'm going to --

HEARING OFFICER GEFTER: So the line of questioning really isn't very helpful to the record because we know where to find these conditions.

MS. HARGLEROAD: Okay, thank you. I am not sure if this is a question for staff or the Air District but how many fireplaces will be required to be retrofitted to satisfy the mitigation goal?

MR. BIRDSALL: The mitigation goal has two options, there is the fireplace program and then there is the ERC surrendering that could be used as an alternative to that. So the number of fireplaces that need to be retrofit depends on whether or not the applicant comes forward with emission reduction credits.

MS. HARGLEROAD: Well going back to the emission reduction credits. I understand the Bay

Area Air Quality District has testified that there are some credits available, I believe that's correct. And my question is, we also have the Russell project out there too. And is that assuming that the Russell project has not purchased any or is that after the purchase of credits for Russell?

HEARING OFFICER GEFTER: That may not be within this witness's purview.

MR. BIRDSALL: It may be a question --

MS. HARGLEROAD: It may be the Air District, that's why I pose it for either organization.

HEARING OFFICER GEFTER: The Air District could perhaps answer that question.

MR. LUSHER: All I can say is that all credits that are available are on the web site in the bank and both projects might be chasing similar credits if that's the point you're trying to make

MS. HARGLEROAD: Okay. So your statement that there are presently credits available does not take into consideration the purchase that would be necessary for the Russell project.

MR. LUSHER: Well I have no knowledge of what Calpine has obtained or not obtained but the available credits are on the web site.

HEARING OFFICER GEFTER: Do you have many more questions.

MS. HARGLEROAD: Well, I don't think I really got an answer to the fireplace, how many fireplaces would have to be retrofitted.

HEARING OFFICER GEFTER: I think you've asked that several times.

MS. HARGLEROAD: Well. Also the Bay Area, the District -- Let me ask. You did issue a Preliminary Determination of Compliance, correct?

MR. LUSHER: Yes, that's correct.

MS. HARGLEROAD: Okay. And aren't you required to have a public hearing for that?

MR. LUSHER: Not to my knowledge.

HEARING OFFICER GEFTER: It is part of the AFC process, they had workshops on it.

MR. LUSHER: There is a regulation 2-3.

HEARING OFFICER GEFTER: Right. No, I don't think there is a problem with any of --

MR. BATEMAN: I'm sorry. We are required to have a public comment period, we are not required to have a public hearing.

HEARING OFFICER GEFTER: Right. And there was a workshop that staff sponsored on air quality.

MS. HARGLEROAD: Okay. And that is satisfying your regulation 2-4-4-0-5?

MR. LUSHER: I'm sorry, I said the wrong reg. That's the one that's power plants, I apologize.

MS. HARGLEROAD: Okay, thank you.

MR. LUSHER: Yes.

HEARING OFFICER GEFTER: In the meantime I would want to move all the air quality exhibits into the record so I'm asking the parties again to be ready to do that when you complete your cross and recross.

MS. HARGLEROAD: I think that's all the questions I have, thank you.

HEARING OFFICER GEFTER: Thank you.

I assume there is no more redirect or recross going on here and we can move on to moving the exhibits. Applicant.

MS. LUCKHARDT: Okay. Applicant moves the air quality sections of the AFC, that's Exhibit 1; the air quality and public health sections of the Hayward application for

development permit, Exhibit 3; the air quality sections of Exhibit 2; the air quality sections of Exhibit 12; the air quality sections of Exhibit 6; the cumulative air quality impact analysis modeling files, that's Exhibit 11; the air quality comments on the Preliminary Staff Assessment, that's Exhibit 13; the project owner's supplemental testimony on air quality, that's Exhibit 15; and the project owner's -- well, I think we'll hold off on public health.

HEARING OFFICER GEFTER: What about 20? We talked about 20. I know it's traffic but you also talked about it.

MS. LUCKHARDT: Yes, that is -- It is part of Exhibit 20. The first bullet is the modeling input, which was part of the AFC, attached to the exhibits to the AFC, so that is in Exhibit 1.

HEARING OFFICER GEFTER: Okay.

MS. LUCKHARDT: And we also have, at some point we would like to move in the conditions of certification. They are air quality conditions associated with the two documents that were part of our prehearing conference statement.

HEARING OFFICER GEFTER: Okay, we need

to give them some exhibit numbers if you would like to do that.

MS. LUCKHARDT: Okay. The first document was submitted with our prehearing conference statement and it is the proposed revisions to conditions of certification, Eastshore Energy Center. It is the larger of the two documents and contains revisions to conditions in redline strikeout.

The second document is our errata to Eastshore Energy Center's prehearing conference statement dated November 20, the other one was filed November 19. And the second document just contains a modification to AQ-SC8.

HEARING OFFICER GEFTER: Okay, so as I can follow what you're saying, the proposed revisions to conditions would be Exhibit 53. The errata to your prehearing conference statement, is that what you're calling it?

