Desert Citizens Against Pollution
P.O. Box 845 * Rosamond, CA 93560
661-510-3412

California Energy Commission
ATTN: Docket No. 08-AFC-9
1516 Ninth Street, MS-4
Sacramento CA, 95814-5512
docket@energy.state.ca.us

February 4, 2011

In the Matter of: **APPLICATION FOR CERTIFICATION FOR THE PALMDALE HYBRID POWER PROJECT**

Dear California Energy Commission,

Thank you for the opportunity to expand on our concerns regarding the Palmdale Power Plant, we appreciate the opportunity to participate in the California Energy Commission's public process. We have a number of concerns which we would like to examine during this process.

Greenhouse Gas Emissions

Staff's assessment of the projects compliance with greenhouse gas emissions fails because staff analysis concludes that the project will comply with the precedent set in previous decisions and other state and federal regulations related to greenhouse gas emissions. The project based on staffs own analysis and a proper application of Commissions, State and Federal Law clearly demonstrate the project's failure to meet these standards.

Staff's Assessment does not quantify the life cycle emissions of greenhouse gases from the extraction, transportation, and usage of the natural gas for the project. Due to the methane leakage from throughout the natural gas infrastructure (from extraction to pipelines to end uses), natural gas emissions are as bad or even far worse than coal over a 20 year time. CEQA requires a complete assessment of the projects impact on the environment and that includes the life cycle emission of natural gas.

Staff's Assessment fails to identify how all the greenhouse gas emissions will be mitigated from the project.

Air Pollution

Unfortunately Staff's mitigation proposal falls short of its intended goal of mitigating all of the proposed project's air emissions. Staff's conclusion that *"Use of ERCs from the SJVAPCD to mitigate the facility oxides of nitrogen (NOX) and volatile organic compounds (VOC) emission contributions to existing violation of ozone air quality standards would comply with LORS, if sufficient ERCs are obtained and approved by both air agencies."*

Appendix S of 40 CFR 51 requires a demonstration of positive net air quality benefit from trading air pollution. The applicant is providing ERCs located over 75 miles away from the proposed power plant, those ERCs are from the San Joaquin Valley. To determine the effectiveness of the offsets locally, staff looked to the rules and regulations established by the SJVAPCD, which is responsible for protecting air quality in the San Joaquin Valley. According to SJVAPCD Rule, emission reductions from a neighboring air district at a distance of less than 50 miles would be effective at a ratio of 1.5-to-1.

Staff misunderstands SJVAPCD Rule 2201. The distance ratio applied in SJVAPCD rules applies to offsets that originate in the SJAPCD and are used in the SJAPCD. Out-of-district ERCs may be used only where the Air Pollution Control Officer has reviewed the permit conditions and certified that the offsets meet Health and Safety Code section 40709.6 and both the California Air Resources Board and the USEPA (if the offsets are to be used to meet federal requirements) have approved of the use of the ERCs. No such approval has occurred.

Health and Safety Code section 40709.6(a) allows the use of ERCs from an air district in a different air basin than where the emissions occur only if the following conditions are met: (1) the stationary source to which the emission reductions are credited is located in an upwind district that is classified as being in a worse nonattainment status than the downwind district, and (2) the stationary source at which there are emission increases to be offset is located in a downwind district that is *overwhelmingly impacted* by emissions transported from the upwind district." The Antelope Valley air basin is not overwhelmingly impacted by emissions from the San Joaquin Valley air basin, it is overwhelmingly impacted by pollution from the South Coast air basin (FSA pg 4.1-11).

SJVAPCD rules require that offsets only be obtained from regions that have a nonattainment classification equal to or higher than the project area. (SJVUAPCD 2201,§ 4.13.10.1.) AVAPCD is in a better non-attainment status, compared to the SJVUAPCD, for all pollutants. Therefore, if the project was truly evaluated in accordance with the California Health and Safety Code no credit for the ERCs offered from the SJVUAPCD would be allowed.

Staff seems to think that the future attainment status for the federal one hour ozone standard will be that the basin will achieve attainment and that no mitigation will be required. However, we see nothing in the record to support that assumption, and that is a huge assumption given the controversy over the lack of required offsets for this project. Staff would need to do some analysis to support this conclusion.

It is very important for the projects emissions to be completely mitigated. The project area is straight upwind from thousands of homes and over a dozen schools. These schools are all underperforming under the "No Child Left Behind Act", and are populated with predominantely minority students. As well, there is not capacity at other performing schools in the district for the children to attend. Increases in air pollution will have a negative affect on the health of these students leading to missed school days. School attendance is crucial to school performance and the achievement of educational milestones. These issues were not examined in the final staff assessment.

As well, all ERCs generated to offset air pollution impacts must be enforceable, permanent, surplus, and real. Road paving is not a permanent activity, yet this is one of the mitigation measures proposed to offset the particulate emissions from the facility, despite the fact that the majority of the particulate emissions from the plant are PM 2.5 and ultrafine emissions, not PM 10, which are the emission reductions claimed for road paving by project proponents. We join the Center for Biological Diversity in their arguments on the substantive issues surrounding the staff's proposal that road paving can be mitigation for power plant emissions. We also endorse the testimony of their expert, Gregory Tholen.

Moreover, ERCs used to mitigate air pollution in a given area need to make the air quality better and be contemporaneous, meaning that the day the power plant starts to operate in the Antelope Valley the air is to get cleaner, not dirtier. Using ERCs from over 75 miles away from the source which were due to reductions which happened years in the past does not meet these requirements. We can see no where when staff has made the analysis to underpin this statutory requirement.

Cumulative Impacts

Staff's cumulative analysis does not provide a true picture of the project area. The analysis fails to consider all the increase in air pollution from the many solar projects proposed and in the permitting queue in the Antelope Valley, nor the proposed new cyanide heap leach gold mine, the Soledad Project, which has already been granted a CUP from Kern County. All of these projects will have a huge impact on air pollution in the air basin.

Moreover, staff's cumulative analysis and health impact analysis fails to consider the new document on cumulative impacts just completed by CALEPA. This document outlines minimal requirements which any cumulative impacts analysis should have, and is specifically directed at state agencies performing cumulative impact analysis.

Ammonia Emissions

The CEC Staff did not perform an air quality analysis for the PHPP Project to examine the potential formation of secondary Particulate Matter from the ammonia slip. The CEC Staff instead states that it mitigates the projects ammonia emissions by limiting the ammonia slip. That does not quantify or mitigate the potential formation of secondary PM 2.5 from the projects ammonia emissions. Ammonia is a known precursor emission for secondary particulate matter formation. Staff does not even bother to quantify the secondary particulate formation must less mitigate the ammonia emissions. Staff must provide mitigation for the secondary particulate formation from the ammonia emissions since by their own testimony all precursor emissions must be mitigated to avoid contributing to air quality deterioration.

Transmission Lines

Staff has a lengthy discussion of transmission line alternative in the FSA, some underground, some above ground. Staff is proposing to certify more than one route, the applicant is objecting to the underground route because of conflicts with existing underground infrastructure which may be incompatible with underground electric lines. It is still not clear what route the transmission lines would take, and given those routes, what the construction impacts of those lines would be as well as the impacts on traffic. In the traffic study which was just posted today, we see no discussion of the impact that this construction would have on traffic or public safety due to changes in traffic patterns during construction. Highway 138 is still one of the most dangerous roads in the state and the construction of power lines traversing that highway would need to be examined for its impact on the already very high traffic fatality rates for Highway 138. Since changes are being made to the conditions and routes for the transmission lines still, it is difficult for intervenors to examine and comment on what the impacts will be of the construction and operation of the proposed transmission lines.

"Energy Commission regulations require staff to notice, at a minimum,property owners within 1.000 feet of the a project and 500 feet of a linear facility (such as transmission lines, gas lines, and water lines). This was done for the PHPP project." How can this be the case when the record shows that the final transmission line route is still not decided?

Purpose of Project

"*The project would provide base and peak load and ancillary power services designed to meet electric generation demand and reliability requirements in the City of Palmdale and surrounding local areas….." (page 3-1, FSA)*

Of all government entities, the California Energy Commission knows that it is not possible for this project to do that. Under state law, the power generated by this project must be loaded onto the grid. The burden of the pollution from this facility will be borne largely by people of color who live in the eastern portions of Lancaster and Palmdale and they will receive none of the benefits. Their electric bills will not go down, and there is no contractual arrangement by which they will be guaranteed power during brown/black outs preferentially, because they have allowed a power plant to be sited in their backyard. It is the Public Utilities Commission (PUC) which sets the rates for power, not the City of Palmdale, and it is the ISO who will decide who homes remain dark if power shortages occur.

Moreover, the truth of the matter is that the electricity from this plant is not needed to ensure local or even regional reliability now or at anytime in the forseeable future. According to the ISO, the load center served by this power plant has plenty of power and is projected to have plenty of power for a least another decade, even with a recovering economy and rising population.

So, we are not sure what the purpose of the project is, but is not the purpose as stated in the Final Staff Assessment.

Airport Impacts

The proposed power plant is right next to an existing airport and next to land that has been proposed for a new international airport for many years. Pilots are often told of the hazards of flying near power plants, and indeed the CEC denied the permit for the Eastshore plant because it was 1 mile from an airport. This plant is right next to where the U2, the B2, and other important planes vital to our national defense land and take off. We are appending the expert testimony in the Eastshore plant to our testimony to bring the staff's and Commissioner's attention to this important issue.

Public Health

The public health analysis relies on outdated notions of the impact of pollution exposure to people. The National Academy of Sciences has issued guidance on how risk assessments should be performed especially when environmental justice populations and children and affected. This is just such a case.

The elderly and children need special protections from pollution, even pollution which is offset. The impact of the emissions from this plant on the health and well being of the children and elderly living downwind of the plant needs to be analyzed if a finding that no more mitigation of the public health impacts needs to occur. Staff has not presented evidence that such an analysis has taken place.

The Office of Environmental Health Hazard Assessment has just published a list of toxicity endpoints which need investigation before a pollutant could be deemed safe for exposure. If information on those toxic endpoints is not available, then the safety of the exposure to that pollutant cannot be determined. This document is attached..

Thank you for the opportunity to have input into this process.

Sincerely,

Jane Williams, Director
Desert Citizens Against Pollution
Feb 4, 2001

6. Always consider canceling or delaying a flight if weather conditions do not support a safe operation.

c. If you haven't already developed a set of Standard Operating Procedures for cold weather operations, they should include:

1. Procedures based on information that is applicable to the aircraft operated, such as AFM limitations and procedures;

2. Concise and easy to understand guidance that outlines best operational practices;

3. A systematic procedure for recognizing, evaluating and addressing the associated icing risk, and offer clear guidance to mitigate this risk;

4. An aid (such as a checklist or reference cards) that is readily available during normal day−to−day aircraft operations.

d. There are several sources for guidance relating to airframe icing, including:

1. http://aircrafticing.grc.nasa.gov/index.html

2. http://www.ibac.org/is−bao/isbao.htm

3. http://www.natasafety1st.org/bus_deice.htm

4. Advisory Circular (AC) 91−74, Pilot Guide, Flight in Icing Conditions.

5. AC 135−17, Pilot Guide Small Aircraft Ground Deicing.

6. AC 135−9, FAR Part 135 Icing Limitations.

7. AC 120−60, Ground Deicing and Anti−icing Program.

8. AC 135−16, Ground Deicing and Anti−icing Training and Checking.

The FAA Approved Deicing Program Updates is published annually as a Flight Standards Information Bulletin for Air Transportation and contains detailed information on deicing and anti−icing procedures and holdover times. It may be accessed at the following web site by selecting the current year's information bulletins:

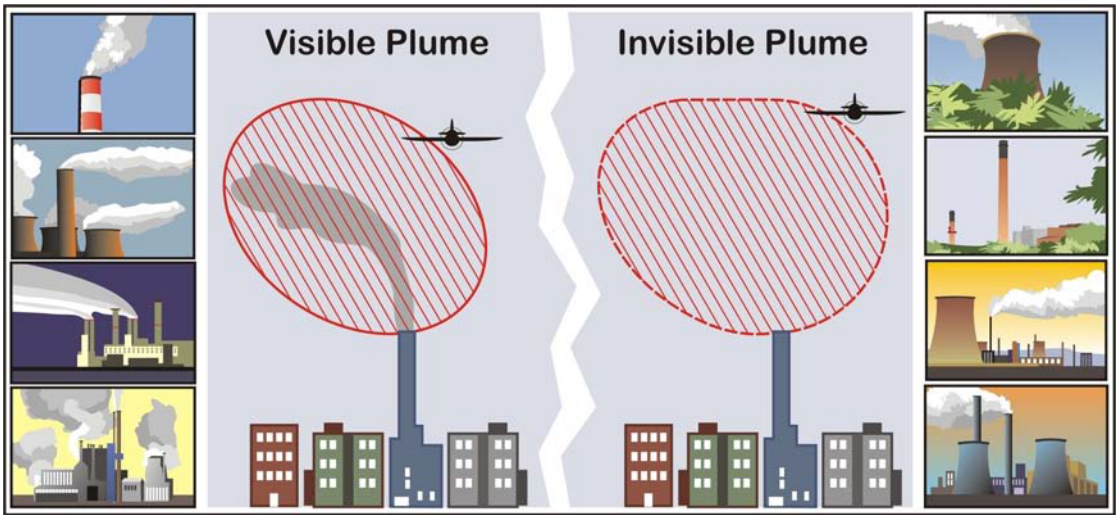
http://www.faa.gov/library/manuals/examiners_inspectors/8400/fsat

7−5−15. Avoid Flight in the Vicinity of Thermal Plumes (Smoke Stacks and Cooling Towers)

a. Flight Hazards Exist Around Thermal Plumes. Thermal plumes are defined as visible or invisible emissions from power plants, industrial production facilities, or other industrial systems that release large amounts of vertically directed unstable gases. High temperature exhaust plumes may cause significant air disturbances such as turbulence and vertical shear. Other identified potential hazards include, but are not necessarily limited to, reduced visibility, oxygen depletion, engine particulate contamination, exposure to gaseous oxides, and/or icing. Results of encountering a plume may include airframe damage, aircraft upset, and/or engine damage/failure. These hazards are most critical during low altitude flight, especially during takeoff and landing.

b. When able, a pilot should fly upwind of possible thermal plumes. When a plume is visible via smoke or a condensation cloud, remain clear and realize a plume may have both visible and invisible characteristics. Exhaust stacks without visible plumes may still be in full operation, and airspace in the vicinity should be treated with caution. As with mountain wave turbulence or clear air turbulence, an invisible plume may be encountered unexpectedly. Cooling towers, power plant stacks, exhaust fans, and other ismilar structures are depicted in FIG 7−5−2. Whether plumes are visible or invisible, the total extent of their unstable air is difficult to ascertain. FAA studies are underway to further characterize the effects of thermal plumes as exhaust effluents. Until the results of these studies are known and possible changes to rules and policy are identified and/or published, pilots are encouraged to exercise caution when flying in the vicinity of thermal plumes. Pilots are encouraged to reference the Airport/Facility Directory where amplifying notes may caution pilots and identify the location of structure(s) emitting thermal plumes.

FIG 7–5–2
Plumes



GREEN CHEMISTRY
HAZARD TRAITS, ENDPOINTS, AND OTHER RELEVANT DATA

PRE-REGULATORY DRAFT
FOR DISCUSSION PURPOSES ONLY

OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

AUGUST 10, 2010

This is a pre-regulatory proposal that is being published for stakeholder discussion and public comment. It may change significantly prior to any formal regulatory proceeding.

These draft regulations would be added to the regulations currently being proposed by the Department of Toxic Substances Control (DTSC) for the Green Chemistry Program. The Office of Environmental Health Hazard Assessment (OEHHA) and DTSC are working collaboratively on these proposed regulations in order to ensure that they are compatible with the regulations and process DTSC has already developed for the Green Chemistry Program.

OEHHA is required by SB 509 (Simitian, 2007) to evaluate and specify the hazard traits and environmental and toxicological end-points and any other relevant data that are to be included in the clearinghouse. The office shall conduct this evaluation in consultation with DTSC and all appropriate state agencies, after one or more public workshops, and an opportunity for all interested parties to comment. The office may seek information from other states, the federal government, and other nations in developing this information.

OEHHA has conducted three public workshops related to hazard traits and endpoints and has conducted significant research into existing definitions, endpoints and other relevant information in the development of this draft regulation. Many of the provisions of this draft regulation are taken directly from working definitions and methodologies used by well-respected scientific organizations such as the World Health Organization's International Agency for Research on Cancer and the National Toxicology Program.

CONTENTS

Proposed for Title 22, California Code of Regulations

1. **Preamble** – This section was adopted by the Office of Environmental Health Hazard Assessment under the authority of Health and Safety Code section 25252(b)(1). This regulation will facilitate the implementation of the Green Chemistry Program by specifying hazard traits, environmental and toxicological endpoints and other relevant data to be included in the Toxics Information Clearinghouse that will be created by the Department as required by Health and Safety Code section 25256.

2. **Definitions – for purposes of this Section only:**
    a. "Adverse effect" means a biochemical change, functional impairment, or pathologic lesion that negatively affects the performance of the whole organism, or reduces an organism's ability to respond to an additional environmental challenge.
    b. "Adverse environmental effect" means a significant change that negatively affects an ecosystem or ecosystem component at the system, community, assemblage, population, species, or individual level.
    c. "Authoritative organization" means a state, national, international or non-governmental entity whose scientific findings on the safety, risks or hazards of chemical agents are relied upon by state, national and international governments and their supporting public health and environmental entities in regulating or otherwise protecting human health or the environment from threats posed by those chemical agents. Organizations that satisfy the definition of "authoritative organization" are the following:
        i. OEHHA, DTSC and other State of California Boards, Departments, Offices or Agencies
        ii. The National Academy of Sciences, including the National Research Council and the Institute of Medicine
        iii. Departments or Agencies of the United States federal government, including but not limited to: the Consumer Product Safety Commission, Environmental Protection Agency, Food and Drug Administration, National Toxicology Program, National Institute of

Environmental Health Sciences, National Institutes of Health, National Institute of Occupational Safety and Health, the Occupational Safety and Health Administration, and the Department of Transportation.

iv. Canadian government agencies including Environment Canada and Health Canada
v. Governmental bodies within the European Union, including the European Chemicals Agency
vi. World Health Organization, including the International Agency for Research on Cancer
vii. The United Nations and organizations within the United Nation.

d. A “chemical substance” is a chemical, chemical compound, a chemical mixture, elemental material, particulate matter or fiber, or radioactive agent; its metabolites or degradation by-products.
e. A “Class One” chemical is identified as having a specific hazard trait when there is a strong body of evidence indicating that the chemical substance has the specific toxicological hazard trait. Methods for identifying chemicals as having a Class One hazard trait can be found in subsection 4(a).
f. A “Class Two” chemical is identified as having a hazard trait when there is a lesser body of evidence than for a specific Class One identification. Methods for identifying chemicals as having a Class Two hazard trait can be found in subsection 4(B).
g. “Department” or “DTSC” means the Department of Toxic Substances Control.
h. “Document” is a report, memo, list or other written material released in paper or electronic form.
i. “Environmental endpoints” are measured or otherwise observed adverse environmental effects in ecological systems, or components of ecological systems, or non-human organisms within ecological systems.
j. “Exposure potential characteristic” means an inherent property of a chemical substance that contributes to the likelihood of significant human or environmental exposure, in general or in scenarios that can be used to estimate exposures in specific situations.
k. “Hazard traits” are properties of chemicals that fall into broad categories of toxicity, adverse environmental effects, physical hazards, or exposure potential characteristics.
l. “Mechanistic similarity” means that a chemical substance acts on a biological system in a manner similar to other chemicals that induce toxicological or environmental effects associated with a specific hazard trait.

m. "Not Classifiable" means that there is insufficient scientific evidence available to classify a chemical as having a "Class One" or "Class Two" hazard trait.
n. "OEHHA" means the Office of Environmental Health Hazard Assessment within the California Environmental Protection Agency
o. "Other relevant data" means chemical, physical, biochemical or other data indicative of one or more hazard traits.
p. "Toxicological endpoints" are those measured or otherwise observed adverse effects in biological systems that may indicate the presence of one or more hazard traits.
q. "Well conducted scientific studies" means studies published in the open literature or submitted to a local, state, national or international government agency, using methods and analyses which are scientifically valid according to generally accepted principles
r. "Wildlife" means all non-human undomesticated animals present in the environment.

3. **Specific Hazard Traits, and Endpoints and Other Relevant Data** – Hazard traits are defined in this subsection within the following groupings: Toxicological (human health) hazards, environmental hazards, exposure potential hazards and physical hazards. A specific chemical substance may be identified as having a specific hazard trait of Class One,or Class Two type, or there may be inadequate information on the chemical available to make an identification, in which case the chemical would be viewed as not classifiable. Criteria for assigning a chemical substance a Class One or Class Two designation for a specific hazard trait are set out in subsection 4.

    a. Toxicological hazard traits – these hazard traits affect human health. These include, but are not limited to the following:

        i. Carcinogenicity
            1. The carcinogenicity hazard trait is defined as the occurrence of increased incidence, reduced latency, or increased severity or multiplicity in neoplasia following exposure to a chemical substance.
            2. Endpoints include, but are not limited to those indicating malignant and benign neoplasia of alimentary, cardiovascular,

endocrine, genital, hematopoietic, integumentary, musculoskeletal, nervous, respiratory, special senses, and urinary systems as well as any other systemic neoplastic lesions observed in human or animal studies.

3. Other relevant carcinogenicity data includes but are not limited to: data on mechanisms of carcinogenesis such as exposure-related modifications to the physiology or response of cells, tissues and organs (e.g., mitogenesis, compensatory cell division, hyperplasia) or in the signaling pathways used by cells to manage critical processes related to increased risk for cancer; changes in key cellular structures at the molecular level such as mutation and other genotoxicity endpoints; epigenetic changes associated with increased cancer risk; structural similarity to other chemicals with the carcinogenicity hazard trait.

ii. Cardiovascular toxicity

1. The cardiovascular toxicity hazard trait is defined as the occurrence of adverse effects on the structure or function of the heart or the vascular system following exposure to a chemical substance.
2. Cardiovascular toxicity endpoints include but are not limited to those indicating: structural effects associated with necrosis, degeneration, proliferation, or inflammation of the heart or vasculature, damage to the blood vessel walls that may result in lesions leading to atherosclerosis or hypertension; functional effects including adverse changes in the ability of the cardiovascular system to maintain homeostasis, supply appropriate nutrients, metabolites, respiratory gases, or hormones, or in its ability to remove waste products or foreign material, changes in rhythmicity or contractility of the heart, hypo- or hyper- tension, impaired ability to regulate tissue pH or body temperature; vascular effects including alteration of vascular reactivity or vessel dilation or contraction.
3. Other relevant cardiovascular toxicity data include but are not limited to: in vitro measures of cardiovascular toxicity such as cytotoxicity to isolated vascular endothelial cells; structural or

mechanistic similarity to other chemicals with the cardiovascular toxicity hazard trait.

iii. Dermatotoxicity

1. The dermatotoxicity hazard trait is defined as the occurrence of adverse effects on the structure or function of the skin including its barrier properties and its ability to maintain heat, fluid, or electrolyte homeostasis following exposure to a chemical substance.
2. Endpoints include but are not limited to those indicating: systemic reactions, allergic sensitization, allergic reactions, acute or subacute irritation, or photosensitivity.
3. Other relevant dermatotoxicity data include, but are not limited to: in vitro measures of dermatotoxicity such as toxicity to isolated skin or skin cells; and structural or mechanistic similarity to other chemicals with the dermatotoxicity hazard trait.

iv. Developmental toxicity

1. The developmental toxicity hazard trait is defined as the occurrence of adverse effects on the structure or function of the developing organism following exposure to a chemical substance. Developmental toxicity can result from an exposure of either parent that occurs prior to conception, during prenatal development, or postnatally before the time of sexual maturation.
2. Endpoints for developmental toxicity include but are not limited to those indicating: death of the developing organism, structural abnormality, altered growth, functional deficiency or other adverse effect on the developing organism. These observations in animals or humans can be manifested at any point in the lifespan of the organism or its offspring.
3. Other relevant data include but are not limited to: mechanistic data at the molecular level such as genotoxicity or epigenetic toxicity, or at the cellular, organ, or organism level; structural or mechanistic similarity to other chemicals with the developmental toxicity hazard trait.

v. Endocrine toxicity
    1. The endocrine toxicity hazard trait is defined as the occurrence of adverse effects following exposure to a chemical substance on the structure or function of the endocrine system (often referred to as endocrine disruption), and includes metabolic syndrome.
    2. Endocrine toxicity endpoints include but are not limited to those indicating: observations of adverse effects on endocrine organs; adverse perturbations of the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body that are responsible for the maintenance of homeostasis, metabolism, reproduction, development or behavior; any other interactions with hormone receptors or receptor processes to mimic, enhance or inhibit action of a natural hormone on the target organ system.
    3. Other relevant data include but are not limited to: binding of a chemical substance or its metabolites to hormones or hormonal receptors or inhibition of hormone synthesis in silico or in vitro experimental models; induction of hormone metabolic enzymes; structural or mechanistic similarity to other endocrine toxicants.

vi. Epigenetic toxicity
    1. The epigenetic toxicity hazard trait is defined as heritable changes in gene expression or gene function that do not involve changes in the DNA sequence, following exposure to a chemical substance.
    2. Epigenetic toxicity endpoints include, but are not limited to those indicating: toxicity in humans or animals associated with epigenetic mechanisms such as chemically induced DNA methylation, histone modification, nucleosome remodeling, or non-coding RNA. Chemically induced epigenetic endpoints may be observed in an exposed individual or its offspring.
    3. Other relevant epigenetic toxicity data include but are not limited to: in vitro or other data indicative of chemically induced DNA methylation, histone modification, nucleosome remodeling, non-coding RNA or other epigenetic mechanisms;

structural or mechanistic similarity to other epigenetic toxicants.

vii. Genotoxicity

1. The genotoxicity hazard trait is defined as the occurrence of a substance-induced change, heritable at the cellular level, to the DNA sequence following exposure to a chemical substance.
2. Genotoxicity endpoints include but are not limited to those indicating: DNA strand breaks, mutations in genes, chromosomal aberrations, sister chromatid exchange, aneuploidy, or polyploidy in humans, animals, or cell lines.
3. Other relevant data include but are not limited to: data on DNA adduct formation, protein-adduct formation; structural similarity to other genotoxicants; electrophilic potential.

viii. Immunotoxicity

1. Immunotoxicity is defined as adverse effects on the components or function of the immune system following exposure to a chemical substance.
2. Endpoints include but are not limited to: allergic sensitization such as anaphylactic hypersensitivity, antibody-dependent cytotoxic hypersensitivity, complex mediated hypersensitivity, or delayed type hypersensitivity; changes in immune cell numbers such as leukocytopenia, leukocytosis, granulocytopenia, granulocytosis, lymphopenia, or lymphocytosis; suppression or enhancement of the immune response; changes in specific immunoglobulins with no obvious explanation; changes in immune organ weights; and initiation or exacerbation of auto immunity.
3. Other relevant immunotoxicity data include but are not limited to: altered immune function following neurosensitization, mechanisms of heightened immune response due to high chemical reactivity/antigenicity; changes in number or behavior of specific classes of regulatory effector cells.

ix. Hematotoxicity

1. The hematotoxicity hazard trait is defined as the occurrence of adverse effects on blood or blood forming tissues following exposure to a chemical substance.
2. Hematotoxicity endpoints include, but are not limited to those indicating: alterations in the number, types or lifetime of circulating blood cells; decrease in the oxygen transporting capacity of hemoglobin; increase or decrease in blood clotting activity resulting from interference in platelet response or function or other causes.
3. Other relevant data include but are not limited to: in vitro measures of toxicity in isolated blood cells or blood forming tissues; structural or mechanistic similarity to other hematotoxicants.

x. Hepatotoxicity and digestive system toxicity

1. The hepatotoxicity and digestive system toxicity hazard trait is defined as the occurrence of adverse effects on the structure or function of the liver, gall bladder, and gastrointestinal tract following exposure to a chemical substance.
2. Endpoints include, but are not limited to those indicating: liver damage, hepatitis, cholestasis, vascular changes, and steatosis, gall bladder disease, and inflammation or hyperplasia of the gastrointestinal epithelium
3. Other relevant hepatotoxicity and gastrointestinal toxicity data include but are not limited to those indicating: possible liver damage, excretion of pro-inflammatory cytokines, induction of xenobiotic metabolizing enzymes or generation of reactive metabolites; disruption of glucose or glycogen metabolism; impaired or unbalanced serum protein production; structural or mechanistic similarity to other chemicals with this hazard trait.

xi. Musculoskeletal toxicity

1. The musculoskeletal toxicity hazard trait is defined as the occurrence of adverse effects on the structure or function of the musculoskeletal system, including bones, muscles,

cartilage, tendons, ligaments, joints and connective tissue following exposure to a chemical substance.

2. Musculoskeletal toxicity endpoints include but are not limited to those indicating: arthritis, decreased joint movement; changes in mineral content of bone; osteomalacia; osteoporosis bone malformation or other skeletal growth disorders; abnormal bone mass or density indices; tooth loss; fibromyalgia; adverse muscle or neuromuscular function.
3. Other relevant musculoskeletal toxicity data include but are not limited to: in vitro observations indicative of musculoskeletal toxicity; structural or mechanistic similarity to other chemicals with the musculoskeletal toxicity hazard trait.

xii. Nephrotoxicity and other toxicity to the urinary system

1. The nephrotoxicity hazard trait is defined as adverse effects on the structure or function of the kidney and components of the urinary system following exposure to a chemical substance.
2. Endpoints for evaluating nephrotoxicity or other toxicity to the urinary system include, but are not limited to those indicating: abnormal urine volume or chemistry; alterations in glomerular filtration rate or tubular re-absorptive capacity; pathological changes to the kidney; formation of calculi in the ureter or bladder; muscular or epithelial damage in the urinary bladder.
3. Other relevant renal toxicity data include, but are not limited to: outcomes of in vitro tests for nephrotoxicity; structural or mechanistic similarity to other chemicals with the nephrotoxicity hazard trait.

xiii. Neurotoxicity

1. The neurotoxicity hazard trait is defined as the occurrence of adverse effects on the components or function of the central or peripheral nervous system following exposure to a chemical substance. Function includes neurochemical, neurophysiological, or behavioral effects.
2. Endpoints include, but are not limited to those indicating: pathological changes in the central or peripheral nervous systems; abnormal electrical activity of the central or

peripheral nervous systems, altered neurochemical synthesis, storage, secretion and uptake, impairments in neuromuscular control, mood disorders; behavioral changes; impaired cognition.

3. Other relevant neurotoxicity data include but are not limited to: in vitro indicators of neurotoxicity in isolated nervous system cells; structural or mechanistic similarity to other neurotoxicant.

xiv. Ocular toxicity

1. The ocular toxicity hazard trait is defined as adverse changes to the components or function of the visual system following exposure to a chemical substance.
2. Endpoints include but are not limited to those indicating: iris, conjunctival, lens or corneal damage; abnormal reaction to light; damage to the eye lids or nictitating membranes; functional or structural damage to the retina; damage to or induction of functional abnormalities to the ocular portions of the central nervous system.
3. Other relevant ocular toxicity data include, but are not limited to physicochemical properties such a as pH and chemical reactivity; data on dermal irritancy or corrosivity; structural or mechanistic similarity to other chemicals with the ocular toxicity hazard trait.

xv. Ototoxicity

1. The ototoxicity hazard trait is defined as the occurrence of adverse effects on the structure or function of the inner ear or the vestibulo-cochlear nerve, which could result in temporary or permanent disturbances of hearing, balance, or both following exposure to a chemical substance.
2. Endpoints include, but are not limited to those indicating: hearing impairment; abnormal balance; changes to cellular components of the inner ear; change in auditory response or electrical activity in the auditory areas of the brain.
3. Other relevant data include but are not limited to: in vitro indications of ototoxicity; structural or mechanistic similarity to other chemicals with the ototoxicity hazard trait.

xvi. Reactivity in biological systems

1. The reactivity in biological systems hazard trait is defined as the occurrence of rapid reactions with molecules in the body that lead to alterations in critical molecular function and ultimately adverse health outcomes.
2. Endpoints include, but are not limited to those adverse health effects resulting from covalent binding or oxidation of cellular macromolecules, generation of reactive oxygen species or oxidative stress, or catalytic generation of hydroxyl radicals.
3. Other relevant data include but are not limited to measurements of covalent binding to or oxidation of DNA, lipids or proteins, and detection of reactive species in cell culture.

xvii. Reproductive toxicity

1. The reproductive toxicity hazard trait is defined as the occurrence of adverse effects on the reproductive system or function of females or males following exposure to a chemical substance.
2. Endpoints of reproductive toxicity include but are not limited to those indicating: adverse alterations to the female or male reproductive organs, the related endocrine system, pregnancy outcomes, adverse effects on onset of puberty, gamete production and transport, reproductive cycle normality, sexual behavior, fertility, gestation, parturition, lactation, developmental toxicity, premature reproductive senescence, or other modifications that compromise the integrity of the reproductive system or function in animals or humans.
3. Other relevant data include but are not limited to: data on endocrine disruption, genotoxicity, in vitro measures of the capacity of a chemical to damage the function or structure of germ cells such as sperm or oocytes or cells critical for reproductive function such as Sertoli and Leydig cells in males; structural or mechanistic similarity to other reproductive toxicants.

xviii. Respiratory toxicity

1. The respiratory toxicity hazard trait is defined as an adverse change in the structure or function of the respiratory tract following exposure to a chemical substance, including respiratory tract injury or decreasing the ability of the lungs to function in gas exchange.
2. Endpoints include but are not limited to those indicating: irritation of the respiratory epithelium; pathological changes to the airway or other lung structures; airways hyper-reactivity; altered lung function; asthma; airways remodeling; increased respiratory infections.
3. Other relevant data include but are not limited to: In vitro evidence for respiratory toxicity such as increased inflammatory cytokine expression in airway cells; particle size distribution inclusive of respirable particles, fibrous nature; long half-life in the lung; chemical reactivity; redox potential; structural or mechanistic similarity to other respiratory toxicant.

b. Environmental Hazard Traits – these hazard traits affect the environment. These include, but are not limited to the following:

i. Wildlife survival impairment

1. The wildlife survival impairment hazard trait is defined as the occurrence of increased incidence of death, disease or other biological impairment, following exposure to a chemical substance that significantly decreases the potential for wildlife survival in the environment.
2. Endpoints include, but are not limited to those indicating: death, endpoints of toxicity listed for the toxicological hazard traits above, non-specific toxicity, behavioral impacts, or increased disease susceptibility observed in experimental or field studies.
3. Other relevant survival impairment data include but are not limited to: mechanistic or structural similarity to other chemicals that impair wildlife survival; mechanistic data listed for toxicological hazard traits above, or correlative data from field studies linking chemical exposure with community- or

ecosystem-level impacts, loss of biodiversity including genetic diversity, or impacts on endangered or threatened species.

ii. Wildlife reproductive impairment
    1. The wildlife reproductive impairment hazard trait is defined as the occurrence of adverse effects on the reproductive system or sexual function of wildlife following exposure to a chemical substance that may reduce reproductive capacity in the environment.
    2. Endpoints include, but are not limited to those indicating: reductions in production of vitellogenin, gamete maturation, physiological or behavioral impacts on mating or spawning, fecundity, viable offspring or parental caretaking observed in animal or field studies; induction of abnormal sex ratios or appearance of unexpected intersexual anatomical or behavioral characteristics in the laboratory or in a wild population.
    3. Other relevant reproductive impairment data include but are not limited to: mechanistic or structural similarity to other chemicals that impair wildlife reproduction; exposure related perturbations of the hypothalamic–pituitary–gonadal axis; agonism of the aryl hydrocarbon receptor; binding or disruption of the function of the estrogen or androgen receptors; toxicogenomic responses associated with reproductive impairment, or related data as described under the reproductive or endocrine toxicological hazard traits above. Correlative data from field studies linking exposure to a chemical substance with reductions in animal reproduction are also considered relevant.

iii. Wildlife developmental impairment
    1. The wildlife developmental impairment hazard trait is defined as the occurrence of adverse effects on the structure or function of the developing organism following exposure to a chemical substance.
    2. Endpoints include, but are not limited to those indicating: exposure related abnormalities in body form, metamorphosis,

behavior (hyperventilation, atypical locomotion) or morphometrics (e.g., weight, length).

3. Other relevant developmental impairment data include but are not limited to: mechanistic or structural similarity to other chemicals that impair wildlife development; data on mechanisms of mammalian developmental toxicity (described above) or those specific to nonmammalian wildlife (e.g., signaling control of metamorphosis).

iv. Wildlife growth impairment

1. The wildlife growth impairment hazard trait is defined as the occurrence of adverse changes in absolute growth, proportional growth (e.g., organ to body ratio) or growth rate following exposure to a chemical substance.
2. Endpoints include, but are not limited to those indicating: abnormalities in length, weight (body or organ), condition index, body surface area or growth rate observed in animals.
3. Other relevant growth impairment data includes but are not limited to: mechanistic or structural similarity to other chemicals that impair wildlife growth; mechanistically based markers of data on growth retardation.

v. Non-target phytotoxicity

1. The non-target phytotoxicity hazard trait is defined as unwanted detrimental deviations from the normal pattern of appearance, growth, or function of plants following exposure to a chemical substance. The phytotoxic response may occur during germination, growth, differentiation, or maturation of plants, and may be of a temporary or long-term nature.
2. Endpoints include, but are not limited to those indicating: adverse effects on growth habit, yield, or quality of plants or their commodities.
3. Other relevant phytotoxicity impairment data include but are not limited to: mechanistic or structural similarity to other phytotoxicants.

vi. Loss of genetic diversity, including biodiversity
    1. The loss of genetic diversity hazard trait is defined as adverse change in the genetic make-up of a species, community, assemblage or ecosystem following exposure to a chemical substance
    2. Endpoints include, but are not limited to those indicating: changes in the locational distribution of species, or the genetic make-up of resident populations of individual species.
    3. Other relevant data include but are not limited to: in silico predictions of changes in genetic diversity; high species specific acute toxicity.

vii. Eutrophication
    1. The eutrophication hazard trait is defined as the occurrence, following a chemical substance release, of excessive plant growth in water bodies resulting from excessive plant nutrients that stimulate excessive plant growth.
    2. Endpoints include, but are not limited to those indicating: low dissolved oxygen content, or hypoxia.

c. Exposure potential hazard traits

i. Ambient ozone formation
    1. The ambient ozone formation hazard trait is defined as the capacity for chemicals such as volatile organic compounds and oxides of nitrogen to generate photochemical smog and ozone and other oxidants indoors.
    2. A chemical's propensity to form ozone can be indicated by photochemical and other reactivity to form ozone and other oxidants. A chemical substance has this hazard trait if it or its breakdown products meets the definition of photoreactivity as determined by the Air Resources Board protocol.

ii. Bioaccumulation
    1. The bioaccumulation hazard trait is defined as the propensity for an agent to be sequestered in organisms or parts of an

organism following exposure. The concentration of the agent is greater in the organism than in its surrounding environment.

