ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

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In the Matter of:	)	
	)	Docket No. 04-AFC-1
Application for Certification	)	
For the San Francisco Electric	)	
Reliability Project	)	
_____	)	

COMMISSION STAFF OPENING BRIEF

I. INTRODUCTION

Only a few years ago, the Energy Commission ("Commission") was considering the licensing application for Mirant's proposed Unit 7, a 540 MW combined-cycle power plant in Southeast San Francisco. A purported purpose of that project was to provide greater electric reliability to the San Francisco Peninsula, although (due to single-fault vulnerability) the degree to which it did so was debatable. Unit 7 raised other concerns, including its increased use of water from San Francisco Bay for once-through cooling, and its relatively large air emissions in what has been described as an "environmental justice community."

The City of San Francisco ("City"), Commission staff ("Staff"), and many other parties opposed the Potrero Unit 7 project, and the project ultimately stalled when Mirant declared bankruptcy. The City then worked with the California Independent System Operator ("ISO") to collaboratively determine how to best secure electricity reliability for the City while at the same time minimizing electricity generation within the City. These efforts resulted in the San Francisco Action Plan, an ISO-approved approach to achieving the City's goals. The Action Plan called for a major new transmission line on the San Francisco Peninsula—the Jefferson-Martin line—supplemented by numerous smaller transmission reinforcements and the construction of a new peaker plant in the City near the Potrero site. These measures would in turn allow the ISO to terminate its "reliability must run" ("RMR") contracts with the aging, less-efficient boiler-fired plants at Hunters Point and Potrero. The City's goal was to minimize in-city electric generation and thereby improve local air quality.

Implementation of the Action Plan has allowed San Francisco to realize its long-standing goal of closing the aging and high-emitting Hunters Point facility. Fully executed, it will also allow for the closure of the aging and relatively high-emitting Potrero units. While allowing these goals to be accomplished, the Action Plan will protect the reliability of the City's electric supply.

A cornerstone of the Action Plan is the 145 MW San Francisco Electric Reliability Project ("SFERP"). SFERP is a peaker facility proposed to be built in southeast San Francisco not far from the Potrero generating units.[1] It is a 145 MW facility comprised of three LM 6000 units that can be operated separately or in concert. SFERP's emissions will be considerably less than those that are or were emitted by Hunters Point and the Potrero units, and a fraction of those that would have been emitted by Potrero Unit 7. Also, unlike these other power plants or proposals, SFERP does not rely on the San Francisco Bay for cooling water, thereby helping reduce biological impacts on the Bay.

Thus, the Action Plan (and SFERP) will result in overall environmental benefits to both southeast San Francisco and the greater region. The environmental effects of SFERP itself are relatively small and will be fully mitigated. This likely explains why so many of the vocal opponents of prior San Francisco power plant licensing applications either did not participate in this proceeding or have not opposed the project.

Even so, the project was actively opposed by two intervenors, Californians for Renewable Energy ("CARE") and Mr. Robert Sarvey. These intervenors participated primarily by introducing additional documents to the record or by cross-examination of City or Staff witnesses. They also provided some additional witness testimony, and added public comment. Their efforts are best described as opposing the licensing of SFERP, principally by raising questions about the environmental analysis.

[1] In addition to SFERP, the Action Plan includes another 45 MW (net) turbine that will be sited at the San Francisco International Airport.

SFERP is a relatively small power plant with relatively small impacts located in an industrial area that is a "brownfield re-use" area. However, the project has been subjected to one of the most thorough environmental analyses ever conducted by Staff. In particular, Staff has utilized the California Air Resources Board's ("CARB") newest cumulative impact modeling program—the Hotspots Analysis Reporting Program ("HARP")—to model the potential for cumulative toxic impacts that the project might contribute to. Likewise, Staff has modeled criteria pollutant emissions not only for SFERP, but also for other local power plants such as Potrero to measure any additive overlap. With regard to the existing pollution of the soil at the project site, Staff required the City to perform an additional site characterization study (rather than relying on an existing characterization of an adjacent site) to fully determine the degree of existing soil and water contamination; this has allowed Staff to prescribe performance standards to protect public health and worker safety for any necessary site remediation that may be prescribed by the agency with cleanup authority, the San Francisco Regional Water Quality Control Board ("Regional Board"), and to describe the range of appropriate remediation measures that might be used.

As a result of this thorough environmental analysis, Staff has concluded that SFERP would result in no significant environmental impacts that are not fully mitigated, and that the project would comply with all applicable laws, ordinances, regulations, and standards. The topics briefed below address the intervening parties' major areas of concern, and describe the testimony supporting the Staff's conclusions.

II. AIR QUALITY

A. Existing Air Quality and Cumulative Impact

The local region is characterized by moderate annual temperatures and wind patterns that normally move air pollution out of the region to the south or the east. (Exh. 46, p. 4.1-6.) Even so, periodic calms with low mixing heights, which may occur during the winter months, can occasionally result in the State's 24-hour PM10 standard being exceeded. (*Id*., at p. 4.1-12.) The Air District is classified as "attainment" for the federal 24-hour PM10 and PM2.5 standards. (*Id*., at p. 4.1-26.) Although the local area does not experience violations of the state or federal ozone standards, the Air District is classified as "nonattainment" for this pollutant because of

violations elsewhere in the air basin. (*Id*., at pp. 4.1-10, 22.) The Air District has achieved attainment with all other criteria pollutant standards, both state and federal, so its efforts are principally focused on meeting the federal ozone and state PM standards. (*Id.*, at pp. 4.1-9 to 20.)

SFERP would emit criteria pollutants that are "precursors" to ozone; it will also emit particulate matter (PM2.5 and PM10). Although these emissions are too small to violate any air quality regulations or health standards, and are thus not a "direct" impact, they may be **cumulatively** significant when considered with other pollution sources and the existing ambient air quality. (See Cal. Code Regs., tit. 14 ["CEQA Guidelines"], § 15130.) For this reason, Staff provided a comprehensive, three-fold air quality cumulative impacts analysis. First, Staff provided a "Summary of Projections" analysis in accordance with CEQA Guideline section 15130, subdivision (b)(1)(B). (Exh. 46, p. 4.1-22.) This is a summary of projections provided in adopted planning documents describing regional or area wide conditions contributing to a cumulative impact, including the attainment plans adopted by the Air District. (CEQA Guidelines, § 15130(b)(1)(B).) Second, Staff then went beyond the "summary of projections" approach, and additionally analyzed the project's "localized cumulative impacts" by modeling project emissions combined with other major local emissions sources. (Exh. 46, p.4.1-27.) Finally, Staff provided a discussion of "secondary" pollution impacts for ozone and PM10 resulting from "precursor" criteria pollutant emissions. (*Id*.at p. 4.1-27 to 30.) Staff is unaware of any other agency which performs such a thorough cumulative impact analysis.

The Summary of Projections analysis for ozone indicates that the Air District is very close to attainment for the federal ozone standard, and expects its ozone abatement plan to result in attainment reclassification next year. (Exh. 46, p. 4.1-23, 24.) Contrary to common perception, 24-hour PM10 measurements in southeast San Francisco indicate that peak levels are similar to other parts of the Bay Area, and do not differ greatly from levels measured in the North Counties (e.g., Napa, Santa Rosa, and San Rafael), the South Central Bay (e.g., Fremont, Redwood City), the Eastern District (e.g., Concord, Pittsburg), or the Santa Clara Valley (e.g., San Jose). (*Id.*, at p. 4.1-25.) The stringent State PM10 standard is normally violated no more than a few times each year, usually in winter during the night hours, and often in combination

with wood smoke. (*Ibid*.) Many of the State's air districts measure far higher 24-hour PM10 levels. (*Id*., at p. 4.1-26.)

For its Localized Cumulative Impacts analysis, Staff confirmed the results of a modeling analysis performed by the City. This analysis included SFERP modeled with additional major emissions sources, including the power plants at Hunters Point and Potrero, San Francisco Self Storage, and San Francisco Wave Exchange. (Exh. 46, p. 4.1-27, 28.) It indicated maximum impacts using what could be considered worst case emissions, meteorological conditions, and existing ambient background conditions (i.e, "background" is the maximum recorded 24-hour PM10 measured during 2001 to 2003). (*Ibid*.)

Staff concluded that SFERP could contribute to the PM10 and ozone levels that surpass the state 24-hour PM10 standard and the federal ozone standard, and that this constitutes a significant cumulative impact requiring mitigation. With regard to ozone precursors, such mitigation is provided programmatically by the Air District's rules, which require offsets (also called emission reduction credits, or "ERCs"). However, the Air District's rules do not require mitigation for projects that emit PM10 at the levels of the SFERP project. Thus, Staff proposed conditions that would require mitigation for PM10 that is in addition to that which the Air District would require for other pollutants.

B. A Different Cumulative Effect: Improving Local Air Quality

From the City's perspective, the very purpose of the San Francisco Action Plan (including SFERP) that it negotiated with the ISO is to reduce the air quality impacts of in-city electricity generation. For more than 40 years San Francisco has had two major electric generation facilities in southeast San Francisco, Hunters Point and Potrero. These units include aging, inefficient, boiler-fired generation that had no NOx emission controls,[2] and the Potrero site includes three distillate-fired peaking units with no modern emissions control.

Transmission projects in the Action Plan recently resulted in the final closure of the Hunters Point facility. If SFERP is constructed, and additional planned minor transmission

[2] Potrero Unit 3 (205 MW) received retrofit selective catalytic reduction ("SCR") in 2005.

upgrades are completed, the ISO has stated unequivocally that it will not renew the Potrero RMR contracts. (Exh. 50, p. 3.) Without such contracts, the City reasonably expects that the Potrero facility will close. If it does so, the Action Plan will have resulted in dramatic reductions in power plant emissions in southeast San Francisco.

SFERP itself has relatively low emissions. Its maximum ("worst case") modeled emissions are for 39.8 tons per year ("TPY") of nitrogen oxides ("NOx"), 7.7 TPY of volatile organic compounds ("VOC," also sometimes termed "POC"), and 18 TPY of PM10.[3] (Exh. 46 (FSA) p. 4.1-51.) By comparison, the once-proposed Potrero Unit 7 project would have had 178 TPY of NOx, 49 TYP of VOC, and 110 TPY of PM10. (Potrero Unit 7 FSA, p. 5.1-24.) In addition, SFERP will have lower emissions than the existing Potrero Unit 3 facility. (May 31 RT 29.)