MS. LUCKHARDT: Yes.

HEARING OFFICER GEFTER: Which is Exhibit 54. And your modification of AQ-SC8 would be Exhibit 55.

MS. LUCKHARDT: That is actually contained in Exhibit 54.

HEARING OFFICER GEFTER: It's in 54?

MS. LUCKHARDT: Yes.

HEARING OFFICER GEFTER: Okay, so we'll make two exhibits, right?

MS. LUCKHARDT: Yes.

HEARING OFFICER GEFTER: Okay. The modification to AQ-SC8 is also part of Exhibit 54. All right, so you're moving those in at this time.

MR. SARVEY: I object to Exhibit 11.

HEARING OFFICER GEFTER: I'm sorry.

MR. SARVEY: I object to Exhibit 11.

MS. LUCKHARDT: You object to the cumulative air quality impact analysis modeling files?

MR. SARVEY: Yes I do.

HEARING OFFICER GEFTER: And on what basis is that?

MR. SARVEY: I have requested these files twice from the applicant and they have given me some unaccessible e-mail address. I have requested them from Dockets three times. I have all the documentation right here. They are not -- As far as I'm concerned I haven't had the ability to review them.

HEARING OFFICER GEFTER: Okay, we'll

ask the applicant to provide them to you again; in the interim we will accept the exhibits. Are there any other objections?

MS. LUCKHARDT: Yes, we actually set them up for Mr. Sarvey to download. He asked for additional instructions, we provided them and heard nothing further so I assumed he was able to download them.

HEARING OFFICER GEFTER: Okay, well that can be worked out between the applicant and Mr. Sarvey. Are there any other objections to the applicant's exhibits?

Hearing none, all of the exhibits that applicant has identified regarding air quality are now received into the record. Staff.

MS. HOLMES: I thought we had already moved in the FSA.

HEARING OFFICER GEFTER: Okay.

MS. HARGLEROAD: And the PSA, which were Exhibits 200 and 202. But at this time I would also like to move in the Final Determination of Compliance, which is Exhibit 201.

HEARING OFFICER GEFTER: I assume there are no objections to the FDOC, Exhibit 201.

Hearing none that exhibit is moved into

the record.

City of Hayward, you didn't have any air quality exhibits.

MS. GRAVES: No.

HEARING OFFICER GEFTER: Okay. Alameda County, you had a number of exhibits on air quality, do you want to move them now?

MR. MASSEY: I believe we only had two, Exhibits 500 and 501, 500 being Dr. Zannetti's testimony and 501 is an accompanying declaration.

THE REPORTER: Please pass him the mic.

HEARING OFFICER GEFTER: I'm sorry, please repeat that for the record.

MR. MASSEY: The only air quality exhibits the County had were exhibits 500 and 501. Exhibit 500 is the testimony of Dr. Zannetti and Exhibit 501 is his accompanying declaration and r,sum,.

HEARING OFFICER GEFTER: Any objections to Exhibits 500 and 501?

Hearing none those exhibits are now received into the record.

MS. HARGLEROAD: Are we going to be --

HEARING OFFICER GEFTER: Let's finish this first and then I'll take your question.

Okay. In fact, Ms. Hargleroad, we are now on your exhibits. So if you would like to move your exhibits on air quality.

MS. HARGLEROAD: Yes I would, please.

HEARING OFFICER GEFTER: Do you want to identify which ones you are moving right now.

MS. HARGLEROAD: Yes, that's 705. Just 705.

HEARING OFFICER GEFTER: Okay. And that was the same exhibit as Mr. Sarvey's 802. It's a public document, it's a US EPA document. There shouldn't be any objection to that, even though nobody has actually verified it except for Mr. Birdsall. But in any event we will take notice of that and accept it into the record, Exhibit 705.

And Mr. Sarvey, move your exhibits.

MR. SARVEY: Yes, I move Exhibits 800 to 806, please.

HEARING OFFICER GEFTER: Okay. And we'll note that 802 is the same as 705.

What about 806, your proposed condition. Do you want to move that in?

MR. SARVEY: Yes, please.

HEARING OFFICER GEFTER: Thank you.

All right. I know there are a number of technical objections to Mr. Sarvey's exhibits, however, we are going to accept them because Mr. Sarvey has identified them and we have heard his testimony. So we'll just take his exhibits and give them the weight that they are due for the purposes of this hearing.

Okay, Mr. Sarvey, thank you very much. You're welcome to stay. I know that you've completed your testimony but please stay if you have any other insights for us today.

PRESIDING COMMISSIONER BYRON: Mr. Sarvey, I notice you're a long ways away from the rest of us. I'm not sure if it's the microphone, the only microphone over there that works or if it's a quarantine but thank you for your participation. (Laughter)

MR. SARVEY: Thank you, Commissioner Byron.