2. A substance has this hazard trait if it, its metabolite or environmental degradation product has a bioaccumulation factor greater than 2000, a log octanol water coefficient greater than or equal to 4, has been shown to bioaccumulate in animal or human tissues, or when it inhibits an efflux transporter.

iii. Environmental persistence

1. The environmental persistence hazard trait is defined as the propensity for a substance to exist in the environment for a long time period subsequent to its release.
2. A chemical substance has this hazard trait if it, or its environmental degradation product has the following half-lives in the environment: marine water – greater than 60 days; fresh or estuary water – greater than 40 days; marine sediment – greater than 180 days; ambient air – greater than 2 days; soil – greater than 6 months.

iv. Global warming potential

1. The global warming potential hazard trait is defined as the propensity to be a greenhouse gas, that is, to absorb infra-red radiation in the atmosphere, and thereby contribute to the general warming of the planet.
2. Criteria and methods used by the California Air Resources Board to identify greenhouse gases will be used to evaluate this hazard trait.

v. Lactational or transplacental transfer

1. The lactational or transplacental transfer hazard trait is defined as the ability of a chemical substance to transfer from the mother's tissues into breast milk or across the placenta.
2. A chemical's propensity for lactational or transplacental transfer can be indicated by studies measuring the chemical substance in mother's milk or crossing the placenta into fetal circulation, or by physical-chemical properties associated with movement into mother's milk or across the placenta.

vi. Mobility in environmental media
    1. The mobility in environmental media hazard trait is defined as the capacity of a chemical substance for rapid movement in the environment.
    2. A chemical substance has this trait if rapid or broad environmental mobility has been reported in the scientific literature, if it is volatile, water soluble, or possesses other physico-chemical characteristics predisposing to ease of movement through environmental compartments such as air, water, and soil.

vii. Particle size or fiber dimension
    1. The particle size or fiber dimension hazard trait is the existence of a chemical substance in the form of nano-, ultrafine, fine or respirable particles or fibers or the propensity for it to form into such small-sized particles or fibers with use or environmental release.
    2. A chemical substance has this hazard trait if it is in particle form in the respirable size range (less than or equal to 10 micrometers in mass median aerodynamic diameter (MMAD)), in the fine particle size range (less than or equal to 2.5 micrometers MMAD), in the ultrafine or nanoparticle size range (less than or equal to 0.1 micrometers in MMAD), or exists as a fiber with at least a 3:1 aspect ratio and a diameter less than or equal to 3 micrometers.
    3. Other relevant data related to this hazard trait include but are not limited to: particle size distribution, surface area, aspect ratio, surface coatings, and surface charge.

viii. Persistence in biota
    1. The biopersistence hazard trait is defined as the propensity for a substance to exist in the biota (including humans) for a long time period subsequent to its release.
    2. Chemicals that have the following half-lives are considered biopersistent: humans – greater than one month; other species – greater than 0.1% of their lifespan.

ix. Stratospheric ozone depletion potential
    1. This hazard trait is defined as the capacity for a chemical substance to deplete stratospheric ozone, and thereby contribute to higher levels of ultraviolet B radiation reaching the earth's surface.
    2. Any chemical substance or its environmental degradation product has this hazard trait if it is characterized as such by the California Air Resources Board or the United States.

x. Toxic environmental transformation
    1. The toxic environmental transformation hazard trait is defined as the potential for a chemical substance to be transformed environmentally to a form that is more toxic or more persistent.
    2. A chemical substance has this hazard trait if such transformations are observed in the field or laboratory or reliably predicted through structure activity analyses.

d. Physical hazard traits – these hazard traits may affect human health or the environment. These include, but are not limited to the following:

i. Explosivity
    1. The explosivity hazard trait is defined as a hazard that results from chemical reaction that produces gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.
    2. Chemicals substances that have this hazard trait are those materials meeting the criteria for being defined or otherwise classified as explosive, pyrotechnic, or organic peroxide substances or mixtures by the U.S. Department of Transportation.

ii. Flammability
    1. The flammability hazard trait is defined as hazards due to substances that ignite under certain conditions, causing burns or fire.
    2. Chemicals substances that have this hazard trait are those materials meeting the criteria for being defined or otherwise classified as flammable gases, aerosols, liquids, solids, pyrophoric liquids, pyrophoric solids, self-heating material, substances or mixtures which, in contact with water, emit flammable gases, or organic peroxides by the U.S.

Department of Transportation.

iii. Nanomaterial hazard trait
    1. The nanomaterial hazard trait is defined as hazards due to a chemical substance having greater toxicity when in nanoparticle form than in bulk form.
    2. Nanoparticles or nanosized fibers, that are particles that are 100 nm or less in any dimension, or would be defined as nanoparticles according to section 3.c.vi, may have this trait.

iv. Oxidization
    1. The oxidization hazard trait is defined as hazards due to substances that, generally by yielding oxygen, cause, or contribute to, the combustion of other material.
    2. Chemical substances that have this hazard trait are those materials meeting the criteria for being defined or otherwise classified as an oxidizer by the U.S. Department of Transportation.

v. Self-reactive substances and mixtures
    1. The self-reactive hazard trait is defined as hazards due to thermally unstable liquid or solid substances or mixtures liable to undergo a strongly exothermic decomposition even without participation of oxygen (air).
    2. Chemicals substances that have this hazard trait are those meeting the criteria for being defined or otherwise classified as having such properties by the U.S. Department of Transportation.

vi. Radioactivity
    1. The radioactivity hazard trait is defined as hazards due radioactive decay.
    2. Chemical substances have this hazard trait if they are radioactive elements or isotopes or if they contain radioactive elements or isotopes.

4. **Sources and methodologies for identifying toxicological and environmental hazard traits** – The following sources or methodologies shall be used to identify and classify the hazard traits of specific chemical substances.

    a. A chemical substance has a specific Class One hazard trait if one or more of the following apply:
        i. A document of an authoritative organization identifies or otherwise indicates that the chemical substance, or its metabolite or environmental degradation product poses a hazard trait as defined in subsection 3.
            1. The document must either discuss studies that identify the hazard, use studies identifying this hazard as a basis for a hazard identification, dose-response assessment or risk assessment, or include the chemical substance, its metabolite or environmental degradation product on a list of substances identified or regulated based on a hazard trait as defined in subsection 3.
        ii. At the request of DTSC, OEHHA may determine whether or not a chemical substance, its metabolite or environmental degradation product has a Class One hazard trait, except for carcinogenicity. developmental or reproductive toxicity, based on the weight of the available scientific evidence, including data suggesting lack of effect, from:
            1. well conducted scientific studies that show exposure to the chemical substance, metabolite or environmental degradation product induces a toxicological endpoint or endpoints for the hazard trait; and
            2. other relevant data from well conducted scientific studies.
            3. In the event the chemical substance has insufficient scientific evidence to make this determination, OEHHA may determine whether or not the chemical has the related Class Two hazard trait, or whether the chemical should be considered not classifiable.

    b. A chemical substance has a specific Class Two hazard trait, if it does not meet the criteria for Class One in subsection 4(a) above, but one or more of the following apply:

i. A document of an authoritative organization identifies the chemical substance, its metabolite or environmental degradation product as possibly having one or more of the hazards defined in subsection 3, and discusses well-conducted studies supporting the possibility that the chemical substance possesses the hazard trait.
ii. At the request of DTSC, OEHHA may determine that a specific chemical substance, its metabolite or environmental degradation product poses the Class Two hazard trait, based on the weight of the evidence, including scientific data indicating lack of effect, from:
    1. a well conducted scientific study that indicates exposure induces a toxicological endpoint or endpoints for this hazard trait, and
    2. other relevant data from well conducted scientific studies.
    3. In the event the chemical substance has insufficient scientific evidence to make this determination, the chemical shall be considered not classifiable.

c. For purposes of this section, a chemical substance is classified as a Class One Hazard Trait for carcinogenicity if one or more of the following apply to the chemical substance, its metabolite or environmental degradation product:
    i. It is known to the state to cause cancer under Title 27 California Code of Regulations, section 27001 (Proposition 65).
    ii. It is identified by the U.S. Environmental Protection Agency as being “Carcinogenic to Humans” or “Likely to Be Carcinogenic to Humans” or has been classified as a Group A, B1 or B2 carcinogen.
    iii. It is classified in Group 1, 2A or 2B by the International Agency for Research on Cancer.
    iv. It is identified as a carcinogen under the California Toxic Air Contaminant or Public Health Goal programs.
    v. It is classified as “known to be” or “reasonably anticipated to be” a human carcinogen by the U.S. National Toxicology Program.
    vi. It is identified or otherwise recognized as a known or potential carcinogen in a report by the National Academy of Sciences’ National Research Council or Institute of Medicine.
    vii. It is otherwise recognized as a known or potential carcinogen by California, other states, the United States or other nations.

d. A chemical substance has a Class Two hazard trait for Carcinogenicity if it does not meet the criteria in subsection 5(c) for having the Carcinogenicity (Class One) Hazard Trait but one or more of the following apply to the chemical substance,, its metabolite, or environmental degradation product:
    i. It is identified by the U.S. Environmental Protection Agency as having "Suggestive Evidence of Carcinogenic Potential," or as being in Group C.
    ii. It is identified as having limited evidence of carcinogenicity in animals by the International Agency for Research on Cancer.
    iii. It is otherwise identified by the OEHHA as a suspected carcinogen or as an agent with carcinogenic potential.
    iv. It is otherwise recognized as a suspected carcinogen by California, other states, the United States or other nations.
    v. It is has the Genotoxicity (Class One) Hazard Trait.
    vi. At the request of DTSC, OEHHA may determine whether or not has the Carcinogenicity (Class Two) Hazard Trait, based on the weight of the evidence, including data indicating lack of effect, according to the methods in subsection 4(b)(ii). This evidence includes, but is not limited to:
        1. Whether or not it meets the criteria for being classified as having "Suggestive Evidence of Carcinogenic Potential" by the U.S. EPA or "limited evidence of carcinogenicity" in animals by the International Agency for Research on Cancer.
        2. Strong indications of carcinogenicity from validated Quantitative Structure Activity Relationship programs such as those used by U.S. Environmental Protection Agency to evaluate the potential toxicity of new or existing chemicals.
        3. Mechanistic or other relevant data as described by the International Agency for Research on Cancer.
        4. Adequate evidence for the classification based on induction of responses in medium or high throughput or cell-, tissue- or whole organism- based assays perturbing known physiological, biochemical or other pathways involved in carcinogenesis (such as a specific endocrine disruption pathway).
        5. In the event the chemical substance has insufficient scientific evidence to make this determination, the chemical shall be considered not classifiable.

e. A chemical substance has the Developmental Toxicity (Class One) Hazard Trait if one or more of the following apply to it or its metabolite or environmental degradation product:
   i. It is identified as known to the state to cause reproductive toxicity with developmental toxicity denoted as an endpoint in Title 27 California Code of Regulations section 27001 (Proposition 65).
   ii. It is identified as having “clear evidence of adverse effects” for developmental toxicity in laboratory animals or humans by the National Toxicology Program’s Center for the Evaluation of Risks to Human Reproduction.
   iii. It is identified as a developmental toxicant under the California Toxic Air Contaminant or Public Health Goal programs.
   iv. It is identified in the NIOSH Pocket Guide to Chemical Hazards as having teratogenic or other developmental effects as a symptom.
   v. It is identified as a known or potential developmental toxicant or having the capacity to cause developmental toxicity in a report by the National Academy of Sciences’ National Research Council or Institute of Medicine.
   vi. It is otherwise recognized by California, other states, the United States or other nations as a developmental toxicity hazard.

f. A chemical substance has the Developmental Toxicity (Class Two) Hazard Trait if it does not meet the criteria for having the Developmental Toxicity (Class One) Hazard Trait but one or more of the following apply to it, its metabolite, or environmental degradation product:
   i. It is identified as having “some evidence of adverse effects” or “limited evidence of adverse effects” for developmental toxicity in laboratory animals or humans by the National Toxicology Program’s Center for the Evaluation of Risks to Human Reproduction,
   ii. It is classified as having limited evidence of carcinogenicity by the International Agency for Research on Cancer, with a clear statement that the chemical substance may induce transplacental carcinogenesis noted in an IARC Monograph on the Evaluation of Carcinogenic Risks to Humans
   iii. It is otherwise recognized as a suspected developmental toxicant by California, other states, the Federal government or other nations.

iv. At the request of DTSC, OEHHA may determine whether or not the chemical, In accordance with the methods in subsection 4(a)(ii), the Developmental Toxicity (Class Two) Hazard Trait because:
    1. It has strong indications of the developmental toxicity hazard trait from validated Quantitative Structure Activity Relationship programs such as those used by U.S. Environmental Protection Agency to evaluate the potential toxicity of new or existing chemicals,
    2. It has a Genotoxicity (Class One) or Endocrine Toxicity (Class One) Hazard Trait with mechanisms of genotoxicity or endocrine disruption likely to be involved in developmental toxicity.
    3. It has "supportive studies," as described by the National Toxicology Program, indicating possible developmental toxicity.
    4. It induces responses in high or medium throughput, whole organism or other assays perturbing known physiological, biochemical or other pathways involved in developmental toxicity.
    5. It meets the criteria for being identified as having some evidence of developmental toxicity in animals or humans by the National Toxicology Program's Center for the Evaluation of Risks to Human Reproduction,
    6. In the event the chemical substance has insufficient scientific evidence to make this determination, the chemical shall be considered not classifiable.

g. A chemical substance has the Reproductive Toxicity (Class One) Hazard Trait if one or more of the following apply to it or its metabolite or environmental degradation product:
    i. It is identified in Title 27 California Code of Regulations, section 25001(Proposition 65) as known to the state to cause reproductive toxicity with, at a minimum, male or female reproductive toxicity denoted as an endpoint,
    ii. It is identified as having "clear evidence of adverse effects" for reproductive toxicity in male or female laboratory animals or humans by the National Toxicology Program's Center for the Evaluation of Risks to Human Reproduction,

iii. It is identified as being a male or female reproductive toxicant under the California Toxic Air Contaminant or Public Health Goal programs,
iv. It is identified as a known or potential male or female reproductive toxicant or having the capacity to cause reproductive toxicity in a report by the National Academy of Sciences' National Research Council or Institute of Medicine,
v. It is identified in the NIOSH Pocket Guide to Chemical Hazards with having reproductive organs as the target organ or as having sterility or other reproductive effects in the symptoms field, or
vi. It is otherwise recognized as a male or female reproductive hazard by California, other states, the United States or other nations.

h. A chemical substance has the Reproductive Toxicity (Class Two) Hazard Trait if it does not meet the criteria for having the Reproductive Toxicity (Class One) Hazard Trait but one or more of the following apply to it, its metabolite, or environmental degradation product:
   i. It is identified as having "some evidence of adverse effects" or "limited evidence of adverse effects" for reproductive toxicity in laboratory animals or humans by the National Toxicology Program's Center for the Evaluation of Risks to Human Reproduction,
   ii. It is otherwise recognized as a suspected reproductive toxicant by California, other states, the Federal government or other nations
   iii. At the request of DTSC, OEHHA may determine whether or not the chemical, In accordance with the methods in section (4)(a)(ii), has the Reproductive Toxicity (Class Two) Hazard Trait because:
      1. It has strong indications of the reproductive toxicity hazard trait from validated Quantitative Structure Activity Relationship programs such as that used by U.S. Environmental Protection Agency to evaluate the potential toxicity of new or existing chemicals,
      2. It has "supportive studies," as defined by the National Toxicology Program, indicating possible male or female reproductive toxicity
      3. It has a Genotoxicity (Class One) or Endocrine Toxicity (Class One) Hazard Trait with mechanisms of genotoxicity or endocrine disruption likely to be involved in reproductive toxicity.
      4. It induces responses in high or medium throughput, whole organism or other assays perturbing known physiological,

biochemical or other pathways involved in male or female reproductive toxicity, or

5. It meets the criteria for being identified as having some evidence of reproductive toxicity in animals or humans by the National Toxicology Program's Center for the Evaluation of Risks to Human Reproduction.
6. In the event the chemical substance has insufficient scientific evidence to make this determination, the chemical shall be considered not classifiable.

i. A chemical substance has a hazard trait in accordance with subsections 4(a through g) above, unless the DTSC or OEHHA, based on current scientific information, makes a determination that the chemical substance does not have the hazard trait, and publishes that determination.

EVIDENTIARY HEARING

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

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

VOLUME II

CITY COUNCIL CHAMBERS

HAYWARD CITY HALL

777 B STREET

HAYWARD, CALIFORNIA

TUESDAY, DECEMBER 18, 2007

10:00 A.M.

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

COMMITTEE MEMBERS PRESENT

Jeffrey D. Byron, Presiding Member

HEARING OFFICER, ADVISORS PRESENT

Susan Gefter, Hearing Officer

Gabriel Taylor, Advisor to Commissioner Byron

STAFF AND CONTRACTORS PRESENT

James Adams

Eileen Allen

Caryn Holmes, Staff Counsel

Shahab Khoshmashrab

Eric Knight

Bill Pfanner, Project Manager

Shaelyn Strattan

William Walters

PUBLIC ADVISER

J. Mike Monasmith, Associate Public Adviser

APPLICANT

June E. Luckhardt, Downey Brand, outside counsel

Dan L. Carroll, Downey Brand, outside counsel

Nicolaas W. Pullin, Downey Brand, outside counsel

Greg Trewitt, Tierra Energy

Claudio Bellotto, HeliTahoe

Loren D. Bloomberg, PE, CH2MHILL

Donald L. Blumenthal, PhD, Sonoma Technology, Inc.

William E. Corbin, Environmental Compliance Assistance

Gregory S. Darvin, Atmospheric Dynamics

Farshad Farhang

Marshall W. Graves, Jr., International Institute for Aviation, Science & Technology

David A. Stein, PE, CH2MHILL

Fatuma I. Yusuf, PhD, CH2MHILL

INTERVENORS

Paul Haavik

Paul N. Haavik

Beth Fancher

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

Michael S. Hindus, Pillsbury Winthrop Shaw Pittman, outside counsel to the City of Hayward

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

INTERVENORS (CONTINUED)

Alameda County
Andrew Massey, Office of County Counsel

Cindy Horvath, Alameda County Community Development Agency

David Needle, Airport Land Use Commission of Alameda County

Larry Berlin, Consultant to Alameda County

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

Susan Sperling, Faculty Association

Group Petitioners
Jewell Hargleroad, outside counsel to Group Petitioners

Suzanne Barba

Carol Ford, California Pilots Association

Jay White, California Pilots Association

ALSO PRESENT

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

David Butterfield, Federal Aviation Administration

Gary Cathey, Caltrans Aeronautics Division

Andy Richards, Federal Aviation Administration

Mayor Michael Sweeney, City of Hayward

Jesus Armas

I N D E X

I N D E X

I N D E X

I N D E X

I N D E X

P R O C E E D I N G S

10:03 p.m.

PRESIDING COMMISSIONER BYRON: This is an application for certification before the Energy Commission. We are here in Hayward and it is our second day of evidentiary hearings.

I would like to welcome all of our returning participants, members of the public, retirees, soccer goalies who didn't get to play last night.

Thank you all very much for hanging in here with us last night. We may have, we may have stayed a little too late. I would like to extend my apologies to everyone with regard to our weariness and anything that we might have said from the podium that was offensive and I apologize.

I would like to thank the City again and the City staff for having us here. We do have a hard stop today at seven p.m. There is a Council meeting at eight and so we will need to conclude by seven. I am still very optimistic that we will do so.

I am the Presiding Member on this committee. Commissioner Geesman is my associate

and he is not able to attend due to personal reasons. And as I indicated yesterday, with the expiration of his term he may also be prevented in participating in the proposed, the Presiding Member's Proposed Decision.

Let's see. I'd like to just say a couple of things before we get started in hopes that maybe we could be more expeditious but at the same time make sure that we're inclusionary of all of the information and evidence that participants want to enter here today.

I noticed from yesterday's proceeding and from our preconference hearing that there may be some lack of understanding about our process. We don't try to make it a mystery. It's written down. It's pretty clear if you had sufficient time to read all of our material, how we handle things. It is an administrative-type hearing.

As I indicated I'm the Presiding Member and I am the one responsible for preparing the proposed decision for consideration by the full Commission.

We have an application before us and we are obliged to consider that application. And, in fact, we try to do it with the utmost haste in a

year. We are beyond that one year period and that is why we are pressing hard here to try and get this evidentiary hearing concluded and get to a decision before the Commission, a recommended decision before the Commission.

The Commission wants and needs the information it must have to make a decision on this application. The procedural arguments and objections that are raised by intervenors and counsel I am going to leave to our Hearing Officer, Susan Gefter.

I and the Commission are most interested in the facts and the evidence and the expert opinion that are entered in our process today. I want to help to make sure that parties are able to enter the evidence in the record that they want to see entered. So forgive me if I'm clumsy in the way I do that but I want to make sure that you get the information in that you want, applicant and all other parties.

We're scheduled to get to the key issues of this AFC today. We have a few more to finish up that were on yesterday's schedule. I'd like to ask the staff and the applicant to be fully responsive to all the questions that are put

forward by the intervenors and I would like to ask all parties to focus on relevant input to this AFC. Hopefully we'll get it all done today.

Let me introduce my advisor helping me, Gabriel Taylor. And I am going to turn it over to our Hearing Officer, Susan Gefter, who I think has a few more things to explain and maybe lay out the schedule for us today. Susan.

HEARING OFFICER GEFTER: And as we have a very full schedule I'd like to get started again with the evidentiary hearing and we are going to finish up on the environmental justice cross examination by Ms. Schulkind. Staff has a witness here to attempt to answer some of the questions that you had last night of Mr. Pfanner. So I'll ask staff to offer its witness at this point on environmental justice.

MS. HOLMES: Thank you. In response to the questions last night staff has produced not one but two additional staff witnesses. I will ask them to identify themselves, they need to be sworn, and then I will ask them to give their qualifications. Eric Knight.

MR. KNIGHT: I am Eric Knight.

MS. ALLEN: I am Eileen Allen.

Whereupon,

ERIC KNIGHT

EILEEN ALLEN

were duly sworn.

HEARING OFFICER GEFTER: Thank you.

You may proceed, please.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Eric, can you briefly describe what your duties are at the California Energy Commission in general, and specifically with respect to this project.

A My name is Eric Knight. I am presently a Planner III with the Energy Commission in the Energy Facility Siting Division. In that capacity I am a supervisor of a small unit in the environmental office that is responsible for analyses in the areas of land use, traffic and transportation, visual resources and socioeconomics. Included in socioeconomics is the environmental justice screening analysis that is done.

I have been employed in the Energy Facility Siting Division since 1995, working specifically on power plant licensing in various

capacities, either as an analyst, project manager or a supervisor since 1998.

Q And have you had experience either conducting or reviewing projects with respect to the environmental justice issues at the Commission?

A Yes I have.

MS. HOLMES: Thank you.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Ms. Allen.

A I am the manager of the Energy Commission's Siting Office, which includes the Energy Facility Licensing Program. I have been dealing with energy facility licensing and environmental justice analyses as a project and program manager and an Energy Commission supervisor since 1994. On an overall basis I have more than 27 years of experience in the environmental impact analysis area and I have a master's degree in environmental planning and management.

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

HEARING OFFICER GEFTER: Ms. Schulkind,

do you want to proceed with your cross examination?

HEARING OFFICER GEFTER: Thank you. And thank you very much, Ms. Allen and Mr. Knight, for traveling down from Sacramento, we appreciate it. I'll be brief.

Yesterday I was having a -- we were questioning your colleague, Mr. Pfanner, on the EJ methodology that was utilized and we ran into a couple of snags because he was not directly involved in the preparation of the socioeconomic testimony. So why don't I start with Mr. Knight and perhaps that's as far as we need to go.

CROSS EXAMINATION

BY MS. SCHULKIND:

Q Mr. Knight, were you involved in preparing the Eastshore chapter on socioeconomics that was offered by Dr. Diamond?

A It was prepared under my direction, I supervise him.

Q So you're familiar with that section?

A Yes.

Q Thank you.

A I reviewed it, yes.

Q And are you by any chance familiar with

the California Energy Commission's web site identifying the California Energy Commission staff approach to environmental justice, which has been marked as Exhibit 710 in this proceeding?

A If you're referring to the page that is under the Public Adviser's Office. Is that the specific link?

Q I believe, I believe so.

A Yes, I am familiar with it.

Q By any chance do you have it in front of you or would you like me to provide you with a copy?

MS. HOLMES: Just for clarification of the record, there are actually two documents on the Commission web page, one is the Public Adviser's guide. But I believe that Exhibit 710 is the staff document.

MS. SCHULKIND: Thank you.

MS. HOLMES: I will put that in front of Mr. Knight.

MR. KNIGHT: I'm familiar with that page as well.

BY MS. SCHULKIND:

Q Thank you. And if you wouldn't mind looking at the first page of that. This is what

Mr. Pfanner helped us to understand first. That the three step analysis which is identified in the FSA, demographics, which we understood to be the screening process; public outreach and impact assessments parallels what is described as a three step process in the Executive Summary.

So I was focusing on the last of those three steps, the impact assessment. And there are five steps identified within that impact assessment. If you go, I believe it might be page two, right?

A I've got it.

Q Okay. And my question is, once you have reached the stage of impact analysis which comes after the demographic screening where in the process has there been an analysis? Number two, analyze the unique circumstances, if any, of the affected population. And if you could please point me to where that was done in the Final Staff Assessment I would appreciate it.

Does the witness need to confer with some --

MS. ALLEN: I'll provide an overview related to the impact analysis and then that will lead into Mr. Knight's discussion of more specificity.

MS. SCHULKIND: You know what, you have prepared remarks, Ms. Allen? I just want to understand what we're doing. Because what I'd like --

MR. KNIGHT: I think I can answer the question.

MS. SCHULKIND: Okay, then I would appreciate it.

MS. ALLEN: Okay, go ahead.

MR. KNIGHT: Ms. Allen can help out if there's anything I've left out.

There are certain technical areas that staff, once an EJ population or a minority population, a low-income population greater than 50 percent has been identified there are certain areas that would consider that population in their impact analysis. They are identified as air quality, public health, hazardous materials, land use, traffic, water resources, waste management, visual resources, noise and transmission line safety and nuisance.

BY MS. SCHULKIND:

Q I am going to just stop you, only in the interest of time because I know everyone is eager to get to the other topics. I understand that

methodology and Mr. Pfanner was very helpful in explaining that yesterday.

I have got a very specific and narrow question which is, under the web site once you have done the demographic screening, the web site indicates that there is a five step impact analysis on the EJ community. If you could point to pages in the FSA where you look to the unique circumstances of the affected environmental justice population I would appreciate it. If those pages don't exist, if that particular step was not done, please just tell me.

MS. HOLMES: Excuse me, I need to make one clarification. It is not the affected EJ population, it is the affected population. Thank you.

MR. KNIGHT: Well for instance in the public health section, and I was going to find the page for you.

MS. SCHULKIND: Thank you.

HEARING OFFICER GEFTER: I have a procedural matter while the witness is searching for the page that we need to hear about.

I want to for the record indicate that all the parties are here and present and all their

counsel are here other than Mr. Sarvey; he was only intervening on the issue of air quality. So for the record we will all stipulate that all counsel and parties are present for this hearing today.

MR. KNIGHT: Part of the public health analysis, in identification of sensitive receptors that reside in the project area. There is a discussion in the assessment of impacts section page 4.7-5 where Mr. Greenberg has identified the standards that he uses to assess a project. It identifies that they are health-based and they are designed to protect the most sensitive members of the population.

BY MS. SCHULKIND:

Q So that is where in the public health section, your testimony is, the staff conducted the step two analysis under assessment impacts?

A That's identification --

Q Or a sample of it.

A -- of his methodology. And then there is a discussion of unique circumstances in this particular area where Mr. Greenberg has addressed asthma cases in the City of Hayward, Alameda County. And there is an appendix, I believe it is

Appendix A.

Q Are there any other examples that you are aware of in the public health section where Dr. Greenberg took into consideration a unique circumstance of the affected population?

A That is the only one I'm aware of. Again, I don't supervise Mr. Greenberg. My role as a supervisor of the socioeconomics section is to ensure that the screening analysis is done, the identification of the minority population. And then it is up to the technical authors--I listed the areas, including public health--that are to assess the impacts on that population. and they assess the impacts on all members of the public.

And their criteria if you read those sections -- for instance public health, air quality, waste management. There are standards that are set to the most compromised in our society or the most susceptible to impacts, such as --

Q I understand that's the staff's methodology and that that's the conclusions that you've drawn. In the socioeconomic section could you please identify where staff took into consideration the unique circumstances of the

affected population?

A Well I guess that's a case-by-case basis. The conclusion of the socioeconomics analysis is that the project wouldn't impact the ability of the City of Hayward to provide services. It wouldn't impact housing. So there are no significant impacts on any population under the socioeconomics analysis, what it's limited to.

So the conclusion is that there's no significant impact on any population, then there isn't the need to do the disproportional impact. All impacts -- either there are none or they have been mitigated to a level less than significant.

Q Is it your testimony that in the socioeconomic section there was no analysis done of the unique circumstances of any of the affected populations?

A Give me a second to review the section. Again I guess I'd answer that is the analyses are, again, on a case-by-case basis. And Mr. Diamond evaluated the ability of whether or not the schools in the area are impacted and whether or not this project would in any way aggravate and impact the school district. So he did look at whether or not there were any unique situations

with or circumstances associated with the community.

It is not a, you know, I guess a sort of boiler plate analysis or anything. He did specifically contact school districts and find out about their enrollment. He did look at unique circumstances for the housing in the area to determine whether or not there would be any housing shortage if there was a large influx of workers.

Q Any others?

A Medical services is another area that he specifically looked at, response times and availability of hospital beds in case there was an accident during the construction of the project. So he is looking at any unique circumstances associated with the project area. It is not a one-size-fits-all type of analysis, I guess.

Q So is it fair to say that in the socioeconomic area unique circumstances of the affected population, affected population is understood to mean some of the institutions that exist within the community rather than the attributes of individual people? You mentioned the institutional supports of schools, medical.

A The technical area is limited to looking at impacts on housing, whether or not there is available housing for any workers that choose to relocate in the project area during construction. And whether or not these workers would bring their families and put a burden on the local agencies' ability to provide a spot for them at school and law enforcement. So yes, institutions.

Q So the socioeconomic impact analysis does not include as part of its methodology looking at the unique circumstances of people as opposed to institutions.

A I think --

MS. HOLMES: Excuse me, do you mean individual people?

BY MS. SCHULKIND:

Q Individual people as opposed to institutions, correct?

A I think, again, that would be handled by the other areas I listed in the beginning where you do have impacts, potential impacts on people like public health, air quality, hazardous materials use.

Q So the answer is I am correct in my statement?

A I would say that's a fair statement.

Q And it is also correct -- Strike that. Give me one second.

PRESIDING COMMISSIONER BYRON: Mr. Knight.

MR. KNIGHT: Yes.

PRESIDING COMMISSIONER BYRON: My assistant just pointed out to me some testimony, I'm sorry, this is in the socioeconomics section where it lists a number of individuals and the evaluations that were done with those individuals. I believe on page 338.

MR. KNIGHT: Excuse me, 38?

PRESIDING COMMISSIONER BYRON: 4.8-13.

BY MS. SCHULKIND:

Q The response to agency and public comments?

A Right. Due to the concern about, there was some concern expressed at some of the workshops about property values. And I guess that could be an area of concern.

Q Another area.

A An area that would impact an individual. That they perceived that there's going to be a negative impact on their housing value due to this

project.

Q I understood all of the analyses as analyses of impacts that would affect individuals. It was whether or not you were looking at the attributes of individuals as opposed to the impacts on institutions that I was asking about and I think you answered that question.

I have one last question. If you would please look at page 4.8-3. In the last paragraph of the section, Method and Threshold for Determining Significance. If you could tell me that you're there.

A Yes.

Q I have a question regarding one sentence. After the bolded area it says:

> "Impacts on housing, schools, parks and recreation, medical services, law enforcement and cumulative impacts are based upon either subjective judgments or input from local and state agencies."

Do you see that?

A Yes.

Q Could you explain what subjective

judgments means there.

A It means it is based on professional opinion. It is the opinion of the individual who is writing the section, Mr. Diamond, and it is based on his input with, speaking with local officials.

There are no criteria is what he is implying, as opposed to the 50 percent criterion for environmental justice or a minority population. You don't have criteria for when have you hit some threshold of an impact to housing.

So it is based on his review of housing data and knowing, based on research that the Commission is aware of that has been conducted that shows that construction workers will travel, you know, an hour, two hours from their home to a construction sit without relocating to a project area.

So knowing that information and knowing anything about the availability of housing he is able to make, you know, his professional, give his professional opinion on whether there is an impact or not to those issue areas.

Q Are you able to speak to any of the subjective judgments that were made with regard to

the conclusions in this section?

A I reviewed the section so I am familiar with the conclusions.

Q I know the conclusions but I understand that subjective judgment isn't quantifiable. Did you have any discussions with Dr. Diamond about what his subjective judgments were in this area that led to the conclusions?

A Definitely, yes.

Q And what were those subjective judgments?

A Well, if there is a particular -- these are just kind of general issues that come up. But if he's got statements, conclusions that say there are no impacts in a particular area, if it's medical services, and I don't feel that he's established that by providing any type of, you know, supporting documentation, those are the type of comments I'll make. And I know I made them on this section and I was comfortable with the end result.

Q And it is correct that the input from local and state agencies did not include the Chabot-Las Positas Community College District, correct?

A I don't recall that it does, no. I don't remember reading that.

Q So what support did Dr. Diamond give to you for his conclusions that led you to believe that they were correct or defensible?

A Can you be more specific?

Q Well I don't know what he told you so --

MS. HOLMES: Are you referring to a specific conclusion in there? There's a number of different, of different topic areas.

MS. SCHULKIND: For public facilities, for example.

MR. KNIGHT: For instance schools.

BY MS. SCHULKIND:

Q Well I thought public facilities were listed separately. I understand that schools only looked at the K-12s. Is that correct?

A Yes. I guess, can you define what you mean by public facilities.

MS. SCHULKIND: You know what, I'm going to withdraw the question. I have nothing further and I again thank you for your time.

I have no further questions for either witness.

PRESIDING COMMISSIONER BYRON:

Ms. Schulkind, are you finished with questions for the staff?

MS. SCHULKIND: I am finished with my questioning and I appreciate the additional time and accommodating my ability to question the witnesses on the environmental justice issues, thank you.

PRESIDING COMMISSIONER BYRON: Okay, so you got everything that you needed?

MS. SCHULKIND: I have everything that I need.

PRESIDING COMMISSIONER BYRON: Would you mind for this Commissioner taking a moment, unless you don't wish to, and kind of summarize the line of questioning that we went through for the last hour and a half counting last night, so that I can understand what the points are that you were trying to make there. That would be helpful but not necessary.

MS. SCHULKIND: I would be more than happy to if you don't mind my taking the time.

PRESIDING COMMISSIONER BYRON: I think others might benefit from it as well.

MS. SCHULKIND: Our concern about the -- Well, are we done with all the questioning on the

environmental justice issues?

HEARING OFFICER GEFTER: Do you have cross examination?

MS. HARGLEROAD: Just a couple of questions, that's all.

PRESIDING COMMISSIONER BYRON: We could come back to you if that's all right?

MS. SCHULKIND: Whichever you prefer, Commissioner. Would you like me to speak now or when you've --

PRESIDING COMMISSIONER BYRON: While it's fresh.

MS. SCHULKIND: Okay.

PRESIDING COMMISSIONER BYRON: As fresh as it's going to be.

MS. SCHULKIND: Our concern is that the approach to environmental justice, both does not track the process that the staff has identified as the process that it believes that it is bound by. And to the extent that they are following their own methodology it is not sufficient to comply with the statutory obligation to engage in meaningful, environmental justice analysis.

And the reason is that it is fundamentally tautological, it's circular. It

determines yes there is an environmental justice community. And then when analyzing the impact of the particular area, whether it's health, socioeconomics, air quality, in analyzing those it ignores that it is in an environmental justice community and makes a conclusion, generally does this impact the environmental justice area.

And what the science tells us is that whether or not you have an impact that is adverse or meaningful will change depending upon the population you are looking. So that if you are in a community that is poor, has low access to health care, has difficulty engaging systems like health care and other services, has much more likelihood that they will not treat immediate health conditions and they will turn into chronic conditions.

Already have multiple stressors in their lives, which make them more susceptible to environmental impacts. Both physical and biological stressors like asthma or other health risks or other stressors which make you more vulnerable to physical impacts. That you could easily find in what we would call a significant adverse impact.

That is not captured in this analysis because at the stage of doing impact analysis they are folding the environmental justice in with everybody else. That is what is fundamentally flawed. It is what Dr. Witt described as flawed, it is what Dr. Sperling has described as flawed.

The response is, but this is the process we have been told to use legally. We will explain in our papers why we think that that is incorrect and in fact staff have been asked to do something more thoughtful.

And we also think that to the extent that that is what the have been directed to do that those directions are legally flawed and don't comply with the equal protection clauses of the California and the Federal Constitutions, the statutory requirements under the Public Resource Code and the Government Code to do environmental justice analysis.

We also point out that the third step that everyone identified as critical to environmental justice is public outreach and that unfortunately in this case staff also failed. The public outreach ignored the Chabot-Las Positas Community College District, which represents a

highly disenfranchised community that in many way mirrors the public at large.

We are a public facility. We are a interested local agency. I believe staff has essentially conceded we should have been given notice and an opportunity to provide our input. In which case you would have heard from people like Dr. Sperling much earlier in this process. You were deprived of that. And we had to come in at the end trying to absorb a 700 page FSA in a couple of weeks.

I think that unfortunately has flawed the process as well by failing to include us appropriately as a governmental agencies and that has problems procedurally.

PRESIDING COMMISSIONER BYRON: Okay, I got the summary of the line of questioning.

MS. SCHULKIND: Thank you.

PRESIDING COMMISSIONER BYRON: It sounds like you're going down another path there.

MS. SCHULKIND: I appreciate it.

PRESIDING COMMISSIONER BYRON: All right, thank you very much.

MS. HARGLEROAD: I just have a few questions.

CROSS EXAMINATION

BY MS. HARGLEROAD:

Q The environmental justice population is generally measured one mile; is that correct?

A It is both one mile and six miles.

Q One mile and six miles, okay. And when you are measuring that one mile can you tell us -- this is a large piece of property. Are you beginning the measurement from the center of the property or from the edge of the property line?

A That's a question I don't know to answer.

Q Okay. And maybe you can provide --

A These are --

Q Maybe you can provide this information later because this is just a very straightforward factual issue that I think is important. But maybe staff could provide us --

MS. HOLMES: We can expedite this by having him answer the question.