C. SFERP Complies With All Air District Rules and is Fully Offset.

The Bay Area Air Quality Management District ("Air District") has issued a Final Determination of Compliance ("FDOC") reporting to the Commission that SFERP will use Best Available Control Technology ("BACT"), will comply with all State, federal, and local regulations, and will pose no significant health risk from toxic air contaminants. (Exh. 54 [FDOC], p. 1.) In fact, the health risk screening analysis, which conservatively totals carcinogenic risk from all project sources, was calculated to be approximately one-tenth of one percent of the level that would indicate significance (0.01 in one million risk). (*Id.*, at p. 14.) The non-carcinogen Chronic Hazard Index was equally low (0.001 where significance is 1.0 or above). (*Ibid.*)

BACT for the project includes SCR, which will limit NOx emissions to an annual average 2.5 ppmvd @ 15 percent O2 (one hour average). (Exh. 54 p. 3.) An oxidation catalyst will be employed to limit VOC and carbon monoxide emissions. (*Ibid.*)

[3] For an example of how such estimates are "worst case," the emissions modeling assumes 12,000 hours per year of combined operation for the three turbines—the maximum generation hours allowed under the terms of the FDOC—despite the likelihood that the units will only operate a fraction of the allowed hours.

Air District rules require that NOx and VOC emissions be "fully offset" when such emissions exceed 10 TPY. (Exh. 54 [Rule 2-2-302], p.13.) Accordingly, all NOx and VOC emissions are fully offset by NOx emission reduction credits ("ERCs") for reductions achieved at the nearby Potrero power plant. (*Id*. at 14.) The ERCs are required to be at a ratio that exceeds the highest potential ("worst case") emissions calculated for the project. (*Ibid*.)

SFERP PM10 emissions are too low to trigger Air District offset requirements. However, ambient PM10 levels occasionally exceed the very stringent State 24-hour PM10 standard. (Exh. 46, p. 4.1-20, 24-27.) Because of concern that the state standard is sometimes exceeded, Staff believes that contributions to ambient PM10 in the area are a potentially significant air quality impact. On this basis, pursuant to the California Environmental Quality Act ("CEQA"), Staff has proposed (and the City has agreed to) mitigation for the cumulative impact of additional PM10 emissions. This mitigation includes "enhanced" vacuum (low-PM10) street sweeping in the project area to reduce the presence of "entrained road dust," a significant source of PM10 ambient pollution. (Exh. 46, p. 4.1-40 [AQ-SC 10]; May 22 RT 222-223.) In addition, the City has agreed to provide 5 TPY of PM2.5 emission reductions through modifications of wood stove or fireplaces, or alternatively provide 45 TPY of sulfur dioxide ("SOx") ERCs. (*Id*., at p. 4.1-41 [AQ-SC 10 and 11].) SOx emissions are a "precursor" to PM10/2.5 (meaning they convert in some measure to PM10 downwind from the point from which they are emitted).[4]

D. Issues Raised by CARE and Sarvey Have Been Addressed.

Mr. Sarvey filed testimony[5] raising issues regarding 1) the appropriateness of using air quality data from the Arkansas Street monitoring station; 2) the appropriateness of using offsets ("banked" ERCs) as air quality mitigation; 3) the need for sulfur dioxide (SOx) mitigation; 4) the adequacy of the City's PM2.5 mitigation; 5) ammonia emissions; 6) the need for emission limitations on startups and shutdowns; 7) failure to include some specific projects in the

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[4] As previously stated, Air District rules do not require offsets for the levels of PM10 that SFERP will emit. However, when Air District rules do require PM10 offsets, they allow SOx offsets to be substituted for PM10 offsets at "offset ratios" determined by the Air District. (Air District Rule 2-2-303.1.) As reflected in the above-cited conditions of certification, Staff has determined that the appropriate offset ratio in this case is 3:1.

[5] Though not an air quality professional, Sarvey was allowed to file his own testimony on the basis that he once served on an advisory committee to an air district and has previously participated in Commission hearings. (May 31 RT 56-57.)

cumulative air analysis; and 8) failure to provide a "cumulative toxics analysis of the numerous sources in the community." (Exh. 74.) These and other issues raised at hearing are addressed below.

1. The testimony demonstrates that the Arkansas Street monitoring data was representative of local conditions.

Staff and the City both relied on Air District ambient air quality monitoring data from the Air District's Arkansas Street monitoring station, which is about one half mile northwest of the project site. (Exh. 46, p. 4.1-8.) Based on questions raised by residents, Staff confirmed prior to preparation of the FSA that Arkansas Street is representative. Staff compared hourly data for three monitoring sites (Arkansas Street, Potrero, and Hunters Point) and found consistent patterns in the measurements for all three sites, with NOx concentrations highest at the Arkansas Street station. (*Ibid*.) PM10 measurements were roughly similar and closely tracked each other in daily variations. (*Id*., at p. 4.1-9 [Figure 2].)

Despite the above, Sarvey testified that PM2.5 levels are 5 to 10 percent higher at the Bayview monitoring station, citing CARB data for four-month periods over 5 recent years. (Exh. 74, p. 3.) It is difficult to determine from his submitted testimony whether Sarvey is correct in his interpretation of CARB data, but even if he is, it does not matter. The City's testimony is that the City participated in a program with CARB and the Air District that included additional modeling to confirm that Arkansas Street data is representative of air conditions in the community. (May 31 RT 233.) The data confirmed this fact. Moreover, the monitoring data relied on by Sarvey indicates that any differences in data for Bayview are small and not meaningful in any context, and that often Arkansas Street measurements are higher. (*Ibid*.) This testimony was unchallenged.

2. Offsets are required programmatic mitigation for stationary sources such as power plants, and are consistent with all State and federal laws.

Air pollution is a major societal problem because of the multitude of diverse potential sources, including stationary industrial facilities, auto and truck exhaust, gasoline evaporation, the vapors from drying paint, wood smoke from fireplaces, agricultural burning, and urban road

dust. Federal and State law has created integrated programs to reduce such pollution to meet standards that are health protective. U.S. EPA administers the federal Clean Air Act, which is enforced at the local level by air districts. In California, air districts also receive oversight from CARB.

Both CARB and U.S. EPA have adopted elaborate regulations for all forms of air pollution, including stationary sources. Local air districts are required to adopt plans ("attainment plans" or "state implementation plans"), which must be approved by U.S. EPA, indicating how the air districts will regulate air quality to reach attainment with federal standards. The federal and State regulations enforced by air districts are very detailed, and encompass nearly all forms of air pollution.

For stationary sources such as power plants, both federal and State law rely heavily on "offsets" for new polluting facilities. As existing facilities close down or otherwise reduce their emissions, they can "bank" their pollution reductions with the air district, creating "emission reduction credits," or "ERCs." New facilities that emit criteria pollutants must purchase, in this open market, ERCs that exceed the amount of their own pollution.[6] This comprehensive, market-based approach to reducing pollution is programmatic and long-term. Over time, ERCs become more expensive and rare, and stationary emissions decrease as they become ever more expensive. (See May 22 RT 228.)

The Air District has adopted detailed attainment plans addressing both regional ozone attainment and PM10, and these plans are part of the U.S. EPA-approved (and enforced) State Implementation Plan. (Exh. 46, pp. 4.1-22-25.) The Air District has also adopted rules that are part of this plan, and that require offsets for stationary sources that emit more than 10 TPY of NOx or VOC. (Exh. 54, p. 13.) Moreover, offsets are virtually the only feasible mitigation for the emissions of large stationary sources, as "mobile offsets" and car crushing programs, such as those proposed by Sarvey, simply do not satisfy U.S. EPA criteria. (See May 31 RT 40-41.)

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[6] Air districts normally require that offsets be provided at "ratios" that may increase depending on the pollutant or the distance of the offset location from the new sources. (May 22 RT 237-238; Exh. 54, pp. 13-14; 2 Manaster & Selmi, Cal. Env. Law and Land Use Practice (2004) Stationary Pollution Sources, § 41.23[4][d], p. 41-23.)

Contrary to intervenor assertions, offsets are fundamental CEQA mitigation for a cumulative impact such as that presented by SFERP. The CEQA Guidelines have long acknowledged that the "only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project – by – project basis." (CEQA Guidelines, § 15130(c).) Air quality regulation is an example of such a comprehensive regulatory program, which facilitates a programmatic approach to such mitigation. CEQA explicitly acknowledges such mitigation:

> A lead agency may determine that a project's incremental contribution to a cumulative impact is not cumulatively considerable [i.e., significant] if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, **air quality plan,** integrated waste management plan) within the geographic area in which the project is located. (CEQA Guidelines, § 15064(h)(3) [emphasis added].)

As set forth above, offsets are a critical part of the Air District's adopted plan and implementing rules. Sarvey's objection that offset emissions reductions have already occurred misses the point. The offset approach is global and programmatic. In addition, the Air District includes banked ERCs as "ongoing emissions" in its planning emissions inventories for future years, so the effect of future new sources that rely on ERCs have already been accounted for in its air quality attainment plans. (May 22 RT 227.) Thus, when a new stationary source is permitted, the emission reduction that offsets the pollution must *already* have occurred, and that reduction must normally exceed the amount of any new emissions.

Consistent with the state and federal clean air acts, CEQA, and the Air District rules, the Commission has always considered offsets to be mitigation for air impacts. To do otherwise would largely prohibit power plant (and other large stationary source) licensing.

3. SOx offsets were provided as additional mitigation to mitigate PM 2.5 emissions.

Sarvey's testimony complains that the project's 2.7 TPY of SOx emissions are not offset, noting that SOx is a PM precursor. (Exh. 74, p.4.) SOx offsets are not required in this case by Air District rules because the project's low levels of emissions do not trigger the offset

thresholds. The Air District is "attainment" for the SOx standard (Exh. 46, p. 4.1-10 [Fig. 3]), and it therefore does not require SOx offsets unless emissions exceed 100 TPY. (Air District Rule 2-2-303.) Since SOx is not an Air District problem, there is no significant impact from SOx in and of itself, so no mitigation can be required.