HEARING OFFICER GEFTER: So at this point we're going to break for our lunch break and be back I guess, by 2:30 if we can, or as soon as possible thereafter and then we're going to start with the public health testimony.

PRESIDING COMMISSIONER BYRON: And I

also wanted to thank Messrs. Bateman and Lusher for being here. Extremely helpful in answering many of our questions today. Thank you, gentlemen, for your time.

HEARING OFFICER GEFTER: Thank you very much. Off the record.

(Whereupon, the lunch recess was taken.)

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AFTERNOON SESSION

HEARING OFFICER GEFTER: Let's get started. I am going to ask the applicant to begin with your public health testimony. Identify your witnesses please and we'll swear them in.

MS. LUCKHARDT: Okay. The witnesses have already been sworn.

But before we do that I just want to note that Dave Stein is delivering a copy of the cumulative modeling files that Mr. Sarvey requested to him on disc right now.

HEARING OFFICER GEFTER: Well thank you very much. Mr. Sarvey, there you go.

MS. LUCKHARDT: We will be calling Dave Stein and James Westbrook to testify in the area of public health. I will start with Mr. Westbrook since he is sitting here.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Was a statement of your qualifications attached to your testimony?

A Yes it was.

Q And does your testimony --

HEARING OFFICER GEFTER: Wait a minute, one more thing. If you could please identify the

exhibits, especially the testimony with respect to public health.

MS. LUCKHARDT: Okay, with respect to public health we are offering Exhibit 19, which is the supplemental testimony. We are also offering the public health section of the AFC, which is Exhibit 1, the public health section of Exhibit 3, the public health section of Exhibit 2, the public health section of Exhibit 12, Exhibit 6, and Exhibit 19, which I have already identified.

HEARING OFFICER GEFTER: Thank you.

MS. LUCKHARDT: Those are the exhibit numbers. And those are all identified on Mr. Westbrook's testimony on Exhibit 19.

BY MS. LUCKHARDT:

Q Mr. Westbrook, do you have any corrections to your testimony at this time?

A No.

Q Insofar as your testimony contains statement of fact are those facts true and correct to the best of your knowledge?

A Yes.

Q Insofar as your testimony contains statements of opinion do they represent your best professional judgment?

A Yes.

Q And do you now adopt all these exhibits as your sworn testimony?

A Yes I do.

MS. LUCKHARDT: Okay.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q And then Mr. Stein, were you responsible for preparation of the AFC?

A Yes.

Q And did you provide peer review of the public health section?

A Yes I did.

FURTHER DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q And Mr. Westbrook, can you explain why you believe AQ-24 protects public health.

A Yes. AQ-24 protects public health because it requires a representative source test on a single engine for the compounds stated in the condition, which are the compounds which are of the most concern to health risk impacts. And the results of the tests we would expect to be much lower than the conservative emission estimates based on default emission factors that were

provided in the application for certification.

Q And what is your concern with the condition of certification in public health?

A Staff have recommended a source testing program that is fairly extensive. And while we appreciate staff's consideration of the different sources of emission factors and what is characterized as uncertainty in the emissions data we feel that the amount of testing required is unreasonable and unnecessary.

We share the confidence, as I just stated, that the actual emissions will be much, much, much lower for this engine that is burning clean, natural gas. These emissions of toxic compounds that are trace constituents from that combustion, we believe that the tests will show that the results are much lower.

So we would stay consistent in our recommendation of what the District has proposed. However, we would add a level of stringency in that if the source test methodology of testing one engine in triplicate, because the District requires three test runs for each test, if that does not provide three valid test runs then we would select another engine. And we would keep

selecting engines until we get three valid test runs for all the compounds for all three runs on each engine.

Q Thank you.

A One more -- I'm sorry, one more concern with the testing requirement for acrolein. The District does not have a appropriate method for acrolein at this time and therefore we would propose the acrolein testing not be required under Public Health-1 consistent with District policy.

MS. LUCKHARDT: Our witnesses are available.

HEARING OFFICER GEFTER: Okay, thank you very much. I am going to ask the staff to present its witness too and then make both witnesses available for cross.

MS. HOLMES: The staff's witness is Dr. Alvin Greenberg, he needs to be sworn.

HEARING OFFICER GEFTER: State your name, please.

DR. GREENBERG: Alvin Greenberg.

Whereupon,

DR. ALVIN GREENBERG

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

Proceed.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Dr. Greenberg, did you prepare the public health sections of Exhibit 200, which is the FSA, and Exhibit 202, which is the PSA?

A Yes I did.

Q And was a statement of your qualifications included with Exhibit 200?

A Yes it is.

Q Do you have any corrections to make to that testimony?

A No I do not.

Q Are the facts contained in that testimony true and correct to the best of your knowledge?

A Yes they are.

Q And do the opinions contained in that testimony reflect your best professional judgment?

A Yes they do.

Q Could you please provide a brief summary of your analysis.