MS. HARGLEROAD: Okay, sure.

MR. PFANNER: I did research and it is from the center of the property.

MS. HARGLEROAD: Okay, and what is the distance from the center of the property to the

boundary line?

MR. PFANNER: I don't know exactly what it is but the graphic technicians -- and it isn't an exacting science.

MS. HARGLEROAD: Okay.

MR. PFANNER: They kind of look at, eyeball and say okay, that looks like the center of the property.

MS. HARGLEROAD: Okay.

MR. PFANNER: Go out six miles.

MS. HARGLEROAD: Okay. And I only bring that out because from what I understand a mile is 5,200-some odd feet. And if we have an additional 1,000 or 2,000 feet that's being absorbed from the center of the property we think that's relevant.

BY MS. HARGLEROAD:

Q Going on to, if you look at your land use section, 4.5-25, the bottom of that paragraph.

A Yes.

Q There is a discussion that there are five schools within a one mile radius of the project site. That's correct?

A Um-hmm.

Q Okay. And then if you go towards the front under your air quality there is above Air

Quality Table 20, 4.1-31, that very first paragraph, there is a discussion:

"As with impacts from Eastshore alone, maximum cumulative impacts are predicted to occur directly across Clawiter Road, Life Chiropractic College. Cumulative impacts at the closest residences, Ochoa Middle School, and Eden Gardens Elementary School would also be similar to those from Eastshore alone, meaning that impacts from Eastshore dominate the localized, cumulative impacts."

Now based on your information is Ochoa Middle School and Eden Gardens Elementary School, are those, would they be considered an environmental justice population, sensitive receptor?

A They would be considered a sensitive receptor, yes.

Q Okay. Are they also the demographic such that they are 50 percent non-white?

A I believe -- Hold on a second. The information is based on census data. So if they

are in the census then I would say they are part of that population.

Q Of the environmental justice population.

A I am not certain of it. But I guess what I would say is that they have been considered in the public health analysis and air quality impact analysis as a sensitive receptor, regardless of their ethnicity.

Q Right. And that's fine. But at the same time, reality is such that the population of these schools is majority non-white; is that correct?

A I don't know that.

Q Okay. Well maybe that is something that the staff can provide later on.

In the statement when it states that as with the impacts from Eastshore alone, meaning that impacts from Eastshore dominate the localized, cumulative impacts, does that mean that the impacts from Eastshore are the primary impacts that among all these other impacts in the area, that's the one that is going to really dominate?

MS. HOLMES: You have to ask the air quality witness that. You should have done that yesterday, that's an air quality conclusion.

MS. HARGLEROAD: This is the environmental justice and environmental justice has a discussion on air quality and makes the statement that there is no disproportionate result or impact. And if you have a non-white school and the air quality section is acknowledging that the impact from this project is going to dominate a non-white school, I think that is relevant to the environmental justice analysis. This is a school that is within one mile.

MS. LUCKHARDT: I have a comment here. I believe that what you are referring to is the cumulative impacts analysis. And if you are referring to the air quality cumulative impacts analysis there is a very specified way in which it is done. And if you are looking at this project probably in combination with Russell City they would dominate the other impacts because your other impacts are already included as background. And then you have things like gas stations.

And when you do an analysis that is of that type it will always show the power plant as dominating the impacts because of the way the analysis is done. If we need to solve and answer this question further at this point we can have

Greg Darvin, our air quality expert, stand up and provide some additional explanation of this.

MS. HARGLEROAD: Okay.

MS. LUCKHARDT: This is, this is based on a methodology and not an analysis in the way that you are implying it.

MS. HARGLEROAD: Madame Hearing Officer, if I could just finish my line of questioning here so -- And then if the applicant wishes to supplement their testimony or address that that's --

MS. LUCKHARDT: We don't wish to supplement the testimony here.

HEARING OFFICER GEFTER: You may finish your line of questioning --

MS. HARGLEROAD: Okay, thank you.

HEARING OFFICER GEFTER: -- and then we'll move on.

MS. HARGLEROAD: What is the distance among the three, I've got three now here, between the project site and Highways 880 and/or 92?

HEARING OFFICER GEFTER: And what is the relevance of that question?

MS. HARGLEROAD: The relevance is that according to Dr. Greenberg he did not include the

background air quality. And health impacts does not include the impacts of Highways 880 or 92 because it is too --

HEARING OFFICER GEFTER: Ms. Hargleroad, you asked him that question about ten times during your questioning of Dr. Greenberg.

MS. HARGLEROAD: No, no, I am talking about the distance, what is the distance. You asked me the question and that is my response. Is, what is the distance from the project site to 880, 92? Either freeway.

MS. HOLMES: I believe that is provided on page 4.10-4. Critical roads and freeways in the traffic section talks about the location of State Route 92 and Interstate 880 relative to the project.

MS. HARGLEROAD: Okay, and there's a distance that is provided there?

MS. HOLMES: Do you want me to read it to you?

MS. HARGLEROAD: We are in the environmental justice section and that folds in all of these sections so you'll have to forgive me. Do we have a witness?

MS. HOLMES: Do we have a question?

MS. HARGLEROAD: Yeah, the question was, what is the distance between the project site and 880 and/or 92?

MS. HOLMES: Okay, I will read the FSA to you. The FSA, Exhibit 200 says:

"State Route 92 is an east-west highway connecting Hayward and Half Moon Bay. It passes approximately one mile south of the project site. SR-92 is a six-to-eight lane road, with a High Occupancy Vehicle lane on the westbound approach from Hesperian Boulevard to the San Mateo Bridge toll plaza. The project site can be reached via exits off SR-92 at Clawiter Road and Industrial Boulevard."

MS. HARGLEROAD: Okay, so it's approximately one mile from Highway 92 to the project site. And in your air quality analysis there's also the statements concerning that the Eastshore project is the dominant impact on Ochoa Middle School and Eden Gardens Elementary School. And we don't know what the population -- you're

not sure. It appears that the population is an environmental justice population, it is more than 50 percent.

MR. PFANNER: That's the assumption.

MS. HARGLEROAD: Okay, that's the assumption, right. So I just want to understand well then why isn't that a disproportionate impact?

MR. KNIGHT: I guess my answer to that is the air quality staff identified that the impacts of this project were mitigable to a level of less than significance. So it is not considered to be an environmental justice -- and they considered the proximity of the schools. Their standards that they use are very, you know, the thresholds are very, very low and they're health-based. They're established to protect the young, the elderly. So that was the conclusion that they reached.

MS. HARGLEROAD: Okay, thank you very much. That's --

HEARING OFFICER GEFTER: Thank you.

MS. SCHULKIND: Madame Hearing Officer, I have been able to collaborate with counsel for applicants to come up with a stipulation to

streamline this process and avoid any further examination on environmental justice issues.

MS. HOLMES: I'd like to have redirect, please.

MS. SCHULKIND: I'm so sorry.

HEARING OFFICER GEFTER: I was going to move on and ask if the staff has any redirect on her witnesses.

MS. HOLMES: Yes I did.

HEARING OFFICER GEFTER: Ms. Holmes.

MS. HOLMES: Just a couple of questions.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Pfanner, last night there was a question that was asked of you as to whether or not, if there was a hypothetical third power plant, the Commission staff would provide notice to Chabot College. Do you recollect that question?

A Yes I do.

Q And was your answer, yes, that the Commission would.

A Yes it is.

Q And isn't it also true that you testified that the Energy Commission did not

provide explicit written notice to Chabot College for this project?

A That was my understanding.

Q Can you explain to me why you would provide notice in the future but you did not provide notice for this project?

A When staff conducts its initial analysis it prepares a list of all responsible trustee agencies, schools, sensitive receptors that it knows about. And it is a process that they establish lists from similar projects from the applicant providing information from knowledge of agencies, working groups and compiles the knowledge to the best of our ability of people that would want to be involved are noticed of the project.

In this situation the Public Adviser's Office does have the name Chabot College on its notice list. It did hold the site visit and information hearing at Chabot College but Chabot College was not on the siting staff's list of agencies to notice. So I can only speak to what the siting staff noticed. We did not at that point know that Chabot College was wanting to be involved.

Once we find out someone wants to be involved we put them on the list and they will be on future projects. For example, with the San Francisco Electric Reliability project that I was the project manager on, when I started the project there had been extensive, previous involvement from other agencies and we adopted all the mailing lists and notices from individuals, groups, community groups, agencies and built on it from there.

So if there were another power plant in this area we would know that Chabot College, who is now an intervenor in this and has taken legal action against the Russell City project, would definitely be interested in being noticed.

MS. HOLMES: Thank you.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q I only have one other question and that is, Mr. Knight, can you identify any other of the unique circumstances, if any, of the affected population that staff identified with this project? Now I'm speaking outside. I believe you were asked only with respect to socio and land use.

A Sure. I know in the noise section there is a discussion the noise impacts on a nearby residence. And I believe the concern was the nighttime operation of the facility when the community would be very quiet an the plant would be audible. And there is a requirement that the plant be mitigated, noise abatement measures be put on that facility to ensure that nearby residences are not significantly impacted by the noise from the plant.

MS. HOLMES: Thank you. Those are all my questions.

MS. SCHULKIND: I have got one question on recross for Mr. Pfanner.

RECROSS EXAMINATION

BY MS. SCHULKIND:

Q Mr. Pfanner, if you were the project manager on a power plant that was being proposed a mile from Peralta Community College would you wait to find out whether they told you they were interested? Or based upon this experience here would somebody provide them with the notice as an interested local agency.

A Staff does the best they can with the knowledge that they have when an AFC comes in and

works with all pertinent players within the Energy Commission to establish as extensive a list as possible as to who the key players are.

The distance of a facility would be a factor. So it would depend on the exact situation what and who would be on the list. But again, the Energy Commission does everything it can to be as inclusive as possible in its notification list.

Q Thank you and I appreciate that. So based upon your knowledge a hypothetical center of a mile from Peralta Community College, would you provide notice to Peralta Community College District as an interested local agency?

A I believe that the Energy Commission would look at all possible commenters and that would be considered, yes.

MS. SCHULKIND: Thank you.

HEARING OFFICER GEFTER: Commissioner Byron.

PRESIDING COMMISSIONER BYRON: Mr. Pfanner, if you could help my memory. Didn't we come to Chabot College about a year ago for the initial site visit and have a meeting?

MR. PFANNER: Yes, that's what I've said. That the Public Adviser's Office did have

the information and site hearing at Chabot College.

PRESIDING COMMISSIONER BYRON: And I remember, as I recall there were a number of flyers that were passed around the campus.

MR. PFANNER: Yes, and that was the Public Adviser's Office as notification process.

PRESIDING COMMISSIONER BYRON: And of course something that I am always concerned about is parking tickets. I recall that the, I recall that the administration gave us parking passes for that day as well. Okay, thank you.

HEARING OFFICER GEFTER: Now I think we have completed our cross and our recross and I understand that Ms. Schulkind and the applicant's attorney have consulted on the remainder of the EJ witnesses.

MS. SCHULKIND: Thank you. Applicant and the Chabot intervenors have stipulated to the following and place it into the record.

(Counsel conferring)

HEARING OFFICER GEFTER: Off the record, please.

(Brief recess)

HEARING OFFICER GEFTER: Back on the

record.

MS. SCHULKIND: Applicant did not conduct an analysis of disproportionate impact or otherwise analyze unique impacts on the environmental justice community because applicant concluded that Eastshore does not have significant adverse impacts on any community.

HEARING OFFICER GEFTER: And do all the parties stipulate to that proposal?

MR. MASSEY: Yes.

MS. HARGLEROAD: Yes.

HEARING OFFICER GEFTER: Okay, well let's -- Okay, group petitioners. Okay, Mr. Massey for Alameda County.

Ms. Graves for the City of Hayward?

MS. GRAVES: I missed the question, I apologize.

HEARING OFFICER GEFTER: The question was, do you agree with the stipulation or you have no issues with EJ?

MS. GRAVES: We have no issues with the stipulation.

HEARING OFFICER GEFTER: They have no issues, all right, thank you. Okay, does that mean now --

MR. HAAVIK: And I have none, Ms. Gefter?

HEARING OFFICER GEFTER: I'm sorry, do you have an issue?

MR. HAAVIK: I do not, I wanted to ask a question though. And I'm sorry I left early last night but the shoulder didn't allow me to stay.

HEARING OFFICER GEFTER: I understand.

MR. HAAVIK: Everyone is talking about population. And I may have missed it last night and I do apologize, Mr. Byron.

CROSS EXAMINATION

MR. HAAVIK: In definition of population is that the permanent population that is in the area or the transient population in regards to what is being considered?

HEARING OFFICER GEFTER: Is that a question to the staff?

MR. HAAVIK: Of staff, yes.

MR. PFANNER: It's census tract, census tract data.

MR. HAAVIK: Census tract. Thank you very much.

HEARING OFFICER GEFTER: Thank you.

May we close the topic of environmental

justice at this point? Is everybody satisfied?

MR. CARROLL: That is fine with the applicant, Your Honor. My understanding is that the environmental justice sections of Exhibit 1 are already in the record.

HEARING OFFICER GEFTER: That's right. Chabot College has also moved their exhibits in and staff already has moved the FSA in. So we are now closing environmental justice and we can move on to socioeconomics. Does the applicant have a witness on socioeconomics?

MR. CARROLL: Yes.

MS. HARGLEROAD: I thought we were doing transportation?

MR. CARROLL: Is there any cross examination for the applicant's witness for socioeconomics?

MS. HARGLEROAD: Not unless the applicant wishes to present their witness and supplement any testimony that has already been submitted.

MR. CARROLL: All we would do, Your Honor, if necessary, would be qualify the witness and point out the testimony and I think that has already been done. So if there is no cross

examination could we just allow it in by declaration?

HEARING OFFICER GEFTER: That would be fine. Is there any objection by any of the other parties? You have no cross of the witness?

Please identify the witness and the exhibit she is sponsoring and then we can close socioeconomics.

MR. CARROLL: The witness, Your Honor, is Dr. Fatuma Yusuf. Her qualifications were in the prehearing conference statement. She was part of Exhibit 21, which is a list of all, a compilation of all the declarations. In that she identifies Exhibit 1, which is the AFC, and her testimony is the socioeconomic portion of the AFC, which I believe is Section 8.8.

HEARING OFFICER GEFTER: Thank you. Exhibit 21 has been received into the record and we can close the topic of socioeconomics. Thank you very much.

MR. CARROLL: Thank you, Your Honor.

MS. HARGLEROAD: I thought but not with staff on socioeconomics? Staff.

HEARING OFFICER GEFTER: You have a question of staff's witness on socioeconomics?

MS. HARGLEROAD: We've been talking -- I think maybe part of the problem here is simply because -- and that's why we had suggested transportation and land use go first.

HEARING OFFICER GEFTER: Off the record, please.

(Whereupon a discussion was held off the record.)

HEARING OFFICER GEFTER: On the record.

MS. LUCKHARDT: I am going to need to get a list on cross. Okay, we have Don Blumenthal, we have Marshall Graves, Claudio Bellotto.

HEARING OFFICER GEFTER: Wait, Jane. Could you start again and do it slowly so we can get each person's name. I have Don Blumenthal, who is the next person?

MS. LUCKHARDT: We have -- Applicant is sponsoring Don Blumenthal, Marshall Graves, Claudio Bellotto, Greg Darvin, Bill Corbin. Who am I missing? We've got Loren Bloomberg here if there are questions on the traffic aspects and not aviation. And I believe that that is the sum of our aviation witnesses and traffic witnesses.

HEARING OFFICER GEFTER: Okay, all

right. And staff, you want to identify your witnesses right now, please.

MS. HOLMES: Thank you. Staff has Will Walters, Eric Knight, Jim Adams, Shaelyn Strattan. Staff is also helping with the presentations of the FAA who is represented by David Butterfield and the Caltrans Aeronautics Division represented by Gary Cathey.

HEARING OFFICER GEFTER: Does the City have witnesses on traffic?

MS. GRAVES: We do have Robert Bauman, the Director of Public Works.

HEARING OFFICER GEFTER: And we need you to speak into the microphone next time.

MS. GRAVES: We have Robert Bauman, the Director of Public Works.

HEARING OFFICER GEFTER: Thank you. Alameda County?

MR. MASSEY: We have our aviation expert, Larry Berlin, and we also have the Airport Land Use Commission member, Dave Needle.

HEARING OFFICER GEFTER: Dave?

MR. MASSEY: Needle.

HEARING OFFICER GEFTER: Needle, thank you. All right. Group petitioners, who are your

witnesses?

MS. HARGLEROAD: Our witnesses are Jay White of the California Pilots Association, Carol Ford of the California Pilots Association, David Butterfield of the FAA, Gary Cathey with Caltrans Aeronautics and Andy Richards with the FAA. We will not be calling Charles Erhard due to a holiday conflict. He is unable, he is not available.

HEARING OFFICER GEFTER: All right. Now staff is calling Mr. Butterfield and Mr. Cathey and offering them. Do you have cross examination or do you have additional direct testimony requests of them? Ms. Hargleroad?

MS. HARGLEROAD: I'm sorry, excuse me. What as the question?

HEARING OFFICER GEFTER: Staff is calling Mr. Butterfield and Mr. Cathey. Do you have cross examination of them or do you have additional direct that you have?

MS. HARGLEROAD: I may have additional direct.

HEARING OFFICER GEFTER: Ms. Schulkind, do you have any witnesses on traffic?

MS. SCHULKIND: No, we do not.

HEARING OFFICER GEFTER: Do you intend to cross examine any of these witnesses?

MS. SCHULKIND: No, I will not be crossing any witnesses.

HEARING OFFICER GEFTER: Ms. Hargleroad, do you intend to cross examine any of the applicant's or staff's witnesses?

MS. HARGLEROAD: Yes I do.

HEARING OFFICER GEFTER: Which witnesses?

MS. HARGLEROAD: Tentatively I will say all of them. There may be some I may elect to pass upon depending upon their testimony.

HEARING OFFICER GEFTER: Let's start with the applicant.

MS. LUCKHARDT: Okay. Many of our witnesses need to be sworn.

HEARING OFFICER GEFTER: Would you just identify them by name and all of you can be sworn at once as a panel.

MS. LUCKHARDT: Okay. Don Blumenthal, Marshall Graves and Claudio Bellotto.

HEARING OFFICER GEFTER: Would you spell his last name, please.

MS. LUCKHARDT: I'm sorry, Bill Corbin

as well.

HEARING OFFICER GEFTER: Spell Claudio's last name.

MS. LUCKHARDT: B-E-L-L-O-T-T-O. And Loren Bloomberg as well if we're going to do traffic.

HEARING OFFICER GEFTER: Okay. Would you all please stand and we'll swear you in. Thank you.

Whereupon,

CLAUDIO BELLOTTO

LOREN BLOOMBERG

DR. DONALD BLUMENTHAL

WILLIAM CORBIN

MARSHALL GRAVES

were duly sworn.

HEARING OFFICER GEFTER: Okay, thank you, you are all sworn.

And does the reporter have the names of the individuals that we have sworn in?

MS. LUCKHARDT: We provided cards.

HEARING OFFICER GEFTER: Thank you.

PRESIDING COMMISSIONER BYRON: We have many of you, thank you for all being here. You will need to speak into a microphone when you do

speak, please. Thank you.

MS. LUCKHARDT: Okay, I will try and do this as quickly as I can.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Blumenthal, are the exhibits that you are sponsoring attached to your testimony?

A Yes.

Q Do you have any corrections to your testimony?

A I do have a correction. There is a number that was entered --

HEARING OFFICER GEFTER: Would you identify the exhibit number, please.

MS. LUCKHARDT: It is in Exhibit 20. It is the -- It is in the report attached to Mr. Blumenthal's testimony. It is entitled, Turbulence Felt in a Light Helicopter Caused by a Power Plant Thermal Plume.

DR. BLUMENTHAL: Okay. There is a number that I've got to correct in there. I've got the correct number to update but into the text and it shows up several places.

In the Executive Summary in the last large paragraph near the bottom it says,

turbulence is considered light from .25 to .49. The number should be .20 to .49 and that number reappears in two places.

The next sentence says, below .25 g turbulence emissions are considered. It should be: below .20 g turbulence is considered insignificant.

At the end of that paragraph it says that accelerations representing higher than the low end of light turbulence. I would change that to the lower half of the light turbulence range.

And the other corrections are all the same correction basically. On page five there is a definition in a table at the top middle of the page that says light and it should be .20 instead of .25.

Then moving to page 16. In the third paragraph from the bottom there's the second, I guess the third sentence says: This is at the low end of the light turbulence definition. And I would say: This is at the lower half of the light turbulence definition. And it goes on to say 0.25 and it should be 0.20.

And then on page 17 in the conclusions it's the same issue. It says, turbulence is

considered light from 0.25, it should be .20. And then it says below, 0.25, again it should be 0.20.

And the last sentence, the last line in that paragraph says, higher than the low end. And I would say, higher than the lower half of light turbulence.

HEARING OFFICER GEFTER: Ms. Luckhardt, I would like a copy of the corrections made by Mr. Blumenthal so that I have something in the record that has the correct information in it. So if you can -- I don't need it today but at some point before record closes I would like a corrected copy of his testimony that he just made those corrections so that I have a complete record. Thank you.

MS. LUCKHARDT: Yes, we'll do that. We're marking it up right now and we'll hand it to you before we go.

HEARING OFFICER GEFTER: Thank you. Great, thank you.

BY MS. LUCKHARDT:

Q Is your testimony true and correct to the best of your knowledge?

A Yes.

Q And do you adopt your report as your

sworn testimony today?

A Yes I do.

MS. LUCKHARDT: Okay, moving on.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Graves, are your qualifications attached to your testimony?

A Yes.

Q Are the exhibits you're sponsoring also identified within your testimony?

A Yes.

Q Do you have any corrections to make to your testimony?

A I have several. These are just administrative, correcting references that were out of sequence in my final testimony, no substantial changes. But I'll go through them one at a time.

MS. LUCKHARDT: And we will also mark these and provide you with a copy.

MS. HARGLEROAD: Excuse me. If there's copies with those corrections perhaps if those copies are available that might speed things up.

MS. LUCKHARDT: We don't have copies with the corrections, we need to make them now.

This is actually not all that uncommon. So if you can open it up he will go through them and we'll make sure that you can write them all down.

MR. GRAVES: Should I proceed?

BY MS. LUCKHARDT:

Q Yes.

A Okay. On page four, question eight and the answer eight. There is a reference to question three, that should be question five. At the last minute we reorganized my testimony and I apologize for not catching the administrative errors. When you're ready I can go to the next one.

HEARING OFFICER GEFTER: Your testimony is entitled Thermal Plumes in Aviation, right, Mr. Graves?

MR. GRAVES: Yes.

HEARING OFFICER GEFTER: And you're telling us at page three you had corrections?

MR. GRAVES: Page four.

HEARING OFFICER GEFTER: Page four.

MR. GRAVES: In question eight and answer eight.

HEARING OFFICER GEFTER: Right.

MR. GRAVES: I make a reference to

question three above.

HEARING OFFICER GEFTER: Right.

MR. GRAVES: That is now question five. When you're ready I can go to the next one. There's just a couple of those like that.

HEARING OFFICER GEFTER: Yes, go ahead, please.

MR. GRAVES: All right. On page nine in the middle paragraph the sentence that says, as described previously in A-6. That is now A-8.

HEARING OFFICER GEFTER: Yes, go ahead.

MR. GRAVES: All right. Page 12, answer 12. Delete, attachment nine, and in the following sentence the reference to that depicted in attachment nine. Delete both of those.

HEARING OFFICER GEFTER: Yes, go ahead.

MR. GRAVES: Okay. In answer 13 on the same page at the very last sentence, Attachment 10 is now Attachment 9.

HEARING OFFICER GEFTER: Fine, go ahead, I'm following you now.

MR. GRAVES: Sorry about having to do this. On page 15 answer 19. Attachment 11 is now Attachment 10. And in the middle of that paragraph Attachment 3 is Attachment 2.

On the next page, answer 20. Attachment 12 is Attachment 11, is now Attachment 11. And then at the last paragraph of Answer 20 where it says see Q8 and A8, that is now Q10 and A10.

On the list of attachments on page 19.

HEARING OFFICER GEFTER: Yes.

MR. GRAVES: Delete Attachment 9 and renumber the remaining as 9, 10 and 11.

HEARING OFFICER GEFTER: Fine, thank you.

MR. GRAVES: And then there's one attachment that -- just to be clarified. On attachment 3 is a depiction from a VFR terminal chart of the Hayward air space. When that was resized the text box that says EEC Site, that did not get relocated. And if you look closely at the east end of the bridge that crosses the Bay there is a little cross mark. That is where the text box locating the EEC site should be. We failed to move the text box when we resized it.

And that's the only corrections I have and I apologize for taking up the time to do that.

HEARING OFFICER GEFTER: Thank you.

BY MS. LUCKHARDT:

Q With the corrections is your testimony

true and correct to the best of your knowledge?

A Yes.

Q And do you now adopt these exhibits as your sworn testimony?

A Yes.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Bellotto, if you could come forward to a mic, please. Are your qualifications attached to your testimony?

A Yes they are.

Q Do you have any corrections to your testimony?

A No I don't.

Q Is your testimony true and correct to the best of your knowledge?

A Yes it is.

Q Do you adopt your testimony, your identified testimony, the portion of Exhibit 20, as your testimony today?

A Yes I do.

MS. LUCKHARDT: Thank you.

Mr. Darvin and Mr. Corbin, if you guys could do this at once if no one has any objection. They are both sponsoring the same testimony; I

think that would be helpful.

DIRECT EXAMINATION

MS. LUCKHARDT: Are your qualifications -- If you could answer one at a time. Are your qualifications attached to your testimony?

MR. DARVIN: Yes.

MR. CORBIN: Yes they are.

MS. LUCKHARDT: Are the exhibits you are sponsoring attached and identified in your testimony?

MR. DARVIN: Yes they are.

MR. CORBIN: Yes they are.

MS. LUCKHARDT: Do you have any corrections to your testimony?

MR. DARVIN: No corrections.

MR. CORBIN: No, I do not.

MS. LUCKHARDT: Is your testimony true and correct to the best of your knowledge?

MR. DARVIN: Yes.

MR. CORBIN: Yes.

MS. LUCKHARDT: Do you now adopt these exhibits as your sworn testimony?

MR. DARVIN: Yes.

MR. CORBIN: I do.

MS. LUCKHARDT: Thank you. I will also

bring in Mr. Loren Bloomberg for the traffic portion so if you could come up too.

DIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Bloomberg, are you qualifications attached to your testimony?

A Yes.

Q Are the Exhibits you are sponsoring identified within your testimony?

A Yes they are.

Q Do you have any corrections to your testimony?

A None at this time.

Q Is your testimony true and correct to the best of your knowledge?

A Yes.

HEARING OFFICER GEFTER: And where is his testimony found, what exhibit is it?

MS. LUCKHARDT: It's part of Exhibit 21 in the uncontested areas under his name and under traffic and transportation.

HEARING OFFICER GEFTER: Thank you.

MS. LUCKHARDT: Do you now adopt these exhibits as your sworn testimony?

MR. BLOOMBERG: yes.

MS. LUCKHARDT: Thank you. At this point I would like to ask Mr. Blumenthal to summarize his report and as part of that he is going to show the PowerPoint that I handed out earlier. All of the information that is within that PowerPoint is from, directly from his report and I would like him to start at this time.

DR. BLUMENTHAL: My name is Don Blumenthal. I am the CEO of Sonoma Technology, Incorporated. My background is focused on regional, three-dimensional, air quality and meteorological research studies. I have been doing aircraft -- air quality and met studies using aircraft since about 1970. We have done extensive studies on large power plant plumes, often in support of model evaluation. I also happen to have a commercial pilot's license and have owned light aircraft for about 40 years.

Recently we were asked by Eastshore if we could do turbulence measurements in a power plant plume to simulate the turbulence that would be felt by a small helicopter flying over the Eastshore project at about 300 feet over the ground. Since we like to fly we said, yeah, we could probably do that.

To do this we needed a comparable power plant and we needed an instrumented helicopter. So the power plant is shown in the next slide. Mr. Trewitt from Eastshore located this plant for us. It is near Reno, Nevada and the plant is quite comparable to the Eastshore, proposed Eastshore plant. It has the same number and same types of engines. Both plants have 14 of these engines lined up in a row.

The primary difference is that the 14 stacks at Berrick, the plant that you see here, are grouped in groups of threes and fours. There's three at the south end, four each in the two middle ones and then three at the north end. The north is at the bottom, the photo is looking from north to south.

The interaction of the adjacent plumes when you have three or four of them grouped together should make the updrafts stronger than if the plumes were spread out. The modelers can give you more information on that, I think.

This figure shows the Berrick plant on the morning of our measurements last month. Note that the plumes are not visible in the photo and they were not visible during the whole time of our

study. Okay.

To make the measurements we contracted with HeliTahoe at South Lake Tahoe and we instrumented their Robinson R44 lightweight four-seat helicopter. And this helicopter is, I believe, the same model as those used to train students at Hayward. We put a GPS system in it to measure position and altitude and we added an accelerometer to measure the vertical acceleration. Vertical acceleration is a measure of turbulence.

For aviation purposes the pilots here know that turbulence is classified in terms of light turbulence, moderate, severe and extreme turbulence. These levels are defined in the table in terms of units of g. G is the acceleration due to gravity. For the purpose of the talk today I want to focus on the definition of light turbulence, which is .20 to .49. Basically .2 to a half-g. And below .2g is usually considered insignificant.

Another way that the pilots here might be more familiar with in terms of defining turbulence is by the response felt by the aircraft occupants. The FAA definition of light turbulence

is shown on the slide. Basically one of the definitions is turbulence that causes slight, rapid and somewhat rhythmic bumpiness. Sort of a vibration without reasonable changes in altitude or attitude.

And the occupants in the aircraft might feel a slight strain against their seat belts. Unsecured objects, you know, the pencils that you've got lying around, might bounce a little bit. My definition of light turbulence is it's sort of like driving on a California freeway these days. You know, you bounce along but you stay in control.

This slide shows the flight plans, the actual flight tracks over the Berrick facilities. For our measurements we flew the helicopter across the plant from east to west, that's from right to left on this, on this slide, several times at several altitudes, and then we flew from north to south at several altitudes.

As is the case with many of you, many of the pilots here, we didn't know what to expect when we were going to get into this plume so we started high and worked our way down slowly but surely to keep flying back and forth over the,

over the plant.

Most of the east-west passes were made over the southern cluster of stacks. As you can see this was done to avoid overflights of some transformers to the west of the plant. That was a condition that the power plant gave us in order to let us fly over their facility at 300 feet.

Most of the north-south passes were made over, slightly to the west side of the plant. We did that so we would intersect the plume, which was bent over slightly due to the light winds, the winds aloft that were coming from the east. So the winds were moving the plume over to the west side of the plant and we flew down the west side most of the time.

On this day 11 of the 14 engines were actually operating. A southern group of three engines had two of the engines operating but that's still roughly twice the strength of the individual engines and individual emissions from individual stacks that you would see at the Eastshore plant.

The actual flight plans that we flew, as I mentioned, are show here. We made 12 passes shown here, six of those were below 600 feet. And

we also took video pictures from the camera location that is shown down there to the southeast, east-southeast of the plant.

Okay. This is a data plot. These are the plots from the two, the passes in what you saw, the two highest levels of acceleration. There were only three passes with turbulence greater than the threshold for light turbulence, the .20 threshold. Two of them are shown above. These two reach about .3 and the other one was a pass that reached .21, just barely above the threshold.

All three of those were at 300 feet above the ground according to the altimeter. And is it turns out we were actually less than that according to the GPS. As well as we can figure it turns out we were actually about 200 feet over the stacks. The stacks are about 50 feet in the air and we were up and down around 250 feet often, flying over it.

The top plot is a plot from east to west. East is on the right side and we flew from the right to the left. The past went over the cluster with the two engines operating as I mentioned. the highest acceleration we see there

is .32 gs, which again is in the lower half of the light turbulence definition.

The little bar on the bottom shows where the south cluster location is, plus-or-minus 100 feet. And the reason it is plus-or-minus 100 feet along the flight track is that the GPS only records once per second, whereas the accelerometer records many, many times a second. So we could only align the two to about a second and the aircraft traveled roughly 100 feet a second.

The second plot there on that page is a plot of the north to south pass. The peak again was about the same. In this one the flight actually is from left to right going from north to south. This pass basically tried as well as it could to go over all four clusters. It looks like we may have actually intersected two of the sets of plumes. Just to the left of the spike there is a little spike before the dip. That would be one of the plumes. And then the big spike is another set of plumes.

So those are the -- That's the worst that we saw, basically, and those are pretty good examples of what the rest of them look like. All the plots are in the report so you can see the

rest if you'd like.

In addition to measuring the acceleration we asked the pilot to tell us his qualitative judgment of the turbulence level over the plant for each pass. These results are shown with a peak reading of the accelerometer as well in the table. So the right hand column is the pilot's report of turbulence for each pass. The second from the right column is the peak turbulence that we saw, the peak acceleration, absolute acceleration that we saw during that pass. The two that are highlighted are the two that we just showed the plots from.

The pilot noticed very light, what he called very light turbulence in seven passes. Four of those were below 300 feet above the ground. Each of those events had a measured acceleration of .12 gs or more and all the others had a measured acceleration lower than that.

The only passes that actually exceeded the threshold for light turbulence, the .2 g threshold for light turbulence, were the three that I mentioned earlier and they were all below 300 feet.

As I mentioned we also took some videos.

They're very short and I'll show the videos of the helicopter passes for the two passes that I showed earlier. So here is Pass 6. This is from east to west at 300 feet.

(Whereupon a video clip was shown.)

DR. BLUMENTHAL: I was not able to notice in that video that there was any evidence that the helicopter was having any noticeable vibration or variation as it flew over. Typically when you fly in light turbulence, even in light turbulence you will see the helicopter or the aircraft bounce around a little bit and I didn't see that in the picture.

And one other thing to mention here is that you see some plumes in the background. Those are actually from another power plant that is a mile away. So those are not from the Berrick --

PRESIDING COMMISSIONER BYRON: Those are from the cooling tower from the other power plant?

DR. BLUMENTHAL: Greg?

MR. TREWITT: Yes.

DR. BLUMENTHAL: They are from the cooling tower? Yes, okay.

Okay, let's look at the other, the one

last one. Okay, this one is a pass from north to south so the helicopter is going to come from the right side and go towards the left side. And again this pass is at nominally 300 feet by the altimeter and it turns out to be a little less than that. Three hundred feet above ground level, not above stack level. You're going to start to see the helicopter there. It will get more obvious as it comes along.

(Whereupon a video clip was shown.)

DR. BLUMENTHAL: So that was the other pass that we made where we saw the highest turbulence during the measurement period.

So to conclude from all this, the plume during our experiment was encountered in four of the six passes below 300 feet. Turbulence is classified greater than the lower half of light, turbulence greater than the lower half of light was really never measured, light turbulence being .20 to .49 gs. The maximum we saw in that range was .32.

The pilot during this time reported no encounters that were greater than what he considered to be very light. And he is here to

testify as well so you can ask questions of him. The pilot reported no noticeable effect of the plume on his ability to fly the helicopter. That is basically the sum of my testimony.

BY MS. LUCKHARDT:

Q Mr. Blumenthal, in your professional opinion is this study representative of the potential impacts of a plume from these engines on a helicopter?

A I would, I would think so. Obviously you can't simulate things perfectly but this is about as well as we ever do.

Q And Mr. Blumenthal, when you stated in your presentation, exceed the light turbulence threshold, are you referring to the low end of the light turbulence threshold?

A Yes. What I said was that they never exceeded the lower half of the light turbulence threshold.

MS. LUCKHARDT: Thank you.

FURTHER DIRECT EXAMINATION

MS. LUCKHARDT: Mr. Bellotto, if you had not been told you were flying through a power plant plume would you have noticed the plume impacts?

MR. BELLOTTO: No, I would have never noticed that I was flying through plumes or even over a power plant at all.

MS. LUCKHARDT: Thank you. Our witnesses are available.

HEARING OFFICER GEFTER: The way I think we should do this is have direct from every witness and then whoever is crossing can choose who they want to cross.

I do have just two questions for Mr. Blumenthal or actually for Mr. Bellotto. How far is an airport from the Berrick power plant?

MR. BELLOTTO: The closest airport is Reno International and it was about 15 miles to the west.

HEARING OFFICER GEFTER: And the other question is whether the Berrick power plant has the same configuration as the proposed Eastshore Center in terms of how the stacks are lined up and the configuration of where the engines are?

MR. DARVIN: On the Berrick facility the stacks are clustered in a group of three then a group of four separated by, I forget the distance between each group, then another group of four then another group of three. Whereas with

Eastshore they are aligned linearly from west to east.

HEARING OFFICER GEFTER: And they are actually -- I am not sure if I was looking at the video correctly but over each little, each stack there was a little, white area. And I don't know whether that was a plume or just the light. But when you showed the video of the helicopter flying over the stacks it looked to me like there was something coming out of each of those stacks. Can you identify that?

MR. BELLOTTO: According to what I saw from the helicopter the first time, even at 300 AGL, which means above the ground level, there were no visible plumes coming from the stacks at all.

HEARING OFFICER GEFTER: Okay, thank you.

DR. BLUMENTHAL: Those little white things that you see in each cluster are the stacks.

HEARING OFFICER GEFTER: Yes. Okay. So the white area above the stack is still part of the stack?

DR. BLUMENTHAL: Yes, those are in fact

the stacks.

HEARING OFFICER GEFTER: Okay, great, thank you. Thank you.

DR. BLUMENTHAL: Those little, small little white pipes are the stacks.

HEARING OFFICER GEFTER: Thank you, I understand.

DR. BLUMENTHAL: And just for info the power plant from south to north is about 425 feet or so, that's at least measured from Google. In this thing they're probably 100 or more feet apart, those little groupings.

HEARING OFFICER GEFTER: Okay.

DR. BLUMENTHAL: In Eastshore they would just -- all those little stacks would all just be lined up in a line all the way along so it would be more spread out.

PRESIDING COMMISSIONER BYRON: Gentlemen, if I may. This looks to be a very good test and it helps eliminate a lot of speculation, if you will, and conjecture that we have been dealing with over he last number of months. I'd like to ask just a couple of quick questions. Are helicopters more or less susceptible to this kind of vertical uplift turbulence than fixed wing

aircraft?

MR. GRAVES: I can answer that, Commissioner. It is not a question of the type of aircraft, it's a question of the size or the weight of the aircraft.

PRESIDING COMMISSIONER BYRON: This is a pretty large --

MR. GRAVES: A very heavy, large airplane would be less affected than a very light aircraft. So a heavy helicopter would be less affected than a light airplane.

PRESIDING COMMISSIONER BYRON: Okay. The stack height and diameter. I understand the clustering is a little bit different but how do the stack heights and diameters compare to the Eastshore Energy Center?