However, as discussed above, PM10 and 2.5 emissions are considered a problem, and the Air District has not attained the State standards for those pollutants. For this reason, Staff has concluded that PM10 emissions are cumulatively significant and has proposed mitigation. This mitigation includes the use of enhanced urban street sweepers to remove urban road dust and retrofit of woodstove fireplaces to reduce particulate emissions. (Exh. 46, pp. 4.1-40, 41.) Urban road dust and wood smoke are two of the primary contributors to ambient air PM in the Air District basin. (*Id*, p. 4.1-25.) If the City is unable to achieve local PM reductions through the fireplace/woodstove retrofit program, it will provide SOx ERCs (at a 3:1 ratio) as a substitute. (*Id.*, at p. 4.1-30, 41.)

4. Mitigation for PM10/2.5 is sufficient.

Sarvey contends that Staff's proposed requirements for PM2.5 mitigation are not sufficient to mitigate the problem. (Exh. 74., p. 4.) The project emits a maximum of 18 TYP of PM10, most of which is also PM2.5.[7] Staff has focused on mitigating PM10 and not specifically PM2.5, the latter of which is a finer subset of the former. There are reasons for this. The Air District is "attainment" for the new federal 2.5 standard. (May 22 RT 225.) Although it is nonattainment for the more stringent and more recently adopted State standard, even that standard has not been exceeded during the past three years, and the three-year average, which is the basis for compliance, was below the State standard in 2005 for the first time. (*Ibid*.) By contrast, the State PM10 standard is exceeded in the air basin several times every year. (Exh. 46, p. 4.1-25.) It thus makes sense for Staff's mitigation to focus more broadly on PM10 rather than just PM2.5.

[7] PM10 are particles no larger than 10 micrograms in diameter. PM2.5 particles are no more than one-fourth as large. PM2.5 is thus a finer subset of PM10.

In addition, the mitigation for PM10 ultimately mitigates PM2.5 as well. The enhanced street sweeping for urban road dust will reduce PM10 by 24 TPY, of which 3 TPY are conservatively estimated to be PM2.5. (Exh. 46, p. 4.1-20.) The woodstove and fireplace mitigation proposed by Staff would provide 5 TPY of PM10 reductions, all of which are also PM2.5 reductions. Likewise, the alternative SOx mitigation in AQSC-12 would require the estimated equivalent of an additional 15 TPY of offsets for secondary PM2.5 (45 TPY of SOx ERCs). (*Id*., p. 4.1-21.) Thus, if the SOx offset alternative (Condition AQSC-12) is chosen, project PM2.5 emissions will be more than fully offset. It is also important that the street sweeping and fireplace retrofit mitigation is for ground level PM10 (and PM2.5) pollution, which is more likely to be inhaled and to impact public health (see May 22 RT 223), compared to the power plant's high velocity stack emissions which will rise and disperse broadly downwind.

5. Ammonia emissions are limited by appropriate conditions and are not a significant impact in any case.

Most modern power plants use ammonia in the catalytic pollution control systems to greatly reduce their NOx emissions. A byproduct of this ammonia-based pollution control is "ammonia slip," which is the emission of small amounts of ammonia from the power plant exhaust stack. This emission can, in turn, convert to ammonium nitrate, which is a secondary particulate pollution (PM2.5) that can occur far downwind from the point of emission. (Exh. 54, p. 10.)

Air districts generally limit ammonia slip emissions from point sources. Like many (but not all) other air districts, the Air District by rule limits ammonia slip to 10 ppm. (See Exh. 54, pp. 16, 24) The Air District believes that ammonia slip does not generally contribute to PM2.5 formation in the Bay Area because of meteorological conditions that restrict such formation, based on the amount of nitric acid in the atmosphere. (*Id*., at p. 10.) Staff questions this rationale, and encourages air districts to limit ammonia slip to 5 ppm, as set forth in CARB guidelines, for *baseload* power plants. (Exh. 46, p. 4.1-30.) However, for peaker plans that use aero-derivative turbines running in simple-cycle mode (such as SFERP), Staff endorses the 10 ppm requirement. (*Ibid*.) This limit is the lowest feasible limit for facilities that are peakers that

must be called upon instantly for reliability. (See May 22 RT 318-319.) In addition, the 10 ppm limit is not predictive of the actual amount of ammonia slip; rather, it is a limitation. Although peakers cannot consistently meet a 5 ppm requirement given their need for flexible startup operation, for much of the time, ammonia slip will be much lower for the project—probably about 1 to 2 ppm. (May 22 RT 319.) Imposing a more restrictive 5 ppm condition would not likely result in any *actual* change in emissions from the SFERP facility. (May 22 RT 320.) Thus Mr. Sarvey's reference to a Massachusetts facility that has set a 6 ppm limit on ammonia slip does not mean that in reality SFERP will be emitting more ammonia slip than that facility. (*Ibid.*)

Mr. Sarvey's example of the more stringent requirement on the Massachusetts facility was also rebutted by the City witness. The facility (identified as the PPL Wallingford power plant) has never been able to consistently achieve the 6 ppm level of its permit, even with the more intermittent testing levels used by the air district in that region. (May 31 RT 31-32.) This indicates that 5 ppm may not be feasible for power plants using this kind of equipment, with the stringent NOx levels set at 2.5 ppm. The South Coast Air Quality Management District would require a facility like SFERP to meet the 5 ppm ammonia slip limit, but only with a more liberal NOx emission requirement (3.5 ppm). (May 31 RT 36-37.) The (Bay Area) Air District believes suppressing NOx emissions is more important, for its meteorological conditions, than suppressing ammonia slip; hence the greater stringency of its NOx requirements and lower stringency in its ammonia slip requirements. (*Id* at 37.)

6. SCONOx technology is expensive, unreliable, and unnecessary.

Intervenor CARE did not present Air Quality testimony, but suggested through cross-examination that a non-ammonia pollution control technology known as "SCONOx" should be used instead of selective catalytic reduction ("SCR"). (e.g., May 22 RT 240-245.) SCONOx has been used only for facilities considerably smaller than SFERP. (Exh. 46, p. 4.4-16, 17.) It is more expensive than SCR, requires more frequent maintenance, is less reliable, and achieves approximately the same results with regard to reducing NOx emissions. (*Ibid.*; see also May 22 RT 240-245.) In addition to not offering any real benefit over SCR, it is unsuitable for peaker

projects such as SFERP that are relied upon for electric system reliability. (Exh. 46, p. 4.4-17; May 22 RT 243-244.)

7. Startup and shutdown emissions of SFERP are adequately limited and are not a significant impact.

Emissions from a power plant are often higher at startup before the catalyst has warmed up. Sarvey argues that the Air District requirements "eliminated" startup and shutdown emissions limits, and that startups for the facility should be more strictly limited. (Exh. 74, p. 6.) Sarvey also complains that the Air District allows for five hours per day for startups and shutdowns. (*Ibid*.) In fact, startup emissions are subject to conditions that limit the regulated air pollutant mass rates for both startup and shutdown hours (Exh. 46, p. 4.1-50 [AQ-19]), and are further limited by specific daily emission limits (*Id.* at p. 4.1-50 [AQ-20]) and rolling 12-month annual limits. (*Ibid*. [AQ-21].) These are the same conditions proposed by the Air District in the FDOC. (Exh. 54, p. 24.) The Air District's decision to increase estimated startup time from four hours per day to five hours was merely a conservatism it used to calculate startup impacts. (May 22 RT 290-291.) The lack of a condition limiting the actual number of daily startups is irrelevant, as Sarvey himself suggests by pointing out that it should hardly be necessary to spend five hours per day starting and shutting down the turbines. (Exh. 74, p. 6.) Yet emissions were gauged on such duration, and still did not violate Air District requirements. (May 22 RT 290-291.)

8. Cumulative impacts from foreseeable projects have been adequately considered and do not change conclusions regarding impact.

Sarvey claims that neither the City nor Staff has succeeded in identifying all reasonably foreseeable projects in the San Francisco area that could contribute to air quality impacts, suggesting that the various layered analyses of both City and Staff are inadequate. (Exh. 74, pp. 6-7.) During cross-examination he emphasized this point by confronting the City's witness with extensive lists of projects, both major and minor, from a Master EIR apparently prepared several years ago for development of the waterfront property in southeast San Francisco. (May 22 RT 281-285.) The logic of this exercise seems to be that if Sarvey can find any local project, regardless of size, timeframe, or type of air quality impact, that has not been included in the

Staff's analysis, then the cumulative impact analysis must be inadequate, and everything required to be reassessed. But such logic does not hold.

Both Sarvey and CARE either assert or imply that CEQA requires a list of all past, present, and probable future projects for a legally adequate cumulative impact analysis. In fact, CEQA does not have such a requirement. Rather, the CEQA Guidelines provide that a lead agency, to have "an adequate discussion of significant cumulative impacts," must provide "*Either:* (A) A list of past present, and probable future projects producing related or cumulative impacts . . . , *or* (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contribution to the cumulative impact." (CEQA Guidelines, § 15130(b)(1) [emphasis added].) Thus, the Guidelines require that cumulative impacts be described either by the "list" approach or by the "summary of projections" approach. Fond of wearing belts with its suspenders, Staff did both.

First, Staff fulfilled this requirement by providing the "summary of projections" analysis in subsection (B), based on the adopted air plans of the Air District, as described above. Going further, Staff (like the City) satisfied the subsection (A) "list" requirement separately by considering the SFERP impact in the context of other significant and related past, present, and future resources. Staff did not just list these sources; it actually modeled the major sources (including power plant sources) with an air dispersion model to determine worst case cumulative effect. (Exh. 46, p. 4.1-28.) Staff is unaware of other lead agencies that use dispersion models to actually measure combined project effects.

Perhaps most importantly, the *conclusion* of the cumulative analysis was that the impacts of the project are, at least for PM10 and PM2.5, cumulatively significant, and therefore require mitigation. Thus, even if Staff had relied solely on the "list of future projects" approach for its analysis, the failure to include in such an analysis a particular project is completely irrelevant because it could not have changed the conclusion regarding impact. The impact was determined to be significant, and mitigation identified proportionate to the impact, as required by the CEQA Guidelines.