A Yes I will. You asked me to provide a very brief summary of my qualifications. Just to point out a few salient features, besides

receiving a PhD from the University of California San Francisco Medical Center I served as Assistant Deputy Chief for health with Cal-OSHA in the Jerry Brown administration. I was appointed then by Jerry Brown when he was Governor to the Cal-OSHA Standards Board.

I have served as a member and Chairman of the Bay Area Air Quality Management District Hearing Board and I have been a consultant to the Energy Commission since 1993. I am the author of over 100 human health risk assessments and I have reviewed and evaluated over 100 air toxics health risk assessments for the Office of Environmental Health Hazard Assessment.

I have served on many advisory committees for both state and federal governmental agencies, two of which are most relevant, one being the California EPA advisory committee on stochastic human health risk assessment methods and the US EPA work group on cumulative risk assessment. That's the short version.

Q Could you please summarize your testimony.

A I think the hearing officer and the Commissioner are aware of the differences between

air quality assessment and public health assessment. Public health addresses toxic air contaminants. Air quality, which was heard this morning, addresses the criteria air pollutants for which there are national ambient air quality standards.

When addressing toxic air contaminants in the State of California one follows a methodology to produce a human health risk assessment. I conducted an independent analysis using the 2003 guidelines from the Office of Environmental Health Hazard Assessment and using emission factors recommended by the California Air Resources Board.

Just as an aside, the Bay Area Air Quality Management District also conducted a separate and independent analysis.

One of the reasons that we use a standardized methodology is so that when I am talking to you about human health risks from a proposed power plant in Chula Vista or the Bay area or anywhere else in the state you have the confidence of knowing that I used the same methodology. And we use the same databases, the same toxicity factors from Cal-EPA, so that you

can compare and contrast any risks or hazards from these various proposed power plants.

The other reason is that California methodology has embedded in it a certain level of what we call conservatism in that it is health protective. It tends to overestimate the health risks. Not that we want to overestimate the health risks but what we want to do is assure ourselves that we are not underestimating the health risks.

So when I tell you that there is a certain risk of cancer or a certain hazard associated with non-cancer impacts, these are overestimations. There is conservatism built in there. Conservatism in the air dispersion models, in the toxicity values that come from Cal-EPA where there are safety factors to ensure that we are protective of the most sensitive members of our population, what we can sensitive receptors. These include the very young, the elderly, those with preexisting medical conditions.

I also looked besides at the 14 Wartsila engines burning natural gas. I also looked at the emergency diesel generator and added in those results because that emergency diesel

generator has to be tested a certain number of hours each year to make sure that it is able to provide emergency power should it be needed.

If you refer to Public Health Table 4 on page 4.7-13 of Exhibit 200 you will see a comparison between what the AFC calculated, or estimated rather as a health risk, and what I estimated as a health risk. And you will see in all cases that they are below the applicable significant threshold. For cancer risk the threshold is ten excess cancers in a million, utilizing toxics best available control technology.

For a chronic hazard index or an acute hazard index. This is the assessment of the non-cancer toxicological end points such as respiratory disease or liver disease or cardiovascular disease, the threshold is 1.0 and these values are all less than one, indicating that I do not predict that there would be any non-cancer health impacts in the population in the area.

Turning now to Public Health Table 7 on page 4.7-17. I also conducted a cumulative risk assessment of considering emissions from both the

Eastshore Energy Center and the Russell City Energy Center. And again that table shows that the cumulative impacts are still below a level of significance with a cancer risk being 3.9 in a million, a chronic hazard index of .11, an acute hazard index of .40.

I also identified what I would term mitigation monitoring as being necessary to ensure the protection of public health. This is reflected in staff's Proposed Condition of Certification, Public Health 1. And as the applicant just mentioned, this is slightly more stringent than the Air District's requirements in the FDOC, the Final Determination of Compliance, for conducting actual source tests.

This would also require the applicant, at this point it would be the project owner if this project is indeed licensed, to prepare a new health risk assessment based on the monitoring, the source testing of the stacks.

I believe that this mitigation monitoring is necessary and appropriate for two simple reasons. One, there is a great deal of public concern about the impacts on public health and I think that we need to assure the public that

the emission factors that I used and that the applicant used and that the Air District used were indeed conservative. That we were overestimating the emissions and overestimating the risks. So this is very important for this.

The second reason, and I have to walk a very fine line here. While I have confidence in the use of the surrogate emission factors from the California Air Resources Board database that we are pretty much directed by state guidelines to use, the emission factor database doesn't contain emission factors for these very exact engines, these precise engines, using the pollution control equipment that these engines will have.

That means that in comparison to other projects where we have gas turbines and we use surrogate emission factors I have slightly less degree of confidence in the emission factors. A little bit more uncertainty. Not enough uncertainty to reject the emission factors from the California toxic emission factor database that's run by Air Resources Board, but enough to ensure that the values that I used in my risk assessment were either accurate or overestimated the emissions and hence the risks.