MR. TREWITT: The diameter is exactly the same and the height at the Berrick facility is 50 feet, at Eastshore it's proposed 70 feet.

PRESIDING COMMISSIONER BYRON: So they would be 20 feet closer --

DR. BLUMENTHAL: Fifty-five feet I think.

PRESIDING COMMISSIONER BYRON: And will they be 20 feet higher?

MR. TREWITT: I'm sorry, they're 55 feet at Berrick. It would be 15 feet higher for the Eastshore.

PRESIDING COMMISSIONER BYRON: Okay, thank you. And let me ask, I think Mr. Blumenthal, Dr. Blumenthal, excuse me.

DR. BLUMENTHAL: Yes.

PRESIDING COMMISSIONER BYRON: What do you think are the potential non-conservatisms or the untested parameters from the test that you conducted that might lead to different results if you were able to conduct this over Eastshore?

DR. BLUMENTHAL: Well, certainly the different clustering, you know. It was very hard to fly exactly over each of the plumes since, for instance, they were clustered in terms of there were two operating, there would be three operating, then there would be four operating, depending on which one of those clusters was going. Because of that the effective buoyancy of each of the groups was a little different so in the light winds each one would bend over at a different amount.

So as we flew from north to south it's conceivable if we had zero wind we might have

gone, you know, through each one a little bit whereas I think we probably only hit two of the four when we went from north to south. But I don't think that any of them would be any stronger than what we already saw. We were pretty clear that we were in, you know, in the plume.

PRESIDING COMMISSIONER BYRON: Okay. And what altitude? Excuse me, what elevation were you at?

DR. BLUMENTHAL: The ground elevation was 4340 I think, 4300 and 40 feet. So it is at a higher elevation. I think you'd have to ask Greg Darvin in terms of the modeling how that would differ in terms of the force that was out there.

PRESIDING COMMISSIONER BYRON: Right. And it was a cold morning?

DR. BLUMENTHAL: It was cold.

PRESIDING COMMISSIONER BYRON: Still winds?

DR. BLUMENTHAL: It was about 30 degrees. We had different temperature measurements from different sensors. We eventually got data from the Tracy plant as well. It was about 20 degrees on the morning, in the morning when we started. By the end of the study

it was somewhere in the low thirties. One data point showed 37. But anyway, it was around there.

PRESIDING COMMISSIONER BYRON: Okay. So what would the range on the pressure density altitude be then at the time of the test?

DR. BLUMENTHAL: Well the density altitude is probably lower than the 4300 because it was cold. I didn't, you know, calculate that specifically. In terms of density, you know, on a standard day at the density at 5,000 feet, which is somewhat higher, is 15 percent lower than it would be at sea level. So this is maybe, you know, 12 percent lower. Because it's a cold day maybe it's less than that. So I think we're certainly within 15 percent of sea level conditions and we may be within 10 percent.

PRESIDING COMMISSIONER BYRON: How significant do you think the mass flow rate difference would be as a result of that pressure density altitude difference?

DR. BLUMENTHAL: I am not, I am probably not the one to answer that. I mean, I would guess that it would be not very significant but I think it would be just a guess on my part. I think you would need to ask Greg or one of the others.

HEARING OFFICER GEFTER: If the person who can answer the question would respond.

MR. DARVIN: Really the only difference would be temperature. The Berrick facility, because it's at altitude actually has a much hotter or a higher temperature than it would at Eastshore. But as far as everything else they would be identical.

PRESIDING COMMISSIONER BYRON: Once again I think that having test results is extremely helpful and I would like to thank the applicant for introducing this additional material. Thank you, gentlemen, for being here.

HEARING OFFICER GEFTER: The applicant is just submitting your testimony on actual traffic on the ground without any direct but if anyone has cross examination on that topic you have a witness here.

MS. LUCKHARDT: Yes we do.

HEARING OFFICER GEFTER: Okay.

MS. LUCKHARDT: And we did have him enter all of his --

HEARING OFFICER GEFTER: Then we are going to go forward and take the direct testimony of staff's witnesses and then in turn each other

party that has witnesses. And then the people that want a cross examination, we'll do that in turn as well.

MS. HOLMES: Staff has four witnesses in this topic area. Three are sponsoring a section entitled Traffic and Transportation of the FSA, which has been identified as Exhibit 200 and one is identifying an appendix to that exhibit. So why don't I begin with the first three, Shaelyn Strattan, Jim Adams and Eric Knight. They need to be sworn.

HEARING OFFICER GEFTER: Mr. Knight was sworn earlier. Ms. Strattan and Mr. -- who else?

MR. ADAMS: Adams.

HEARING OFFICER GEFTER: Oh Jim, okay. I'm sorry, Mr. Adams. Would you please be sworn. Whereupon,

JAMES ADAMS

SHAELYN STRATTAN

were duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

MS. HOLMES: And was the traffic and transportation testimony that's contained in Exhibit 200, the PSA, and Exhibit -- excuse me,

202, the PSA, and Exhibit 200, the FSA, prepared by you or under your direction?

MS. STRATTAN: Yes it was.

MR. ADAMS: Yes.

MS. HOLMES: And Ms. Strattan and Mr. Adams, was a statement of your qualifications contained in Exhibit 200?

MR. ADAMS: Yes it was.

MS. STRATTAN: No it was not.

MS. HOLMES: Would you like to give a statement of your qualifications at this time, please.

MS. STRATTAN: In summary, I have ten years experience in city, state and county government preparing CEQA evaluations including the transportation and traffic analysis, land use and other areas. Plus an additional 20 years experience evaluating, editing and preparing CEQA documents in full as an independent consultant.

MS. HOLMES: Can you please explain whether you have any specific expertise in the area of aviation safety.

MS. STRATTAN: Yes I do. I was an air traffic controller for the FAA for a little over six years and worked in all three areas, center,

tower and flight service prior to leaving in 1981.

DIRECT EXAMINATION

MS. HOLMES: Thank you. And Mr. Knight, I believe you gave a statement of your qualifications earlier. Are the facts contained in your testimony true and correct to the best of your knowledge?

MR. KNIGHT: Yes they are.

MS. STRATTAN: Yes.

MR. ADAMS: Yes.

MS. HOLMES: And do the opinions contained in your testimony represent your best, professional judgment?

MS. STRATTAN: Yes they do.

MR. KNIGHT: Yes.

MR. KNIGHT: Yes.

MS. HOLMES: And now I would like to turn to Appendix TT-1. Mr. Walters, can you please state your name for the record.

MR. WALTERS: It's William Walters.

MR. MASSEY: Is your mic on?

MS. HARGLEROAD: We can't hear.

MR. WALTERS: William Walters.

HEARING OFFICER GEFTER: Mr. Walters, we are going to swear you in.

Whereupon,

WILLIAM WALTERS

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Walters, did you prepare the Appendix TT-1 to the traffic and transportation section of Exhibit 200?

A Yes I did.

Q And is a statement of your qualifications included with Exhibit 200?

A Actually I don't believe they are.

Q Why don't you go ahead and give a statement of your qualifications then.

A I have over 20 years of experience in air quality modeling. I am a registered professional engineer, a chemical engineer, in the State of California. I have been doing air quality analysis and modeling analysis for, as I said, over 20 years.

Q Thank you. Are the facts contained in your testimony true and correct to the best of your knowledge?

A Yes they are.

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

A Yes they do.

MS. HOLMES: Ms. Gefter, if it is acceptable to you what I would like to do is to have the body of the traffic and transportation section of the FSA summarized first by Ms. Strattan and then have Mr. Walters separately summarize his appendix.

HEARING OFFICER GEFTER: That would be very helpful, thank you.

MS. STRATTAN: My name is Shaelyn Strattan, I am a Planner II with the California Energy Commission. Along with my colleague, Jim Adams, I prepared the traffic and transportation environmental review for the proposed Eastshore Energy Center.

We concluded the following regarding the project's compliance with existing applicable laws, ordinances, regulations and standards and the project's potential environmental impact in compliance with CEQA.

The Energy Commission staff has concluded that construction of the Eastshore

facility would result in less-than significant adverse traffic impacts provided Transportation-1 condition of certification is fully implemented. This condition would require the preparation, approval and implementation of a construction traffic control plan that would, among other provisions, schedule workers, deliveries and construction-related traffic outside of normal commute hours and address parking and pedestrian safety concerns.

However, the proposed Eastshore facility is a gas-fired power plant that would generate high velocity thermal plumes in an area where aircraft flight patterns are expected to occur below 1,000 feet above ground level, AGL.

Air disturbances resulting from power plant exhaust plumes have been identified in the FAA's safety risk analysis as a hazard that has the potential to cause air frame damage or negatively affect the stability of aircraft in flight. These situations are most critical for general aviation aircraft flying at low altitudes during takeoff or landing procedures and in close proximity to an airport.

The proposed Eastshore location,

approximately one mile south of the Hayward Executive Airport, is approximately 200 feet south of the preferred noise abatement departure path for Runway 28-Left. This area is also used by aircraft transitioning to the departure path -- excuse me, transitioning to pattern altitude for arrival and departure at the Hayward Airport.

This was indicated in our report as the number of flights that occurred directly over or in immediate proximity to the Eastshore site by tracks that were provided by the City of Hayward, Mr. Bauman, the public works director. Those tracks were referenced in our FSA and we have them available to be entered.

MS. HOLMES: If people would like to look at the specific tracks we do have them available.

MS. STRATTAN: And these were overlaid of the Eastshore site. This aircraft is also used, is primarily used by small, general aviation aircraft. They make up approximately 90 percent of the traffic in the Hayward Airport.

The Energy Commission staff has concluded that conditions of certification used at similar facilities to mitigate potential impacts

to aircraft overflying a facility's thermal plumes are not feasible for the proposed Eastshore location.

The FAA has also concluded that the normal see and avoid measures and an advisory to avoid over-flight below 1,000 feet AGL are infeasible for the Eastshore project.

These conclusions are supported in part by a pattern altitude of 600 to 800 feet MSL proximity of the Eastshore location to a preferred noise abatement departure path and to the Hayward Airport's traffic pattern zone, operational limitations associated with encroachment into the above Oakland airspace, lack of a visible plume at the Eastshore facility, and a congested airport area constrained by noise abatement restrictions on three sides.

Therefore Energy Commission staff concludes that the Eastshore Energy Center project would result in a significant, adverse impact that cannot be mitigated below significance if the project is developed at the proposed location.

Avoidance of the proposed Eastshore location is further complicated by the need for pilots to avoid flights below 1,000 feet AGL over

or in the vicinity of the Russell City Energy Center. This requirement increases the complexity of maneuvering within the Hayward airspace and limits pilot options.

The FAA and Caltrans Aeronautics both concur that it is impractical and in some cases unattainable for pilots to see and avoid both power plants while attending to their primary responsibility of safely operating their aircraft.

Therefore Energy Commission staff have concluded that in conjunction with the operation of the Russell City facility the Eastshore project's incremental effects on flight operations within the Hayward Executive Airport airspace and the existing and future utility of the Hayward Executive Airport is cumulatively considerable and a significant adverse impact that cannot be mitigated below significance if the project is developed in the proposed location.

Finally the Eastshore project does not conform with the stated purpose of Section 10-6 of the City of Hayward Municipal Code to promote the health, safety and general welfare of the inhabitants of the City of Hayward by preventing the creation or establishment of airport hazards.

As noted earlier, air disturbances resulting from power plant exhaust plumes have been identified as a hazard that can endanger the maneuvering of aircraft. The proposed Eastshore location is within the turning zone identified in Section 10-6.20. It is immediately adjacent to the airport's traffic pattern zone as identified in the Hayward Executive Airport Master Plan and is in an area used by aircraft transitioning to pattern altitude for arrival and departure at the Hayward Airport.

Creation of an airport hazard in this area is inconsistent with the purpose of this section of the Hayward Municipal Code and would therefore be prohibited by this ordinance. Therefore Energy Commission staff concluded that the Eastshore project does not comply with all applicable laws, ordinances, regulations and standards.

MS. HOLMES: Thank you.

And now Mr. Walters, would you please give a summary of your testimony, Appendix TT-1.

MR. WALTERS: Yes. Using the data that I obtained from the applicant I calculated the vertical velocity potential during calm winds for

the stacks. I used certain assumptions for the stacks. I combined the seven stacks. There are two groups of seven and there's quite a bit of separation between the two so I didn't group all fourteen.

And also with the radiator I used an equivalent stack diameter due to the fact that it's multiple stacks within a single body of a unit rather than using a bunch of different stacks then grouping them such as the way the applicant did. Which is maybe a little bit conservative but considering the physical layout it is probably not too conservative.

Also in making that assessment I based it on a paper that was provided to the Energy Commission on another case from Trinity Consultants, specifically Mister -- I should know his name since he is the -- Bruce D. Turner -- D. Bruce Turner.

HEARING OFFICER GEFTER: Could you tell us who Bruce Turner is.

MR. WALTERS: He is kind of one of the founding fathers of dispersion modeling.

In doing this analysis I used to an extent the Katestone Method, which is the same

method that the applicant used. I had some issues with the Katestone Method, in particular the initial assumption that does not include any of the thermal buoyancy, which is the first part of the reduction, velocity reduction, and I don't believe that that is quite accurate.

And essentially I also provided, and maybe now would be the time to hand out, a comparison of my result and the applicant's results.

MS. HOLMES: We have several exhibits, their information is already contained in the testimony, if the Committee would find them useful. One is the tracks that Shaelyn referred to. It's the visual representation of her testimony regarding the number of overflights and arrivals and departures in the month of April that's referred to in her exhibit. Also Mr. Walters has prepared a visual representation of the differences between his analysis and the applicant's analysis. There is no new information, it's just visual depictions of that information.

HEARING OFFICER GEFTER: Do you have copies for the parties as well as the Committee?

MS. HOLMES: I do.

MS. GRAVES: Hearing Officer Gefter, the City actually has the Hayward Executive Airport penetration gate plot for the Eastshore site which was previously referenced as Attachment 9 in Dr. Blumenthal's testimony and it provides the information that you're looking for. We actually have copies of that here and we were going to enter it as an additional exhibit.

HEARING OFFICER GEFTER: That would be fine.

MS. HOLMES: That's fine, that's actually a different month. We had referred to April in our testimony and you have the plots for a different month.

MS. GRAVES: We have June. But it's the same information. We've got 15 copies.

HEARING OFFICER GEFTER: That's fine. I'll look at staff's and distribute it and then when your witness testifies for the City of Hayward we'll look at your exhibit as well.

MS. GRAVES: Thank you.

HEARING OFFICER GEFTER: Ms. Holmes, can we identify these tables as additional exhibits so that we can keep track of them in the record?

MS. HOLMES: We can. I believe we're at 208.

HEARING OFFICER GEFTER: We need copies over here.

MS. HOLMES: Eileen, can you provide copies to the Committee first.

PRESIDING COMMISSIONER BYRON: Ms. Allen, I understand you are done testifying today; is that correct?

MS. ALLEN: Yes.

PRESIDING COMMISSIONER BYRON: I wanted to thank you for showing up on such short notice overnight to be here this morning.

MS. ALLEN: Certainly.

PRESIDING COMMISSIONER BYRON: Thank you.

HEARING OFFICER GEFTER: Ms. Holmes, we're going to identify Exhibit 208 as the track target that is incorporated by Ms. Strattan's testimony.

MS. HOLMES: I beg your pardon, I didn't hear your question.

HEARING OFFICER GEFTER: Exhibit 208 is the track target. Do you want to identify what this is?

MS. HOLMES: I'll have Ms. Strattan identify what it is.

MS. LUCKHARDT: We're trying to figure out if this is the same one we've looked at before.

MS. STRATTAN: This is the one that was presented in summary in the traffic and transportation section identifying 45 overflights between 500 and 1,000 feet. I don't believe you have seen the actual track data. The track data for Russell City was similar to this and was provided in a similar format. You may have seen that.

MS. LUCKHARDT: But this has not been presented before?

MS. HOLMES: The statement in the FSA about the 45 flights is based on this and that is the reference that is presented in the FSA.

MS. LUCKHARDT: Okay. But the document itself we have not seen before.

MS. HOLMES: That's correct.

MS. LUCKHARDT: So this is a brand new document that we have not yet seen and we need some time to analyze before we can determine whether we need to object to it.

HEARING OFFICER GEFTER: Well you'll have an opportunity to cross examine the witness later today.

HEARING OFFICER GEFTER: Excuse me. Ms. Holmes, I thought I heard you say earlier that this was not new information, that this was graphical depiction of information already used in the analysis.

MS. HOLMES: It's graphical depiction of the 45 flights over the Eastshore site --

PRESIDING COMMISSIONER BYRON: So it is intended --

MS. HOLMES: -- for the month of April.

PRESIDING COMMISSIONER BYRON: Right. So it is intended to help us to visually understand the data that you have.

MS. HOLMES: Yes. It shows you -- Yes.

MS. STRATTAN: And it was in the reference list for traffic and transportation section of the FSA.

MS. GRAVES: It appears though that what we have gotten is -- Mr. Bauman submitted to you a packet that showed the summary of all the flights and then individual tracks for each flight. So what I have in front of me, I have three different

pages and each page shows a different flight. So I am not sure that any one of us has in front of us the summary of all flights.

MS. LUCKHARDT: So obviously we're going to need some time to see what everybody is producing to determine what it is and what it says.

HEARING OFFICER GEFTER: Ms. Strattan will explain that.

MS. LUCKHARDT: So if you could just hand them out now and then we'll look at them. For efficiency we can address what they say or don't say later.

MS. GRAVES: We have the full and correct packet now.

MS. STRATTAN: Regarding the first page of the plots, this is a composite or summary depiction of the 45 aircraft that crossed the Eastshore gate as defined by the air traffic control system at the airport between April 2 of 2007 and April 29 of 2007. It is in color because it depicts arrivals, departures and overflights. I guess it depicts it in the vicinity and direct overflight of the Eastshore facility.

Attachments to that summary page show

examples of aircraft that flew within that gate between 500 and 1,000 feet during that same time frame. It does not show all of the tracks for all of the aircraft that transited that gate.

HEARING OFFICER GEFTER: So Exhibit 208 includes all of the, that entire package plus the cover sheet.

MS. STRATTAN: Yes it does. And that is all of the information that was provided to us by the Hayward --

MR. ARMAS: Excuse me for a second.

HEARING OFFICER GEFTER: Off the record, please.

(Whereupon a discussion was held off the record.)

HEARING OFFICER GEFTER: Let's go back on the record.

MS. STRATTAN: This is the information that we have used to determine that aircraft do fly on a regular basis over the Eastshore location below 1,000 feet AGL.

MS. HOLMES: Thank you. And we also had a chart that showed the comparison of the results of the modeling analysis prepared by Mr. Walters with the modeling analysis.

HEARING OFFICER GEFTER: And that would be Exhibit 209.

MS. HOLMES: Thank you.

MS. LUCKHARDT: And is that --

HEARING OFFICER GEFTER: And that is entitled Plume Velocity Curves, Seven Engines?

MR. WALTERS: Yes. And I will further explain exactly what, what is being compared.

PRESIDING COMMISSIONER BYRON: Ms. Strattan, a quick question, if I may. The overflight data, it's incredible that we have this kind of information, that we can retain this. And if you are not able to answer the question perhaps someone else can. If we know the two-dimensional location of these flights at all times in order to have this track we probably also have the altitude information, correct?

MS. STRATTAN: That is correct. We initiated the gate at between 500 and 1,000 feet. However, the adjoining samples that are beyond the summary page actually indicate the altitude at which the aircraft crossed that gate and also indicated the type of aircraft that flew at that altitude at that location.

PRESIDING COMMISSIONER BYRON: So I am

not, without asking you about gates and everything let me just ask the question I am interested in. Do you know the altitude at which all these tracks that are in proximity of the Eastshore location, do you know the altitude that they are crossing?

MS. STRATTAN: I don't know the altitude for all of the tracks except within the parameters of 500 to 1,000 feet.

PRESIDING COMMISSIONER BYRON: Well those would -- Yes, or less than 500, of course.

MS. STRATTAN: These particular tracks, my understanding is they did not track below 500/1,000. Mr. Bauman could verify that. I know summary tracks for other months that were earlier referenced by the applicant do show flights below 500 feet in that vicinity.

However, the tracks that we have the actual examples of show transits between 505 and I believe 919 feet over the Eastshore site.

MS. GRAVES: Commissioner Byron, if it helps the --

PRESIDING COMMISSIONER BYRON: Excuse me, just a moment, please. Nineteen feet?

MS. STRATTAN: Nine hundred and nineteen feet.

PRESIDING COMMISSIONER BYRON: Nine hundred and nineteen feet, sorry.

MS. GRAVES: The Exhibit the City will be submitting shows a graphical of the flight so you'll get that information.

PRESIDING COMMISSIONER BYRON: I'll be patient, thank you.

HEARING OFFICER GEFTER: Mr. Walters, do you want to address Exhibit 209.

MR. WALTERS: Yes.

PRESIDING COMMISSIONER BYRON: You have a new job, Mr. Walters. Thank you.

MR. WALTERS: This comparison is comparison of that engine modeling that was done. I did not graph a comparison for the radiators because the methods that we used were so different. They are really not comparable since I used the equivalent stack and they did not use that method. I didn't feel that it was really a fair comparison due to the very difference in the nature of how we did the modeling.

What I presented in my testimony starts at 300 feet altitude and goes up. It is represented by the red line. This is for, like I said, a set of seven engines. I did not model all

14 together due to that extra separation. And this is the applicant's results for the set of seven that are provided in the testimony that the applicant went over earlier.

You'll notice that the difference is very slight. I am slightly higher at the lower altitudes. I'm a little bit lower at the higher altitudes. The difference in the assumptions, essentially what drove the difference in the assumptions on my part was trying to smooth out the curve.

And the reason the curve isn't smooth is the fact there are essentially two different methods and a bridge that's used by Katestone. The first method is essentially what they call the jet part of the plume and it completely neglects the heat in the plume. So it basically says that the velocity will reduce regardless of whether or not there is any temperature in it to the same degree, whether you've got a 20 meter per second that's at ambient, a 20 meter per second that's at -40 degrees or a 20 meter per second that's at 5,000 degrees.

And I believe that that curve is a little too steep for plumes that do have a highly

buoyant property to them that they will, in fact, exert some of that property during the initial drop in velocity. And so the velocity will drop at a slightly lower rate than it would without the thermal component.

That may not be much of an adjustment to this curve but it is something that needs to be at least talked about and something that I thought needed to be corrected in the curve. The curve, as you can see, is a bit disjointed because of the fact there are two different methods, and like I said a bridge, which is just a linear interpolation between the two.

And below 300 I didn't feel comfortable with the results because of that. And the other major difference is the assumption of when the plumes are mixed. They use a specific calculation for when they consider full mixing based on the Katestone Method. And I believe the plumes are mixed a little bit earlier and essentially become a coherent body at a much lower height, at least for the engines. Obviously I start with a coherent body for the equivalent stack diameter for the radiators.

So that is essentially the difference in

the results. It is really not, not that much. I wasn't sure it was enough to argue about but apparently it is.

The other part of my testimony that I would like to go over was I did provide a note in here that notes the difference between the plume average velocity, which is what this calculation is, and --

HEARING OFFICER GEFTER: I'm sorry, where did you provide the note? Is that in your testimony?

MR. WALTERS: Yes. It's down at the bottom of page -- in Appendix TT-1 at the bottom of page 4.10-41 and continues on to 4.10-42. It notes that the maximum velocity is approximately two times the plume average velocity. So essentially when you get to the center of that plume body the maximum will be twice.

The rationale for that, for theoretical, it's just Gaussian curve and that is two times. I can provide either information from textbooks or I even have an e-mail from Katestone, from Christine Killip, that agrees with my assessment that the max is two times the plume average. of course that is the theoretical basis. And I say about

two times because I have seen a notation of an empirical result that was slightly more than two. It would have been about 2.2, but essentially two.

PRESIDING COMMISSIONER BYRON: If I may? Other than the thermal aspect that you mentioned in the plume, the temperature of the gas not being considered in your analysis, do you think there is any other non-conservatism in your analysis, in your modeling?

MR. WALTERS: There are probably things that are overly, perhaps overly conservative and things that are under-conservative. And let me go over each of those.

PRESIDING COMMISSIONER BYRON: Okay.

MR. WALTERS: The things that may be a little bit too conservative in terms of the radiators. Like I said, using the equivalent stack may be slightly conservative, although I think it is fairly reasonable for something that is in a single, a single body without, you know, specific separation of buildings or stacks. You know, this is oriented in a single frame so it makes for a very good analysis for that.

The other issues with the radiator would be the heat balance. The information I received

on heat balance from the applicant was only for 100 degrees Fahrenheit, which doesn't happen a whole lot here. However, there was some information, although hard to discern in the AFC, that also had some information on 32.

I tried to adjust the difference in temperature that they used, which I obtained, was 40 degrees increase in temperature from submittal as a follow-up for a data response from Mr. David Stein. I adjusted that downward to about 28 or 29 degrees for the 59 degree case and a little bit lower for the 32 degree case. I may be a little bit too high for the 32 degree case but like I say, I don't have a really good heat balance for that case.

And one of the issues that does impact this particular plant is the fact that the heat projection does go up as temperature goes up for the radiators. So the actual impact, plume impact at 32 is going to be less than it will be at higher temperatures. So doing overflights at 32 wouldn't be the best condition for the radiators. Good for the engines but not for the radiators.

Now in terms of things that -- Again in terms of being potentially over conservative for

the engines is my assumption that things are fully mixed at a slightly lower height than Katestone does, although I believe that once there is essentially a coherent body it exerts itself as a single shape.

And I did make an adjustment for that by changing the -- going lower in terms of the adjustment for buoyancy flux. In the Katestone equation it is essentially to a .33 power. I adjusted it down to the .25 power to deal with the fact, number one it's shape is not round and so it's not the best shape and also the fact that I'm assuming a slightly lower height. So I did adjust it a little bit in that regard. And that is why I am lower in the curve as you go to the higher, higher elevations. Why I am lower than the Katestone Method equivalent.

PRESIDING COMMISSIONER BYRON: This is still, for modeling of this kind of thing, is still enormously close correlation between two independent analyses; wouldn't you agree?

MR. WALTERS: It's pretty close. Only, you know, if you look at a particular point and you're really, you know, because we're worried about the 4.3. And since my 4.3 is shown at a

lower elevation than their's that's, you know, I guess where the argument comes in.

PRESIDING COMMISSIONER BYRON: And you modeled down, you said, to about 300 feet AGL, above ground level?

MR. WALTERS: Yes. I didn't feel the results below 300 would have been accurate using my method and I didn't -- I wasn't able to find a good bridge to the starting velocity. I didn't feel like I had a good equation to actually get from the starting velocity to that, to that later point.

PRESIDING COMMISSIONER BYRON: Okay, and just one last question then. It would seem down to about 300 feet above ground level that both you and the applicant have vertical velocities that are less than the five meters per second, which would correspond to just roughly what, about 1,000 feet per minute?

MR. WALTERS: I'd have to calculate that.

PRESIDING COMMISSIONER BYRON: Five meters per second?

MR. WALTERS: If you don't mind I can take out my calculator and give you the exact --

PRESIDING COMMISSIONER BYRON: No, that's okay. Five meters per second, is that the limit? We can do the math later.

MR. WALTERS: Right.

PRESIDING COMMISSIONER BYRON: Okay.

MR. WALTERS: We're both under five meters per second.

PRESIDING COMMISSIONER BYRON: All right, thank you.

MR. WALTERS: For the plume average velocity.

Now to go to the other side of the equation was the things that may not be conservative. And the main factor of potentially not being conservative again is I only did seven of the engines, not all fourteen. In the radiators I didn't do the combined for those either, I didn't combine the two.

And the last thing that isn't conservative is there's really no way to combine the entire facility. And the radiators are not much further away or further apart from the engine stacks than the engine stacks are from each other. So there could be, obviously should be some sort of effect of merging of those two plumes.

And none of the methods, you know, that we have for simple calculations will deal with situations where the stacks are different. It is when they're equivalent like these that you can try to punch them together mathematically to come up with a result.

PRESIDING COMMISSIONER BYRON: So you would expect your results to be higher if you were able to include the effects of both the plume and the radiators.

MR. WALTERS: Well, depending on whether I'm overly conservative with some of the other assumptions. Not changing those assumptions, yes, I would assume that the numbers should go up if I could put the radiators and the engine stacks all together in a calculation.

PRESIDING COMMISSIONER BYRON: Thank you. Very good.

HEARING OFFICER GEFTER: Any other direct for Mr. Walters?

MS. HOLMES: No, do you want us to --

HEARING OFFICER GEFTER: I want you then call the witnesses from the FAA and from Caltrans.

MS. HOLMES: Mr. Butterfield with the FAA, could you please state your name and have the

Hearing Officer swear you in.

MR. BUTTERFIELD: My name is David Butterfield. I'm an Aviation Safety Inspector for Operations with the FAA.

HEARING OFFICER GEFTER: Thank you. We're going to swear you in, please.

MR. BUTTERFIELD: Thank you.

Whereupon,

DAVID BUTTERFIELD

was duly sworn.

HEARING OFFICER GEFTER: Thank you. Ms. Holmes, the witness is available for you to --

MS. HOLMES: I'm sorry, did you want to do the Caltrans witness as well, as a panel?

HEARING OFFICER GEFTER: Yes, we can do it as a panel. Mr. Cathey, why don't you tell us your name too and I'll swear you in.

MR. CATHEY: Yes. My name is Gary Cathey, I am Chief of the Office of Airports, Caltrans Division of Aeronautics.

HEARING OFFICER GEFTER: Thank you.

Whereupon,

GARY CATHEY

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Butterfield, could you please explain, could you please begin by telling us what your duties are at FAA.

A Yes. I am an Aviation Safety Inspector for Operations. We validate the certification of pilots, of aircraft and check their operations to make sure they're in conformance with federal aviation regulations. That's a summation of our, that's a short version.

Q And have you prepared an e-mail from yourself to the Energy Commission, specifically to Eric Knight dated October 16.

A And the subject was?

Q This is what we have identified as Exhibit 206.

A Yes, I have a copy of that.

Q Thank you. And are you also familiar with the letter from Joseph Rodriguez regarding the Eastshore Energy Center that was provided to the Energy Commission staff?

A Yes I am, I helped Mr. Rodriguez draft that letter.

MS. HOLMES: Thank you. And that's what

has been identified as Exhibit 204.

DIRECT EXAMINATION

BY MS. HOLMES:

Q And Mr. Cathey, did you prepare a letter regarding the Eastshore Energy project and provide it to the Energy Commission staff in November?

A Yes I did.

Q That's what has been identified as Exhibit 203.

MR. MASSEY: Can you use the microphone.

MS. HARGLEROAD: We can't hear.

MR. MASSEY: We're having trouble hearing you, sorry.

MS. HOLMES: I'm rarely accused of not speaking loud enough.

Thank you. What I would like to do now is have each of the witnesses in turn summarize the documentation and their agency's position regarding this facility, beginning with Mr. Butterfield.

MR. BUTTERFIELD: Thank you. I have been advised I should inform you of my qualifications before I start. I have been with the Federal Aviation Administration for two-and-a-half years. I am a qualified pilot and an air

transport pilot, rating in four aircraft. I've got a multi-engine land rating and a single-engine land rating.

I am not a helicopter rated pilot and I have a great deal of respect for guys who do fly helicopters. In my mind, too many moving parts. And having ridden in the back of a helicopter on a number of occasions it seems to me that they are always in a constant state of light turbulence.

I have over 16,000 accumulated in 37 years.

HEARING OFFICER GEFTER: Mr. Butterfield, could you get closer to the microphone, it's a little hard to hear you.

MR. BUTTERFIELD: Thank you.

HEARING OFFICER GEFTER: Yes, thank you.

MR. BUTTERFIELD: The FAA is required by statute, Title 14, Code of Federal Regulations Part 77, to do a hazard determination on any proposed structure. That determination is limited to the brick and mortar aspects of the structure, in this case the Eastshore Energy Center. The brick and mortar aspects of the Center do not pose a hazard to navigation.

We do not have a statutory authority to

render an opinion on plumes. The only thing we have is the safety risk analysis that was identified during the Russell City hearings. That analysis is still valid. I want to point out the realities of that analysis, if I may. That analysis is strictly a database search of FAA/NTSB/NASA databases on accidents and incidents over a 30 year period of time.

I am not an expert on power plants but from what I am hearing today Eastshore and Russell City are new technology-type plants. Is that correct? They're fairly new out there.

PRESIDING COMMISSIONER BYRON: Let me just answer briefly, they are different types of power plants.

MR. BUTTERFIELD: Okay, but both are new.

PRESIDING COMMISSIONER BYRON: And it would be best -- No. The Russell City plant is a gas turbine and the Eastshore Center are reciprocating engines. But it would be best if you confine yourself to the Eastshore, I think that would be most helpful. Thank you.

MR. BUTTERFIELD: In the 30 years of analysis from 1975 to 2004, that's throughout the

entire country, all sorts of power plants. The majority of older technology power plants had taller stacks, therefore could not be built close to airports. And they also emitted a visible plume which pilots would avoid much as they would avoid convective weather.

So for the analysis to say that there were no accidents or incidents associated with plumes is not, is not a big leap of faith because most pilots are not going to fly through one if they can see it. And the other thing is, because the older technology stacks were taller and away from airports pilots transiting from point A to point B were typically above 1,000 feet when they would fly in the vicinity of these power plants.

So now we have a situation with Eastshore that is close to an airport that emits a plume that is largely invisible and the FAA does not have statistical data specific to that type of operation.

The safety risk analysis does say that the risk of catastrophic damage to an aircraft over flight of a plume is acceptably low. But you need to understand the greater context of that data that was mined from these databases.

MS. HOLMES: Thank you. Mr. Cathey.

MR. CATHEY: Yes, I'll give you a little bit of background. I'm a commercial, multi-engine, instrument-rated pilot. I have about 22 years of experience flying aircraft. I have been with the Division of Aeronautics since 1995 and I have a master's in aeronautical science.

My current position is chief of the division, of the Office of Airports. Our primary responsibilities as defined in the Public Utilities Code is to ensure that the air navigation system, which is our system of airports, public use airports in the State of California is as safe as possible. So one of our functions is to comment on proposed structures that occur in the vicinity of airports, which is the case right here.

We are very concerned with the location of an additional power plant in light of the fact that the Russell City power plant was approved by the Commission. We feel that pilots would have to -- would be distracted from their primary duties of flying the aircraft while operating at an exceptionally low traffic pattern altitude.

In fact I think it is probably the

lowest traffic pattern altitude in the state, for good reason, to deconflict with instrument approach aircraft flying into Oakland and also to stay below the Class B airspace at San Francisco International. It is a very unusual situation and we feel it warrants unique scrutiny by all concerned parties.

And we take to heart the FAA safety risk analysis when it makes a recommendation. And I'd like to quote without getting into the statistical analysis their recommendation as a result of looking at the effects of thermal plumes is to amend the FAA Order 7400.2 which considers a plume-generating facility as a hazard to air navigation on expected flight paths past less than 1,000 feet above the top of the object. This is indeed the case with Eastshore with respect to its location relative to Hayward Airport.

HEARING OFFICER GEFTER: Mr. Cathey, what were you quoting from, what document?

MR. CATHEY: I am quoting directly from the FAA's safety risk analysis of overflight of industrial exhaust plumes dated January of 2006. It says a lot of things and it gives a lot of interesting, statistical information, which my FAA

counterpart has just discussed and I won't go into that.

But the bottom line is, that's the recommendation and it is intended to be adopted for the use of future airspace determinations, specifically for power plants in close proximity to airports that have traffic pattern altitudes less than 1,000 feet. And all those criteria match exactly the situation that we're discussing right now.

HEARING OFFICER GEFTER: Okay, I want to interrupt you just for a minute in terms of that document. Do any of the other parties sponsor that document? Because I know it has been referred to. Is the City sponsoring that document?

MS. HOLMES: The FAA study is being sponsored, I believe, by the applicant.

MS. LUCKHARDT: Is that the FAA study that we have all been referring to?

MS. HOLMES: Yes.

MR. GRAVES: The safety risk analysis.

MS. LUCKHARDT: Okay, that's fine. It's attached to Marshall Graves' testimony; it's also a specific exhibit. In our's it's Exhibit 39.

HEARING OFFICER GEFTER: Thank you. So we're referring to Exhibit 39. Do you have it, is it the entire document in Exhibit 39?

MS. LUCKHARDT: Yes it is.

HEARING OFFICER GEFTER: Thank you. Okay, Mr. Cathey.

MR. CATHEY: Sure. One point I would like to make is that -- the report prepared by Mr. Graves, throughout the report it specifically mentions the fact that air traffic --

MS. LUCKHARDT: I'm sorry, are we doing rebuttal at this point.

MR. CATHEY: No, I am just making a point of information.

HEARING OFFICER GEFTER: No, the witness is just providing direct testimony.

MS. LUCKHARDT: But this is rebuttal to Mr. Graves' testimony.

MR. CATHEY: I'm not rebutting anything but if you want to stop me from commenting, I will.

MS. LUCKHARDT: And none of that has been permitted in this --

MR. CATHEY: Okay, I won't --

MS. LUCKHARDT: -- in this hearing to

this point.

MR. CATHEY: I won't comment on it.

HEARING OFFICER GEFTER: Ms. Luckhardt, we want to hear what the witness has to say so I'm going to allow it. Please continue.

MR. CATHEY: All right. The point I wanted to make is that throughout the document it's inferred that the majority of aircraft flying in the vicinity of Hayward Airport will be at an altitude of 1,000 feet MSL or greater and there are many references to that.

And I would like to say that in my opinion the vast majority of aircraft operating in the vicinity of the airport will be conducting takeoffs and landings to and from that facility and approximately 50 percent of those aircraft are itinerant aircraft. In other words, the airport is being accessed by pilots who are not based there and who in all likelihood will not be particularly familiar with all the infrastructure to include this additional power plant that will be located in vicinity of the airport.

Furthermore, although the traffic pattern altitude is 650 feet MSL, above mean sea level or about 600 above ground level, an

instrument procedure missed approach will take aircraft as low as 493 feet above ground level and that is part of the missed approach procedure.

On a pilot check ride a private pilot is expected to, is given the tolerance up to 100 feet deviation from the altitude that he is assigned. Therefore a pilot could be as low as 393 feet above ground level and still be well within the regulations of operating his aircraft. Three-hundred-ninety-three feet above the ground is not a lot of distance, in my opinion, to separate the aircraft from the peak plumes that will be generated when this plant is operated at peak periods of time.

But I just wanted the members to understand and realize that just because a traffic pattern altitude is stipulated, aircraft pilots under these circumstances will be completely legal to operate an aircraft as low as 393 feet. And furthermore, if a pilot is looking on the ground trying to figure out where he should not be flying, especially considering there will be a second area, he may not be glued to that number. It is quite likely and possible that he might be flying lower than that, which would cause him to

get into these plumes.