In addition, the City's witness, after reviewing the extensive list of projects from the list referred to in the Southern Waterfront EIR, testified that even if he added all of the impacts from the list to the dispersion modeling already performed, they made only slight changes to the impact result, and did not change any of his conclusions about either the overall magnitude or significance of the impact. (May 31 RT 32-34.) Moreover, the City witness testified that it had relied in its analysis on the Air District's inventory of current and foreseeable future projects. (May 22 RT 230, 285, 287.)

9. Staff's Public Health testimony included an elaborate cumulative toxic risk analysis.

Sarvey's testimony states that "applicant refuses to do a cumulative impact assessment or cumulative toxic health risk assessment on the impacts to the minority low income community." (Exh. 74, p. 8.) In fact, the City testified at length on its cumulative analysis. (May 31 RT 73-113.) More important, the Staff did an elaborate cumulative analysis using the latest cumulative impact tool, the HARP program, using dispersion modeling to examine local cumulative toxic impacts and the extent to which SFERP would contribute to them. That testimony and analysis is described under **Public Health,** below.

III. PUBLIC HEALTH

Public Health examines the public health risks associated with construction and operation of the SFERP project. These include any health risks associated with toxic emissions from the project, including the cumulative risk posed by such toxics.

The project area is zoned industrial, and is surrounded by predominantly industrial uses. (Exh. 46, p. 4.7-2.) Some residential units are nevertheless within the industrial area; the nearest is approximately 1600 feet from the project site. (*Ibid*.) In 2003, cancer risk from all pollutant sources measured at the Arkansas Street monitoring station was 134 in one million. (*Id*., at p. 4.7-4.) For comparison, lifetime cancer risk for the average individual in the United States is approximately one in four (or 250,000 in one million). (Exh. 46, p. 4.7-4.) From 1990 to 2005,

toxic substance cancer risk in the Bay Area was reduced by half, largely because of reductions in toxic mobile emissions, and particularly diesel emissions. (May 31 RT 84-85.)

Other than diesel emissions, the major toxic substances that contribute to local area cancer risk are the pollutants 1.3 butadiene, benzene, and formaldehyde; like diesel emissions, these emissions come principally from mobile sources such as cars and trucks. (Exh. 46, p. 4.7-4; May 31 RT 94.) CEQA "significance" for project cancer risk is considered to be 10 in one million by most agencies, including the Air District. (Exh. 46, p. 4.7-9.) Such a threshold is consistent with Proposition 65 requirements, but is more conservative inasmuch as Proposition 65 significance is for *each* cancer causing substance, whereas Staff (and the Air District) would consider an impact significant where the *additive* effect of all substances exceeded the threshold. (*Ibid.*)

Construction impacts result in dust and PM2.5 diesel emissions. Staff has proposed extensive mitigation measures for such impacts under Air Quality. The use of extensive fugitive dust control measures required by Staff's proposed conditions will result in a 90 percent reduction of emissions. (Exh. 46, p. 4.7-11.) Staff-proposed conditions for ultra low sulfur diesel, Tier 1 or 2 Emissions Standards for construction equipment, and the requirement of oxidation catalysts and soot filters on all diesel equipment will greatly reduce toxic emissions (including diesel exhaust) from construction equipment during the construction period. (*Ibid.*) These measures reduce particulate matter from equipment by 85 to 92 percent, thereby avoiding any significant construction health impacts. (*Id.*, at p. 4.7-12.)

Health risk from operational impacts of SFERP were calculated in accordance with the very conservative Office of Environmental Health Hazard Assessment Toxic Hot Spots Program Risk Assessment Guidelines, which are designed to overestimate impacts. (Exh. 46, p. 4.7-12, 15-16; May 31 RT 80-81.) The City's calculations indicate that SFERP will impose a minimal health risk even at the point of maximum impact (which was east of the project over the San Francisco Bay). The individual cancer risk was calculated to be 0.046 in one million; chronic noncancer risk is 0.002 (where 1.0 is the significance threshold); acute noncancer risk is 0.03 (where the significance threshold is 1.0). (Exh. 46, p. 4.7-16 [Table 5].) This risk is from all

potential "pathways," including inhalation, skin absorption, soil ingestion, consumption of local food, and mother's milk. (Exh. 46, p. 4.7-16.)

Staff did its calculations using the newest modeling tool, the HARP program. This produced a different point of maximum impact (in the project "laydown" area between the project and the Bay) and very slightly higher calculated risk numbers (e.g., 0.073 in one million for individual cancer risk). (Exh. 45, p. 4.7-16.) However, risk at the nearest residential occupancy was much lower—0.0014 in one million. (*Ibid*.) A majority of the Staff's calculated risk actually derives from the cooling tower emissions, which may reflect the Staff's different calculation for the point of maximum impact. (*Ibid.*) In any case, all calculations indicated that the worst-case projected impacts are far below any applicable threshold of public health significance, even considering the most sensitive members of the public and minority populations. (*Ibid*.)

HARP was developed by CARB as a tool to improve cumulative health risk calculations, particularly for use in an "environmental justice" context to assess such effects on communities that have a multiplicity of airborne toxic sources. Staff's use of the HARP modeling tool to examine cumulative local impacts may be the first agency use of this tool for CEQA cumulative analysis. In the past, the Air District and other agencies have examined such impacts and concluded that toxic impacts from stationary sources tend to be very localized and are only cumulative when such sources are quite close to each other. (Exh. 46, p. 4.7-21.) HARP modeling would seem to confirm that. Staff used HARP to model not only the nearby power plants at Potrero and Hunters Point, but also numerous other, smaller toxic emission point sources in the project vicinity. (May 22 RT 300-302.) These sources did not overlap with the impacts of SFERP, although in a few cases other proximate sources did overlap with each other. (*Ibid*.) But the HARP analysis is compelling evidence that the project will not result in any significant public health impact with regard to toxic emissions.

IV. LOCAL SYSTEM EFFECTS

"Local system effects" is a term used to describe various consequences associated with new electric generation projects, including such benefits as increased voltage support, reduction

in transmission line losses, greater system reliability, and increased operational flexibility. Staff presented its own witness and testimony on the topic, but also sponsored the testimony of the ISO's Larry Tobias, that agency's Senior Regional Transmission Engineer. (Exh. 50, Attach. 1.) The ISO is a State corporation created as part of the State's "deregulation" efforts in 1996. It is charged with maintaining the reliability of the ISO Controlled Grid, comprised of facilities and operational rights turned over to the ISO by the investor owned utilities and various municipalities. (Exh. 50, p. 4.)

Mr. Tobias's testimony describes the historical and political context of the ISO's San Francisco Action Plan. The City has for many years desired to see the closure of the Hunters Point Power Plant. In 1998, the City entered into an agreement with PG&E to close the plant as soon as it was released from its "reliability must run" ("RMR") contracts with the ISO. (*Id*., at p. 3.) In addition, the ISO Governing Board directed ISO staff to work with the City and interested stakeholders to accomplish this goal, which was later expanded to include termination of the RMR contracts with the Potrero Unit 3 power plant, and ultimately also the RMR contracts for Potrero Units 4, 5, and 6. (Exh. 50, p.3; May 1 RT 23.) The product of all this activity came to be known as the ISO-approved San Francisco Action Plan ("Action Plan"). Basically, the Action Plan is a list of the required transmission upgrades and generation additions that would be required on the San Francisco Peninsula in order to release Hunters Point and the Potrero Units from their RMR contracts. (Exh. 50, Attach. 2.)

The Action Plan provided for ten measures before the Hunters Point plant could be closed. (Exh. 50, Attach. 2.) This included eight transmission upgrades, the new Jefferson-Martin 230 kV transmission line, and the retrofit of Potrero Unit 3 with SCR. (*Ibid*.) These steps have all been recently accomplished, and Hunters Point is now closed. Release from the RMR contract for Potrero Unit 3 requires four more transmission upgrades, plus the installation of four new peaker combustion turbines, three of which are the SFERP project. (*Ibid*.) The fourth turbine will be sited near the San Francisco International Airport. (*Id*., at p. 24.)

SFERP is an essential part of the Action Plan because the ISO has determined that there must be reliable generation within the City itself, north of the Martin substation. (Exh. 50, p. 3;

May 1 RT 24-25.) San Francisco is served by what is essentially a radial transmission system coming up the peninsula, making it particularly vulnerable to outages in that transmission system; adequate generation is thus required locally to protect the system (*Ibid*.) Specifically, three of the combustion turbines must be sited north of the Martin substation to achieve the minimal level of acceptable reliability. (May 1 RT 24-25.) SFERP would accomplish this. The fourth combustion turbine is also essential, but may be located south of the Martin substation at the airport. (*Ibid*.)

The ISO considered location alternatives for SFERP, including the placement of the project at the airport. (May 1 RT 44.) Both Mr. Tobias and the Staff witness rejected the possibility that the Potrero RMRs could be terminated if, instead of SFERP, all four combustion turbines were sited at the airport. (May 1 RT 44-46.) Such an alternative would be subject to the transmission bottleneck at the Martin substation; even if a new transmission line were built from Martin substation to Potrero substation, the radial transmission line vulnerability would still fail to meet reliability concerns. (*Ibid.*) A direct line from the power plants to Potrero would not avoid this problem, but would have the additional problem of potential overloading of the 115 kV cable system in the city with this new infusion of power. (May 1 RT 46.) In other words, the ISO has examined these alternatives and found them ineffective in providing necessary reliability for San Francisco; three of the combustion turbines must be north of the Martin substation, as will be the case with SFERP.[8]

The other potential alternative, the proposed Trans Bay Cable, will be an important additional step for providing reliability on the San Francisco Peninsula (May 1 RT 45); however, it is not really an alternative to SFERP. With Trans Bay Cable but no SFERP, the RMR contracts with the Potrero units would have to be maintained to achieve ISO standards for reliability. (May 1 RT 25-26, 58.)