So I would urge you to adopt this particular condition of certification. What it does is it starts out with a requirement that they test four engines, not one engine but four engines out of the 14.

And that if the emissions of toxic air contaminants from these four engines fall within a range such that there are no outliers in the result they're done testing. If it turns out that for one or two toxic emission -- emissions rather of toxic air contaminants it falls out of a certain range, then they'll have to test another group of four.

Also these four engines they test first need to be randomly chosen. There is some variation. And testing just one, in my view, doesn't give you the needed level of assurance that that is going to be reflective of all 14. Testing four gives you a much better level of confidence that you're not going to find one engine that is going to go completely different. It is different and the applicant has questions about that but I believe that that is an appropriate mitigation monitor.

The bottom line, my conclusions are the

Eastshore Energy Center, if certified and operated, will not cause a significant risk to public health and will not cause a significant risk to even the most sensitive members of our population.

Q Dr. Greenberg, in your FSA did you respond to public comments and concerns?

A Yes I did.

Q Could you very briefly please summarize how you responded to those.

A Is that less brief than my --

Members of the public raised a number of concerns on public health, one of which concerned the emission factor of a particular substance known as acrolein.

By the way as an aside, you will often hear the mispronunciation of acrolein as acrolein. Let's accept both. But it is proper to call it acrolein according to the International Union of Pure and Applied Chemistry. But I may be the only organic chemist here so we'll let the mispronunciations go.

The emission factor for acrolein varied between the California Air Resources Board database and the US EPA database. Now I attempted

to address some of this uncertainty in the risk assessment.

In Public Health Table 6 on page 4.7-14 where I ran the risk -- I calculated the risks with the mean values with the oxidative catalyst providing a reduction, the mean values with the oxidative catalyst not even present, and then the maximum values from the California toxic emission factor database with the oxidative catalyst running. And as you can see once again, while there are some differences they are still all below the levels of significance.

Now I would caution you about using an emission factor for acrolein from another source such as the US EPA AP-42 tables. The reason I would caution you is two-fold. I spoke with the Air Resources Board staffer who is basically in charge of the California database. And it is his opinion that the emission factors for acrolein from US EPA or California are based on the same methodology. And that the methodology, both have both of them. Therefore the numbers are as good as the other and does not recommend that I use another number from another agency.

The second reason is, and I don't mean

to disparage anybody who makes the suggestion, but in a way a sort of cherry picking data. If you want to use US EPA data then you should use all US EPA data, not just for one substance. You should also use their toxicity values.

Well, there would not be any ability to conduct an analysis of the acute, the short-term impacts of acrolein using EPA data because they don't have an acute reference exposure limit. California EPA does. So basically what has been suggested is, let's take some data from US EPA, let's take some data from Cal-EPA. Maybe we'll take some data from the state of Massachusetts or from Sweden. I am aware of toxicity factors that differ around the world.

We are here in California and quite frankly I am required to use California values unless the agency that I rely on in Cal-EPA, the Air Resources Board or the Office of Environmental Health Hazard Assessment tells me that their values are no good, use somebody else's. So we want to be consistent so I use California values. And these are the values that use and I've tried to explain that to the public. That no matter how I look at it using California values and toxicity

values that there still is no impact.

Interestingly, since writing the PSA and since publishing the FSA the Office of Environmental Health Hazard Assessment has decided that the toxicity value for acrolein, which is 0.19 micrograms per cubic meter of air, that's the reference exposure level below which no impact is predicted, has put out for public comment a revision up to 2.3 micrograms per cubic meter.

Now I have not included that difference which would make the hazard index drop even further. What they are saying is that it is more than ten times less toxic to humans. I've kept in the .19 number and my air dispersion modeling and risk assessment calculations show that the maximum one hour concentration of acrolein at the point of maximum impact would be .05 micrograms per cubic meter. So if you compare that to the Cal-EPA new number of 2.3 micrograms you can see how much less .05 micrograms per cubic meter is. And it is still less than .19 micrograms per cubic meter.

Nevertheless I still think it is important that we have mitigation monitoring and the source testing will confirm, or hopefully will confirm, that the emissions of acrolein are going

to be less than even what I have used in my risk assessment.

There also was concern raised and there was a brief discussion under air quality about the possible carcinogenicity of PM2.5. Does it cause cancer in and of itself, by itself, as opposed to constituents within PM2.5?

What I can say to that and what I did say in my FSA section is that there are several articles that tend -- that show that there is a relationship between airborne PM2.5 in cities, in urban air, and increase in lung cancer. But it doesn't say what type of PM2.5 or what the source is.

In fact, when I review those articles and I review the emissions data in the South Coast Air Quality Management District and the North Coast Air Quality Management District and airborne concentrations predicted as a result of those efforts to locate sources, in my professional opinion the association between PM2.5 and cancer track very nicely with diesel particulate matter in the air being the causative agent of those increase in cancer.