And the additional point I would like to make is that when I conducted an overflight of the Sutter power plant in December of 2003 the purpose of that overflight was not to conduct a scientific test, it was rather to validate the claims that were provided to the Division of Aeronautics as a result of the Blythe power plant being constructed approximately one mile away from the Blythe Airport, which is about the same distance that this power plant has been proposed to be constructed at.

I was curious if the claims that I was receiving were true or not so I took a member of the Energy Commission up on a flight and conducted several overflights of the power plant. And I can't speak as to whether, what the similarities and dissimilarities are of the two facilities, the existing one I flew over and this proposed one, I'll let the Energy Commission staff address any questions you have on that.

But I can absolutely testify that at approximately 1,000 feet I was feeling what I would define as light turbulence using the definitions that were previously provided and I

terminated the elevation that I was flying at the point of 600 feet. I thought that jeopardized controllability and maneuverability of the aircraft.

I have been flying aircraft, like I said, for over 22 years and I was anticipating getting into that turbulence. Whereas a pilot flying, especially an itinerant pilot flying to or from the airport, may not be anticipating that type of turbulence. And I think there is a good potential for a pilot to over-control the aircraft in the event that he experiences what I would deem to be asymmetrical lift.

And I did experience asymmetrical lift at one of my overflights. One wing got more lift as a result of flying over the exhaust plume than the other one did, which caused the aircraft to roll. I was anticipating it, I was able to quickly correct it, but a pilot who is not anticipating that could overreact, especially in such a very busy environment as operating at the Hayward Airport.

HEARING OFFICER GEFTER: Ms. Holmes, could you elicit from the witness which power plant and which Energy Commission staff person was

with him and the dates of that overflight.

MS. HOLMES: I don't know the dates of the flight. I would suspect --

HEARING OFFICER GEFTER: No, you could ask him.

MS. HOLMES: But my understanding is that the Energy Commission --

HEARING OFFICER GEFTER: No, ask the witness.

MS. HOLMES: What date was the overflight of the Sutter facility?

MR. CATHEY: The flight was conducted on December 18, 2003.

MS. HOLMES: And what was the name of the staff person?

MR. CATHEY: Eileen Allen.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: And what was the name of the power plant that you flew over, do you remember?

MR. CATHEY: I believe it was called Sutter, Sutter power plant.

HEARING OFFICER GEFTER: Thank you.

MR. CATHEY: Sure.

PRESIDING COMMISSIONER BYRON:

Gentlemen, thank you both very much for being here. It is wonderful to have individuals of such stature, and both pilots as well, from your agencies. You have been very helpful in answering questions today so thank you.

HEARING OFFICER GEFTER: Appreciate your being here. At this point is staff, are you finished with your direct testimony and all your witnesses?

MS. HOLMES: Yes.

HEARING OFFICER GEFTER: Okay, we'll ask the witnesses to stay when cross examination will begin. But not yet because we have City of Hayward and also Alameda County witnesses and then later group petitioner witnesses. Let's just press on rather than taking a break.

Mr. Bauman, I know you're the witness. Are you comfortable testifying there next to your attorney?

(Laughter)

MS. GRAVES: We'll just pass the mic back and forth.

HEARING OFFICER GEFTER: City of Hayward.

MR. GRAVES: Mr. Bauman, would you

please introduce yourself and your position with the City.

HEARING OFFICER GEFTER: Mr. Bauman, we need to swear you in first.

Whereupon,

DR. ROBERT BAUMAN

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DR. BAUMAN: I am Bob Bauman, I am Director of Public Works for the City of Hayward.

DIRECT EXAMINATION

BY MS. GRAVES:

Q Was a statement of qualifications included with your trial testimony?

A It was.

Q Do you have any changes or corrections to your trial testimony?

A Yes I do. Page seven of my testimony references an FAA letter that advises mitigations would be impractical, unreasonable and unattainable. And yesterday we received an additional letter from the FAA, the manager of Safety and Standards, that reminds the City of its duty to avoid citing uses near the airport that could be a hazard.

This new letter from the FAA advises the City to prevent Eastshore from being cited at its current location. This letter is now included in my testimony as further basis for the City's finding that Eastshore at its present proposed location is incompatible with the Airport.

HEARING OFFICER GEFTER: And that letter is marked as Exhibit 416 and Ms. Graves distributed it to the parties yesterday.

BY MS. GRAVES:

Q Do you have any further corrections to your testimony?

A Yes. I would also like to include as part of my testimony Hayward Executive Airport charts that relate to penetration plots for the Eastshore site. This particular set of data was also Attachment 9 of Mr. Blumenthal's testimony that he struck this morning. It was prepared by my staff.

It is also similar to the data for the month of April that was referenced today by Ms. Strattan. But this is actually data for the whole month of June. And one of the advantages is we figured out how to print out a plot that actually shows the location of each of the

overflights. In this particular case --

HEARING OFFICER GEFTER: Mr. Bauman, let me interrupt for one minute, I am going to identify this as Exhibit 417. It is a chart that you are describing to us right now. It is entitled Hayward Executive Airport Penetration Gate Plot for Gate East Shore. You can continue now that we have identified it. It has been distributed to all the parties.

DR. BAUMAN: Yes. What it also identifies is they are similar to the April data but in this particular case there are actually more overflights total that were -- during this particular month. But it shows what a typical month would be like today.

MS. LUCKHARDT: Okay, so this is a different month than we have seen before and a different chart than we have seen before; is that correct?

MS. GRAVES: This is the -- This was the month that was included in Dr. Blumenthal's testimony that was --

MS. LUCKHARDT: We did not include this in Dr. Blumenthal's testimony.

MS. GRAVES: It is the same data.

DR. BLUMENTHAL: No, it isn't.

MS. LUCKHARDT: No it isn't, it's not included. We struck that testimony. But I don't even think it's the same month, I think it's a completely different document.

MR. GRAVES: We did not introduce this as evidence.

MS. GRAVES: No, that's what you struck this morning in the corrected testimony so it shouldn't be new data.

MS. LUCKHARDT: I'm not sure -- this is not the same month that we had evaluated so this is new to us.

HEARING OFFICER GEFTER: Ms. Luckhardt, you can make that objection for the record. I would like to hear the witness testify about this table.

MS. LUCKHARDT: I've made my objection. It's brand new, we have never seen it before, we need time to evaluate it. Go ahead.

HEARING OFFICER GEFTER: Thank you. We'll keep that in mind.

PRESIDING COMMISSIONER BYRON: Just so I understand, Ms. Luckhardt. Your objection is to the new exhibit 417?

MS. LUCKHARDT: Yes.

PRESIDING COMMISSIONER BYRON: Okay.

HEARING OFFICER GEFTER: Mr. Bauman, you many continue and explain the table.

BY MS. GRAVES:

Q First I would just like to finish introducing his testimony. Were you done with the chart?

A We did a number of charts in preparation for Russell City and Eastshore and the one that I had copied is actually the month of May. The month of June was the one that was referenced as Exhibit 9; the month of April is the one that was earlier referenced by the staff. Essentially they are very similar data and they basically represent the distribution of flights over that particular location. The second sheet actually is, again, a similar representation of all of the tracks. This summarized the information in terms of location both vertically and horizontally.

Q Mr. Bauman, are you familiar with the other exhibits referenced in your testimony identified as numbers 409 through 414?

A I am.

Q Are the statements of facts and opinion

in your testimony true and correct to the best of your knowledge and professional judgment?

A They are.

Q Thank you. Could you just provide a brief summary of your testimony.

A As Public Works Director I am responsible for the operation of the airport and in making recommendation to the City Council regarding land use issues that may impact the airport and have participated in all of the airport discussions regarding both the Russell City Energy Center as well as the Eastshore Energy Center.

For the Hayward Airport, of course the Hayward Airport is in the City's jurisdiction and the City is responsible for making appropriate decisions as to land use issues that are associated with the airport, and specifically not creating a hazard at the airport.

However, flight procedures, including notification of pilots, are established by the Federal Aviation Administration and controlled through the airport tower. The City does not have the power to cite non-conforming use and then change the traffic pattern or issue notification

to the pilots. That would be the responsibility of the FAA and the tower.

To comply with FAA guidelines and the law requiring the City to keep land uses from becoming an airport hazard the City and the local Airport Land Use Commission or ALUC have developed the Airport Land Use Policy Plan and the Airport Land Use Safety Zone for the airport.

The City and the ALUC use these zones as well as the master plan and the City's Airport Approach Zoning Code to ensure development in the airport area is compatible with airport safety zones in order to protect both people and property.

The Airport Approach Zoning Code defines an airport hazard as any use of land which obstructs airspace. The EC proposed directly, in essence directly across the street, is within about no more than 500 feet of the boundary of the airport traffic pattern zone. As previously mentioned --

HEARING OFFICER GEFTER: Mr. Bauman, Mr. Bauman.

DR. BAUMAN: Yes.

HEARING OFFICER GEFTER: I want to

interrupt you just for one moment, please. We have had a lot of information on the distance between the airport and the site. I wonder if you can just tell us that directly, how far is the site from the airport? The Eastshore Energy Center site from the airport.

DR. BAUMAN: The airport, what you want to be concerned with is how far it is off of a centerline of the runway. The airport traffic zone is one mile from the centerline of the airport. It's basically an oval that is one mile on either side. The actual location of say the center, the approximate center of the development site is about 400 feet from that one mile. So it is approximately one mile plus 400 feet.

Shall I continue?

HEARING OFFICER GEFTER: Yes, you may continue. We may have other questions for you in a little bit, thank you.

DR. BAUMAN: As already been mentioned there are significant current restrictions on the use of airspace in the area of the Hayward Airport. The FAA representatives have referred to it as one of the most restricted airspaces probably in the state. Each restriction to

airspace must be evaluated as a potential hazard. And a potential hazard, no matter how small the potential risk, is not taken lightly.

I am not an expert on thermal plumes and I believe there has been a great deal of discussion about the question as to the effect of flying over thermal plumes and also the velocity of thermal plumes over this particular plant. From our perspective the fact that this particular site is so close to the traffic pattern, that is the existing traffic pattern.

Because as airport operations at the airport increase, which the master plan projects and our latest numbers demonstrate are correct, there will be more operations. And as there are more operations, more pilots in the traffic pattern will result in actual flights further around that traffic pattern and widen that traffic pattern.

HEARING OFFICER GEFTER: Related to that, in your written testimony you indicate that the airport is located in a Class D airspace. Could you explain what that means.

DR. BAUMAN: Class C airspace. Hold on a second, let me get it from the master plan. I

had the page marked and I seem to have not found it exactly. Class C is controlled airspace surrounding lower activity, commercial service and some military airports such as Hayward. It is basically the airspace designation for the Hayward Airport.

HEARING OFFICER GEFTER: You're saying Class D as in dog or Class E?

DR. BAUMAN: C.

HEARING OFFICER GEFTER: C. Because in your written testimony it says D.

DR. BAUMAN: Class D airspace is controlled airspace surrounding airports or with a traffic control tower. It's basically the difference, we do have an aircraft traffic control tower for the City of Hayward.

PRESIDING COMMISSIONER BYRON: But it would be similar to the Palo Alto, San Carlos Airports.

DR. BAUMAN: That is correct.

HEARING OFFICER GEFTER: Are you saying that it is a Class C and a Class D.

DR. BAUMAN: No, I'm sorry, it's a Class D.

HEARING OFFICER GEFTER: It's which?

DR. BAUMAN: D, sorry. I apologize.

One of the questions I was asked to address is whether Eastshore meets the standards for a variance, specifically a variance to our airport approach zoning ordinance. There is nothing that I believe could balance the potential risk to the community and potential significant restrictions on future airport development.

The fact that we have already an already sited energy center, which is the Russell City Energy Center, which I participated in, and in fact strongly recommended that there be mitigation for the siting of that site. That mitigation being a NOTAM and other recommendations that were eventually incorporated into the application.

There is a difference. You have heard and will probably hear from more people today that location is important. There is a significant difference between the location of the Russell City Energy Center, which has been approved with mitigation, versus the Eastshore Center. Because the Eastshore Center is so close to the existing traffic pattern and will have more aircraft that are flying over it that are in the traffic pattern looking and being concerned with the issues of

other aircraft in the traffic pattern. And if there were to be any NOTAM or any sort of other notification as previously mentioned by the FAA testimony that would in itself be a cumulative, significant impact.

PRESIDING COMMISSIONER BYRON: And NOTAM stands for notice to airmen?

DR. BAUMAN: Notice to airmen. Basically it is identification of information that a pilot needs to be aware of if he is approaching the airport. So particularly things that are hazards and you would need to avoid.

The fact that the FAA has most recently stated that mitigation would be impractical, unreasonable and unattainable is actually more than enough for the City to oppose Eastshore at this location.

One of our significant concerns and it is referenced in the most recent FAA letter from George Akin is something that we have to take very seriously. And that is the fact that we have to ensure in order to continue to receive federal funding that we are meeting the requirements of the federal assurances.

HEARING OFFICER GEFTER: Is this the

letter that is dated December 17, marked as Exhibit 416?

DR. BAUMAN: That is correct. And that it would be a significant impact to the City if it was at some future date found by the FAA that we were not consistent with those assurances. The airport is not only vital for airport traffic in the region but it is also of significant value to the city as a generator of revenue. So we need to protect that. And therefore if I was asked to make a recommendation to the City Council if they were making this decision I would definitely oppose siting of the Energy Center at this location.

HEARING OFFICER GEFTER: Mr. Bauman, there has also been a lot of discussion in the record about the flight patterns, the landing and the takeoffs relative to some of these -- I guess the landing areas near the Eastshore Energy Center. I wonder if you can again identify the locations for those landing areas and the takeoff areas and what the flight patterns are. I know we have a lot of tables showing that but we need locations.

MS. GRAVES: Just for clarity, are you

asking for a picture of the traffic pattern zone? That is in the Final Staff Assessment Traffic and Transportation section. I think it's Figure 5, let me verify that.

HEARING OFFICER GEFTER: I would like you to put in, to state in the record what the distances are from where the power plant is proposed to be and where the flight patterns are. How close do the flight patterns come to the proposed power plant site?

MS. GRAVES: This is the one from the record, he's going to look it up right now.

MS. LUCKHARDT: I think we need Traffic and Transportation Exhibit 4-A for traffic patterns.

HEARING OFFICER GEFTER: Let's go off the record as we settle on what we are going to look at here.

(Whereupon a discussion was held off the record.)

HEARING OFFICER GEFTER: Back on the record. Since it's Exhibit 200 it is Table 5 in the Traffic and Transportation section; is that correct?

MR. ADAMS: Actually it's Figure 5.

HEARING OFFICER GEFTER: Figure 5.

MR. ADAMS: Eastshore Energy Center Hayward Executive Airport Traffic Pattern Zone.

HEARING OFFICER GEFTER: Thank you. Mr. Bauman, do you want to describe to us the distances related to the power plant site?

DR. BAUMAN: Certainly. That oval that is drawn there, if you took it along the centerline, the distance from the centerline of Runway 28-Left, you would find that it is exactly one mile. That's what the traffic is defined for this particular airport.

As you can see by the sketch of the project site it is no more than approximately 400 to 500 feet depending upon where you measure from the boundary of that oval. If you were to look at the actual traffic tracks where aircraft fly, which is the second sheet of the May data, the second page of that. Exhibit 417, sorry. On that exhibit it shows with a little -- I need to point to it.

HEARING OFFICER GEFTER: You have to describe it as you point to it because the reporters can't take a picture of where you're pointing to.

DR. BAUMAN: Okay.

HEARING OFFICER GEFTER: You have to describe it in words.

DR. BAUMAN: What I am showing is the location of the Russell City Energy Center. What these tracks --

HEARING OFFICER GEFTER: We're on the Eastshore project. You're showing us the Eastshore site.

DR. BAUMAN: I'm sorry, Eastshore, the Eastshore Energy Center. The pattern, okay, that you see, is basically representing that oval. And in fact if you looked at more and more data you would see that most of the flights are within that oval but a lot of them are outside that oval. And the closer you get to that oval the more flights there will be over it.

That's my point about this is different than Russell City. Russell City, almost every single one of the tracks that went over it are from aircraft that are basically approaching from the west directly into the airport. They are not in the traffic pattern. More of the aircraft that go over this site would be in the traffic pattern.

And as the operations for the airport,

which are projected to increase do increase -- in fact in this last year they went up 12 percent. There will be an expansion of that traffic pattern and there will be more aircraft going over that particular site.

HEARING OFFICER GEFTER: And you are saying that the traffic pattern then would encroach upon the 400 that is outside that one mile oval.

DR. BAUMAN: Absolutely, there will be more aircraft that will actually go over the site.

PRESIDING COMMISSIONER BYRON: Mr. Bauman, we are also fortunate to have you today, reading your r,sum,; the City is fortunate to have you as well. The testimony is very helpful. Just a couple of quick questions that are kind of implicit in your testimony and I'd like to make sure I understand. I am looking at Item 32 in your testimony on page seven.

HEARING OFFICER GEFTER: And that is Exhibit 402.

PRESIDING COMMISSIONER BYRON: Based on the potentially serious impacts to the airport, the danger to pilots and the risks to the health, safety and general welfare of city residents.

What is the danger to pilots?

DR. BAUMAN: The danger to pilots, because of the question as to the safety issue of flying over a plume. The potential for them to be at lower altitudes in this particular area.

I am still not certain, okay, what the evidence is as to the safety issue. But our concern would be a hazard to a pilot who ends up being upset in going over a plume and being affected as far as controlling the aircraft.

PRESIDING COMMISSIONER BYRON: So again you're implying, and I am just trying to understand. The danger is that he crashes, correct?

DR. BAUMAN: That is correct and that is a significant danger.

PRESIDING COMMISSIONER BYRON: And so is that then also the concern to the health and safety and welfare of the citizens?

DR. BAUMAN: Absolutely.

PRESIDING COMMISSIONER BYRON: That they would be crashed into.

DR. BAUMAN: This is, it is not a laughing matter but the situation as far as any risk to injury due to a crash is something we want

to do everything possible to avoid.

PRESIDING COMMISSIONER BYRON: Okay. But those are the risks that you are referring to.

DR. BAUMAN: That is correct.

PRESIDING COMMISSIONER BYRON: I just want to make sure that you haven't introduced something else that I am not aware of.

What is the potential serious impact to the airport?

DR. BAUMAN: The significant impact to the airport is restriction of the airspace. There is the concern I already mentioned about if it was found that we were not abiding by our assurances, that is a significant monetary impact. We have received in various years FAA funding to support the airport, depending upon the year, on the order of maybe $1.5 million in construction projects. We do everything necessary to make sure that we are meeting those assurances. The other is simply impact on the viability of the airport if there are impacts to the airspace.

PRESIDING COMMISSIONER BYRON: Thank you very much.

MS. GRAVES: That concludes the City's direct testimony.

HEARING OFFICER GEFTER: Thank you. Let's go off the record for a minute to discuss the schedule.

(Whereupon a discussion was held off the record.)

HEARING OFFICER GEFTER: Back on the record. I'll ask Alameda County to present your witnesses on this topic and also identify the exhibits that your witnesses are sponsoring.

MR. MASSEY: Do you have any preference on which witness to take first?

HEARING OFFICER GEFTER: It's up to you.

MR. MASSEY: Let's start with Mr. Needle.

HEARING OFFICER GEFTER: I can swear both witnesses in at the same time.

MR. MASSEY: Okay, let's do that.

HEARING OFFICER GEFTER: If you both could identify yourselves.

MR. NEEDLE: David Needle.

MR. BERLIN: Larry Berlin.

Whereupon,

DAVID NEEDLE

LARRY BERLIN

were duly sworn.

HEARING OFFICER GEFTER: Thank you.

MR. MASSEY: Thank you.

DIRECT EXAMINATION

BY MR. MASSEY:

Q Mr. Needle, could you please state your name and your title.

A David Needle, County Commissioner, Alameda County Airport Land Use Commission.

Q And Mr. Needle, was a statement of qualifications submitted along with your declaration in this matter?

A Yes it was.

Q And is that statement of qualifications correct?

A Yes it is.

Q Along with your declaration you submitted copies of two resolutions and four staff reports, the Airport Land Use Commission's resolution on the Russell City Energy Plant, Exhibit 512, the Airport Land Use Commission's resolution on the Eastshore plant, Exhibit 513, the Airport Land Use Commission's staff reports on the Russell City plant, Exhibits 514 and 515, and the Airport Land Use Commission's staff reports on the Eastshore plant, Exhibits 516 and 517. Are

those documents true and correct copies to the best of your knowledge?

A Yes they are.

Q Mr. Needle, there has in the past been some confusion over the structure and purpose of the Airport Land Use Commission and the documents that you have submitted provide some of that information. But I wonder if you could please briefly explain to the Commission, to the Energy Commission, the structure and purpose of the Airport Land Use Commission.

A By state law many airport land use commissions have been formed around the state at airports where there seems to be a requirement set for such a commission. The purpose of the commission is to investigate, look into, make recommendations on any structure, construction event that is going to happen within the airport influence area of that airport in terms of land use and compliance with the laws regarding such land use. And also to investigate and make recommendations on safety issues regarding events within the airport influence areas.

Q In addition to the structure and purpose of the Airport Land Use Commission can you give us

a little bit of a background on the composition of its membership.

A The members of my particular commission, the Alameda County Airport Land Use Commission, have some long-term pilots, the current manager of the Oakland Airport, Steve Grossman, I am not sure of his current title, myself.

As is stated in my qualifications I have been for the last decade working with the City of Alameda on the Airport Operations Committee, working with the Port of Oakland regarding compliance with certain settlement terms, noise abatement, land use, the master plan of events at Oakland Airport. Working with citizen groups regarding events at Oakland Airport.

So the Commission consists of people that have knowledge in the area, have a concern to ensure that the rules are followed in the area, and have considerable long-term experience in dealing with airport matters. And yes, I'm a pilot. Sorry.

Q The Airport Land Use Commission went through a process of review of the Eastshore Energy Center application and passed a resolution which is provided as Exhibit 513. Can you

describe the process you went through in reviewing the Eastshore application that led to the resolution that was passed?

A Yes. We reviewed all the data. Data was presented to us. Much of the data you have already seen here, reports from the proposal, reports from the other commissions, reports from the FAA.

And after looking through the data did additional investigation. At least two of us did our own personal extra investigation. I talked with other pilots that I know, asked about their issues with plumes. I looked at the airspace around Hayward. I talked with an FAA consultant that I have used on many other projects to get an understanding of the report structure and the data that the FAA was currently giving us.

And incidently I would like to applaud the FAA for today actually making clear the true larger story of the data as was in their original report. Thank you.

We also take a look at the larger situation. The pilot that has been spoken of in all of these discussions regarding his or her particular issue with turbulence is only half of

it. There are other pilots in that flight pattern. And more than one pilot will be consumed with the details of doing that takeoff or landing. And when one of them wiggles in the sky and another pilot sees that, that continues down the chain. So it is not just whether or not one particular pilot has an issue, it is the cumulative effect as to how that ripples through.

I have flown through turbulences. I have never reported any of the turbulences that I have flown through. I don't know if they were plumes. I don't know what they were caused by, they weren't worthy of a report. I have talked to other pilots who have said nope, never felt one, and other pilots who said yes, we fly through them often.

So I recognize that the effect is real. We have all recognized that. The problem as to the danger is pretty much undocumented. And so we as Commissioners needed to step past the mere words of some reports and recognize the larger situation.

So the process we went through was to not just understand the data and listen to the testimony but it was also to understand that this

particular airport is already very restricted. That operations in that flight pattern are already difficult. To add more difficulties is just not a good idea. So we came to the conclusion that this Energy Center at that location is unacceptable.

Q Thank you, Mr. Needle. Does that conclude your direct comments?

A Yes it does.

MR. MASSEY: Moving on to Mr. Berlin.

DIRECT EXAMINATION

BY MR. MASSEY:

Q Mr. Berlin, could you please state your name and your role in this proceeding.

A My name is Larry Berlin. I am acting as an aviation consultant for Alameda County.

Q In addition to your declaration and sworn testimony you provided a statement of qualifications. Is that statement of qualifications correct to your knowledge?

A It is correct.

Q You also submitted a report to serve as your direct testimony in this matter. Is that report based on your professional experience and knowledge?

A It is.

Q And could you please provide a summary of the major points that you make in this report.

A Okay. Again, I am Larry Berlin. Just to talk a little bit about my flying experience. I have over 40 years of flight experience as an FAA Gold Seal Certified Flight Instructor, single- and multi-engine land and instruments. I have given over 7,000 hours of flight instruction to every level of student from student pilot to advanced training for airline transport pilots.

I am also an FAA certified ground instructor, advanced in instruments. And in that time I have taught on a full-time basis classes in aerodynamics, meteorology, emergency procedures, FAA regulations, navigation, et cetera. I have also acted as an FAA Part 141 check pilot within the school where I test pilots' abilities to pass to the next stage or to take the flight check.

During that time period I also taught Army ROTC cadets for a couple of years. I have flown FAA Part 135 air taxi operations, which were cargo flights and passenger. I hold an FAA license, airline transport pilot license and I am also a volunteer aviation safety counselor.

One thing I wanted to mention that

during flight testing or teaching students to fly you also teach them to recover from usual attitudes. And it gets really into a lot of understanding of aeromedical factors, which includes spatial disorientation.

When an aircraft deliberately or undeliberately is thrown into a steep bank or forced into a roll, an uncoordinated roll to a steep bank, and that bank is abruptly stopped. In the case that someone realizes they have been thrown over into a steep bank and you abruptly stop. Your inner ear, because of the cilia in your inner ear and the fluid in your inner ear, gives a very strong feeling of a roll back in the opposite direction.

And there is a conflict even though you have visual cues outside flying in most cases that people are doing in the Hayward pattern, there is a strong tendency of your spatial orientation to cause a lot of disbelief and a slowness of reaction. Because on one hand you can see you are thrown into a bank but your inner ear and your balance is telling you you're going back the other way. And under lower visibilties that can be problematic.

I also have 32 years in airport operations at Oakland International Airport in aircraft crash fire rescue as a battalion chief and airport operations supervisor. And for the past 11 years up until September I was the north field manager at Oakland International Airport.

I have collaborated with and worked with many FAA divisions and Caltrans. I have instructed people in the 7460 process, people inside the port and outside our agency so they can submit the form correctly. And I have a bachelor of science degree in organizational behavior.

I want to try to make this as brief and succinct as I can without going over other testimony. I also disagree with the completeness -- and I won't go into all the details as stated by other individuals of the FAA safety risk analysis, aircraft overflight of industrial plumes. It doesn't state -- It doesn't state in that study how many power plants are located right inside an influence area of an airport. It doesn't state that at all.

I know of the Blythe plant that people refer to that started in 2004. I have read the reports from at least four pilots that said they

have experienced the aircraft upset and thrown into steep banks.

Something else I'd like to clarify. The entire portion of the airport traffic pattern falls under the minimum safe altitude rule, the portion that says, except for taking and landing. So a lot of laypeople will think the takeoff is the takeoff portion and the landing is the landing portion. But the entire pattern, the cross-wind leg, the downwind leg, the base leg and files all part of that except for takeoff and landing rule.

So there is actually nothing -- I wouldn't say, nothing. There is nothing that says that aircraft have to fly at 1,000 feet in a traffic pattern. Obviously in the case of Hayward it's a lot lower altitude.

And then we go even further than that, that wasn't mentioned in any of the documents that I have read. We need to talk about special VFRs, special visual flight rules. There are situations where the ceiling is less than 1,000 feet. And that's the lowest layer of clouds, less than 1,000 feet, and visibility less than three miles.

Typically you cannot fly in Class C or D airspace without a clearance. But once you are

given clearance then the minimums are you will remain clear of clouds and have at least a one mile visibility. To go even further than that, the airmen's information aeronautical information manual, which is published by the FAA, states that the applicable rules, except for taking and landing and the other rules, don't apply under special VFR because the controlling factor is that you remain clear of clouds. So there is nothing preventing me from flying an aircraft or a helicopter at 200 feet under special VFR.

In addition there was no mention of FAR Part 135. FAR 91 is mentioned a lot, which is operating essentially not-for-hire. But FAR 135 is really operating for-hire and that's the rules that apply. And under those rules anywhere, not just even in a traffic pattern, helicopters operated by 135 pilots can operate down as low as 300 feet anywhere under visual flight rules and aircraft can operate down to 500 feet under visual flight rules.

And then we go even further under special. One could fly down at 200 feet over a power plant. There is no regulation to prohibit that.

Secondly, as was alluded or mentioned by others, the traffic pattern is not a fixed designated thing by the FAA saying, this is the pattern you fly, this is how far the legs are out from the runway surface.

In a lot of references I saw actually only a depiction from Hayward's noise brochure to show pilots the better way for noise abatement, it is not a rule or anything, the best way to fly to avoid houses. So it will show turnouts from the pattern. And that's what it's designated for is to give you some kind of schematic. But the Hayward noise abatement brochure, just like when I was at Oakland our brochure, they have to show a pattern but that is not scale at all.

So many times when you reference your documents that were already submitted you will see reference to a traffic pattern. And maybe someone should be over that pattern and maybe they shouldn't be out further or if they're out further they should be at least 1,000. Those nuances there are very important because the traffic patterns will expand and contract during any given day. The more air traffic there is in a traffic pattern practicing takeoff and landings or

whatever they're doing, generally the wider and further out the patterns go.

I don't want to go into too much detail but just to give you a great understanding is generally pilots are taught that when they turn the next leg of a traffic pattern, which is a rectangular course, they do not turn to the next leg until the traffic ahead of them is past their wing tip. So you don't turn right in close to them. Therefore during a busy pattern sometimes it gets painfully slow. You want to get in to land and you might be out two miles downwind. You may be out three miles on base leg to final coming back in to land.

One other thing that affects the traffic pattern is speed of an aircraft. If you're in a faster aircraft because there's a great mix of aircraft in a traffic pattern you are not going to turn in behind an aircraft which you're going to overtake. So typically, specifically at Hayward or other airports, when you are -- when you don't want to follow too closely another aircraft you'll extend your leg outside of them. So somebody turning from the cross-wind leg, which is the one right 90 degrees after takeoff, to go downwind, I

might extend out well enough so that I don't overtake the slower aircraft. Easily I could be out a mile, two miles, there's no rule on that.

So again, traffic patterns can expand and contract. It depends on the amount of volume of traffic in a traffic pattern and the speed of the aircraft that you're following. So looking at diagrams saying they should be out that far, they shouldn't be out that far, really none of that is pertinent because there's no guidelines or no published diagrams by the FAA saying, you will fly this track over the ground. So I wanted to spend that little extra time clarifying that.

Also in some of the documents I've seen it was mentioned that you should be maybe 1,000 or 1400 feet transitioning the Bay. So let's say you're coming across from the San Carlos Airport to Oakland or Hayward. They will tell you to remain at or below 1400 feet. So to say that you're at 1400 feet would be a misnomer.

Coming in over the Russell City or Eastshore site is not correct. There are several factors that determine that. One is if the pilot feels uncomfortable flying that close to approach traffic into Oakland they can fly as low as they

want, pretty much.

And the other thing that determines where they are at a given point is the pilot's judgment. Because you want to enter -- Wherever you deem the traffic pattern, the downwind leg of the traffic pattern, wherever you deem that is you need to be at traffic pattern altitude before you hit that pattern so you're not descending down on top of aircraft below you. So it is a misnomer.

And what has been mismarked or cited is that you have to be at 1,000 or 1400 feet coming under the Oakland traffic or even further out in the Bay. And you can be as low, you could be at 600 feet at that point.

Another thing that I noticed, there was no mention of the cumulative effect of the forces from Eastshore and Russell City plants. Granted they may not put out the visual plume at the stack but what happens is you have an uplifting force from both power plants. The air is rising. Well anyone knows in aviation that as air rises it cools at about three-and-a-half degrees Fahrenheit for every 1,000 feet you go up.

They found at the Blythe area, the Blythe plant, I've read reports where the

temperatures were in the 40s, which is possible in the desert, less likely, and the humidity is high, which is more prevalent in the Bay Area. That uplifting force can cause those molecules, moisture molecules in the air to rise, condense, and when they condense and the temperature and dew point were within three degrees of each other it can form a cloud.

I looked at this and started to figure, because over Eastshore that's exactly where the in-route traffic to Oakland's Runway 29-Passover. The documents were submitted in my testimony. I asked the person preparing it to take out, just for example, the heaviest traffic. Not the heaviest, the one that produces the highest wing tip vortices or turbulence, which is an MD-11 and a Boeing 757 from that mix. And I looked and I noticed they were flying over that area at around 1800 to 2200 feet on average.

What I have seen in reports from Blythe is that they have seen a plume rise as high as 2900 feet. Now what are the impacts for Oakland? Whether it's a rare occasion or not. Traffic into any big, busy airport, they try to increase the flow of traffic. And one way to accomplish that

is by doing what is called a visual approach.

By regulation a visual approach is authorization for the pilot to deviate from the published approach and proceed by reference to the ground and they have to have the next aircraft in sight. So if I was flying the approach and I have course guidance that gives me centerline, and I have course guidance that gives me the descent angle, I am allowed to deviate from that.

So let's say I'm just a little tired, I want to deviate from that and I do so. Well I might have Oakland in sight further out and higher up. As I come in I may not see the cloud. It could be at nighttime also. A plume cloud would not be reportable by Oakland because it's five-and-a-half miles or so out from their final approach.

If I were the pilot and lost sight of Oakland Airport during the approach, by regulation I would have to execute a missed approach. Now again, visual approaches are to provide closer separation from traffic. If you don't have it they have another standard on how far out aircraft have to be from each other.

If an aircraft misses the approach

because they entered into a moisture cloud created by a plume they would have to execute a missed approach and it is likely that visual approaches into Oakland would have to cease for that time period that that cloud still exists. So I wanted to point that out that I didn't see in the other literature.

I did mention that helicopters under Part 135 can operate down to 300 feet, or anybody lower under visual flight rules, I mean special VFR flight rules.

One thing I didn't see in a lot of the reports was taking a scientific study and that is why I disagree with not only the FAA's finding of non-hazard in that typically the FAA will have flight procedures look at the Part 77 surfaces and also the terminal route procedures to make sure that that physical obstruction does not interfere with any of those procedures or safety areas, so to speak.

But they didn't go further and I was kind of surprised that they didn't go further and ask their researchers in Oklahoma City who I have spoken to, was this submitted to the other divisions of FAA to look at. Was it submitted to

FSDO offices? The local people didn't know about it. Was it submitted to your people that investigate accidents?

Their PhD researchers are capable of conducting research to find out what is the hazard of flying into a plume in an asymmetrical fashion that was mentioned. And asymmetrical means you are getting your lifting force on one side, and as has been reported at the Blythe plant, being thrown into a 45 to 50 degree bank.

What they could have done is taken -- And to do it more scientifically as opposed to other tests that have been done, was to take an unsuspecting pilot in the left seat of the aircraft, a safety pilot in the right seat, in a typical training aircraft. Fly them over the plume and watch the reaction of the unsuspecting pilot in the left seat. And the right pilot, the right seat safety pilot would know and he could take over. And look at the reactions of pilots from student pilots to private to even advanced pilots.

So that's where I think the study was faulty. It didn't say how many power plants were located close to airports. And if there weren't

any then the statistics of, you know, 800,000 operations or whatever, or reports, there was never one on flying into a plume. A lot of people wouldn't even know who to report it to. They just would think, I hit some turbulence, and not say a thing to anybody else.

One other factor -- and I am almost done. I noticed in a lot of the literature that I had to read in preparation for this that only the localizer Runway 28-Left approach was cited. That is the more precise but it is still not a precision approach into Hayward Airport. It is something that gives you a course guidance, a sensitive course guidance into centerline.

They didn't talk about the rest of the approaches into Oakland. I don't want to go into too much detail but there is the VOR or GPS approach, there is a VORD-ARG approach. Another one, the alpha and another approach. And that uses the VORTAC, which is a navigation facility at Oakland.

And because that facility is six-and-a-half miles from the missed approach point at Hayward Airport, and the type of facility it is, it is much less sensitive than a localizer needle,

so therefore citing one of those approach plates like the Runway 28-Left GPS or VR-alpha approach -- it even states on the approach plate that the final approach is aligned at 1150 feet left of the approach end of Runway 28-Left. It states it on there because it brings you in on an angle to the runway.

The fact that the sensitivity of the signal is less than for a localizer a pilot could even deviate probably at least 3,000 feet left of that course and would be very close to Eastshore and still be legal. And if they were in cloud conditions and couldn't see outside they wouldn't know they're -- they're not flying by reference to the ground.

So I think it's important to note that there are approaches, again, to Hayward that are less sensitive. They bring you in at an angle and the angle is left, more towards the shore side. And it's because that's the alignment the course from Oakland puts you into the runway because of it's location referenced -- sorry, in reference to Hayward Airport.

Just give me a second, I'm almost done here. In summary I have like four, quick

recommendations. But because of the fact that traffic patterns vary there is no set distances for patterns. Someone could fly under Part 135 under visual flight rules in a helicopter down as 300 feet and fixed wing at 500.

And then the added factor that under special VFR conditions aircraft can fly even lower than that because the determining factor is stay clear of clouds. Helicopters don't have the same visibility requirements. Even a mile, they're down to a half-mile. It makes it very hard to see. You think a half-mile is far, it is not very far flying.

So my recommendations are the following: The application to permit the Eastshore plant be denied for all those aforementioned safety reasons. The Eastshore plant proposed location should be moved and located and located well outside of any influence area for the airport.

Or a decision to approve the Eastshore plant should be postponed for a minimum of three months giving the FAA additional time to fully utilize their staff of the various and divisions and departments, conduct scientific and actual test to determine the cause and effect of aircraft

entering a plume symmetrically or asymmetrically.

That would include aerospace engineers to look at it scientifically. What I mentioned about having a pilot that has no idea they're getting into this plume in the left seat with a test pilot on the right seat. After those tests determine if it was safe or not, then a determination of non-hazard occur, rather than the heretofore, you know, does it interfere with Part 77 or TERPs procedures.

I also recommend the State of California under their Regulations of Aeronautics 21403(c) which states:

> "The right of flight in aircraft includes the right of safe access to public airports, which includes the right of flight within the zone of approach of any public airport without restriction or hazard."

And under that I believe they should enforce that rule.

And mitigation issues that people suggest or have been used before I have found by research are not practical. A NOTAM or a notice

to airmen is for temporary -- it states clearly in the Airmen's Information Manual 5-1-3 that they are used for temporary hazards to pilots. It doesn't state, permanent hazards.

And after researching the Blythe plant that FAA and NOAA, who operate what is called the automatic surface observation system or AWOS, automatic weather observation system, they will not allow under their own regulations notices to pilots about hazardous, permanent markings. Thank you.

HEARING OFFICER GEFTER: Thank you, Mr. Berlin. I have couple of questions. One is, would you be able to stay later for cross examination? Because clearly I'm sure a lot of people have questions for you.

MR. BERLIN: Sure.

HEARING OFFICER GEFTER: Thank you. And the second question is, have you flown in and out of the Hayward Executive Airport?