[8] CARE's submittal of 2004 transcript testimony of a Pacific Gas & Electric witness in the Jefferson-Martin proceeding (Exh. 59) is inapposite. That testimony by its own terms addressed reliability only for the year 2006 (Exh. 59, RT 395-396; 469), and did not consider the Action Plan goal of closing the Potrero units, and how consequent in-city reliability issues would be addressed if such closure occurred. It in no way contradicts the ISO testimony and is simply irrelevant to any actual issue.

In other words, SFERP is necessary for the Action Plan to result in the removal of the RMR contracts for the Potrero units. Ending the RMR contracts will not force the Potrero units to cease operation. However, these units are old, less efficient, and less reliable, making their continued operation without the RMR revenue source unlikely. And there are additional problems for Potrero Unit 3, such as the recent ultimatum from the Regional Board that Mirant must establish that the unit's once-through cooling system is not adversely affecting the San Francisco Bay before it can renew its NPDES permit in 2008. The additional minor transmission projects necessary to end the RMR contracts when SFERP is built are foreseeable in the near future; one is in progress and the other three are scheduled for next year. (Exh. 50, Attach. 2.) All these facts make the closure of the Potrero units reasonably foreseeable, but only *if* SFERP is licensed and built.

V. HAZARDOUS MATERIALS

This topic considers whether the project's use, storage, or handling of hazardous materials may cause significant impacts to the public. (Exh. 46, p. 4.4-1.) If such potential hazards are found to exist, Staff then proposes (for Commission adoption) facility design alternatives or other appropriate measures to reduce such impacts to the extent feasible. (*Ibid.*)

Construction and operation will necessitate the use of various common hazardous materials, including lubricating oils, corrosion inhibitors, gasoline, diesel fuel, solvents, paint, paint thinner, natural gas, and sulfuric acid. (*Id*., at p. 4.4-2.) Staff determines the potential for impact significance for public exposure by using the most current acceptable public health exposure levels set to protect the public. (*Id*., at p. 4.4-6.) This includes consideration of the most vulnerable members of the population, including the young, the elderly, and those with medical conditions making them more sensitive to exposure. (*Ibid*.) Staff also considers the choice of the type of materials that will be used, how they will be transported, and the quantity that will be stored. (*Ibid*.) Staff considers both the engineering controls for safely storing and handling the materials, as well as the administrative controls (handling, use, and storage rules, as well as training) that workers are required to follow to prevent accidents, or to minimize impacts if there are material spills. (*Ibid.*)

For its review staff followed these steps: 1) listed all the chemicals proposed for on-site use; 2) determined those which are used in such small amounts (or for other reasons) that there is no chance of a spill migrating offsite, and removed them from further consideration; 3) examined measures, both administrative (e.g., worker training) and in the form of engineering controls (e.g., shut-off valves); 4) evaluated the proposed response to accidents; and 5) analyzed theoretical worst-case spills to determine whether such measures are adequate, and proposed additional mitigation where necessary. (*Ibid.*) Staff also analyzed transportation risks for aqueous ammonia, and did a computer- modeled cumulative impact assessment for other nearby sites that store hazardous materials.

Staff identified two hazardous materials that merited the further analysis involved in 3), 4), and 5) above—natural gas and aqueous ammonia. (Exh. 46, p. 4.4-8.) Staff concluded that existing LORS for pipeline construction and operation are sufficient to prevent impacts from natural gas (which is supplied to rather than stored at the facility), and that no additional mitigation is required. (*Id.*, at p. 4.4-11.) Thus, the only hazardous material that created concern for significance is aqueous ammonia, a material used by the facility's SCR (air pollution control) system.

As the name suggests, aqueous ammonia is in liquid form. The solution to be used at SFERP will be 29 percent ammonia. It should not be confused with anhydrous ammonia, which is a gas vapor that, when accidentally released, enters the atmosphere under pressure and can result in significant danger to nearby receptors. If spilled, aqueous ammonia can lead to significant downwind concentration of ammonia due to evaporation of the ammonia fumes. (Exh. 46, p. 4.4-11, 12.) But it is a much less dangerous material to store than anhydrous ammonia. (*Ibid*.) SFERP will have a 12,000 gallon above-ground storage tank, which will contain no more than 10,000 gallons of aqueous ammonia. (*Ibid*.)

There are four "benchmark" concentration levels for ammonia: 1) the lowest level concentration that can cause death is 2000 ppm; 2) the "immediately dangerous to life and health" level is 300 ppm; 3) the Emergency Response Planning Guideline (level 2), used by U.S. EPA and California, is 150 ppm; and 4) the level considered by Staff to be the threshold of

significance for a one-time exposure is 75 ppm. (Exh. 46, p. 4.4-12.) In other words, if a spill will result in a potential exposure of a public receptor exceeding 75 ppm, Staff will generally conclude that this exposure is a significant impact, although this may be qualified by factors such as the likelihood or extent of the potential exposure. (*Ibid.*)

Both City and Staff modeled a worst-case spill condition of all 10,000 gallons of the ammonia tank contents, assuming a high temperature (97 degrees Fahrenheit) and wind Stability F conditions. (Exh. 46, p. 4.4-12, 13.) This scenario also assumed that the 24-inch drain to the subsurface vault was blocked, greatly increasing the surface area of the spilled ammonia giving off vaporized ammonia. (*Ibid*.) Even with this drastic scenario, the City's SLAB air dispersion modeling indicated exposure to ammonia fumes would be below 75 ppm at the nearest possible point for a public receptor. (*Ibid*.) The same modeling indicated concentrations exceeding 2000 ppm near the ammonia tank, including an area extending 35 feet into the adjacent MUNI facility. However, *the City's modeled numbers did not include mitigation, including the covered containment basin.* (April 27 RT 198.)

The City also modeled—again without mitigation—the worst-case spill using the RMP Comp Program, as required by the San Francisco Department of Health. This model showed higher impacts (200 ppm up to 528 feet from the tank), but this model is considered a planning tool that makes general estimates, and is less accurate than the SLAB model. (Exh. 46, p. 4.4-12,13; April 27 RT 178.) In Staff's view, both of these models (SLAB and RMP Comp) are not really appropriate for this kind of modeling task. (April 27 RT 197.) Moreover, modeled impacts that do not include required mitigation, such as the underground containment sump, provide results which greatly over-estimate potential impacts. (April 27 RT 197-199.)

Staff used the two different modeling programs, HARP and SCREEN 3, to model two different accident scenarios: the worst-case tank release and release from a delivery truck during unloading. (Exh. 46, p. 4.4-13.) The models gave similar and consistent results. This included 95 ppm at the boundary to the MUNI facility (46 feet away), and 0.2 ppm at the nearest residence (1759 feet away). (*Ibid*.) Highest concentration levels modeled by both programs were 271 ppm 20 feet from the tank (HARP) and 127 ppm 30 feet from the tank (SCREEN 3).

(*Ibid.*) The truck loading accidental spill scenario indicated de minimis ammonia concentrations even at the maximum impact location. (*Ibid.*) At the MUNI fence line, the project boundary closest to the ammonia tank, ammonia concentrations in the worst-case spill could exceed 75 ppm for up to 13 feet beyond the boundary. (April 27 RT 198-199.) Staff does not consider this to be a significant impact because this area is not accessible to the public, because the City has committed to training MUNI workers regarding the issue, and because the City has agreed to employ ammonia spill sensors coupled with warning devices should a spill occur, that would warn workers on the MUNI property. (April 27 RT 207.)

Thus, no public off-site receptor could be exposed to ammonia concentrations exceeding 75 ppm, even in a worst-case catastrophic release scenario, and it is unlikely that residents nearby would be able to even smell ammonia from such a release. (*Ibid.*) Accordingly, Staff found the impact of a potential spill less than significant so long as the City provides a properly sized containment basin (covered sump) to collect any spill, as well as a variety of other basic measures already proposed by the City, including sensors connected to warning devices for the adjacent MUNI site, and administrative controls such as protective equipment and proper training. (Exh. 46, p. 4.4-17.)

Staff also examined the risk from transportation of aqueous ammonia. This included an examination of driver skill, the vehicle used for transport, accident rates, and accident outcomes. (Exh. 46, p. 4.4-19, 20.) Hazardous materials transport is already subject to extensive federal and State regulation that address driver competence, safe handling practices, and tank truck safety. (*Ibid.*) Tank trucks must meet federal Department of Transportation ("DOT") requirements and be "high integrity vehicles designed for hauling caustic materials such as ammonia," and Staff has proposed a condition (HAZ-6) requiring the use of such tankers. (*Ibid.*)

Analysis of federal data regarding accidents of vehicles carrying hazardous materials indicates that such accidents are relatively rare. (April 27 RT 171-174.) Staff also assessed accident rates using State and federal government data bases, and used its own Transportation Risk Assessment model to calculate the risk of an upset between the freeway and the SFERP site. (Exh 46, p. 4.4-20; April 27 RT 193-194.) The model indicated that such risk was

extremely low even using pessimistic assumptions, and was insignificant. (Exh. 46, p. 4.4-20.) From actual data Staff was unable to determine that even one person has ever actually died in an aqueous ammonia transport accident from the spillage of the material; the only known fatalities were from the trauma of the crash itself. (April 27 RT 195.) Looking at 16 years of comprehensive data, there has been only one accident in California that resulted in the release of aqueous ammonia; that spill released 500 gallons in Fremont, California in 1995. (April 27 RT 194-195.)

Using its new HARP modeling tool, Staff did an extensive cumulative impact assessment of other sites within one-half mile known to store hazardous materials, including the nearby Potrero Power plant. (Exh 46, p. 4.4-22, 23.) Modeled catastrophic releases of these various hazardous material locations did not overlap with that of SFERP's release, and thus had no cumulative effect. (April 27 RT 189-193; Exh. 46, p. 4.4-22, 23.) In addition, SFERP does not significantly contribute to the cumulative potential of public exposure to toxic materials, because even a direct exposure from a worst-case spill of ammonia would not result in a significant public health consequence.

Mr. Sarvey filed testimony[9] claiming that the City has a requirement that exposure to the public cannot exceed 35 ppm at the fence line; that the project impact will exceed 2000 ppm at the fence line; that Staff's analysis "considers only fatalities and not serious injuries"; that there is no "cumulative transportation risk assessment" for all hazardous materials that might be transported in southeast San Francisco; and that "the entire transportation route must be analyzed to avoid understating the probability of an accident. (Exh. 77, p. 1.)