Nevertheless, even if I thought that

PM2.5 was a carcinogen in its own right I could not assess it because we do not have it identified as a carcinogen, either by Cal-EPA or US EPA.

US EPA in 2005 published 166 pages entitled their Carcinogen Identification Policy. If you are with US EPA and you want to get something identified as a carcinogen you have to go through that. It talks about the strength of the evidence and the weight of the evidence and how good the studies are.

The California process, there is a carcinogen identification committee. And it must go through them, it must go through the scientific review panel and then it must go out for public comment and then it comes back. So we have a system that works very well and very efficiently that has not yet identified that as a carcinogen.

But lest you think that I am not addressing cancer-causing substances associated with PM2.5, I am and so has the District and so did the applicant. Because again it is my professional opinion that the cancer-causing substances from a natural gas-fired power plant would consist of the polycyclic aromatic hydrocarbons that are adsorbed to the surface of

particulates.

And this is not just my theory or professional opinion but there is an example in the scientific literature that I do cite in my final staff assessment. I believe the Air District also alluded to that earlier. So we are addressing the cancer potential of what is emitted from the facility.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: I just wanted to tell the reporter that Dr. Greenberg could spell some of those words for you later in case you didn't follow him.

DR. GREENBERG: But I did avoid all the abbreviations.

HEARING OFFICER GEFTER: Yes, you didn't say PAH.

Okay, I have a question. Again this has been raised by members of the public in many of their comments regarding the dispersion of toxic air contaminants. And in your testimony in the FSA you indicate the location of the point of maximum impact. And I thought maybe you could explain that again on the record to those members of the public who are here right now.

DR. GREENBERG: Yes. The air dispersion model does predict a point of maximum impact, which for both chronic, non-cancer health impacts and for cancer impacts appears to be maybe 50 yards to the east in a parking lot. And the location for the maximum acute impacts would be just on the north end of the facility fence line.

Regardless of whether or not an individual could possibly live their entire 70 year life at the point of maximum impact, which quite frankly is a physical impossibility, we nevertheless use that as our measuring stick of what is acceptable or what is not.

Now the risks to anybody located any distance away drop off dramatically. One hundred feet, a block, two blocks, three blocks. We don't even go out as far as a mile because the risks drop off so greatly after that.

But that is the standard that we use and when we use it consistently once again we know that we can compare risk assessments around the state but we also are assured that we are not underestimating the risk or the hazard to anyone.

HEARING OFFICER GEFTER: And with respect again to how far out the health risk

assessment looks in terms of a radius and then connecting that with the air quality analysis and also the EJ analysis. I wonder if you could explain that as well.

DR. GREENBERG: Well I am not sure, Hearing Officer Gefter, that I understand your question.

HEARING OFFICER GEFTER: There is a six mile radius, apparently, in the EJ-air quality analysis. Is that something you are familiar with?

DR. GREENBERG: Yes I am. In the human health risk assessment we only go, really we look at the point of maximum impact. We sometimes would put in a specific receptor location such as a school or a hospital. In this case I did not because the risks were so very, you know, below the level of significance at the point of maximum impact. What I can tell you is that, once again, you go out further, the risks are less than what you see there in -- let me get the table right. Less than what you see in Public Health Table 4.

HEARING OFFICER GEFTER: At this point are you done with your direct?

MS. HOLMES: (Nodded)

HEARING OFFICER GEFTER: Okay, I am going to then open the questioning up for cross examination by the parties. And this time I am going to start with the City of Hayward and then go back the other way. So City of Hayward first for cross examination on public health.

MS. GRAVES: We have no questions.

HEARING OFFICER GEFTER: All right. Alameda County?

MR. MASSEY: No questions.

HEARING OFFICER GEFTER: Okay. Ms. Hargleroad, group petitioners on public health.

CROSS EXAMINATION

BY MS. HARGLEROAD:

Q Let me ask if you had an opportunity to review the group petitioners' prehearing conference statement. Did you review that at all?

A Yes I did.

Q Okay. And it sounded as you may have. So can you tell us though about in looking at the background, the existing conditions for this area, there is also the interchange of 880 and Highways 92. You're familiar with that?

A Yes I am.

Q Okay. And that this project is extremely close also to that location.

A Define extremely.

Q Define extremely. I think it's -- I would say less than a mile.

A I'd say that it's close, not extremely.

Q Close. It's close, okay.

A Whenever you use an adjective you get trouble with an expert witness.

Q Okay, all right. So there is a toxic air contaminant background level, is that correct?

A Background for the entire Bay Area, yes.

Q Okay. And does that include that interchange of Highway 880 and 92?

A Yes it would.

Q Okay. So your staff report in the background includes an analysis of the existing toxic air contaminants.

A For the San Francisco Bay Area, yes.

Q And the San Francisco Bay Area is defined as?

A Nine Bay Area counties within the Bay Area Air Quality Management District.