MR. BERLIN: The bulk of my flying, full-time four years at Sierra Academy of Aeronautics at Oakland and teaching instruments. I have flown into Hayward and Oakland and all of the Bay Area airports numerous times. I have

flown all the approaches and I have experienced all those approaches at Hayward.

HEARING OFFICER GEFTER: Thank you.

MR. MASSEY: That concludes Alameda County's direct.

HEARING OFFICER GEFTER: Thank you very much. Appreciate your being here today and we'll look forward to talking to you later this afternoon too.

We are going to go off the record now and return at 2:30.

(Whereupon, the lunch recess was taken.)

--oOo--

AFTERNOON SESSION

HEARING OFFICER GEFTER: On the record. Everyone is present. We are going to continue with direct testimony of witnesses on the traffic and transportation topic. Ms. Hargleroad, would you like to call your first witness, please.

MS. HARGLEROAD: Yes. Well first I just would like to point out that one of our witnesses --

HEARING OFFICER GEFTER: We can't hear you.

MS. HARGLEROAD: He went to the car. Can you hear?

HEARING OFFICER GEFTER: No.

MS. HARGLEROAD: Okay. It's on, the light is on and I have nothing.

HEARING OFFICER GEFTER: Okay. When Ms. Hargleroad is finished with her direct testimony Mayor Sweeney is here and he wants to address the Committee.

MS. HARGLEROAD: Well excuse me, could I just take --

MR. MASSEY: It's on again.

MS. HOLMES: Oh, it's on? Okay. I just would like to note that Gary Cathey is one of our

witnesses and he has to leave by 3:30.

HEARING OFFICER GEFTER: We understand that. You can call him on direct right now.

MS. HARGLEROAD: That's what I was planning to do and he had to go down to his car. But I would like to start off with Andy Richards.

HEARING OFFICER GEFTER: Fine. Please call your witness and I will swear him in.

MS. HARGLEROAD: Okay. Andy Richards, please.

HEARING OFFICER GEFTER: Mr. Richards --

MS. LUCKHARDT: I'm sorry, did we have prefiled testimony on this individual?

MS. HARGLEROAD: Mr. Richards is an FAA official. I have -- We have e-mail exchanges concerning FAA officials are participating agencies in these proceedings and it was not necessary to provide a declaration for the FAA. Mr. Richards did write --

HEARING OFFICER GEFTER: Wait a minute, it is necessary to provide declarations of the witnesses who are going to testify, I explained that to you many times. However, we would like to hear from Mr. Richards so I am going to accept his testimony under protest of the parties because I

would like to just proceed. And they can move to strike it later.

MS. HARGLEROAD: I would also -- In that later discussion I will be submitting the declarations establishing that representation.

HEARING OFFICER GEFTER: Okay.

Mr. Richards, I'm sorry for all the legal technicalities.

MR. RICHARDS: That's okay.

HEARING OFFICER GEFTER: It is certainly not your fault and we'd love to hear from you right now. I'm going to swear you in.

Whereupon,

ANDY RICHARDS

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

BY MS. HARGLEROAD:

Q Hi, Mr. Richards, thank you for coming. Can you state your position.

A I am District Manager of the San Francisco District. Basically I have management oversight for 13 air traffic control towers, all in the Bay Area.

Q Okay. And before I continue I just want

to also introduce, Mr. Richards, you wrote a letter on December 18 to the California Energy Commission?

A Yes I did.

MS. HARGLEROAD: Okay, I will provide --

HEARING OFFICER GEFTER: Do we have copies of that letter?

MS. HARGLEROAD: Yes I -- Yes I do have copies of those letters and I will provide that to you right now.

BY MS. HARGLEROAD:

Q Can you tell us how long you have worked at the FAA and what various positions.

A Yes, I have had 26 years of experience working for the FAA. I presently, as I said, I am District Manager of the San Francisco Air Traffic Control District for oversight of 13 air traffic control towers in the Bay Area, which includes San Francisco, Oakland and Hayward.

Prior to this position I was manager of the San Francisco ADO. I was responsible for the managerial oversight of a $200 million grant and aid program yearly that the FAA provides airports. My jurisdiction was Northern California and Nevada. Hayward and Oakland were in that

jurisdiction. Mr. Bauman referred to federal grants he has received from the FAA. I was the signatory for those grants for the past five years.

Prior to that I was manager of Bay TRACON, which is the air traffic control facility which provided all radar air traffic control services for the entire Bay Area. I was there for approximately five years.

Prior to that I held numerous air traffic control positions as a supervisor, assistant manager, manager of San Francisco tower as well as a controller myself.

Q Thank you. And you have your December 18 letter that you directed to the CEC?

A Yes I do.

HEARING OFFICER GEFTER: This letter is marked as Exhibit 727.

MS. HARGLEROAD: Thank you.

BY MS. HARGLEROAD:

Q And could you just summarize the points in that letter.

A I'd like to begin by saying I agree with your staff assessment which states the project site proximity to the traffic pattern at Hayward

Executive Airport and the downwind departure route for Runway 28-Left would unreasonably complicate aircraft maneuverability. The project site would also impact departure procedures off Runway 10-Right when the airport is in the southeast configuration, that is normally during poor weather conditions.

Additionally based on information I've researched in your docket we the FAA have conducted a preliminary review of impacts to the airport and the traffic pattern. I would like noted for the record that altering the Hayward Airport traffic pattern for plume avoidance is not a reasonable alternative. Any alteration to the Hayward Airport traffic pattern would not only impact local hayward pilots but it would also affect aircraft arrivals into Oakland International Airport.

Raising the traffic pattern altitude would place the aircraft at Hayward Airport in unsafe proximity to turbojet aircraft arrivals to Runway 29 at Oakland International Airport.

The raised traffic pattern would not have the separation required by the FAA to have both airports operate independently. Currently

Hayward air traffic control pattern does not require any coordination with Oakland during its operation.

If not operated independently both airports would suffer greatly from a reduced efficiency. Oakland Airport's traffic volume and efficiency would be directly related to Hayward and vice versa. So you would expect a lot of additional delay out of each airport for their operation.

Before the air traffic organization considers any alteration to the national airspace system a complete safety and risk analysis must be completed. The airport sponsor would have to put in a request to change the airport traffic operation. Then the ATO, the Air Traffic Organization, would have to take the request under consideration.

Additionally, any change that would require -- any change that we make would require appropriate environmental analysis based on current federal standards.

In conclusion I would like to add Hayward Airport is an important cog in the national airspace system. It presently services

477 based aircraft as well as 19 helicopters. The FAA has no intention or interest of changing any air traffic operation at Hayward Executive Airport. Any airport change to Hayward would have a direct effect at Oakland, which would have a significant impact on the economy of the Greater Bay Area. That's all I have, thank you.

HEARING OFFICER GEFTER: Mr. Richards, we thank you very much for coming and speaking to us today. When was the -- When did you prepare this letter to the Commissioners?

MR. RICHARDS: I prepared it last night and finished it this morning.

HEARING OFFICER GEFTER: Okay.

MR. RICHARDS: I was only made aware of the -- through your letter for notice last Thursday and it took me awhile to coordinate the effort of the response with controllers at Hayward and Oakland and San Francisco.

HEARING OFFICER GEFTER: I see.

MR. RICHARDS: So I'm sorry for the last-minute submission.

HEARING OFFICER GEFTER: It is certainly not your fault and we appreciate you coming out today.

MR. RICHARDS: Thank you.

HEARING OFFICER GEFTER: Thank you very much. Okay, do you have another witness?

MS. HARGLEROAD: Yes I do. I just want to note that that is in response to the notice that the CEC published asking for agency comments in response to the FSA which was just recently published.

HEARING OFFICER GEFTER: Ms. Hargleroad, we will discuss the legal implications of this later, let's move along with the witnesses.

MS. HARGLEROAD: Okay.

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

MR. RICHARDS: Thank you.

HEARING OFFICER GEFTER: And I'm sorry you got caught in the middle of a legal discussion here, thank you.

MS. HARGLEROAD: Okay. Also Mr. Cathey is here and I'd like to offer -- Mr. Cathey, could you come down, please.

HEARING OFFICER GEFTER: Mr. Cathey is still under oath and we appreciate your staying here this afternoon to continue your testimony, than you very much.

MS. HARGLEROAD: I just want to briefly --

DIRECT EXAMINATION

BY MS. HARGLEROAD:

Q Mr. Cathey, you have signed a declaration concerning your discussion and your investigation with the CEC in flying over plumes; is that correct?

A Correct.

Q Okay.

HEARING OFFICER GEFTER: What exhibit number is that?

MS. HARGLEROAD: That is one of our exhibit numbers that we submitted on December 7 and I don't have the exhibit list with me right now. But I can provide that to you. But that's already been submitted on the seventh. And that was concerning the -- Oh, thank you. I have it, I have it.

HEARING OFFICER GEFTER: I'm sorry, I don't see it among the exhibits that you submitted.

MS. HARGLEROAD: Yes, it should be there. well, it was supposed to be there.

But Mr. Cathey, you still stand by --

Have you had an opportunity to review your declaration?

HEARING OFFICER GEFTER: Well we can't talk about it if we don't have it. So Mr. Cathey --

MS. HARGLEROAD: Well it was.

HEARING OFFICER GEFTER: Just ask him specific --

MR. CATHEY: I've got a copy of it, personally, and I did look at it.

HEARING OFFICER GEFTER: Just tell us what you would testify to. Tell us what it says.

MR. CATHEY: I'd like to reference the letter before I try to specifically recall the content of the letter.

HEARING OFFICER GEFTER: Just ask the questions. Just ask him direct questions.

MS. HARGLEROAD: Yes.

BY MS. HARGLEROAD:

Q I just wanted to ask Mr. Cathey that he signed his declaration and do you still continue to stand by your declaration?

A I do.

Q And that includes after reviewing the helicopter flyover that we've observed from the

applicant, is that correct?

A Right. The content of my letter was not based on any subsequent flyovers by helicopters at other locations.

MS. HARGLEROAD: Okay, thank you.

And I just want to make Mr. Cathey available for any cross or rebuttal. And he also has -- I do have copies here of his field notes that the applicant had asked for in reference to his declaration which I had submitted as an exhibit.

MS. LUCKHARDT: And I would like the field notes added as an exhibit.

MS. HARGLEROAD: And we will add those.

HEARING OFFICER GEFTER: Well we need copies. And that would be --

MS. HARGLEROAD: Yes, and I have those copies.

HEARING OFFICER GEFTER: -- Exhibit 728.

MS. HARGLEROAD: Here they are right here. And that was -- The applicant had asked for that in response to our listing of Mr. Cathey's declaration.

MR. CATHEY: I would also like to point out that I was flying the aircraft at the time, I

was not the author of the field notes, although I did prepare the form.

MS. HARGLEROAD: So Mr. Cathey, you were not the author of the field notes.

MS. HOLMES: I have just a very brief question of clarification. Are we discussing a declaration that we haven't seen yet? Is that correct? I'm just trying to understand this.

MS. HARGLEROAD: I object to that characterization.

MS. HOLMES: I am asking the Hearing Officer a question. Are we discussing a declaration that we haven't seen?

MS. HARGLEROAD: I object to that characterization, that is incorrect. You have seen it.

HEARING OFFICER GEFTER: I'm sorry, we don't have it. Unless you can identify it somewhere else in the record we don't have it.

MS. HARGLEROAD: I certainly can but right now I have all these -- I can later on but not at this moment.

MS. LUCKHARDT: Are you referring to the declarations for Russell City?

MS. HARGLEROAD: That's right.

MS. LUCKHARDT: Okay, I object to these because they were all drafted for Russell City and I don't believe --

MS. HOLMES: I haven't seen the declaration for Russell City.

HEARING OFFICER GEFTER: Are these declarations the ones about Russell City that were attached to the prehearing conference statement? Is that what we're --

MS. HARGLEROAD: That's right.

HEARING OFFICER GEFTER: -- is that what you're referring to?

MS. HARGLEROAD: That's right. Mr. Cathey's --

HEARING OFFICER GEFTER: None of those have been offered as exhibits. So until you offer it as an exhibit we'll just take Mr. Cathey's testimony, pending a motion to strike.

MS. HARGLEROAD: Okay. I thought it had been included on the list.

HEARING OFFICER GEFTER: Well they're not. Okay let's move on, thank you.

Mr. Cathey, again, it is not your fault, these are legal discussions.

MR. CATHEY: I understand.

HEARING OFFICER GEFTER: We appreciate your being here and we are very interested in your testimony. I am so sorry that our attorneys in engaging in another level of discussion here, thank you.

MS. HARGLEROAD: Thank you, Mr. Cathey.

HEARING OFFICER GEFTER: Do you have another witness?

MS. HARGLEROAD: Yes I do.

HEARING OFFICER GEFTER: Mr. Cathey, though, we would like you to stay because some of the parties may want to cross examine you later on your earlier testimony.

MR. CATHEY: I have a logistical problem and I am going to have to leave here by 3:15. So if there's any questions I'd appreciate it if you could ask me before that time.

HEARING OFFICER GEFTER: Okay, let me ask if any other party is going to need cross examination of Mr. Cathey, particularly Ms. Luckhardt.

MS. LUCKHARDT: I have a couple of questions.

HEARING OFFICER GEFTER: Let's do it now because Mr. Cathey has to leave.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Cathey, you explained when you testified that you had limited knowledge of the technology proposed for Eastshore, isn't that correct?

A That is not my field of expertise.

Q Do you understand the differences between the Sutter power plant and the Eastshore power plant?

A Basically I do but I'm not here to testify on the differences.

Q Can you explain what you know?

A I'd rather not because that is not my field of expertise. I mean, what I am here to --

Q I understand that is not your field of expertise.

A What I am here to testify to is my observations of my flight above the power plant. And if you have technical questions about the differences between the power plant that I flew over and the power plant that has been proposed at Eastshore then I would recommend that you ask the Energy Commission staff.

Q So your testimony relates only to your

experience on your overflight over Sutter and is not directly related to this facility; is that correct?

A No, that is not correct.

Q Well then what part of your testimony --

A My earlier, my earlier testimony was on the other aviation issues associated with the establishment of Eastshore, and I emphasize aviation issues. The differences between the two power plants I don't consider an aviation issue from my perspective.

Q Did you rely upon the staff's analysis of plume impacts to reach your conclusions?

A No, I did not.

Q What did you rely on?

A Which conclusions are you referring to?

Q In your letter you say that there are associated very high velocity thermal plumes within the traffic pattern zone buffer area.

A That's true, I did say that.

Q How did you --

HEARING OFFICER GEFTER: What exhibit are you referring to?

MS. LUCKHARDT: How did you --

HEARING OFFICER GEFTER: Ms. Luckhardt,

please tell me what exhibit you're referring to.

MS. LUCKHARDT: I am referring to the first page, first paragraph of his November 1, 2007 letter.

HEARING OFFICER GEFTER: What exhibit is that?

MS. LUCKHARDT: Well it's attached to -- It is appended to Marshall Graves' testimony, Exhibit 20, for lack of a better cite.

HEARING OFFICER GEFTER: Thank you.

MR. CATHEY: So are you asking for my definition of very high velocity?

BY MS. LUCKHARDT:

Q You are saying that you are very concerned about the very high velocity thermal plumes within the traffic pattern zone buffer area.

A That's true.

Q I am asking you, on what basis did you determine that there would be very high velocity thermal plumes within the traffic area?

A The reports that I read up to that point. I can't cite a number because I don't have the reports in front of me.

Q Were those the --

A They're reports that talked about the velocity of the exhaust plumes if this plant were to be constructed. And that's the high velocity plumes I was referring to.

Q Okay. And were those --

HEARING OFFICER GEFTER: Excuse me, Ms. Luckhardt, is this Exhibit 203? I have an exhibit from Gary Cathey dated November 1, 2007. Is that the letter you're referring to?

MS. LUCKHARDT: That would be the letter, that is correct.

HEARING OFFICER GEFTER: It's Exhibit 203 in staff's exhibits, thank you.

BY MS. LUCKHARDT:

Q Okay. I'm sorry, I've lost my train of thought. And so one of those documents, did you rely on the staff's analysis? Do you know that that was one of the documents that you reviewed?

A I believe it was one of the documents that I reviewed, yes.

Q Thank you. Did you review any other documents that you recall?

A I reviewed various e-mails that contained many documents. And as to what, you know, what they were entitled I'm afraid I

couldn't answer that at this time.

Q Is the staff assessment the only document you specifically recall?

A Yes.

Q You also state in the next paragraph down that you feel the peak centerline velocities must be studied thoroughly. is that also based on your review of the staff assessment?

A Yes.

Q Were you in attendance when the Alameda Land Use Airport -- Alameda Land Use Commission adopted their resolution on the Eastshore project?

A Yes.

Q You were in attendance?

A Yes. Oh, did you say Land Use Commission?

Q Yes, the --

A No, I was not.

Q Okay.

A Sorry.

HEARING OFFICER GEFTER: Are you referring to the Airport Land Use Commission or to the City of Hayward?

MS. LUCKHARDT: No, the Airport Land Use Commission.

HEARING OFFICER GEFTER: Okay. So you understand the distinction, Mr. Cathey?

MR. CATHEY: Yes I do.

HEARING OFFICER GEFTER: What meeting did you attend that you were referring to?

MR. CATHEY: Actually that was held -- I'm trying to remember.

MS. HARGLEROAD: The Russell, you went to Russell.

MR. CATHEY: Right, it was for Russell City.

HEARING OFFICER GEFTER: Okay, thank you.

MS. LUCKHARDT: But not the Eastshore one, correct?

MR. CATHEY: No.

MS. LUCKHARDT: Thank you. I have nothing further.

MR. CATHEY: Okay.

HEARING OFFICER GEFTER: Thank you very much. Do you have any redirect, Ms. Holmes for Mr. Cathey? Do you have any redirect? He was your original direct witness. Do you remember that?

MS. HOLMES: And apparently it was our

exhibit as well.

HEARING OFFICER GEFTER: Yes indeed.

MS. HOLMES: No, I have nothing further.

HEARING OFFICER GEFTER: City or Alameda County, do you have any cross examination or redirect or anything else for this witness?

(No response)

HEARING OFFICER GEFTER: I think we're done then. Okay, your witness can be excused. Thank you very much, Mr. Cathey.

MS. HARGLEROAD: Thank you, Mr. Cathey.

MR. CATHEY: Sure.

HEARING OFFICER GEFTER: Again, we appreciate your coming out here today and appreciate your continued involvement in this case. Thank you.

MR. CATHEY: Thank you.

HEARING OFFICER GEFTER: Okay, do you have another witness?

MS. HARGLEROAD: Yes, I also have David Butterfield.

HEARING OFFICER GEFTER: Okay, Mr. Butterfield.

MS. LUCKHARDT: I'm sorry, Mr. Butterfield has already testified. Does he

need to appear again? Is there something new that he has not provided that Ms. Hargleroad has?

HEARING OFFICER GEFTER: We can ask Ms. Hargleroad for an offer of proof on why you are presenting Mr. Butterfield.

MS. HARGLEROAD: Well I am here with my questions right now to elicit from Mr. Butterfield.

HEARING OFFICER GEFTER: And could you give us an offer of proof for your line of questioning.

MS. HARGLEROAD: Well, that the altitude that pilots are supposed to be flying east of the shoreline is 1,000 or less feet.

DIRECT EXAMINATION

BY MS. HARGLEROAD:

Q Is that correct, Mr. Butterfield?

A That is correct. To avoid the overflight traffic into Oakland International, it has been previously addressed, pilots are instructed to remain at or below 1,000 feet east of the shoreline.

HEARING OFFICER GEFTER: Okay. Could you move the microphone closer, thank you.

MR. BUTTERFIELD: I'm sorry, thank you.

HEARING OFFICER GEFTER: Thank you.

BY MS. HARGLEROAD:

Q And also, Mr. Butterfield, if you're a pilot attempting to land at the Hayward Airport and for some reason you are unable to utilize the runway or to land what takes place if -- what are you generally instructed? What are pilots instructed under those circumstances?

A I think you're referring to if you're flying an approach under instrument conditions without visual reference to the ground. The published missed approach procedure for all the approaches to Runway 28-Left at Hayward call for the pilot to fly directly to the Oakland VORTAC, which is a navigation facility on Oakland Airport and enter a holding pattern over Oakland.

That is primarily, that is published primarily for lost communication procedures where the pilot cannot talk to air traffic control. And as you can well imagine, air traffic control, the last thing they want is an aircraft holding overhead Oakland International Airport.

So as long as they have communication with the pilot they will issue instructions to the pilot to turn left to a heading of 160 and give

them vectors back around either for another approach or to go to their alternate airport. And that heading would take them over the power plants. In that situation because they're in instrument conditions they would not be able to see the power plant and fly around it.

That is in reference to the mitigations that were offered for Russell City. They wouldn't be able to do that.

Q Thank you, Mr. Butterfield.

A You're welcome.

HEARING OFFICER GEFTER: Thank you. Mr. Butterfield, have you been in communication with Mr. Richards, another FAA representative, with respect to the letter that he submitted to us?

MR. BUTTERFIELD: I did not see that letter until this morning when I arrived.

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

MR. BUTTERFIELD: Yes ma'am.

HEARING OFFICER GEFTER: Thank you for being here. If you could stay for a few minutes for cross examination we'd appreciate that.

MR. BUTTERFIELD: I'd be happy to.

HEARING OFFICER GEFTER: Do you have another direct witness?

MS. HARGLEROAD: Yes, yes I do, Jay White.

HEARING OFFICER GEFTER: Mr. White, thank you for being here today. I am going to swear you in.

Whereupon,

JAY WHITE

was duly sworn.

HEARING OFFICER GEFTER: Thank you. Identify yourself, please.

DIRECT TESTIMONY

MR. WHITE: My name is Jay White; I live across the bay in San Carlos. You have my declaration before you. Included are two exhibits. One is a one page exhibit and the other consists of two pages.

HEARING OFFICER GEFTER: Are those attached to your declaration?

MR. WHITE: They are attached to the declaration.

In listening to what these other gentlemen have said I realize that most of my thunder has been stolen. Mr. Richards,

Mr. Cathey, Mr. Berlin, Mr. Bauman have all given you very good information and I would agree with what they have said.

I have reviewed the staff final assessment and I find it very good with a couple of omissions. One has to do with the economics of the Hayward Airport. That airport is a public facility, it is a utility, in effect, and I am not aware that there has been an economic study for it. There may have been and maybe the gentleman here from Hayward can testify to that. But it is an economic engine for the area. That should have been included in the initial study.

The other is something that the other gentlemen have touched on here and that is the instrument approach procedure at the Hayward Airport. Most of the discussions have hinged on visual flight conditions, flight and visual flight conditions.

But there is a published instrument approach procedure which is my Exhibit A, which shows that there is a different pattern for circling approaches during inclement weather. It is not a racetrack-type pattern, it is not a fixed place over the ground, but is a circling approach

that the pilot chooses if required to do a circling approach. A circling approach is required if the pilot cannot land straight in.

For instance in this case as the chart shows the normal approach would be straight in to Runway 28-Left. But if a circling approach is required it could be done lower than 500 feet. And it's the pilot's choice as to exactly where to fly while keeping the runway in sight to as to be able to execute the landing.

And the second page of my Exhibit number 2 shows a graphic of what the turning radius would normally be for the various aircraft at various speeds. And based on the speeds there on this chart and the type of aircraft that normally use the Hayward Airport there would be a number of them that would be circling over or outside of the Eastshore approach.

MS. HARGLEROAD: Perhaps you could put that exhibit underneath the screen so that everybody could see. Would that be helpful?

HEARING OFFICER GEFTER: I don't have it that way.

HEARING OFFICER GEFTER: The exhibit 711 is the declaration of Jay White.

MS. HARGLEROAD: Yes.

HEARING OFFICER GEFTER: And Exhibit 712 is also another declaration of Jay White and that was in the previous Russell City case.

MS. HARGLEROAD: Yes.

HEARING OFFICER GEFTER: So which exhibit are these attachments a part of, 711 or 712?

MS. HARGLEROAD: I believe 711. Mr. White, if you'd like to respond. The exhibits are of your --

MR. WHITE: Those are the two exhibits, well, one page of the two page exhibit marked Exhibit B-2.

MS. LUCKHARDT: You know, when we received the declaration we did not get exhibits A or B.

MS. HARGLEROAD: Yes, the hard copies were delivered to the docket and also to the Hearing Officer.

HEARING OFFICER GEFTER: But not to the other parties.

MS. HARGLEROAD: We also delivered it. We e-mailed but Mr. White, I could not, I did not have a .pdf of Mr. White's exhibits, which I

attempted to note. So they have been available. We can provide you these right now if you want additional copies. We've got additional copies right now to take care of it.

MS. LUCKHARDT: At some point the amount of information coming in right here right now is just out of control. I mean, you know, I'm getting, I'm hearing from --

HEARING OFFICER GEFTER: Ms. Luckhardt, we certainly hear your concerns and your difficulty with the legal procedure here. And I think we will discuss that later but let's not do it in the middle of witness testimony.

MS. LUCKHARDT: Fair enough.

HEARING OFFICER GEFTER: We certainly will talk about striking certain exhibits and also request that Ms. Hargleroad adhere to the procedural requirements of the administrative process. But right now let's let our witnesses speak because otherwise they will be gone and we won't have a chance to cross examine.

Mr. White, please excuse us again. A lot of legal discussion here. Thank you.

MR. WHITE: Just one more word on the circling approach procedure. Mr. Cathey described

it quite well. But it's a critical maneuver, particularly if the weather is bad, the visibility is bad. You get rain on the windshield or fog. And when executing that procedure it is normally done in a left turn because the pilot is normally sitting in the left seat and to be able to see the runway, that's the way it's normally done.

Any distraction during that time could be very undesirable to say the least. It's a time when a pilot must concentrate on what is happening. Any real distraction could cause loss of control of the airplane. And at that low altitude of lower than 500 feet the pilot might not be able to recover. That's essentially what I had to say about that.

But I have also reviewed the staff assessment conclusions, findings, and there are three that I find very compelling. One says, installation of the Eastshore Energy project would be in violation of multiple sections of the Hayward Municipal Code. Number two, the project could present a safety hazard to aircraft flying at pattern altitude. Number three, the Eastshore project could be a hazard to small planes and helicopters flying over the site at less than

1,000 feet above the ground.

Taking that as their statement and having listened to the testimony of various other people I have to what I would like to offer as my opinion and my opinion is based on three points. The project would be in violation of state law in that it would create a hazard under California Public Utilities Code Section 21670 and Government Code 50485.2. The project would be in violation of local Hayward city ordinances.

Three, the project would be in conflict with a federal regulation in that it reduced the safety margin for aircraft circling at the FAA-approved circling altitude of 493 feet.

I know that you will call on your legal counsel to perhaps disagree with me. But based on the code sections that I have cited and my brief it is my opinion that approval of the Eastshore Energy project is outside the authority of the Commission. And I would certainly hope that you would find that it is not acceptable and not approve it. Thank you.

HEARING OFFICER GEFTER: Thank you, Mr. White and thanks for being here today.

MS. HARGLEROAD: Mr. White, I just want

to follow up. Can you also just let the Commission for the record know your experience as a pilot.

MR. WHITE: I first became acquainted with Hayward Airport more than 50 years ago. That's when I learned to fly. After I obtained my commercial pilot's license there I was able to obtain employment with United Airlines. I flew more than 33 years as an airline pilot with United. Until I reached the mandatory retirement age of 60 I served as a Boeing 747 captain.

I have also flown more than 2,000 hours in small general aviation aircraft, many of them of the type that are based at Hayward. I have used the Hayward Airport frequently over those years, in fact I still use it as the occasion calls.

HEARING OFFICER GEFTER: I bet some of us may have flown with you when you flew for United, what do you think?

(Laughter)

MS. HARGLEROAD: That's right.

HEARING OFFICER GEFTER: Well thank you very much.

MR. WHITE: You're welcome.

HEARING OFFICER GEFTER: Do you have any other witnesses?

MS. HARGLEROAD: Yes, I have Carol Ford, please.

HEARING OFFICER GEFTER: All right. Ms. Ford, I am going to swear you in, please. Whereupon,

CAROL FORD

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

BY MS. HARGLEROAD:

Q Ms. Ford, if you could state your profession and your background. And are you an officer of the California Pilots Association?

A Yes I am, I am vice president for Region 3 and I also am the president of the San Carlos Airport Pilots Association. Additionally I have a consulting firm for aviation helping airports navigate the complexities of FAA grants. So that's why I am familiar with the grant assurances as well.

Q And just as an initial housekeeping matter perhaps we could -- You yesterday were going to present under public comment a copy of a

letter from the Aircraft Owners and Pilots Association.

A Yes. I'd like to read that now. That's from AOPA, Aircraft Owners and Pilots Association, and it is addressed to James Adams and it is dated December 15, 2007. Dear Mr. Adams.

HEARING OFFICER GEFTER: Wait.

MS. FORD: Yes.

HEARING OFFICER GEFTER: Is this an exhibit?

MS. FORD: Well yesterday I tried to speak in public comment.

HEARING OFFICER GEFTER: No, just answer my question. Is this an exhibit, Ms. Hargleroad?

MS. HARGLEROAD: Well yeah. Ms. Ford --

HEARING OFFICER GEFTER: What exhibit is it and have we seen it.

MS. LUCKHARDT: I think this was --

MS. HARGLEROAD: No, this was -- This is what I'm trying to explain.

HEARING OFFICER GEFTER: No, just answer the question, okay. Where is this document?

MS. HARGLEROAD: It is not offered as -- It was not in existence when the exhibits were due. It was recently written by the Aircraft

Owners and Pilots Association, which Ms. Ford was attempting to present under public comment. And she was instructed not to do so due to, we know, lack of time. And so she is simply presenting this to the record that she's --

HEARING OFFICER GEFTER: Okay, so it's considered public comment then.

MS. HARGLEROAD: It would be considered public comment but --

HEARING OFFICER GEFTER: All right, okay. Then we'll --

MS. HARGLEROAD: -- we certainly can offer it as evidence.

HEARING OFFICER GEFTER: No, we'll take it as public comment then. And all you need to do is just submit it to us. You don't need to read it to us, we can read it.

MS. FORD: Okay.

BY MS. HARGLEROAD:

Q Is it consistent with your opinion?

A Yes, it opposes having the Eastshore plant located so close to the airport.

Q And is that the opinion also of the Aircraft Owners and Pilots Association?

MS. LUCKHARDT: I object to this because

now it is become, she is treating it as if it is an exhibit and not a public comment.

HEARING OFFICER GEFTER: It is not an exhibit. You know, it's public comment but you can ask the witness to answer your questions.

MS. HARGLEROAD: Well I'm asking the witness --

HEARING OFFICER GEFTER: And just don't focus on the letter, just ask the questions.

MS. HARGLEROAD: -- if a national organization, is this consistent with the California Pilots Association's position?

MS. FORD: Yes, they're the same.

BY MS. HARGLEROAD:

Q Okay. And also you submitted a declaration I understand?

A Yes I did.

Q Okay. And is that correct? Is there anything, any changes that you --

HEARING OFFICER GEFTER: What is the exhibit number, please?

MS. HARGLEROAD: The exhibit number is 713. And also Ms. Ford had provided a declaration in the Russell City proceedings and that is Exhibit 714.

HEARING OFFICER GEFTER: Ask your questions then.

MS. HARGLEROAD: Thank you.

BY MS. HARGLEROAD:

Q So you're familiar with your declarations that you wrote?

A Yes.

Q Okay. Is there anything else you would like to add or change or are there any corrections to those declarations?

A Well one part that I would like to comment on, which hadn't been commented on very much today, it was sort of dusted over, was the economic impact to the airport if this power plant is located at its current suggested site. In that Hayward Executive Airport creates $90 million in the local economy every year because it has compatible land use now. But having incompatible land use, which is this power plant, could be very detrimental to the airport.

We talked about how it could be detrimental through airspace which would be removed because you would have to be flying around it, which is very difficult. But then there is the economic impact of the airport, which is part

of the viability that Mr. Bauman was speaking about before.

Q Okay. And --

A There is documentation on that and I did submit it, this economic study which was part of the master plan.

Q Okay. And that's attached to your declaration.

A Correct.

Q And that's entitled The Economic Benefit Study Executive Summary for Hayward Airport?

A Yes, it was done by Kaufman and Associates, a reputable firm that has a formula for identifying the money that comes into the area.

It doesn't, however, include all of the money that comes into the area because it is unquantifiable how if you're a business person and you fly into Hayward Airport and you drive somewhere nearby because it's located near the Hayward Airport to do business and then you get back in your car, which you've rented so that's more money to the economy, and then you get back into the car, drive back to the airport and fly home.

That business that's done at that off-airport site is not calculated into this but could be harmed if you decide, gosh, I hate that plume, I'm not going to fly into that airport, I'll fly someplace else. Then that money is lost to the City of Hayward and that is not quantifiable and not discussed in this.

What is discussed is how when you fly into Hayward Airport you rent a car, you eat lunch, eat dinner, stay overnight, do whatever it is you're going to do and then fly back. That is quantifiable in this study but the other scenario I've mentioned is not mentioned. And all of those things are revenue that could be lost to not only the City of Hayward but the greater Bay Area.

Q Okay. So the study that is attached to your declaration, the second page after the cover is entitled, Indirect Benefits from Airport Operations.

A Yes.

Q And that is reflecting 2.5 annual gross revenues.

A Yes, that's correct.

Q And employment generated of 34 positions. And that's the indirect benefit.

A Right. And also the employment, when you employ people at the airport, then they live nearby, they spend money nearby, their children do things nearby. So you're generating the salaries that are paid at the airport into the local economy because people live, buy, need clothes, whatever it is.

Q Okay.

A Buy gas.

Q Also the study that you've attached to your declaration, that reflects the direct benefits from the airport operations?

A Yes.

Q And that is $33 million of gross revenue and an employment of over 300 people?

A Yes.

HEARING OFFICER GEFTER: We can read the document, you don't need to read it to us.

MS. HARGLEROAD: Okay.

BY MS. HARGLEROAD:

Q Also you attached to your declaration the quit claim deed of the federal government to the City; is that correct?

A Yes.

Q Okay.

A The significance of that is that the federal government has given that to the City for a nominal fee. I don't remember, 50 or 60 years ago. But the point is that should something happen to that site, that you decide that you no longer want to use it as an airport, it reverts back to the federal government to be used as an airport.

Q Is there anything else you'd like to add, Ms. Ford? I think we've --

A I think we've covered most things, thank you.

MS. HARGLEROAD: Okay. And that concludes our direct.

MS. FORD: Excuse me, I do have one more thing.

MS. HARGLEROAD: Okay, sorry.

MS. FORD: And that was when we were talking before about flying the plane. Since I am representing the California Pilots Association I did want to mention that these are the things that the pilot -- and especially we're talking about inexperienced pilots. Because experienced pilots have the experience. But the ones that are less experienced are trying to fly the plane, which is

completely a job enough if they had to do nothing else than fly the plane to land, that's sufficient.

But they also have to, in this case because they are at Hayward Airport, have to talk to air traffic controllers, so that's another distraction. Then they have to keep the runway in sight because they want to know where they're going to land. They have to watch for other planes in the pattern.

And now they have to watch for invisible plumes, which is difficult. So now they have to look at the ground where you're not normally looking below you or to the side. Here you have your eyes on the planes in the air and the runway where you're going to land. So you're asking people to do too many things at once, it's overload.

What we were talking about when Mr. Bauman was speaking before about doing all these things at this very low altitude. And Commissioner Byron that's the question you were asking. Pilots never like to talk about crashes, that's why it's a little difficult to mention. But that is the ultimate hazard here.

And if you do these things at low altitude and you have an upset at a low altitude there's very little altitude in which you can recover. And that's the problem if you encounter turbulence at very low altitude, it's not safe at all.

So in my opinion it is easier to move a power plant that is not yet built than to move an airport that has been here for a very long time. Thank you very much.

HEARING OFFICER GEFTER: Thank you.

MS. HARGLEROAD: Thank you, Ms. Ford. That concludes our direct.

HEARING OFFICER GEFTER: Okay. What we are going to do right now is Mayor Sweeney has been very patiently waiting to address us and so we're going to ask him to come forward at this point. And then after Mayor Sweeney speaks to us we're going to open the floor for cross examination of the parties' witnesses on the aviation issue.

Mayor Sweeney, thank you for being so patient.

MAYOR SWEENEY: You're very welcome, thank you. Commissioner Byron, Energy Commission

staff, parties and citizens of Hayward. My name is Mike Sweeney and I am the mayor of the City of Hayward. I am here to speak in opposition to the Eastshore plant. It does not fit within our general plan principles and it is not consistent with the City's zoning ordinance. It simply does not belong in the City of Hayward.

As you know the City Council unanimously denied this project because we unanimously found that it is inconsistent with the surrounding land uses, inconsistent with our zoning ordinance, and again it is inconsistent with our general plan.

The City is not just hiding behind our laws and using them to create artificial barriers to the siting of power plants. Obviously most communities are going to be concerned about siting a new power plant, which is part of the reason this Commission, of course, exists.

However, Hayward has done its part. Even though I disagree with the decision the City did try to mitigate and did approve a power plant, Russell City. The City found that Russell City is consistent with its general plan and zoning ordinance and it found that Eastshore is not.

The reason the city is fighting

Eastshore is because Eastshore is violating the fundamental principles of how we have decided to proceed with growth and development in our community. If this Commission approves Eastshore it will irrevocably thwart the City's plans for intelligent, rational and smart growth.

What our city is trying to do is very simple, site heavy industrial uses in the far western portion of the city, allow for lighter industry as we move east towards neighborhoods and schools and provide room to allow for safe operation of the airport now and in the future.

Again, the reasons for trying to put new heavy industrial uses in the far western portion of the industrial corridor are very simple. Heavy industrial involves the use of hazardous materials, emissions of air pollution, noise, and tall stacks, like the fourteen 70-foot stacks associated with Eastshore.

We have heavy industrial uses in the western portion of our industrial corridor and are phasing them out of the eastern portion. The eastern portion is just too close to Eden Gardens Elementary School, Ochoa Middle School, Chabot Community College, Life Chiropractic College,

Fremont Bank Operations Center and many, many single family residences, apartments and condominiums in the Eden Gardens neighborhood.

I know you spent a lot of time yesterday discussing air quality concerns. And I understand that the Energy Commission believes that regional air quality impacts can be mitigated. But that does not mean that for the citizens of Hayward our air quality will improve or even stay the same. There will be effects on our community from Eastshore. And when added to similar effects from Russell City it simply is not fair and equitable for one community to bear that burden.

Let's briefly review some of those numbers and their potential impacts on real Hayward people. If we look at the Russell City numbers from the FSA air quality section Table 2, and the Eastshore numbers from FSA air quality section Table 14 and their total tons, for NOx we have 189 total tons per year. For POC 104 tons per year. SOx, 18.8 tons per year. CO, 668 tons per year. PM, 127 tons per year.