Regarding the purported City regulation requiring 35 ppm for ammonia exposure, Sarvey filed an exhibit, not allowed into evidence because of the City's objection, that included the testimony of a City Department of Health witness who testified with regard to the Potrero Unit 7 power plant, a project that the City had opposed. (April 27 RT 213-215.) In that testimony in a different proceeding, the City witness had stated that the exposure level for ammonia "should"

[9] Mr. Sarvey claims no professional or educational expertise in this subject area, but neither Staff nor the City objected to his offer of testimony.

be set at 35 ppm, but made no mention of any City requirement to that effect. (April 27 RT 216.) No LORS of any kind was identified by Sarvey or by the disallowed Potrero Unit 7 testimony.

Regarding Sarvey's testimony that the project would result in 2000 ppm at the fence line, this statement was based on the City's modeling of impacts without mitigation, with outmoded or inappropriate modeling tools, and with regard to a "fence line" that is not accessible to the public. The testimony of both the City and Staff experts is that a worst case catastrophic release would not result in an excess of 75 ppm at any area accessible to the public. (Exh. 46, p. 4.4-13.) Impacts beyond MUNI fence line, which is close to the ammonia tank, would be above 75 ppm for only a few feet beyond that line.

Regarding Sarvey's statement that Staff "considers only fatalities and not serious injuries," the testimony is simply erroneous. Staff's testimony explicitly covered both, although it found no likelihood of either fatalities or serious injury as a result of aqueous ammonia use, handling, or transportation for the project.

Regarding the lack of a "cumulative transportation risk assessment," for all materials transported in southeast San Francisco, it is somewhat unclear what Mr. Sarvey thinks such an analysis should include. Every day in every urban community, there are countless deliveries to various facilities of materials that are hazardous. Every gasoline truck, every truck carrying chemicals or volatile substances (e.g, propane or natural gas) of any kind would presumably have to be assessed for risk to perform such a global and omniscient analysis. Staff's witness, Dr. Greenberg, described why the difficulties of such an analysis effectively render it infeasible, and not really germane to the risk posed by the materials relevant to SFERP. (April 27 RT 196.) Accidents involving hazardous material spill from DOT certified trucks are very rare, and have never happened with regard to a Commission-licensed facility. (*Ibid*.) Trying to calculate the cumulative risk of every gasoline truck and station, and of every hazardous material even down to every acetylene torch in the area, would be both extremely resource intensive and generally irrelevant to the risk of the materials (i.e., aqueous ammonia) transported to SFERP.

Sarvey's demand for risk analysis for "the entire transportation route" is similarly infeasible, and would add nothing of value to the analysis. The source of SFERP's aqueous ammonia has not yet been determined, such sources can often change (see April 27 RT 171-172), and the routes themselves are subject to change. What Staff did do is examine transportation risk based on accident rate data from numerous state and federal sources for all hazardous material transportation, which (a conservatism) includes vehicles that are not DOT certified. (Exh. 46, p. 4.4-19, 20; April 27 RT 193-194.) The risk of accident overall is small (*ibid*.), but virtually goes to zero when the concern is the transport of aqueous ammonia. (April 27 RT 194-195.) In addition, Staff specifically assessed the cumulative hazard of hazardous material delivery from the likely point of departure from the nearest freeway exit to the SFERP site. (Exh. 46, p. 4.4-20.) The risk is exceedingly low. (*Ibid*.)

Sarvey also proposed the use of urea pellets as an alternative to aqueous ammonia. Staff considered this alternative. (Exh. 46, p. 4.4-16,16.) Urea can be used with SCR as an alternative to aqueous ammonia. It has the advantage of low acute toxicity and does not pose inhalation health hazards. (*Ibid*.) However, it is a very new pollution control option with which there is limited experience, and has several reliability and cost disadvantages that are discussed in the Staff testimony. (*Ibid*.) Staff believes that the mitigation already proposed and agreed to by the City reduces any impact to a level that is less than significant, and therefore does not recommend the urea alternative.

Sarvey alternatively proposed that the aqueous ammonia be limited to a 20 percent ammonia solution, rather than the proposed 29 percent solution. The City's expert testified that the Offsite Consequence Analysis already indicates that a worst-case spill would not be a significant impact, and that use of 20 percent ammonia would only slightly lower this already less than significant risk. (April 27 RT 166.) In addition, a 20 percent solution would require higher quantities of the substance and additional deliveries, with no actual safety advantage to be gained. (April 27 RT 166-167.)

Sarvey's proposal for a double-walled ammonia tank was supported by neither Staff nor the City's witnesses. Since the Offsite Consequence Analysis assumes a worst-case spill of all

tank contents, its use would not change the calculated risk, which is already less than significant. (April 27 RT 170-171.) The City expert testified that he was unaware of such tanks being used for the above ground storage of ammonia. (*Ibid.*)

VI. WASTE MANAGEMENT/SOIL AND WATER RESOURCES

These normally separate topics are considered together because the issues raised by intervenors concern existing industrial pollution of the SFERP site, which is addressed under both topics. In addition, these topics concern the regulatory roles of both the Commission, as the CEQA lead agency, and the San Francisco Regional Water Quality Control Board ("Regional Board"), which has long since been designated as the State "administering agency" for the SFERP site investigation and clean-up.

The SFERP site is in a long-used San Francisco industrial area. Such sites are often called "brownfield sites," as they normally have been subjected in varying degree to toxic spills and other environmental contamination. A number of federal and state programs have been created to assess such sites and provide for their "clean up" (also called "remediation"). Particularly polluted sites are eligible for listing as federal or state "superfund" sites that are eligible for particular funds and subject to particular regulatory regimes. (See, e.g., 2 Selmi & Manaster, *Cal. Env. Law and Land Use Practice* (2004), §§ 50 *et seq.*, pp. 50-5 *et seq.*) The SFERP site is not so listed. However, even for sites with lesser degrees of pollution that are not "superfund" sites, remediation may be required by California law. (*Ibid.*)

The Legislature has declared that State policy should support the re-use of brownfield sites, and to find ways to make such re-use less problematic to potential developers who may be wary of assuming clean-up liability when they purchase such sites.[10] One set of laws

[10] In adopting amendments to the Unified Agency Review of Hazardous Materials Release Sites (Health & Saf. Code, §§ 25260 *et seq.*), the Legislature found and declared: "(a)(1) There are thousands of brownnfields and underutilized properties in California where redevelopment has been stymied due to real or perceived hazardous materials contamination. (2) Because of the reluctance of private developers, local governments, and schools to redevelop these urban properties, the location of new development tends to be at the edges of urban areas, because those areas are generally perceived to entail lesser potential for contamination and liability for cleanup costs. (3) This has resulted in a multitude of problems, including urban sprawl, decaying inner-city neighborhoods and schools, public health and environmental risks stemming from contaminated properties, reduced inner-city tax bases, and an increased need for major infrastructure improvements . . . to service the urban fringe areas while the inner-city infrastructure deteriorates. (4) One of the primary reasons that these urban properties are not redeveloped for

implementing the encouragement of brownfield re-use is the Unified Agency Review of Hazardous Release Sites. (Health & Saf. Code, § 25260 *et seq.*) This chapter in the Health and Safety Code was enacted in 1994 with the primary purpose of allowing the owners of a polluted site to have a single, Cal-EPA designated State "administering agency" that exercises all State and local authority with regard to "site investigation and remedial action." Prior to this statute, a landowner could be subject to several State and local jurisdictions regarding efforts to investigate and remediate a given property; such jurisdictions could include the Department of Toxic Substance Control ("DTSC"), regional water quality control boards, counties, municipalities, and sometimes other State agencies. The Unified Agency Review provisions concentrate all State and local authority in a singular "administering agency," which is either DTSC or the local regional water quality control board with jurisdiction in the area, depending on the nature of the pollution and the degree of previous involvement by the agencies. (Health & Saf. Code, § 25262(c).)

The Unified Agency Review provisions work as follows: First, a "responsible party" (i.e., a landowner or other person potentially liable under State or local law for investigation and cleanup of a "hazardous release site")[11] must submit a request to Cal-EPA's Site Designation Committee (a committee comprised of the Cal-EPA Secretary plus the heads of five Cal-EPA agencies) to designate an "administering agency." (Health & Saf. Code, § 25262(a).) Subject to certain conditions, the Site Designation Committee must then designate such an agency within 45 days. (*Ibid*.) Once so designated, the administering agency preempts the authority of all other State and local agencies for the purposes of site investigation and remedial action:

> (a) The administering agency for a hazardous materials release site shall supervise all aspects of a site investigation and remedial action conducted by the responsible party and, for that purpose, the remedial agency shall, notwithstanding any other provision of law . . . have sole jurisdiction over all activities that may be required to carry out a site investigation and remedial action necessary to respond to the hazardous materials release site. For the purpose of this chapter, the administering agency shall do all of the

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beneficial use is that potential redevelopers are hesitant to expend funds to determine whether a property is contaminated, and if so, how much it would cost to remediate the site . . . ." (Stats. 2000, c. 912 [S.B. 667], § 1.)

[11] A "hazardous materials release site" is defined as "any area, location, or facility where a hazardous material *has been released* or threatens to be released into the environment," with the exception of marine oil spills. (Health & Saf. Code, § 25260(e) [emphasis added].) Prior pollution of the property by hazardous materials makes SFERP such a site.

> following: (1) Administer all state and local laws, ordinances, regulations, and standards that are applicable to, and govern, the activities involved with the site investigation and remedial action at the site.(2) Determine the adequacy of site investigation and remedial action activities at the site and the extent to which the activities comply . . . with applicable state and local laws . . . . (Health & Saf. Code, § 25264(a).)