Q Okay. And does the toxic air

contamination level vary among the counties?

A To a certain extent there is some variation, yes.

Q And do we know what the toxic air contamination level is within a one to two mile radius of the proposed location for this plant?

A I do not know because I am not aware that there is a toxic air contaminant monitoring station from any entity at all within one mile of the proposed location.

Q And where is the closest toxic air contamination monitoring station?

A Well as I state on page 4.7-4 at the top of the page, there are three locations in Oakland, one in San Leandro and one in Fremont and those would be the closest ones.

Q So Oakland and Fremont?

A And San Leandro.

Q And San Leandro, okay.

Going to -- Did you have an opportunity to review the group petitioners' supplemental or amendment to our exhibit list?

A Is that the one I just got Saturday?

Q It might be. It's the amendment.

A Please ask the --

Q It was docketed.
A Please ask the question.
Q It was docketed last week.
A Please go ahead and ask the question and if I haven't reviewed it I'll let you know.
Q Well it has a list of various articles, scientific journals and articles about acrolein and the cancer --
HEARING OFFICER GEFTER: Ask the question, please.
BY MS. HARGLEROAD:
Q On page 4.7-11 of the Final Staff Assessment there is an indication that inhalation cancer is not associated with acrolein exposure; is that correct?
A That is correct.
Q Okay. And are you familiar with the study that is in Exhibit 719 which is entitled -- a scientific journal article, Acrolein is a Major Cigarette-Related Lung Cancer Agent?
A Yes, I am familiar with that article.
Q Okay. So if you are familiar with that article how can you be sure that acrolein exposure does not create a significant cancer hazard?
A As I explained in my direct testimony,

I am bound by certain regulations that require me to consider carcinogens that have been identified through a very rigorous scientific process either in Cal-EPA or in US EPA. Neither of those agencies have indicated that either acrolein is a known or potential human carcinogen or have given me a potency slope on which I can calculate a human health risk assessment.

Furthermore in reviewing that article I note that it is not considered in that article a direct acting carcinogen but rather a promoter. That means there is a different mechanism of action and a different type of what we call cancer risk assessment if it turns it is indeed a promoter and it would come up with a potency slope that might be different if it were a direct acting carcinogen.

It certainly is beyond my expertise. And I've got a lot of expertise but I don't have this expertise to calculate my own cancer potency factor. And I really wouldn't be allowed to do so even if it were within my area of expertise.

Q So basically your testimony is somewhat, I don't want to use the verb controlled or regulated, but limited to those elements which

have been officially or formally recognized. Is that correct?

A I'd say that is a fair characterization. That we do have a process in California, we have a process in the United States, and for better or for worse we have to let that process work. As I have stated in the Final Staff Assessment, I do rely on the very excellent scientists at Cal-EPA to provide certain toxicological information.

Q Well my question though is, what happens when there is research that Cal-EPA may be investigating but may not have officially or formally recognized yet? Does that mean that is simply, that new research or science is ignored until it is officially recognized?

MS. LUCKHARDT: I have an objection to this question. In my experience the Energy Commission does not set new health standards. These types of issues have been argued in numerous cases before. The Energy Commission has consistently found that a siting it is not the location to set or discuss or evaluate new health standards.

MS. HARGLEROAD: I am simply --

HEARING OFFICER GEFTER: Your objection is sustained.

MS. HARGLEROAD: Can I reply before you sustain her objection?

HEARING OFFICER GEFTER: You may respond.

MS. HARGLEROAD: And that simply is I am attempting to examine Dr. Greenberg on his opinion and the limitations of his opinion. So I think that that should be relevant. It is unfortunate that whatever --

HEARING OFFICER GEFTER: I believe that Dr. Greenberg has already answered your question previously.

BY MS. HARGLEROAD:

Q The applicant has stated that the acute hazard index of .66 out of 1.0 -- And this is referring to public health section 4.7-12 again and if you continue to 4.7-13.

(Coughed) My PM2.5 exposure here.

And staff has indicated an acute hazard index of .32. Can you explain the difference?

A No, I cannot.

Q Okay. Additionally, what statistical confidence or interval is incorporated into your

health risk analysis and how do we account for the variability in the data to have a quantifiable level of confidence that the acute hazard index will not exceed one?

MS. HOLMES: Can I please ask that you just break that down into two, separate questions.

MS. HARGLEROAD: Sure, sure.

MS. HOLMES: One after the other would be better.

MS. HARGLEROAD: Sure.

BY MS. HARGLEROAD:

Q What statistical confidence interval is incorporated into your health risk analysis?

A There is none and let me explain why. This is what we call a tier one human health risk assessment. I am referring to the 2003 guidelines on conducting health risk assessments under the Toxic Hot Spots Act, AB 2588, that the Cal-EPA Office of Environmental Health Hazard Assessment promulgated. There are four tiers.