Finally the issue of air safety at the Hayward Municipal Airport is very important to the people in our community. The Commission is being

asked to weigh which is more important, siting this power plant at this spot versus the possibility that it could be a very real danger to air traffic.

And let's be clear, if there is even the possibility of danger, what that means, and it may be a worst case, but what that means is that an aircraft could crash and people could die. Eastshore will require pilots to navigate a maze of horizontal constraints and vertical obstacles and ask the rest of us to pray no one crashes and dies.

I understand the Commission strives to mitigate any and all impacts and approve power plants but it just cannot be done in this case. And those unmitigated impacts will change the face of development in our community and create a serious safety hazard to the airport and the future of airport development.

These burdens and risks are just not worth taking for a plant that could reasonably be sited elsewhere. I thank you for your time.

PRESIDING COMMISSIONER BYRON: Mayor, Mayor Sweeney, thank you for coming and thanking for waiting. I saw you here a good part of

yesterday listening to testimony. Clearly you are very interested in this issue on behalf of your constituency. And I would also like to thank you for allowing us to use your facility. We'll try not to wear the chairs out.

(Laughter)

MAYOR SWEENEY: Well we'll come up with some appropriate mitigations.

(Laughter)

PRESIDING COMMISSIONER BYRON: I'd hate to think what that might be. But thank you and thank you for offering your comments as public comment this afternoon.

MAYOR SWEENEY: You're very welcome, thank you.

HEARING OFFICER GEFTER: Thank you for being here.

In terms of our next -- What we're going to do is we're going to do cross examination. Each party that wants to cross witnesses will then have the opportunity to cross all the witnesses you wish to cross at one time.

Then the question becomes, are we going to -- we can do land use today and finish with that one, because that is another long topic, or

we can go to local systems effects, alternatives and do that. I am just curious about the witness availability for those topics.

So let's think about that. Let's do the cross on traffic and transportation and then we'll talk about what the next topic would be. And I will begin with the applicant, if you have cross examination of any of the other parties' witnesses why don't you begin now.

MS. LUCKHARDT: You know, I would normally have no problem beginning, excepting that in this case everything else would be friendly cross. So I believe in this instance other parties should begin.

HEARING OFFICER GEFTER: So you're passing right now. Are you going to -- You're not waiving your right to do cross?

MS. LUCKHARDT: Since everyone else -- No. Since everyone else is taking the same position it is only appropriate that they do all of their cross before we conduct ours. Otherwise it really is a form or rebuttal or rehabilitation of the witnesses that they can do on behalf of those witnesses. So in this instance they really should be the first to go.

HEARING OFFICER GEFTER: In other words, Ms. Luckhardt, when everyone else finishes crossing your witnesses then you'll cross their witnesses or do you want to just do redirect?

MS. LUCKHARDT: Yes, yes, because I'm assuming that they'll have questions, potentially, for some of the other parties and then it becomes really a form of rehabilitating those witnesses after I have crossed them.

HEARING OFFICER GEFTER: All right.

MS. LUCKHARDT: And then it's not subject to the same --

HEARING OFFICER GEFTER: Okay, let's try it that way. We'll start with staff.

Staff, do you have cross examination questions for any of the other parties' witnesses?

MS. HOLMES: We have cross examination questions for the applicant's witnesses.

HEARING OFFICER GEFTER: Please begin.

MS. HOLMES: Thank you. I'd like to start with Mr. Graves.

MR. GRAVES: Okay.

CROSS EXAMINATION

BY MS. HOLMES:

Q Good afternoon. On page five of your

testimony, which I believe has been identified as Exhibit 20, you state that the Eastshore site is approximately 1.5 miles from the Hayward Airport. The next sentence says:

> "For aircraft arriving from the southwest descent to the traffic pattern altitude would not be initiated until much closer to the Hayward Executive Airport when the aircraft is approximately one mile out."

Would the conclusions in your testimony that you reached -- Would the conclusions that you reached in your testimony be different if in fact the project were to be located one mile from the airport?

A That was in response to the airport reference point, which is the latitude/longitude that is used to site the aircraft and not necessarily to the closest point on the aircraft runways or taxiways.

Q So would it be, is it accurate to say that the airport is located one mile from the project site?

A No it is not. The closest point is

beyond 6,000 feet. It's about 1.3 statute miles, which is the airport traffic zone.

Q Is it your testimony that, again sticking with page five, is it your testimony that aircraft arriving from the southwest do not descend or are not in the traffic pattern altitude over the Eastshore project site?

A Yes. The only -- When I spoke with Sandra Garupto who is the air traffic tower manager at the Hayward Airport, she indicated that arriving aircraft should be at least 1,000 feet above the ground and preferred to be 1200 feet above the ground. And that they would not normally descend, begin their descent not the traffic pattern altitude until they were within the boundaries of the airport traffic zone.

Q Did you get a chance to look at Exhibit 208, which is the flight tracks for the month of April. Staff had provided a summary conclusion of those tracks in their testimony.

A The tracks that we just saw, that you just handed out this morning?

Q Yes.

A I did look at those.

Q Do those tracks show that in fact there

are departures flying over the Eastshore site?

A They did not specify the altitude, however. There are thousands of tracks. All of the altitudes that were tracked individually, not one of them was below 500 feet.

Q My question isn't about below 500 feet, my question has to do with whether or not you believe that there are airport (sic) that are approaching the Hayward Airport that fly over the Eastshore project site?

A I would like to look at those again, please.

Q Please do.

MS. LUCKHARDT: Which one is it?

MS. HOLMES: There's -- 208 is the summary of all the flights and then individual data about altitude for a representative number of flights is attached.

MR. GRAVES: So you're referencing the red charts? The red lines that are the arrival aircraft. Is that what you're referring to?

BY MS. HOLMES:

Q The red lines are denominated as arrivals on these charts.

And my question is made without respect

to altitude. My question is, is it your testimony that aircraft arriving into the Hayward Airport do not fly over the project site?

A No it is not. It says, the vicinity of the site, and I recognize that some do.

Q Thank you. On page 12 of your testimony you state that there were no flights over the project site at altitudes above 1,000 feet above ground level or below 330 feet above ground level. Do you see that?

A We had a -- We reviewed the track data that was provided for the month of August and there were no data points within those boundaries.

Q Could you look again please at page 12 and your answer 12. Does it reference August or June?

A I'm sorry, it was June.

Q Did you look at other months?

A No I did not.

Q So your conclusion that there will be aircraft within the range of the plume about one percent -- .01 percent of the time is based on a single month's worth of data?

A I have now seen another one and now it even makes it even more obvious that 10,000

flights, the occurrence of an aircraft flying within the influence area of the plume is essentially non-existent.

Q Are you referring to the exhibit that you were just looking at, referring to Exhibit 208?

A Okay, I was looking at the -- I'm not sure which exhibit you're looking at.

Q I'm asking you what exhibit you're looking at.

A I was looking at the Hayward Executive Airport penetration gate plot that was provided for the month of May this morning when you asked me that question.

HEARING OFFICER GEFTER: That's Exhibit 208.

MS. LUCKHARDT: No, I think this one is the City's exhibit.

MS. HOLMES: I want to make it very certain that we are not confusing the two sets of exhibits.

MR. GRAVES: I would like to not be confused too.

MS. LUCKHARDT: I think we are. Is the one you're referring to, Ms. Holmes, the track

target 15? Is that kind of the one page one?

MS. HOLMES: Well I am asking him what he's referred to. He said he's looked at new information that indicates that the chance is even less remote and I'm asking him what he's looking at.

MR. GRAVES: I was looking at the chart that you provided me this morning that had the data point plots for the month of May 2007.

MS. LUCKHARDT: And I believe that --

MS. HOLMES: So you're looking at Exhibit 417?

MS. LUCKHARDT: I believe that that is the City of Hayward's, yes, so I'll write a number on it.

HEARING OFFICER GEFTER: I'm sorry, we need to get it straight which exhibit we're talking about for the record because otherwise I won't be able to follow the testimony.

MR. GRAVES: Okay.

HEARING OFFICER GEFTER: So are we talking, are you talking about Exhibit 417 or Exhibit 208?

MS. HOLMES: Exhibit 208 is the one we were looking at this morning. He indicated that

he'd looked at new information that strengthened his observation and I just wondering which exhibit he was looking at.

HEARING OFFICER GEFTER: I know that was the question because I understand your question, Ms. Holmes. But I don't understand which document the witness was looking at and I just need you to identify the number.

MR. GRAVES: Okay, I'll do my best.

HEARING OFFICER GEFTER: Okay.

MR. GRAVES: In my written testimony I had the data plot chart for the month of June 2007.

HEARING OFFICER GEFTER: Right. And your testimony --

MR. GRAVES: And that is what is referenced in my written comments.

HEARING OFFICER GEFTER: Exhibit 20, okay, right.

MR. GRAVES: Yes, and that's --

HEARING OFFICER GEFTER: And then you answered a question from the staff.

MS. HOLMES: Excuse me, that was the exhibit that they chose not to admit.

HEARING OFFICER GEFTER: Right.

MR. GRAVES: It was never admitted. But I do reference it.

MS. HOLMES: It was never provided and when I asked for a copy of it prior to the hearings I was told that they were pulling the attachment and it wouldn't be provided.

HEARING OFFICER GEFTER: Then why are you testifying about a document that you are not providing?

MR. GRAVES: I reference it in my written testimony. I reference the information but I did not include the attachment itself.

MS. HOLMES: We have copies of the data if you would like it. We were not planning to introduce it but we would happy to do so if it would be helpful.

HEARING OFFICER GEFTER: It depends --

MS. HOLMES: We have the data from the month of June.

HEARING OFFICER GEFTER: Right. It just depends on how important that is or what it goes to in terms of your cross examination question. Do you need to move it into the record or not?

MS. GRAVES: The City is making copies of that right now so we can -- The data that the

City distributed as Exhibit 417 was the data for May. We meant to distribute the data for June so we could do that.

HEARING OFFICER GEFTER: And that will be another exhibit.

MS. GRAVES: That would be another exhibit. So we will have the data from June.

HEARING OFFICER GEFTER: So the City is going to sponsor that document.

MS. GRAVES: Certainly.

HEARING OFFICER GEFTER: Okay, thank you. All right, so then that document will be sponsored by the City.

And then there are also two documents that were referred to. There was the document that Ms. Strattan provided this morning, Exhibit 208. And then there was a document that the City provided which is Exhibit 417. When the witness is testifying would you please tell me which exhibit you're referring to. So ask your question, Ms. Holmes.

MS. HOLMES: On more time. What exhibit were you looking at when you said that your conclusion has been strengthened?

MR. GRAVES: I was looking at 417 that

you just admitted this morning.

MS. LUCKHARDT: That the City of Hayward presented this morning.

MR. GRAVES: Provided, the City of Hayward provided us a chart this morning right before lunch for data points in the month of May. That was what I was looking at when you asked me that question.

MS. HOLMES: Okay.

MR. GRAVES: The additional information I had.

MS. HOLMES: This can be introduced either as a cross exhibit or an exhibit that doesn't matter. He referenced the month of June in his testimony and I have penetration gate plot data for the month of June and I would like to ask him a question about it. I don't care whether this is entered as a cross exhibit or if the City sponsors it,, it doesn't matter, but I would like to --

HEARING OFFICER GEFTER: The City is going to sponsor that document, correct?

MS. GRAVES: Correct, the City will sponsor it as 418.

HEARING OFFICER GEFTER: So it will be

Exhibit 418. Okay, I am going to give it an identification number as Exhibit 418.

MS. HOLMES: And I have -- Do you want me to distribute this counsel?

MS. GRAVES: If you have copies right now. We're making copies right now so you can --

MS. HOLMES: May I make a suggestion? Perhaps I should move on to a different witness and we can come back to this one, we can get this sorted out. I would like the record to be clear.

So you're off the hook for right now.

MR. GRAVES: Thank you.

MS. HOLMES: I'll just ask you one additional question before I move on to Mr. Darvin.

You provided a very thorough discussion in your testimony about airspace regulation and you referenced a prohibition against flying under 1,000 feet over the project site. Is it your testimony that aircraft don't fly under 1,000 feet over the project site?

MR. GRAVES: No, it is not my testimony.

MS. HOLMES: Thank you.

I have a couple of questions of, is it Mr. Darvin or Dr. Darvin?

MR. DARVIN: Mr. Darvin.

CROSS EXAMINATION

BY MS. HOLMES:

Q Mr. Darvin, good afternoon.

A Good afternoon.

Q Is the Katestone-Spillane method that you used to estimate plume velocities the only way to estimate plume velocity?

A Sorry. What was your question again?

Q The question is whether or not the Katestone-Spillane method that you used to estimate the plume velocities from this project is the only method that can be used to estimate plume velocities?

A It is the most widely used but there probably are other methods to calculate plume velocities. In fact CALPUFF has a method but it's used for kind of a different process.

Q Have you ever used any of those other methods?

A No, just the Australian method.

Q So would you know whether or not using different methods could lead to different results?

A I wouldn't know unless I actually applied all those different methods.

Q My understanding of the project layout is that there's a fairly close proximity between the radiators and the engine stacks; would you agree?

A You know, off the top of my head I don't remember the distance but probably within 100 meters. I don't know if that would be considered -- What do you mean by close, I guess?

Q Well let me ask, let me ask the substantive question. I was just trying to lay some foundation. Did you determine how the combination of the different plumes from both the engines and the radiators could react to affect the plume velocity from the facility?

A Are you asking if we merged the two plumes together?

Q I'm asking if you determined whether or not combining the plumes could affect plume velocity?

A No, it was not considered.

Q Has the Spillane Method that you referred been empirically tested?

A It is based on some published data I believe from Malaysia but I'm doing that more from memory than from fact. But in a couple of the

papers that reference the Spillane Method they actually do cite some studies that were done.

Q Have you reviewed those?

A No. Well, I should say I've reviewed summaries of those studies as they were part of the Spillane methodology paper that references those actual studies but no, I did not go through all the study papers.

Q So you're not, you're not familiar with whether or the extent to which the empirical testing was conducted or validated the test?

A Correct

Q On page 12 of your testimony you state that the plume average vertical velocities during the Berrick facility test would be expected to be greater than those -- excuse me, wrong question.

On page 12 of your testimony you state that the plume velocity measurements made at the Berrick facility were less than the values predicted by the Spillane methodology for dead calm conditions. Do you recollect that?

A Yes.

Q Where in your testimony are the plume velocity calculations compared to the actual Berrick plume velocity measurements?

A We have a table. Actually it's on page 17 though the numbering might be incorrect.

Q Right, you have the --

A We have a table in there that --

Q You have the table that has the results.

A Correct.

Q But you didn't provide the calculations, did you?

A We did not provide the calculations that went into this number, no.

Q Thank you. Do you know whether or not the plume velocities that were actually measured at the Berrick facility could be clearly identified as average velocities or as maximum plume centerline velocities?

A That might be more of a question for Don than for myself.

Q I'm not sure he agrees with you.

A Is your question -- I mean, all I can compare is the equations that we had used to calculate average velocities, which is the approach that the equations are set up to solve.

MS. HOLMES: Okay, thank you.

I have a couple of questions for Mr. Blumenthal.

I'm sorry, I have a few more questions for you.

BY MS. HOLMES:

Q Is it true that the radiator heat load and the thermal output is diminished at very low temperatures?

A Say the question again, please. That might be more of an engineering question.

Q Okay. I'm asking you whether or not the radiator heat load and the thermal output is significantly -- from the facility significantly diminished at low temperatures?

A Well if you're saying during the winter months, I believe the fan speed is reduced significantly because they don't need to reject as much heat during those cold as during the summer months. But an engineer could better answer that question.

Q Okay, that's fine.

A Okay.

CROSS EXAMINATION

BY MS. HOLMES:

Q Mr. Blumenthal, on page five of your testimony there's a discussion about turbulence. And in that discussion you equate turbulence to

both gs and to feet per minute. Do you see that discussion?

A Yes.

Q Are the accelerations and the g equivalents that you cited in your testimony part of FAA's definition of turbulence levels?

A FAA defines the turbulence by the other verbal definitions that were given by how the pilot feels them. These definitions are equivalent definitions that come from the aviation weather book that's there, that's quoted.

Q So FAA's definitions are subjective definitions?

A Yes. Well actually -- Marshall, do you have any more information on that?

MR. GRAVES: Do you want me to answer that?

MS. HOLMES: I'm happy to have anybody answer questions.

DR. BLUMENTHAL: As far as I know, that's right.

MR. GRAVES: The FAA does classify turbulence based on g loads but it does not provide, it does not classify it based on aircraft size.

MS. HOLMES: And wouldn't that make a difference? Doesn't aircraft size make a difference?

MR. GRAVES: Not in terms of turbulence. The response of the aircraft would be a difference but not how it's defined.

MS. HOLMES: But the effect on the aircraft can be very different depending upon the size of the aircraft?

MR. GRAVES: Yes.

BY MS. HOLMES:

Q I have a couple of questions from your visual depiction of the flyovers on page 12 of your testimony. Are you there?

A Yes.

Q On the previous page you state, if I'm correct, that you state that for flights or pass one through nine the winds at the ground level were less than one mile per hour.

A Yes, as best we could tell. We had a handheld anemometer and it was pretty calm. You can also see a wind sock in the videos if you look at it, they were pretty low, they were pretty calm.

Q And what were the wind speeds at the

levels at which you were flying?

A We didn't measure the wind speeds up there during the study but after the study we were given some information from the Tracy plant, which had a tower that went up to 100 meters, which is a little over 300 feet. It actually had some data up close. And those were hourly averaged information.

Q Is that information in your testimony?

A It is not in the testimony. I didn't get it until a couple of days ago. So I can -- you know, we speculated that the winds aloft were, you know, five miles an hour or under. This information substantiates that up to about halfway up. And then late, you know, in the period it's up to maybe six or seven miles an hour.

I think if you actually look at the amount of bending of the plume and where we encountered the plume it would indicate something on the order of five to six miles an hour. So these are very rough numbers because we actually don't have specific data up there.

Q Okay.

A But, you know, the atmosphere is quite stable and on the surface, as I said, the winds

were calm until the end of the study when they went up to about three miles an hour.

Q And is the reason that we see the bend in those flight tracks in order to accommodate for the effect of the wind on the plume?

A Well the bends in the flight tracks. I mean, you fly as straight as you can. There's no guidance, you know. So he was just trying to make it over the power plant as best he could.

Q I'm just noticing that particularly on the north-south tracks that it looks like more of them are off.

A Yes they are and I mentioned the reason for that in the talk earlier this morning. The very first one we did, number seven, was right over the stacks and we felt, there was no response over the stacks. The pilot, we were in contact with the pilot and he reported that he didn't feel a thing.

So we were saying, okay, well we know that there's probably some wind aloft, let's try to move him over to the west a little bit. Which we did and then they did encounter the plume in the flights to the west. So the plume was bent over. The amount it was bent over is consistent

with, you know, winds on the order of five or six miles an hour.

Q So did you only know where the plume would be as a result of trial and error?

A Yes, yes, and that's another reason we did the east-west flights first. Because we knew the wind was from the east, blowing towards the west. And so we flew over the plant and tried to determine where they felt it and it tended to be a little bit downwind.

MS. HOLMES: Okay, thank you.

Those are all my questions for these two witnesses but when we get the exhibit straightened out I'd like to go back to Mr. Graves.

HEARING OFFICER GEFTER: Okay, fine. The City has provided Exhibit 418, which is the penetration gate plot for, I guess it's June of '07.

So if you want to use that document identified as Exhibit 418 to ask your questions do that right now, please, Ms. Holmes.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: The City of Hayward has distributed that document to all the parties.

FURTHER CROSS EXAMINATION

BY MS. HOLMES:

Q Do you have Exhibit 418 in front of you, Mr. Graves?

A Yes I do.

Q And does that, does that exhibit indicate that there is an aircraft over the project site at around 300 feet for the month of June?

A Not 418. That's not the project site, that's 300 feet away.

Q It's within the penetration gate plot for the Eastshore project?

A I will say it is within the penetration gate plot that was defined. But I wouldn't say 300 feet lateral distance at that altitude represents over the site.

Q Okay. Let me just ask one last question that I understand. When you reached your conclusion on page 12 of your testimony about the number of flights that were overflying the project did you limit your, did you limit your search to flights that were 1,000 feet above, 330 feet below and within 500 feet laterally?

A No I did not, I limited it to the

absolute, maximum possibility of the influence of the thermal plume, which was 300 feet above and 170 feet laterally. Since the plume effects could not under any circumstances exceed those limits there wasn't much sense in looking at points beyond that.

Q I am not interested in arguing with you about how picked that, I am just trying to make sure I understand what the numbers were. It was below --

A I'm sorry, yes.

Q It was below 330, above 1,000 and within 170 feet laterally.

A No, I looked at, I looked for all data points below 330 feet above the site and 170 feet laterally from the site.

Q Thank you.

A Which is the limits of the plume.

MS. HOLMES: Thank you.

Those are all my questions.

HEARING OFFICER GEFTER: City of Hayward, Ms. Graves, do you have any cross examination of the other parties' witnesses on this topic?

MS. GRAVES: I just have one question

for Dr. Blumenthal.

HEARING OFFICER GEFTER: Okay.

CROSS EXAMINATION

BY MS. GRAVES:

Q You testified that you didn't know what to expect when you were going to be flying over the power plant. So is this the only time you've flown over a power plant in respect to testing turbulence in this manner?

A Yes. We've flown over power plants many, many times for other purposes but not for turbulence testing. Many years ago we did turbulence testing for other reasons as well.

Q But those were under different circumstances?

A Those were under different circumstances and so yeah. I'd been aware of testimony and other people's concerns in this area and I have been aware of gas-fired power plants where there were gas turbine plants.

Q I thought you testified that you didn't know what to expect because this was a new experience for you.

A Yeah, I testified -- Well I didn't know what to expect because other people had said that

they had seen, you know, turbulence and the models here had said that there probably wouldn't be turbulence. And so --

Q That answers my question, thank you.

A -- it could have been any of that.

Q Thank you.

A Anywhere in between.

HEARING OFFICER GEFTER: Any other questions?

MS. GRAVES: That's all we have for now.

HEARING OFFICER GEFTER: Mr. Massey for Alameda County. Do you have cross examination of any of the other parties' witnesses?

MR. MASSEY: I do.

HEARING OFFICER GEFTER: Thank you.

MR. MASSEY: I'll actually begin with Mr. Bauman next to me.

CROSS EXAMINATION

BY MR. MASSEY:

Q Mr. Bauman, have you looked at flight tracks for -- flight track data for June in reference to Mr. Graves' testimony at 812?

A I have.

Q And have you looked at flight track data for other months?

A Yes as I previously noted.

Q Do planes fly over the proposed Eastshore site at under 1,000 feet?

A Definitely yes and as noted in some of the data there are aircraft, both helicopters and planes, that do fly under 500 feet. And as noted by I believe the cross examination, depending upon the distance from the center point there are also aircraft there as low as 300 feet.

MR. MASSEY: Thank you, Mr. Bauman.

And I have a question for Mr. Blumenthal.

CROSS EXAMINATION

BY MR. MASSEY:

Q Mr. Blumenthal, in reading your report on the helicopter overflight testing you discussed the concept of detecting plume turbulence, which you described as light. That was the only way that you knew that you knew that the plume was there; is that correct?

A Basically yeah, that's how we were able to determine the plume was there.

Q So conceivably when you didn't detect any turbulence it's because you weren't over the plume?

A There were times when were clearly not in a plume or not in anything we could identify as a plume. We flew between the stacks, for instance, on occasion and, you know, didn't experience a plume. Though, you know, when you're in it and you see the nice distribution there you are pretty confident that you're in the plume, being in the right place at the right time. You see the sort of the tell-tale structure of it.

Q But by the same token, even when you experience turbulence you didn't necessarily know that you were over the plume at the time. It could have been turbulence from something else?

A No, I don't think so. If you look at those plots there's a very clear spike in the ones that are most severe, which is still pretty light, and the spikes are, you know, in appropriate places, you know, to be experienced from the plant. If they weren't then, you know, the plant issues would be -- the turbulence from the plant would be even less, I mean, if it was just from the background somewhere. But the background was very quiet.

Q But these plumes are invisible, correct? You can't see them when you're flying over them.

A No, not very easily.

Q So when you experience these moments of turbulence that you did experience you're calling them the plume effect because of correlation and that's what you have. You cannot say with certainty whether you were actually over the plume.

A I think it would be very hard to get the readings that we got without being in the plume, you know, from the plant, you know. You know, I am not going to say that when we flew north to south, four instance, that we went through every one of them. But we certainly went through some of the -- you know, the plumes from some of the clusters. That would be very, very hard to have come from somewhere else.

MR. MASSEY: Okay, thank you for that.

And finally I have some questions for Mr. Butterfield.

HEARING OFFICER GEFTER: Is Mr. Butterfield still here?

MR. MASSEY: He is.

HEARING OFFICER GEFTER: Thank you, please come to the mic.

MR. MASSEY: He didn't sneak out.

HEARING OFFICER GEFTER: Okay.

CROSS EXAMINATION

BY MR. MASSEY:

Q Is it a fair summary of your first set of testimony that in your opinion the existing Part 77 analysis does not sufficiently contemplate the kind of natural gas thermal power plant we're talking about in the Eastshore plant being so close to an airport?

A The Part 77 does not give the FAA the statutory authority to evaluate the effects on air navigation of plumes, period, regardless of where they're located.

Q Is it your purpose here today to try to compensate for that lack of analysis in the existing Part 77 procedure?

A No, not at all. Part 77 is what it is. I think the part that I was trying to explain is the safety risk analysis so that everyone understands what it is and what is not.

Q I understand that but I guess my question is that you are providing that kind of safety information because that didn't, that kind of analysis did not occur in the Part 77 analysis.

A That is correct, yes.

Q You're familiar with the October 9 letter from Joseph Rodriguez marked as Exhibit, I believe it's 204.

A Yes I am.

Q Do you think that the opinion from Mr. Rodriguez best represents FAA's opinion of the safety concerns with the proposed Eastshore site?

A Is there any specific portion you're referring to or are you referring to the whole letter? Mr. Rodriguez and I wrote this in collaboration. The effects, the parts of that that are related to the airport's line of business within the FAA I deferred to him and the parts that relate to flight safety he deferred to me. So if you could be more specific about which part.

Q The portions that you worked on. In particular actually I guess it's the -- it's page two, the first complete paragraph. The section beginning with the sentence: "Due to the low visual effects" and going on from there to the end of the paragraph.

A Yes, I do agree with that.

Q Is that FAA's position on the proposed Eastshore plant?

A Yes, it is.

Q Thank you.

A You're welcome.

MR. MASSEY: That concludes my cross examination.

MS. HOLMES: Hearing Officer Gefter, while Mr. Butterfield is at the stand could I ask one question? Could I ask one question of Mr. Butterfield?

HEARING OFFICER GEFTER: Yes.

MS. HOLMES: Earlier this afternoon there was a discussion about the relationship between vertical gust, wind shear, meters per second, g force, all of that. Can you provide FAA's perspective on the ability to correlate between the turbulence definitions that FAA has provided and these other numerical measurements.

DR. BLUMENTHAL: I read Mr. Graves' written testimony where he discusses this and as I recall he referenced a book called Aviation Weather written by Peter F. Lester. And in that book Mr. Lester said that the FAA defined turbulence in terms of g forces. I'm not disputing that but I don't, I could not collaborate that, cooperate that. I spent some time this past weekend doing searches of

databases, FAA databases and I could not find a correlation between light turbulence and a certain amount of g force. And it might be true but I can't corroborate that.

MS. HOLMES: Okay, thank you.

PRESIDING COMMISSIONER BYRON: Just a brief question. I hope it's just a brief question. If I understood you correctly earlier when you testified you indicated that the FAA based its conclusions on 30 or 40 years of pilot reports. Is that correct?

DR. BLUMENTHAL: That was a database search of 30 years of incident and accident reports from various sources, including pilot reports.

PRESIDING COMMISSIONER BYRON: Was there any empirical data used in FAA developing its 1,000 foot criteria or its conclusions around plumes?

DR. BLUMENTHAL: I am not going to be able to answer that because I did not participate in the safety risk analysis, I don't know the answer.

PRESIDING COMMISSIONER BYRON: Would it have been referenced in the FAA report if it had

been?

DR. BLUMENTHAL: I don't believe it was.

PRESIDING COMMISSIONER BYRON: Having heard the testimony from the applicant's experts that provided the flyovers of the power plant near Reno, do you have any thoughts or conclusions on your own with regard to being an FAA safety expert -- I'm trying to ask, I'm not doing very well.

I'm trying to ask if you have any thoughts or can draw any conclusions about the testimony you heard from the applicant's witnesses with regard to the tests that they ran?

DR. BLUMENTHAL: I applaud what the applicant did in trying to establish scientific data. The FAA cannot accept that data as a way to say, well okay it doesn't -- the recommendation to avoid overflight below 1,000 feet, we're going to waive that in this case because of what that data showed.

We don't have knowledge of the type of instrumentation, GPS and accelerometers were mentioned and so on. The FAA does not have scientific data to make a basis to establish an acceptable e-flux rated at a certain altitude. We just don't have it.

But again I do applaud what they were trying to do. Obviously they're trying to convince the Commission that even if a pilot encounters a plume that it's not going to cause a problem. But I can refute it, I can't support it.

PRESIDING COMMISSIONER BYRON: Okay, thank you, sir.

DR. BLUMENTHAL: Yes sir.

HEARING OFFICER GEFTER: As we're going around the room I wondered if Mr. Haavik had any cross examination.

MR. HAAVIK: I do.

HEARING OFFICER GEFTER: Okay, would you go forward please.

MR. HAAVIK: I have a couple of questions of Dr. Blumenthal as well as Mr. Darvin.

CROSS EXAMINATION

BY MR. HAAVIK:

Q Mr. Darvin, I think you testified earlier in regards to the plume, the combination of stack configuration at Berrick versus the difference in stack configuration at the proposed site in Eastshore; is that correct?

A That's correct.

Q And can you give me a little, maybe a

quick scenario of the difference that may be an accumulation of those stack velocities versus, you know, 14 in a row versus the four pods.

A Certainly. At Berrick the stack configuration is arranged in such a manner where you've got groups of four and then I believe three that are clustered together in pretty tight confines. So what would happen there is that the plumes would actually merge quite a bit quicker. And because the site is at elevation the plume exit temperature is quite a bit hotter than will be experienced at Eastshore.

At Eastshore the stacks are arranged in a linear fashion west to east. So realistically plumes would still merge but they would merge at a much slower rate just because of the physical separation between each stack is greater.

Q You also indicated that you did not take into consideration the combined fan as well as stack exhaust turbulence.

A That's correct.

Q And I believe -- Do you know how many fans there are in either one of the facilities?

A I believe with Eastshore it's 252 individual fans. I don't know at Berrick.

Q Well actually it's 502 but that's okay.
A I'm sorry, each bank is 252.
Q Each bank is -- it's 504, I believe.
A Yes.
Q Now would you suspect that that could add to, in your opinion and your testimony, would that also add to the turbulence above stack height?
A It would generate turbulence on its own but I would disagree that it would merge with the existing engine plumes.

MR. HAAVIK: Okay. For Dr. Blumenthal.

CROSS EXAMINATION

BY MR. HAAVIK:

Q I applaud you in taking flying over the Berrick facility. I was at the Berrick facility for about ten hours one beautiful day that I saw snow and 25 degree weather as well as 45 degree. And I certainly understand how calm it can be out there, it's a very open area.

But you indicated that in flying over -- I'm not sure, did you indicate whether or not any of the fans were operational at that particular facility during that time?

A I am assuming they were, I didn't have

that information. Mr. Trewitt might have the information.

Q Is there anyone in your group who might have had that?

MR. TREWITT: Yes they were on, it's in his report.

MR. HAAVIK: Okay. So they were on and you were fully operational at --

HEARING OFFICER GEFTER: I'm sorry, Mr. Haavik. Who was it who just answered that question, for the record.

MR. HAAVIK: I'm sorry.

MS. LUCKHARDT: Mr. Trewitt.

HEARING OFFICER GEFTER: Mr. Trewitt. Okay, thank you.

MR. HAAVIK: So from Mr. Trewitt's response then, 12 of the engines were running?

DR. BLUMENTHAL: Eleven were running is my understanding.

MR. HAAVIK: Eleven were running. And to both of your knowledge the fans were also operational. I don't know if anyone can answer this question, maybe Mr. Stein or Mr. Trewitt. At 30 degrees would the fans, and I would assume 11 engines, you're running about 430 fans or so.

Would they be at full operation, reduced RPMs or -- At what level would they be operational?

MR. TREWITT: During the test period they were running at 45 percent, which would be commensurate to the same fan speed they would be at Eastshore during the same ambient conditions.

MR. HAAVIK: At 30 degrees?

MR. TREWITT: Yes. Thirty-two degrees.

MR. HAAVIK: Thirty-two degrees. Could you extrapolate that for me to a more reasonable temperature that we would see here at Eastshore. We don't see 32 degrees much.

MR. TREWITT: Well actually the plant is designed to go down to 32. So if we experience a 32 degree day here in Hayward they would be at the same fan speed.

MR. HAAVIK: What if it was a 70 degree day or an 80 degree day?

MR. TREWITT: Probably 100 percent.

MR. HAAVIK: One hundred percent.

MR. TREWITT: Um-hmm.

MR. HAAVIK: And did you think of that in regards to the flyover in extrapolating any of those additional turbulences from those fans?

MR. TREWITT: Did we extrapolate?

MR. HAAVIK: Obviously it was 30 degrees at Berrick, here in California it's a little warmer and you could have all fans going for a temperature of 70 or 80 degrees. Typically that's when this facility will be running, in the June, July, August months. Would that add to the turbulence and from there then create possibly more of an exaggerated test result?

MR. STEIN: Mr. Haavik, this is Dave Stein. The reason that we conducted the tests under the conditions that we did was to try to simulate as closely as possible under actual conditions what we expected to be the worst case for possible thermal plumes to form. And that's under cold ambient conditions.

MR. HAAVIK: Thank you very much.

MR. MASSEY: Madame Hearing Officer, I would like to ask if any parties have any cross examination questions for our witness, Mr. Needle. Otherwise he has another engagement to get to.

HEARING OFFICER GEFTER: Thank you for mentioning that. Do any of the parties, including the applicant, have any cross examination for Mr. Needle?

MS. LUCKHARDT: I just have a couple if

he's available.

HEARING OFFICER GEFTER: He'll be here now but he needs to leave. Mr. Needle, do you want to come over to the microphone. You can come here. Mr. Massey, thank you for reminding us that Mr. Needle had to leave, thank you.

MR. NEEDLE: Thank you.

MS. LUCKHARDT: Ms. Luckhardt.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Yes, thank you for coming, Mr. Needle. I just have a couple of questions.

I believe you were in attendance the evening your Commission passed the resolution on Eastshore, isn't that correct?

A I was there for three of the four meetings, I'm not sure which one I missed. Hang on a second. Was I there?

(Conferring)

MR. NEEDLE: Yes I was.

(Laughter)

BY MS. LUCKHARDT:

Q I'm glad Cindy keeps track of these things. Okay.

Do you recall a discussion regarding the

mitigation measures and whether they should be applied?

A Yes I do.

Q And in that discussion it may have been yourself, we're having trouble recalling which commissioner mentioned this, but do you recall that there was a discussion about no need for the mitigation or the no fly kind of conditions? There was a discussion that it would be more of an impact to have those than not have them.

A Your words don't quite track what I recall happened. Shall I explain?

Q Please.

A There were two mitigations under discussion. One was a mitigation that we now understand to not be needed and that was the FAA mitigation or rule about no flying power plants. That is no longer an issue.

The other one was the hazard mitigation. And so it's not that there was no need for the hazard mitigation, it was that the existence of a see-and-avoid mitigation would cause more damage, more danger than not having such a mitigation.

MS. LUCKHARDT: Thank you, I have nothing further.

HEARING OFFICER GEFTER: Any other party have any cross examination of Mr. Needle? We can excuse you then.

MR. NEEDLE: Thank you very much.

HEARING OFFICER GEFTER: Thank you very much for being here today and thanks for your patience, thank you.

Ms. Schulkind, you indicated you did not have any questions on this topic.

MS. SCHULKIND: That is correct.

HEARING OFFICER GEFTER: Okay. So the las person to do cross examination is Ms. Hargleroad. And we would ask you to try to be focused in your questions and be brief.

MS. HARGLEROAD: Oh I intend to. I hope I am always focused. I just have a question of Claudio Bellotto.

MR. BELLOTTO: Yes ma'am.

CROSS EXAMINATION

BY MS. HARGLEROAD:

Q So you are a helicopter operator?

A Yes I am.

Q And you are based where?

A South Lake Tahoe.

Q So you fly over the mountains quite

frequently I gather.

A Every day.

Q Okay. And were you a pilot before you came to South Lake Tahoe?

A Yes, I was a pilot in the Air Force, the Italian Air Force. That's where my accent comes.

(Laughter)

Q Okay. And what kind of planes did you fly?

A I used to fly Hercules C-130s.

Q Are those fighter pilot?

A No, they are cargo airplanes.

Q Cargo. And that was also over the mountains?

A Say again?

Q The mountains in Italy.

A Yes.

MS. HARGLEROAD: Right. Okay, thank you, that's it. That's all, that's my cross.

MS. LUCKHARDT: So then should I cross?

HEARING OFFICER GEFTER: You would have an opportunity to do redirect of your witnesses or you could cross other parties' witnesses.

MS. LUCKHARDT: Okay. I'm sorry, I had assumed that other parties would be crossing each

other when I initially asked to go last. I didn't realize there was so little going across. That was just my error. Okay, maybe I'll start with Ms. Ford.

HEARING OFFICER GEFTER: Ms. Ford, could you come up. Do you have a microphone?

MS. FORD: Yes.

HEARING OFFICER GEFTER: Okay, come up. Thank you.

MS. LUCKHARDT: Just because you're the fortunate one who is on top.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Have you done an independent analysis of the thermal plume from this project?

A No, I am not an engineer.

Q Did you base your determination that Eastshore would be a hazard upon the analysis that Commission staff conducted?

A Yes, I referred to the Final Staff Assessment under Traffic and Transportation and also Land Use.

MS. LUCKHARDT: I have nothing further, thank you.

MS. FORD: Thank you.

MS. LUCKHARDT: Mr. White.

HEARING OFFICER GEFTER: Is Mr. White still here?

MS. LUCKHARDT: Is he still available?

HEARING OFFICER GEFTER: Mr. White, would you come forward to the microphone, please.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Did you perform your own independent analysis of the thermal plumes from Eastshore?

A I did not.

Q Did you base your determination that the project would be a hazard to the airport or a hazard to aircraft based on the Commission staff's analysis?

A The Commission staff analysis and the testimony I have heard here today from the other experts.

Q Okay, but as far as drafting your written testimony, that was based upon Commission staff's analysis?

A My written declaration, that was based on staff analysis.