Such sweeping jurisdictional authority potentially conflicts with the Commission's broad preemptive authority for power plant siting in the Warren-Alquist Act. However, unlike the Commission, and unlike a typical "responsible agency" in a CEQA context, the designated administering agency's authority is not based on an application for a permit or other government approval. Rather than a permit, a "responsible party" is seeking a single government entity with which to deal with a polluted site problem, as well as a legal "safe harbor" for its remediation activities.[12] In any case, rather than attempting to insist on the supremacy of either agency's sweeping preemptive authority, the staffs of both the Commission and the Regional Board have worked cooperatively to make sure that requirements for both agency roles are satisfied.

The Cal-EPA Site Designation Committee designated the Regional Board as the Administering Agency on December 10, 1998. (Exh. 88, Appd. C.) The site subject to this designation is described as "the Former Western Pacific Property," approximately 30 acres of property west of Pier 80 in San Francisco County. (*Ibid*.) This piece of land, which consists of three separate parcels (one owned by MUNI for light rail maintenance and operations, one the four-acre project site, and the parcel to the east owned by the Port of San Francisco), was once used as a rail switchyard. (Exh. 88, p. 3.)

Prior to the site designation, site investigations for contamination of the Western Pacific Property had been conducted in 1987 and 1989; these investigations indicated pollution from total petroleum hydrocarbons ("TPH"), petroleum aromatic hydrocarbons ("PAH"), and certain metals. (Exh. 88, p. 5.) After the City acquired the property, investigations of the MUNI site were conducted by AGS in 1999 and Geomatrix in 2000, revealing TPH, PAH, arsenic and lead. (*Ibid*.) Chemicals in the groundwater included TPH, benzene, and naphthalene. (*Ibid*.) The risk

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[12] Although administering agencies do not grant permits, they may issue a "certificate of completion" when a responsible party completes an agency site investigation and remedial action to the agency's satisfaction. (Health & Saf. Code, § 25264(b).) The significance of such a certificate is that it provides a high degree of legal immunity from any action by other state and local agencies regarding site remediation. (Health & Saf. Code, § 25264(c).)

assessment for the MUNI site concluded that this contamination does not pose a risk to on-site or off-site receptors, and required merely the "capping" of the MUNI site with concrete and the creation of a Risk Management Plan ("RMP") and Site Management Plan ("SMP"). In addition, a covenant was placed in the deed of the MUNI site restricting the site's future use to industrial and restricting groundwater use. (*Ibid*.) In 2002 the City requested a certificate of completion from the Regional Board for the MUNI site that still has not been issued. (*Id.*, at p. 8.)

For the SFERP site, the City originally submitted the health risk assessment ("HRA") for the adjacent MUNI site from the 1999-2000 investigations of that site. Staff determined that the use of this HRA was inappropriate, as it was not specific to the SFERP site, used outdated methods that are inconsistent with current Cal-EPA requirements, and did not include all currently required data. (Exh. 46, p. 4.13-4.) Staff requested that the City provide site specific sampling (specific to the SFERP site itself), similar groundwater sampling, and a new HRA based on such sampling and using the Regional Board's 2005 Environmental Screening Levels ("ESL"). (*Id*. at p. 4.13-6) Staff also advocated preparation of a new Ecological Risk Assessment ("ERA") because of the project site's closer proximity to the Bay, high pollutant concentrations, and groundwater flow direction. (Exh. 46, p. 4.9-8.) The purpose of the ERA is to determine the impacts of *existing pollution* on the Bay, not to determine *project impact*. (*Id.* at p. 4.9-9) Thus, the ERA will help the Regional Board determine what remediation is required, but is not relevant to the Commission's statutory duty to disclose and mitigate project impacts.

Staff consulted with the Regional Board to confirm the appropriateness of this additional work, and the Regional Board staff held a meeting with Staff, DTSC, and the City to get agreement on a site "sampling and analysis plan" that was reviewed and revised by Staff and the Regional Board staff. (Exh. 46, p. 4.9-6.) Consistent with the sampling and analysis plan, the City then did 16 additional borings on the site, and collected soil, soil vapor, and groundwater samples. (Exh. 88, p. 8.) The site borings and sampling confirmed high TPH pollution levels, including bunker oil, some VOCs, arsenic, PAHs, and some asbestos, which may occur from serpentine soil used as fill. (Exh. 88, p. 9.) These are common pollutants for neighboring properties on the southeastern waterfront. (Exh. 88, p. 9; May 31 RT 24.)

City, Staff, and the Water Board staff have agreed on appropriate conditions of certification to protect public health, protect worker safety, and assess any existing effects of site pollution on the San Francisco Bay. The conditions have been crafted to meet the Staff's CEQA purposes of assessing and mitigating project impact, satisfying the requirements of the City's Maher ordinance regarding industrial site pollution, and satisfying the Regional Board's duties to investigate and remediate existing soil and groundwater pollution. The City and Staff proposed conditions to require:

1. **Human Health Risk Assessment ("HRA").** This will measure human health risk from the exposure of persons to chemicals from remediation activities (if required) and site construction (including risks to workers). The HRA will specify risk reduction measures to be taken. The HRA pertains to *project impacts*, principally from construction.

2. **Screening Level Ecological Risk Assessment ("ERA")**. The ERA will consider existing groundwater pollution and whether such pollution may be reaching and affecting the San Francisco Bay. The ERA, although it could indicate the need for site remediation requirements by the Regional Board, pertains to *existing pollution* rather than to project impacts subject to CEQA mitigation.

3. **Site Cleanup Plan ("SCP").** If the above analyses indicate that site remediation is required, the SCP will indicate the remedial measures to be taken. The SCP, which is a Regional Board-approved document, will include any necessary risk reduction measures indicated by the HRA to protect public health and worker safety. Rather than an SCP, the Regional Board may issue a "no further action letter" (Exh. 88, p. 10.) The kinds of mitigations generally required for remediation, should such remediation be necessary, have been identified and discussed in testimony by City, Staff, and Regional Board staff. These measures will include rigorous dust control (already in proposed conditions of certification), and may additionally include "hot spot" soil removal, ventilation of soil vapor, and pumping and treatment of polluted groundwater. (Exh. 49, pp. 2, 4-5; May 31 RT 15-16.)

4. **(Revised) Risk Management Plan ("RMP").** This plan governs soil and groundwater handling procedures.

5. **Site Management Plan ("SMP").** The SMP governs specific long-term management of the site, taking into account the SCP, ERA, and HRA, including ongoing mitigation requirements and procedures.

6. **Certification Report.** This is required by the City's Maher Ordinance, often referred to as Article 22A; it requires the results of the verification sampling analysis.

The purpose of the above-required analyses, reports, and plans is to provide comprehensive risk assessment and specific measures as required to protect public health and worker safety. They will include the Regional Board's requirements for any remediation activities regarding existing pollution. To protect public health during construction and for any required remediation activities, Staff proposed conservatively health-protective performance standards. (Waste-6 and Soil and Water-13.) The above documents must ensure that project construction and any required remediation will not result in a public health risk exceeding 1 in one million (cancer) and a 1.0 Hazard Index, and the workers will not be subject to greater than 1 in 100,000 (cancer) and 1.0 Hazard Index. (Exh. 49, p. 6.)

The Regional Board staff has agreed that the health protective standards proposed by Staff for CEQA mitigation are appropriate, and has agreed to implement them through the conditions of the Regional Board's SCP. (See May 31 RT 13.) The Staff's proposed performance standards for project CEQA mitigation are similar to the kinds of conditions used by the Regional Board, which also typically employs performance standards. (May 31 RT 5.) The Regional Board's supervising manager for toxic cleanup, Mr. Steven Hill, appeared at the May 31 evidentiary hearing to corroborate the above and answer Committee questions. (May 31 RT 12-19.) He also stated that the Regional Board staff and Commission Staff were in the process of developing a Memorandum of Understanding ("MOU") that would provide for Staff to have an advisory role when the Regional Board prescribes any future site remediation requirements.[13] (May 31 RT 19-20.) In this consultative role Staff is in a position to assure the implementation of measures that will meet the performance standards that protect public health and worker safety. (*Ibid*.)

CARE and Sarvey took issue with the above approach and the conditions that would implement it. They raised no issue with the Staff's proposed performance standards, no issue with the "menu" of various remediation measures that Staff described and the Regional Board staff confirmed, no issue with the Staff-proposed (and City-agreed to) conditions regarding the various documents, assessments, and analyses, and no issue with regard to the site sampling plan

[13] The staff-to-staff MOU has now been signed by the Staff directors of both agencies, and has been docketed and placed on the SFERP website.

(also called the site characterization study) that the two agency staffs approved and the City carried out. Rather, they questioned why they shouldn't receive the HRA, ERA, and SCP during the Commission's siting process, so that they could comment on these documents during this proceeding. (See, e.g., May 22 RT 91-92.)

The answer is that the documents feed into the Regional Board's "administering agency" role, and its authority to release the SCP—the document that determines site remediation requirements and procedure. When the HRA and ERA are finished they will be publicly available documents that CARE and Sarvey can comment on to the Regional Board before it approves the SCP. Even if the documents were available today, the comments would logically be directed to the Regional Board, as it is the agency with authority to set the requirements for site cleanup. The Regional Board's Mr. Hill described his agency's public process, and assured intervenors and the Commission that there will be ample opportunity for public comment on the HRA, ERA, and draft SCP. (See May 31 RT 9-12.)

To fulfill its CEQA role for disclosure of impact, Staff has proposed conditions that require the full panoply of documents the Regional Board will use. Staff has also urged execution of the site characterization study (site sampling plan) that included the specific site assessment for pollution. Based on this site characterization Staff testified concerning 1) the nature of the contamination on the site (Exh. 49, pp.2-3; May 22 RT 111-116), 2) the kinds of remediation ("menu" of measures) that could be required by the Regional Board to remediate the site, if such is determined to be necessary (Exh. 49, pp. 4-5; May 22 RT 106-107), 3) the dust control measures that will accompany site construction (Exh. 49, p. 4; May 22 RT 102-103), and 4) the performance-based health standards that are appropriate and feasible. (Exh. 49, pp. 4-6; May 22 RT 102-105.) To further assure that Regional Board SCP requirements are consistent with the Staff's performance standards, Staff has entered into the staff-to-staff MOU that allows it to collaborate with the Regional Board staff to assure the performance standards are properly observed. Staff testified that these conditions will prevent any significant impact to public health and worker safety. (Exh. 49, p. 5; May 22 RT 107, 116.)