A tier one assessment is what we call a point estimate assessment. We use one point for exposure, for emission factors, et cetera. All the factors or ingredients, if you will, that go into a health risk assessment. These are upper

bound, for the most part upper bound levels, and therefore that is why I stated earlier in my direct testimony that they are an overestimation of the risks.

If you want to get to confidence intervals you conduct a tier three or tier four stochastic. Stochastic is another word for probablistic risk assessment. The Cal-EPA Office of Environmental Health Hazard Assessment promulgated guidance on that. That was the advisory committee that I was on. I have conducted probablistic or stochastic risk assessments.

That is not what we are required to do in conducting these health risk assessments.

Q Okay. So it hasn't been done because there is no requirement at this point in time.

A Yes but that may be a mischaracterization. It is not needed in my view.

Q Okay, and why is that?

A Because this is already an upper bound. If you do a stochastic assessment more likely than not you'll come out with a number very similar to this or lower, depending on the percentile of risk that you would like to look at. If you look at

the 95th percentile you'll probably come out with the same number. If you look at the 90th or the 85th or 80th percentile you'll come out with lower numbers.

Q Well maybe you can explain to me then how, how do we account for the variability in the data to have that quantifiable level of confidence?

MS. HOLMES: I'm sorry, which variability and which data? So that I can follow along with this.

BY MS. HARGLEROAD:

Q The emission factors used for the calculation.

A I see. Well, as I mentioned, we don't account for that variability. We use a point estimate and we use an emission factor for each one of these substances.

If I did a stochastic assessment then I would use a range. I would also have to do a statistical analysis, or maybe by professional opinion, to determine the shape of the variability. Whether it's normally distributed, whether the data is lognormally distributed or whether it's a probit-type distribution, and put

those in. We don't do that for a tier one assessment.

Q If you go to public health 4.7-14. In your computation of the acute hazard index did you use the emission factor for the compound acrolein as published in the California air toxics emission factors database?

A Yes I did.

Q And do you think that or believe that the mean emission factor for acrolein published in California air toxics emission factors database, given the test population size of two for the engine type being proposed for the Eastshore, is statistically sound enough to use to protect the public health? And I refer you to our group petitioners Exhibit 707.

A I understand your question, I also understand the concerns by the member of the public sitting to your right who has raised this issue. And I have tried to explain and I will do so again.

Even with my experience I don't have all the expertise in the world. So I rely on the California Air Resources Board to give me their best professional opinion. And I did talk with

the person at the California Air Resources Board who told me that these were just as good emission factors as from EPA, given the problems that both Air Resources Board and US EPA have had with the methodology for measuring acrolein.

That is one of the reasons why the Air District, all the Air Districts around the state have been advised by the Air Resources Board to not base any type of permit decision on acrolein emissions. The analytical method is very suspect. They have been working on this for over ten years. It's a tough one to analyze at these low levels. It is highly reactive in the atmosphere, it has a half-life anywhere between 12 and 20 hours, and so it breaks down immediately.

So I relied on the Air Resources Board and did not conduct an independent evaluation of which database was better. But I also gave you other reasons that we can't just pick which emission factor we want to use from which agency.

Q Can you tell me who at the Air Resource Board you spoke to?

A Certainly. His name is Mr. Chris Halm, H-A-L-M.

Q And his position is, or department?

Division? Area of expertise, shall we say.

A He is an air quality engineer. I apologize, I do not have his phone number with me. Well, I might.

Q Not his phone number but his division.

HEARING OFFICER GEFTER: While he looks for that why don't we ask another question. He'll get you that information.

MS. HARGLEROAD: He can -- Dr. Greenberg can provide that to me later.

DR. GREENBERG: Very simply, you can go on the ARB web site and go to their list of contacts and by alphabetical order you'll get it.

BY MS. HARGLEROAD:

Q I'm asking you though who you spoke to and you relied on, right. So you're aware of the Air Board's policy that the acrolein emission factors in the California air toxic emission factors database should not be used because they are based on a decertified test method. And I refer to group petitioners Exhibit 706.

A They recommend that they not be used for permitting purposes. I used it in my health risk assessment because I felt that I needed to include that in the health risk assessment. So

despite the use, despite the warnings or admonition that it not be used for permitting I thought I should use it anyway in human health risk assessment. Otherwise it wouldn't be included.

Q Well are you aware of the US EPA AP-42 mean emission factor for acrolein?

A Yes I am and I did cover that in my direct testimony.

Q Right. And that is 88 times higher than the California air toxic emission factors.

HEARING OFFICER GEFTER: I think we are going way off base here. I am not sure what --

MS. HARGLEROAD: No, that is his direct testimony.

HEARING OFFICER GEFTER: And he explained his position on that. But I am not sure where you are going with all these questions. Where does this get us? What's your point? Where are you going?

MS. HARGLEROAD: Well, if -- I think as we have just been talking about is, if we don't have all of the information in front of us or the Commission does not have a full picture then it is somewhat difficult to draw certain conclusions.