The key to assessing the contamination, potential remediation measures, and the feasibility of the health-protective performance standards is the completed field sampling and analysis plan. Dr. Greenberg testified for Staff as to the thoroughness of the sampling (May 27 RT 127), and that with these results he could assess the seriousness of the contamination and the range of remediation measures that might be applicable. (May 22 RT 130.) The extent of the contamination has been determined with enough precision to propose a remedial action "menu." (*Ibid*.) He testified that the site did not present "anything unusual" for an industrial site of this kind, and listed the "menu" of mitigation measures that the Regional Board would consider. (May 22 RT 106-107, 136.) Based on Dr. Greenberg's experience with assessing more than 50 such sites, he testified unequivocally that his assessment of the site was not "speculative," but based on the specifics of the field sampling survey and the remedial measures that are customary for such contamination. (May 22 RT 136.) The Regional Board's Mr. Hill subsequently corroborated this assessment. (May 31 RT 13-16, 23-24.)

CARE and Sarvey, in their comments and cross-examination, questioned the impact of the effect of pollution at the site on the San Francisco Bay and its biology. Staff also believes that this issue should be addressed—by the Regional Board--and has for that reason proposed to require the ERA, which will determine whether existing pollution at the site is migrating off-site, through groundwater, to the Bay. (Exh. 46, p. 4.9-8, 9.) If the ERA indicates that the Bay is being affected, then the Regional Board will require, through the SCP, one or more the measures discussed by Staff from the "menu" of potential remediation practices. (May 22 RT 115.) However, what CARE and Sarvey do not seem to understand is that the effect, if any, of existing pollution on the Bay is not a *project impact* that the Commission can mitigate pursuant to CEQA.[14] Rather, any such pollution is an existing condition subject solely to the Regional Board's cleanup authority. (See May 22 RT 115; May 31 RT 131; Exh. 46, pp. 4.9-8, 9.) No evidence in the record supports a finding that the project would be the cause of such potential pollution.

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[14] Existing site pollution, and any resulting impact on the Bay, is part of the "environmental setting" that already exists, which is sometimes referred to as the "baseline" for assessing impacts. (CEQA Guidelines, § 15125(a).) In performing CEQA duties, agencies are required to compare project impacts against the "existing environment." (Remy & Thomas, *Guide to the California Enviornmental QualityAct*, 10th ed. [1999], p. 165.)

Mr. Sarvey also raised the issue of whether the failure to specifically sample the top six inches of soil was an oversight that would make sampling results incomplete. (May 22 RT 54-56.) This was addressed by the City's witnesses, who described why the sampling was complete, and why the top inches of soil are not the important measure of impacts from ground disturbance. (May 22 RT 75-76.) Staff's Dr. Greenberg subsequently explained that from his physical examination of the site, the top six inches is largely comprised of cement dust from the nearby cement plant, and that there would be no useful data to be gained from sampling such a surface; what is important is the subsurface information that was collected by the borings. (May 22 RT 120-121.)

VII. WORKER SAFETY AND FIRE PROTECTION

Worker safety is largely regulated through existing federal and State LORS that protect the health and safety of workers while in the workplace. (Exh 46, pp. 4.14-1 through 3.) Staff concluded that compliance with these laws and additional conditions of certification proposed by Staff will prevent any significant impact to worker safety, and that there will be no impacts from the project to fire protection. ((Exh. 46, p. 4.14-1.)

The issue raised by Mr. Sarvey during cross-examination was how workers will be protected from particulate matter during construction. (April 27 RT 142-145.) The Staff witness, Dr. Greenberg, explained that the extensive dust suppression requirements in the proposed Air Quality conditions of certification should reduce dust and particulate matter to levels that are not visible and that will not exceed 10 ug/m3, which is well below the Cal-OSHA standard for construction dust exposure. (April 27 RT 144.) At the first sign of a visible dust plume, the Air Quality Construction Mitigation Manager is required to respond by requiring additional dust suppression strategies to prevent any visible dust. (April 27 RT 145; Exh. 46, p. 4.1-24 [AQ-SC4].) These measures are expected to result in a 90 percent reduction of dust emissions. (Exh. 46, p. 4.7-11.)

Worker safety is likewise safeguarded by additional air quality construction requirements, including requirements in AQ-SC5 that diesel equipment use low sulfur fuel, that diesel engines used on-site meet specific emission requirements (CARB Tier 1 or Tier 2 off-road

emissions standards), that soot filters be required for diesel equipment, and that such equipment not be allowed to idle for more than five minutes. (Exh. 46, pp. 4.1-37, 38.) The measures reduce particulate matter from equipment by 85 to 92 percent, greatly reducing emissions inhaled by workers at the site. (*Id*., at p. 4.7-12.)

In addition, Staff's proposed conditions of certification will require the City to document that it has prepared various worker safety plans, including those otherwise required by state and federal law. (Exh. 46, p. 4.14, 15 [Worker Safety-1 and 2].) Staff's conditions provide that Staff must also approve the City's Construction Safety Supervisor, who must be trained and experienced in construction project safety, and who will be authorized to coordinate safety policies and programs, assure all safety plans are implemented, assure compliance with Cal-OSHA standards, and assure worker safety training. (Exh. 46, p. 4.14-15 [Worker Safety-3].) His work will in turn be checked and monitored by a Safety Monitor appointed by the Chief Building Official. (Exh. 46, p. 4.14-16 [Worker Safety-4].)

VIII. ALTERNATIVES

Two prior project proposals in San Francisco have elicited much interest and opposition, and much discussion of project alternatives. Staff has thus developed some cumulative experience with the issue, and this led to a rather encyclopedic discussion of project alternatives in the Staff testimony. The written testimony is 133 pages not counting several appendices. It covers all the traditional CEQA cornerstones for alternatives analysis: 1) description of project objectives; 2) possible project significant impacts; 3) screening criteria for alternatives feasibility; 4) discussion of a range of alternatives, including project location and the "no project" alternative; 5) explanation for why other possible alternatives were excluded from this evaluation; 6) evaluation of impacts from the reasonable range of alternatives and the "no project" alternative, and 7) identification of the environmentally superior alternative. (Exh. 46, p. 6-3.)

This analysis was thorough, and was not challenged or contradicted by other testimony or cross-examination. However, CARE offered testimony that it had previously submitted late for the topic of Local System Effects. The City objected strenuously to the CARE testimony on the

grounds that it is based on hearsay testimony offered in another proceeding by a (PG&E) witness who is unavailable for cross-examination in the current proceeding. Staff did not join in this objection because the testimony is so clearly insufficient for other reasons.[15]

The CARE testimony (Exh. 97) is remarkable: it is inexpert, incorrect, uninformed, and relies for its central thesis on irrelevant hearsay testimony that it conspicuously mischaracterizes. Though offered as expert testimony, CARE's witness has no professional training or expertise in the subject area. (May 31 RT 259-260.) Although the purported purpose of the testimony is to rebut the ISO testimony regarding the necessity that the three SFERP turbines be located in San Francisco, the witness was unfamiliar with the critical ISO testimony regarding why the turbines must be north of the Martin substation for reliability reasons. (May 31 RT 263.) He cited the hearsay testimony of a PG&E witness from another proceeding, but did not understand that the testimony in question was irrelevant to the issue he was addressing—whether SFERP's combustion turbines must be located in San Francisco if the Potrero units are to be released from their RMR contracts. (May 31 RT 265-267.) The PG&E testimony did not purport to address this issue, despite CARE's confused notions to the contrary.

Brief as it was, the testimony demonstrated further reckless indifference to facts. The stated reason for the witness's preference for siting the turbines at the airport site is that the airport site is far from neighborhoods, while the SFERP project is "next door" to residential neighborhoods. (Exh. 98, p.1.) Yet the testimony in the proceeding demonstrates that SFERP will have no significant impacts to nearby residential neighborhoods, that the project poses no health risks to such residents, that such residents are not "next door," and that the nearest residentially zoned area is approximately the same distance (0.75 miles) from the project (Exh. 46, p. 4.5-3) as the nearest residentially zoned neighborhood to the San Francisco airport alternative (0.80 miles). (May 31 RT 240.)

[15] Staff is uncertain as to whether the objection to Exhibit 98 (the transcript from the CPUC proceeding) was sustained or denied; both CARE and the City filed electronic discourse on the issue after the hearing. CARE's lament that the Commission should have subpoenaed the PG&E witness is misplaced; testimony so clearly irrelevant to the underlying topic provides no basis for such a subpoena.

IX. CONCLUSION

At least since the early 1990s planners have been wrestling with the issue of how to assure electricity reliability for the San Francisco peninsula. For an even longer period of time, local activists have urged the closure of the aging electric generating units in southeast San Francisco. Against all improbability, the desires of the activists and planners have been reconciled in the ISO's San Francisco Action Plan. The SFERP project is an essential piece of that Action Plan.

The Action Plan seeks to minimize in-City generation yet assure electric reliability. If SFERP (along with the airport project) is licensed and built, the Action Plan anticipates termination of the RMR contracts for the Mirant Potrero units. If, as seems foreseeable, this results in the closure of such units, local and regional air emissions will be reduced, as will the effects on marine habitat that result from Potrero Unit 3's reliance on Bay water for cooling.

The SFERP project has been thoroughly analyzed. It complies with all applicable LORS and has no significant environmental effects. The project has been assessed using the latest modeling tools and worst case assumptions to calculate potential health impacts, and both direct and cumulative increased risk is exceedingly low. The industrial site can be cleaned of its pollution using identified, commonly used, and well-understood measures that would be implemented while protecting worker safety and public health. There is certainly no environmental reason for not approving the project. There are sound environmental reasons for supporting its approval.

Dated: June 26, 2006

Richard C. Ratliff

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

APPLICATION FOR CERTIFICATION FOR THE SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

Docket No. 04-AFC-01
PROOF OF SERVICE
Revised 2/17/06

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I, Julie Mumme, declare that on June 26, 2006, I deposited copies of the attached **COMMISSION STAFF OPENING BRIEF** in the United States mail at Sacramento, California with first class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. I declare under penalty of perjury that the foregoing is true and correct.

Julie Mumme

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