Q And Mr. White, you refer to a pattern altitude of 493 feet above ground level; is that

correct?

A I was referring to the Exhibit A, which is the FAA published approach procedure for the Hayward Airport.

Q Correct. For a circling approach is that 493 feet, would that be considered -- you have to understand I am not an aviator. Would that be the floor at which you should, the lowest level at which you should fly while circling before going down to the runway?

A In the circling approach the pilot must keep the airport in sight. And whatever altitude is required to do that is the altitude that the pilot would fly.

Q And is that altitude specified on your Exhibit A?

A The altitude specified on Exhibit A is the minimum altitude for a circling approach. In other words, the pilot should be visible, have the airport visible at 400 feet. And at that point the pilot can commence the circling approach.

Q Okay. And you said 400 feet. That would be 493 feet?

A Four hundred feet above sea level.

Q Above sea level. Okay. So you are

saying -- I'm looking at your Exhibit A and I'm looking at a circling approach at the very bottom and I'm seeing a 540, I believe, above mean sea level and 493 above ground levels. Am I not reading this correctly? Do you want to look at the exhibit?

A May I take a look at the exhibit?

Q Absolutely. And I am referring to the circling approach, not the straight-in approach.

A Yes, the circling approach, the minimum descent altitude would be 540 feet, that would be sea level, and it would be 493 feet above the ground.

MS. LUCKHARDT: Thank you very much. I have nothing further for Mr. White.

MS. HARGLEROAD: While we have Mr. White there can we just also confirm, Mr. White, that there are the same --

THE REPORTER: You need the mic.

MS. HARGLEROAD: Oh, I'm sorry.

HEARING OFFICER GEFTER: No, but wait, we are going to complete the cross examination.

MS. HARGLEROAD: Okay.

MS. LUCKHARDT: Is Mr. Richards still available?

MS. HARGLEROAD: Mr. Richards is right here.

HEARING OFFICER GEFTER: Mr. Richards, please come up to the microphone, thank you.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Are the conclusions written on your letter based on the assumption that pilots would need to avoid the Eastshore facility?

A Yes.

HEARING OFFICER GEFTER: The letter is identified as Exhibit --

MS. LUCKHARDT: Exhibit 727, I believe.

HEARING OFFICER GEFTER: Thank you.

MS. LUCKHARDT: I have nothing further, thank you. I'm trying to remember all of the witnesses. Okay, Mr. Bauman.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q In paragraph, numbered paragraph 13 of your testimony, which I believe is Exhibit 402 -- Actually it's numbered paragraphs 12 and 13. It starts on page three and goes over to page four. In those two paragraphs you're discussing the airport takeoffs and landings. Do you see that

paragraph?

A Would you say it again, the paragraph. I think the page numbers may be different in my copy.

Q I'm looking at the paragraph initially that begins, numbered paragraph 12 that begins on page three and goes over to page four.

A Yes.

Q In that paragraph you discuss the number of takeoffs and landings at the airport. I believe it's 130,000, is that correct?

A That was correct last year actually. This year I think I mentioned that there has been an increase of about 17,000. We expect the end of the year to be at about 147,000.

Q Okay. Please refer to the Airport Master Plan and that is Exhibit number --

MS. GRAVES: It's Exhibit 410.

MS. LUCKHARDT: Thank you.

BY MS. LUCKHARDT:

Q Exhibit 410. I'm looking at in that exhibit the page, it's called Exhibit 2-E.

A Two what again, please?

Q Two-E. It may follow approximately page 216 in the document.

MR. GRAVES: It might be 216. It's in-between two pages.

BY MS. LUCKHARDT:

Q I guess it -- I'm being told it proceeds 215. It's a large chart with the year running along the bottom.

A Yes.

Q In this chart, and I am using the selected planning forecast which is the red line that goes up the center, what was the projected annual operations number for last year to be consistent with what you used?

A If I could refer you to table 2-M which has actual numbers, rather than the chart which is harder to read.

Q And 2-M is following --

A It's page 219.

Q Okay, thank you. Okay.

A And on 219 the projection at the time that the master plan was done for a year that was identified specifically, which was 2005, was 172,000 operations.

Q Okay. Then in your numbered paragraph 13 you refer to the increase, projected increase in flights per year; is that correct?

A That was a reference from the master plan and that is a correct reference from what was in the master plan, as I earlier referred to as a particular example since last year and this year because there is presently now the growth that we were projecting. There was a growth of 16,000 rather than the 3,350 that was specifically addressed here.

Q Mr. Bauman, do you consider yourself an expert on thermal plume modeling?

A No I do not.

Q Did you rely upon the analysis CEC staff conducted in reaching your conclusions?

A I relied on that information and what I had heard throughout the process of the Russell City project because I did listen and was involved in that. But I did rely on the analysis of others.

Q So the other analysis was the analysis -- Okay, of others, meaning Commission staff and what you saw in the Russell City project.

A Absolutely.

Q Are you aware of the Different technology proposed for the two projects?

A I am aware that they are different types

of engines, yes.

Q Are you aware that the two projects would have different thermal plume characteristics?

A That has been reported by both the Energy Commission staff and others, yes.

Q Isn't it true that the Alameda County Land Use Commission did not recommend restrictions on airspace above Eastshore?

A The recommendation, because I was at the Airport Land Use Commission, was -- chose not to recommend that it can be mitigated because they felt it could not be mitigated. And therefore their recommendation was to not site Eastshore where it was proposed but rather to find another location.

Q But they didn't --

A That was different than the recommendation for Russell City.

Q Correct. But they did not recommend mitigation measures, correct?

A They did not feel mitigation measures, that it could be mitigated. At least that was my understanding of their determination.

Q I believe you were here when Mr. Needle

testified.

A Yes I was.

Q And were you here and did you hear him testify that he felt that the mitigation measures would be more of a hazard than the project itself?

A I believe he is referring to the same thing that I had put in writing to the Energy Commission, even when we were first determining the Russell City project. That having two locations that pilots needed to avoid would be an unacceptable, unmitigateable impact.

MS. LUCKHARDT: Okay, I have nothing further for Mr. Bauman.

Could I ask Mr. Richards just one additional question?

FURTHER CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Richards, did you conduct any independent thermal plume analysis for this project?

A No, I did not.

Q Thank you. Sorry about that, to call you back up.

A That's okay.

MS. LUCKHARDT: Mr. Butterfield.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Did you conduct an independent analysis of the thermal plume impacts from Eastshore?

A No ma'am, I did not.

Q Did you rely upon the analysis conducted by Commission staff?

A No I did not.

Q Upon what thermal plume analysis did you base your conclusions?

A On no thermal plume analysis. I didn't use a thermal plume analysis in coming up with my conclusions.

Q Do you have a copy of the FAA Safety Risk Analysis Aircraft Overflight of Industrial Exhaust Plumes?

A Yes I do.

Q And that is exhibit, it's attached to Exhibit 22, Marshall Graves' testimony for the record. If you could look at page, it's the executive summary page four, IV, Roman numeral four.

A Okay.

Q If you go down to the fourth paragraph. Could you read the last sentence in the fourth

paragraph that reads, as a result of this.

A "As the result of this assessment the risk associated with plumes is deemed acceptable without restriction, limitation or further mitigation."

Q Thank you.

A You're welcome.

Q I still have some more, don't run off quite yet. Or I may, I'm just trying to go through them. Since you did not conduct any thermal plume analysis of this project isn't your testimony contradicting the conclusion of this report?

A No ma'am.

Q Did you review the applicants 7460-A filing for the Eastshore project?

A No, that is not within my line of business. I reviewed the FAA's evaluation of that filing.

Q Okay. Therefore you are not aware that the application for that specifically referenced thermal plumes then on that form?

HEARING OFFICER GEFTER: Is that part of the record?

MS. LUCKHARDT: Yes it is, it is Exhibit 40.

MR. BUTTERFIELD: I'm sorry, would you repeat the question.

BY MS. LUCKHARDT:

Q Then I assume you are not aware that the applicant specifically referenced possible thermal plumes when requesting that analysis.

A I didn't read it so --

Q So you are not aware?

A No, it was not there.

Q Okay.

A I did not see it there.

Q And in your letter or the letter dated October 9, 2007 -- I'm trying to figure out which exhibit number it is. It's exhibit number 204, for the record. On that letter on page two you conclude the Eastshore facility would require the same mitigation as the Russell City facility; is that correct?

A That is correct.

Q But that analysis is not based on any thermal plume review?

A No, it is based strictly on the safety risk analysis performed by the FAA.

Q And that is the same analysis that concluded, the same analysis that concluded that the risk associated with plumes is deemed acceptable without restriction, limitation or further mitigation.

A Yes, that safety risk analysis does say that but it goes on.

Q Isn't it true that the FAA is not a land use agency?

A I can't answer that. Can you answer that, Andy?

MR. RICHARDS: That is correct.

(Laughter)

HEARING OFFICER GEFTER: Did the reporter get that from Mr. Richards?

BY MS. LUCKHARDT:

Q I believe, Mr. Butterfield, you testified to that actually earlier.

A Well actually remember this letter, the October 9 letter was a joint letter between myself and Mr. Rodriguez who signed the letter.

Q Correct. And I would like to -- right now I am referring to applicant's Exhibit 38, the CEC Business Meeting transcript from September 26, 2007. And I am looking at page, I am referring to

page 16, lines three through eight of Mr. Butterfield's sworn testimony.

MS. HARGLEROAD: This is Exhibit 38?

MS. LUCKHARDT: It's Exhibit 38.

MS. HARGLEROAD: And this is of the Russell City proceeding?

MS. LUCKHARDT: Yes, it is his sworn testimony before the California Energy Commission in the Russell City proceeding, identified as Exhibit 38.

BY MS. LUCKHARDT:

Q And isn't it correct, Mr. Butterfield, that the FAA cannot object to something being built?

A We cannot stop something from being built, we can only issue a Hazard Determination or a No Hazard Determination. If the proponent chooses to ignore that and build anyway that is up to the proponent.

Q And isn't it correct that the study we were referring to earlier concludes that the risk to aircraft is very low?

A The study does say that the risk is very low without further mitigation but it also offers four recommendations to further reduce the risk.

Actually five recommendations, I'm sorry.

Q And that risk is, is that one in a billion; is that correct?

A That what is stated, yes.

Q In the report. And in FAA's view is that an acceptable risk?

A In the FAA's view that is an acceptable risk without further mitigation.

MS. LUCKHARDT: Thank you, I have nothing further.

And I think that is all of the witnesses I need to -- Wait, wait, do I need to do anything with staff? Sorry, I didn't mean to leave you out, Caryn.

MR. BUTTERFIELD: Am I done?

HEARING OFFICER GEFTER: Are you finished with Mr. Butterfield?

MS. LUCKHARDT: I am finished with Mr. Butterfield, yes.

MR. BUTTERFIELD: Thank you.

MS. HOLMES: Perhaps while she is getting ready to cross staff could I ask Mr. Butterfield one question on redirect?

HEARING OFFICER GEFTER: Yes, he's available on redirect.

MS. HOLMES: Right.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Butterfield, given the recent line of questions that you just answered from the proponent, the applicant.

A Yes ma'am.

Q Could you please explain why you believe that the FAA safety risk analysis is consistent with the recommendations that FAA is making in this case.

A You mean why the --

Q In your opinion can you please explain, how perhaps is a better word than why, the recommendations that the FAA is making with respect to this case are consistent with the conclusions of the FAA safety risk analysis.

A Okay. What you're asking -- I'm going to restate what I think you're asking me. You're asking me why does the FAA say that pilots should avoid overflight of plumes below 1,000 feet when the analysis indicates that the risk is on the order of 1-9.

Q Correct.

A Okay. As I stated earlier this morning,

this is a statistical analysis of accidents and incident data, it is not based on flight test data. And it is across a broad spectrum of various types of power plants, many of which are taller stack, visible plume stacks.

And so because it is not based on scientific data the FAA is saying statistically it's acceptable. But to further mitigate that don't overfly a plume below 1,000 feet.

MS. HOLMES: Thank you.

PRESIDING COMMISSIONER BYRON: If I may. Again going back to that 30 years of data that the FAA accumulated with regard to plumes and aircraft overflight. Are there any records of any accidents as a result of thermal plumes?

MR. BUTTERFIELD: No, there are not. There was one accident that possibly could have but it was not definitive.

PRESIDING COMMISSIONER BYRON: There's a lot of stall spins that are indeterminate.

MR. BUTTERFIELD: That's correct.

PRESIDING COMMISSIONER BYRON: Okay, thank you.

MR. BUTTERFIELD: Yes sir.

MS. GRAVES: The City does have one

redirect question.

RECROSS EXAMINATION

BY MS. GRAVES:

Q You were asked whether or not the FAA is a land use agency and you answered, no. Does the FAA have regulations that do apply to the City's land use?

A I have to let my cohort answer that.

HEARING OFFICER GEFTER: Please come to the microphone, Mr. Richards.

MR. RICHARDS: Basically the FAA is not a land use agency. But when you accept federal grant and aid money you sign a contract with the FAA that the airport sponsor, that being the City of Hayward, will maintain compatible land use around the airport as well as maintaining the safety of the airport environment.

So although the FAA cannot order at any time how appropriate land use is around an airport, if it is seen by the FAA as a hazard or incompatible land use it could affect your ability to receive grants in the future. Not only airport grants but Department of Transportation grants.

MS. GRAVES: That covers it, thank you.

HEARING OFFICER GEFTER: Thank you,

Mr. Richards.

Ms. Luckhardt, did you have questions of staff?

MS. LUCKHARDT: I have some cross of staff; that's all I have left. And I don't know -- Mr. Walters, I'm not sure if you're responsible for this section or not.

MR. WALTERS: I am strictly responsible for the attachment to the transportation section, TT-1, I believe.

MS. LUCKHARDT: Okay. So you are not responsible -- I'm going to have you look at something because I need to know which staff witness needs to testify on this. I'm sorry, I'm now to a pile of stuff beside me.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q I'm looking at page 4.10-20 of the Final Staff Assessment. I'm looking at the second paragraph. In the second paragraph there is a sentence that begins with, potentially, and it talks about the maximum value of the plume.

"The peak centerline velocity could exceed 4.3 well into the pattern altitude."

Which staff member is the appropriate staff member to respond?

A That actually comes from my testimony, it's repeated, so I can answer technical questions on that.

Q Okay. Isn't it correct that the CASA guidelines require --

A That is not a technical question. That is a regulatory question, that would go to Jim.

MS. LUCKHARDT: Okay.

MS. HOLMES: You can just ask the panel and whoever is the appropriate witness will answer it.

MS. LUCKHARDT: Yes, whoever is the appropriate person.

CROSS EXAMINATION

BY MS. LUCKHARDT:

Q Isn't it correct that the CASA guidelines require that you use an average velocity when comparing it to the 4.3 meters per second?

A CASA is an Australian entity and their guidelines are just that, guidelines for evaluation. The CASA guidelines and the Katestone studies do use the average plume. That does not

preclude evaluation for a peak, they simply do not use it in their evaluation on a regular basis. It also does not preclude the fact that damage can occur to an aircraft at a rate less than 4.3 meters per second.

Q Okay, but the CASA guidelines are an average. Was that in the middle of all that?

A The CASA guidelines indicate that 4.3 meters per second is a level at which they recommend additional evaluation. And the 4.3 meters per second that they indicate in that guideline is an average, is the average.

Q Please refer to Exhibit 26. If you could look at page two, paragraph 4.6.

MS. HOLMES: We're getting there.

MS. STRATTAN: And what page was that, please?

BY MS. LUCKHARDT:

Q Page two, paragraph number 4.6.

A Yes.

Q Could you please read the sentence into the record.

A "As a result of this --"

And this is talking about the potential impacts of thermal plumes.

"-- CASA requires the proponent of a facility with an exhaust plume which has an average vertical velocity exceeding the limiting value, which is 4.3 meters per second at the aerodrome obstacle limitation service or at 110 meters above ground level anywhere else to be assessed for a potential hazard to aircraft operations."

Q Great, thank you. Okay, looking at the Final Staff Assessment page 4.10-9. It actually starts on 4.10-8 where you list the method's thresholds for determining significance. I am going to refer you to on 4.10-9 to the sixth, seventh, eighth and ninth bullets. So they are from the bottom of the bullets not the first one on the bottom but the next four.

A Yes.

Q Are those statements included in the CEQA guidelines?

A No they are not. Well, actually --

Q Have they been adopted by the California Energy Commission as significant standards?

A No they have not.

MS. LUCKHARDT: Thank you. I have nothing further on cross.

HEARING OFFICER GEFTER: At this point unless there are any further redirect questions --

MS. HOLMES: I have redirect question.

HEARING OFFICER GEFTER: Applicant does have one -- I'm sorry, staff. We changed sides.

MS. GRAVES: I have redirect.

MS. HARGLEROAD: We have just --

MS. HOLMES: Does somebody else have anything?

MS. GRAVES: The City has redirect actually for the --

MS. HARGLEROAD: And we have just a couple.

HEARING OFFICER GEFTER: Okay, well then let's move it along. Ms. Holmes, please do your redirect.

MS. HOLMES: Thank you.

Ms. Strattan, just a few moment ago you were referring to the CASA guidelines which -- I'm sorry, I've forgotten the exhibit number. Is it 26?

MS. LUCKHARDT: Twenty-six I believe.

MS. HOLMES: Thank you.

REDIRECT EXAMINATION

BY MS. HOLMES:

Q In assessing the potential hazard to aircraft operations did you take factors into account other than the plume velocity that was calculated by Mr. Walters?

A Absolutely. We looked at the location of the site, the type of aircraft that would be populating the airspace above the site and in the airport area. Requirements in policies from the county and the city and a number of other information that has been provided to us.

MS. HOLMES: Thank you. That's my only question.

HEARING OFFICER GEFTER: Thank you. Ms. Graves.

MS. GRAVES: I have a question for Ms. Strattan about her application of the CEQA guidelines.

MS. LUCKHARDT: I'm sorry but that wasn't brought up in redirect.

MS. GRAVES: Ms. Luckhardt just asked the question about the CEQA guidelines, whether or not the bullets on 4.10-9 were listed in the CEQA

guidelines.

MS. LUCKHARDT: That's correct but that was not redirect.

HEARING OFFICER GEFTER: Ms. Luckhardt was crossing the staff witness and now the staff is on redirect of their witnesses. So if you are wanting to redirect the staff's applicant -- I know it's not technically appropriate but you may as the questions just to get it on the record.

RECROSS EXAMINATION

MS. GRAVES: In your preparation of this document or others have you encountered such specific substantive standards in the CEQA guidelines?

MS. STRATTAN: There are substantive questions that are used to help the agencies develop their CEQA analysis for environmental impacts. These are not the only questions that can be asked, neither are they definitive for a specific project so there is variation. The agencies can use their own points to consider, whether or not they believe there may be an impact that's based on a project, the actions or operations of a project.

MS. GRAVES: Thank you, and thank you

for allowing me to ask the question.

HEARING OFFICER GEFTER: Do you have redirect for your own witness?

MS. GRAVES: No, I am all finished, thank you.

MS. HOLMES: Hearing Officer Gefter, could I ask for official notice of Appendix G of the CEQA guidelines, which indicates that one of the criterion that Ms. Strattan said was not included in the CEQA guidelines is, in fact, included in the CEQA guidelines. It has to do with result and change air traffic patterns including either an increase in traffic levels or change in location that results in substantial safety risks. If the Committee would take official notice of that that would be helpful.

HEARING OFFICER GEFTER: The Committee would take administrative notice of CEQA and CEQA guidelines.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: All right, at this point you have a redirect?

MS. LUCKHARDT: I have a couple. Go ahead.

HEARING OFFICER GEFTER: Okay. You have

redirect of your witness?

MS. HARGLEROAD: Just briefly.

HEARING OFFICER GEFTER: One question?

MS. HARGLEROAD: Just briefly.

HEARING OFFICER GEFTER: Let's do it briefly.

MS. HARGLEROAD: Mr. Butterfield or Mr. Richards, whoever is the best.

REDIRECT EXAMINATION

MS. HARGLEROAD: On the SRA 2006 study, that study includes any power plant in the United States in 30 years; isn't that correct?

HEARING OFFICER GEFTER: This is the safety study that has been discussed all afternoon?

BY MS. HARGLEROAD:

Q The safety study that we have been referring to.

A Yes. But to my knowledge the safety risk analysis study didn't identify any stacks. This was a search of databases for accidents and incidents attributed to --

Q Power plants.

A -- plumes.

Q Plumes.

A Period, okay.

Q Right.

A In the 30 years -- As I stated this morning, in the 30 years that this was done -- I'm making the assumption because the stacks are not identified, that the majority of those would be the older technologies, the taller stacks with visible plumes that could not be built close to airports.

Q Right. So traditionally power plants have not been sited near airports.

A Traditionally that is correct.

MS. HARGLEROAD: Okay, thank you.

HEARING OFFICER GEFTER: Thank you. Ms. Luckhardt, yes.

MS. LUCKHARDT: I'm sorry, I guess I -- Mr. Butterfield, I guess I have one additional question based on that last question.

HEARING OFFICER GEFTER: Yes, that's okay, let's just get it all on the record.

RECROSS EXAMINATION

BY MS. LUCKHARDT:

Q Do you consider yourself an expert in knowing the location of power plants in relation to airports?

A If you call 37 years of experience then yes, I do.

Q Okay. Then are you aware of the location of the Blythe project in relation to the airport?

A Yes I am.

Q Are you aware of the location of the Riverside project in relation to the airport?

A No I am not.

Q Are you aware of the United Cogen project in relation to San Francisco Airport?

A No I am not.

Q Okay, thank you.

A You're welcome.

HEARING OFFICER GEFTER: Thank you. What we need to do is wind up on traffic and transportation.

MS. LUCKHARDT: Okay, can I do --

HEARING OFFICER GEFTER: We're going to move the exhibits into the record.

MS. LUCKHARDT: Can I do a little bit of redirect? I haven't had that opportunity. I don't have very much, I just have a couple of questions. There were some questions of Mr. Blumenthal about whether they were in the

plumes or outside of the plumes.

REDIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Could you please describe why you felt that you were in the plumes.

A Well, we felt we were in the plumes because of the particular characteristics of the turbulence over the, over the plant. The air was pretty smooth for the most part outside of the immediate vicinity of the plants. And then when we flew over the plant itself we got, at least in a few of the passes we got a very sharp spike up, up being .3.

In one particular case actually we got a negative acceleration then a positive acceleration then a negative acceleration in leaving the plume. One can speculate that the positive acceleration is in the plume and the negative acceleration on both sides of the plume could be due to the air coming down that is being entrained into the plume. It has to come from somewhere so it pulls air down. That's on the outside of the plume. It goes into the plume and then rises up when it's entrained.

So just the characteristics of the

signature that we saw says that we're in the plume. Plus the pilot reports of, you know, a slight bit of turbulence, looking very carefully for it as we flew over indicates that they were in a plume.

Q And did you design the study using a light, a relatively light aircraft?

A Oh yeah. Well we designed it using the R-44, which is the helicopter that we had available to us. It's a four seat helicopter. It's weight at the time of the study was about 2200 pounds. That's kind of in the middle of light airplanes. You know, small, four seat airplanes are a similar weight. There are lighter planes and there are a lot heavier ones.

Q And did you select the helicopter as a means of getting good turbulence data, for the lack of a better --

A We selected the helicopter because we actually looked into the use of the light aircraft and we had one available to us that was already instrumented that would have been able to measure actually quite a bit more than we were able to measure in the helicopter. The problem was that the FAA regulations require you to stay 500 feet

away from buildings and people and animals and other things.

You need to get a waiver to fly a fixed-wing aircraft lower than 500 feet, whereas the helicopter can legally fly below 500 feet. We talked to the FAA in Reno, the Flight Standards District Office there, and they said it would have taken about a month to get the waiver. So we decided -- the concern was mostly about helicopters anyway, at least that was our impression of it, that we would go with a helicopter and do that experiment. And that we could do without a special waiver or anything.

MR. MASSEY: I have a recross question based on his response.

MS. LUCKHARDT: Do you want me to finish first?

MR. MASSEY: Okay, go ahead and finish and I'll ask my question, thank you.

MS. LUCKHARDT: Just make sure I'm done so that we can do this all at once.

REDIRECT EXAMINATION

BY MS. LUCKHARDT:

Q Mr. Graves, there was some discussion about the g force numbers and the light turbulence

numbers and how those were derived and what the FAA source for that was. Could you describe that.

A The source I got for that was taken out of the book that was referenced by Mr. Butterfield that identifies the FAA classification of turbulence based on g force limits. I would have to defer to Mr. Butterfield where that actually is or have him dispute that it is not in FAA but I think we both agree that there is no reason to contradict that.

MS. HOLMES: Is there a reference to an exhibit that is being sponsored by Mr. Butterfield that you can point us to?

MS. LUCKHARDT: No, we were discussing the exhibit in Mr. Graves', that's attached to Mr. Graves' testimony. It's Attachment 2 to Exhibit 20 of Mr. Graves' testimony. And we don't have -- I believe he has the reference somewhere in there of where he got it from.

MR. GRAVES: It's in the text. It's this one, it's this book.

MS. LUCKHARDT: Yes, it's in the text. The reference to the book is in the text.

MS. HOLMES: Is there a reference to an FAA document? I'm sorry, I'm just trying to --

MS. LUCKHARDT: No, it is not an FAA document.

MS. HOLMES: Thank you.

MS. LUCKHARDT: It's the -- whatever it is.

MS. HOLMES: It's the textbook.

MS. LUCKHARDT: It's the textbook.

MS. HOLMES: Thank you.

MR. GRAVES: It's the textbook used all over the world, including the FAA.

HEARING OFFICER GEFTER: And tell us the next of the textbook.

MS. LUCKHARDT: Can you read the --

HEARING OFFICER GEFTER: What is the name of the textbook?

MS. LUCKHARDT: Read the name of the textbook.

MR. GRAVES: It is referenced in my testimony but it's Aviation Weather by Peter F. Lester and it is published by Jeppesen Sanderson Training Products.

HEARING OFFICER GEFTER: Thank you.

MR. GRAVES: It is probably the most widely used book on aviation weather in the world. Mr. Butterfield may concur with that, maybe not.

MR. BUTTERFIELD: It's fine.

HEARING OFFICER GEFTER: You need to get that --

MR. GRAVES: But it's here.

HEARING OFFICER GEFTER: Okay. Mr. Butterfield, we can't hear you.

MR. BUTTERFIELD: I recognize the book. My point earlier was that in searching the FAA databases I couldn't find, I couldn't substantiate what Mr. Lester wrote in his book.

HEARING OFFICER GEFTER: Okay, thank you. All right, anything else, Ms. Luckhardt?

MS. LUCKHARDT: No, nothing further.

HEARING OFFICER GEFTER: All right. Okay, Mr. Massey had some recross and then we're going to wind up.

MR. MASSEY: Very briefly.

RECROSS EXAMINATION

BY MR. MASSEY:

Q Mr. Blumenthal, you mentioned that you chose the R-44 helicopter because it was moderately lightweight and that it was something that was used in training at the Hayward Airport.

A Well --

MS. LUCKHARDT: I don't believe that's

what he --

MR. BLUMENTHAL: I didn't choose it because it was used in training at the Hayward Airport, I learned that actually after the fact. I chose it because it was a lightweight helicopter that would reasonably simulate lightweight training aircraft and because it was available. I mean, this was a very short-fuse study and I had to get something that would meet the needs.

BY MR. MASSEY:

Q It's not the lightest helicopter on the market, is it?

A It is not the lightest helicopter on the market.

Q When you investigated or subsequently learned that the R-44 was used at the Hayward Airport for training did you learn whether any other helicopters were used for training other than the R-44?

A I'm sure that they are. In fact somebody this afternoon gave me a little note saying that R-22s are used as well. The R-44 is a four seat helicopter.

One other reason that we chose the four seat helicopter was so that we could put an

observer in it and some equipment in. We probably could have stuffed it in a two seat helicopter but I didn't feel that would be real safe. So we were able to put our instrumentation and our computer in the back seat on one side and the observer on the other side. So we used three of the four seats in the helicopter and that's another reason we liked the R-44.

If we'd had to make do with the R-22 we probably could have done it but we felt the E-44 was safer. Again not knowing what we would expect to see in the plume when we started.

Q And the R-22 is a lighter helicopter?

A It is lighter. I think Claudio could better describe what it's all about. But as I mentioned, the R-44 is typical of training aircraft. There are some lighter.

Q To your knowledge is the R-22 used for student training?

A Oh yes, sure.

MR. MASSEY: Thank you.

HEARING OFFICER GEFTER: We need to admit the exhibits into the record and let's do that.

MS. HARGLEROAD: If I could just on --

this is kind of double housekeeping and redirect of Mr. White concerning his exhibits.

HEARING OFFICER GEFTER: We can't hear you.

MS. HARGLEROAD: I'm sorry. Okay. This just to do with some housekeeping and redirect concerning Mr. White's exhibits that the applicant stated --

HEARING OFFICER GEFTER: Why don't we wait until we get to your exhibits.

MS. HARGLEROAD: Well he can simply --

HEARING OFFICER GEFTER: No, wait until we get to your exhibits. I am going to ask the applicant now to move her exhibits, we'll get to you at the end. Just wait a minute, hold on.

HEARING OFFICER GEFTER: Ms. Luckhardt, can you move your exhibits at this point, please.

MS. LUCKHARDT: Okay, we move all of our exhibits on traffic and transportation at this point. Those would include Exhibit 20, Exhibit 26, Exhibit 28, Exhibit 29, Exhibit 30, Exhibit 31, Exhibit 32, Exhibit 33, Exhibit 35, Exhibit 36, Exhibit 37, Exhibit 38, Exhibit 39, Exhibit 41, 42, 43, 44, 45, 48, Exhibit 52.

MR. MASSEY: Did that include Exhibit 17

by any chance? I didn't catch it.

MR. CARROLL: That's land use.

MR. MASSEY: I thought so, I thought you might have said that.

MS. LUCKHARDT: Exhibit 17 I believe is going to come in under land use.

MR. MASSEY: That was my understanding. I thought I misheard you, I thought you said that.

MS. LUCKHARDT: Okay.

HEARING OFFICER GEFTER: What about Exhibit 40? I didn't hear you mention that.

MS. LUCKHARDT: No, Exhibit 40 should come in now as well.

HEARING OFFICER GEFTER: And hearing no objections applicant's exhibits are received into the record. Staff please.

MS. HOLMES: Staff at this point moves in Exhibits 203, 204, 205, 206, 207, 208 and 209.

HEARING OFFICER GEFTER: Thank you.

MS. HOLMES: And I have one housekeeping matter. I am not sure if we moved Exhibit 201, the Final Determination of Compliance in. So a conditional, a contingent motion if we didn't, we could move it in now.

HEARING OFFICER GEFTER: I think you

moved it in yesterday but all the other exhibits you listed just now are received without objection into the record.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: City of Hayward, please.

MS. GRAVES: We'd like to move Exhibit 402 and Exhibits 409 through Exhibit 418.

HEARING OFFICER GEFTER: You said 409, 410, 411, 413, 414, 416, 417 and 418.

MS. GRAVES: Correct.

HEARING OFFICER GEFTER: Okay. Hearing no objection those exhibits are received into the record. Alameda County.

PRESIDING COMMISSIONER BYRON: Mr. Massey, just for the record, my crack staff indicates an R-22 weighs about 800 pounds less gross than an R-44.

(Laughter)

MR. MASSEY: That is a crack staff. I appreciate that.

Are you ready for the County? The County would like to move in Exhibits 511, 512, 513, 514, 515, 516, 517, 519, 520, 521. Thank you.

HEARING OFFICER GEFTER: Hearing no objection those exhibits are now received into the record. Ms. Hargleroad, now you can let us know what your housekeeping issues were.

MS. HARGLEROAD: Oh, yes. Simply that Exhibit 7 -- We have the declaration of Jay White. There was an earlier discussion concerning the production of his exhibits attached to his December 4 declaration and I just wanted to do a quick redirect on Mr. White.

REDIRECT EXAMINATION

BY MS. HARGLEROAD:

Q Is that these exhibits that are attached to your December 4 declaration are the same exhibits that are attached to your October 24 declaration filed in the Russell City Energy Center; is that correct?

A That is correct.

MS. HARGLEROAD: Okay. And so those exhibits are attached and served via .pdf.

HEARING OFFICER GEFTER: Those are Exhibits 711 and 712.

MS. HARGLEROAD: Seven-eleven and 712. And also --

HEARING OFFICER GEFTER: What other

exhibits are you moving right now?

MS. HARGLEROAD: I would also like to move in the declaration of Carol Ford dated December 6, Exhibit 713; 714, the declaration of Carol Ford. Also as part of her declaration in fact but it's noted as listed as Exhibit 715 is the FAA Grant Agreement Part One dated September 16, 2002.

HEARING OFFICER GEFTER: That's Exhibit 715, 715.

MS. HARGLEROAD: Oh, that's already exhibit -- I have that listed as Exhibit 715.

HEARING OFFICER GEFTER: Yes, correct.

MS. HARGLEROAD: Okay, right. And then also we have, and perhaps this is already in the record, staff sponsored this, a duplicate, Exhibit 719, the letter dated November 2 to James Adams from Carol Ford. That was also attached to her declaration.

MS. HOLMES: I don't believe we sponsored that.

MS. HARGLEROAD: It was attached to Ms. Ford's most recent declaration November 6.

HEARING OFFICER GEFTER: So Exhibits 711, 712, 713, 714, 715 and 719 presented by group

petitioners are now received into the record.

MS. HARGLEROAD: Also I know there are some issues concerning Mr. Cathey's declaration. I believed that I included that in the stack of things and it was on my list but inadvertently it was not placed on this. And we can discuss that later given our --

HEARING OFFICER GEFTER: We'll discuss it later in housekeeping.

MS. HARGLEROAD: Yeah, because we did have substantial discussions concerning his notes.

HEARING OFFICER GEFTER: At this point we are going to go off the record and take a break.

PRESIDING COMMISSIONER BYRON: Before we do.

HEARING OFFICER GEFTER: And before we do.

PRESIDING COMMISSIONER BYRON: I would just like to thank all the participants, counsel and particularly the witnesses. A tremendous amount of expertise in the room today. Thank you all very much for hanging in here with us, providing the answers you did. I think we have built a tremendous record and have a lot of

information here to work with. So I would like to thank you all very much for your participation today.

HEARING OFFICER GEFTER: Thank you. We'll reconvene in 15 minutes at 5:30. While we're off the record I want to talk to you about your witness availability so don't leave yet, Ms. Hargleroad.

(Whereupon a discussion was held and a recess was taken.)

HEARING OFFICER GEFTER: As we said at the beginning of today's session, we have to be out of here because the City Council is meeting at eight p.m. So we need to close at 6:59 because we have to start taking everything out of here at seven. So we have exactly an hour and a half right now.

What we are going to do is this. Today we are going to do the socioeconomics. Ms. Hargleroad had wanted to cross examine staff on socioeconomics. We are also going to do noise. There are only a couple of issues on noise. Applicant has some concerns about the condition of certification and Mr. Haavik has a witness on noise.

Then obviously we're not finished. We have several other topics to finish up on the evidentiary hearing. So we have a date in January, Monday, January 14, and we'll go all day. We'll start at ten and we'll go until ten at night if we have to. We'll make time for public comment during that day and we'll have several topics that we need to finish. So we have that date. Hopefully we'll be able to finish at that time and also catch up with all the housekeeping issues in terms of the record.

MR. HAAVIK: Ms. Gefter, is that going to be here?

HEARING OFFICER GEFTER: It's here.

MR. HAAVIK: It will be here?

HEARING OFFICER GEFTER: Yes, Monday, January 14.

MR. HAAVIK: Would there be a necessity to possibly schedule a second day, which would be the next day just in case?

HEARING OFFICER GEFTER: We can't schedule anything here on a Tuesday. This is a Monday, January 14. Tuesday night is when they have their City Council, which is why we have to leave today.

MR. HAAVIK: We're here tonight.

HEARING OFFICER GEFTER: I know, we have to leave. So no, we're going to try to do it in that one day.

MS. HOLMES: Ms. Gefter, that's a date for which another workshop has been established for another siting project and my understanding is there is a conflict with some of the staff.

HEARING OFFICER GEFTER: Well staff will have to, will have to work on that conflict when we get back to Sacramento. Okay.

MS. ALLEN: We'll get back to you.

HEARING OFFICER GEFTER: Yes, you'll get back to us on that date.

MS. ALLEN: With our ability to appear.

HEARING OFFICER GEFTER: Because, you know, the City of Hayward has been very generous and gracious in letting us use this facility and they have this facility booked up for the month of January. So we have Monday, January 14.

Okay, let's move on. At this point Ms. Hargleroad is the only one who has indicated she wanted to cross examine staff on socioeconomics. So Ms. Hargleroad, go forward with your issue on socio and please keep it

focused and brief.

MS. HARGLEROAD: Thank you. First just as a matter of --

THE REPORTER: Microphone please, thank you.

MS. HARGLEROAD: First just as a matter of housekeeping I'd also like to move in --

HEARING OFFICER GEFTER: The microphone.

MS. HARGLEROAD: It's on.

HEARING OFFICER GEFTER: You know what, you could come forward to the table where the microphones are.

MS. HARGLEROAD: Thank you. Is to move in as direct testimony the declarations of Jay White, which have already been admitted under 711 and 712 and also the declarations of Carol Ford, Exhibit 713 and Exhibit 714. That also applies to socioeconomic. That as our direct testimony.

HEARING OFFICER GEFTER: Thank you.

MS. HARGLEROAD: And our socioeconomic staff person is here I gather? I just had a couple of questions.

HEARING OFFICER GEFTER: Mr. Eric Knight is staff's witness on socioeconomics.

MS. HARGLEROAD: Okay.

HEARING OFFICER GEFTER: And Mr. Knight is still under oath.

MS. HARGLEROAD: Thank you.

CROSS EXAMINATION

BY MS. HARGLEROAD:

Q Mr. Knight, did you take into account the economic impact on the airport if there was a loss of utility of the airport due to these power plants?

A No we did not.

Q Okay. And did you take into account the value, the economic value of Chabot College and the economic impact that that would have on the community in your analysis?

MS. HOLMES: I'm sorry, can you rephrase that question, I just didn't understand it.

BY MS. HARGLEROAD:

Q Did you take into account the economic impact or the economic contribution that Chabot contributes to the community and the impact that this power plant would have on that contribution?

A The first part of your question, the economic contribution of the college, that's not the project we're evaluating so we wouldn't have done that.

Q Well if you have a project that has an impact on another institution isn't that a socioeconomic impact? Isn't the project impacting that institution?

A I don't know if that is the staff's testimony, that it is being impacted.

MS. HOLMES: It sounds to me as though you're -- Perhaps if you broke it up into two questions. Why don't you ask him, first of all, whether or not staff testified that there would be an impact on Chabot College as a result of this project. And then ask him whether or not --

MS. HARGLEROAD: Well, okay, let me --

BY MS. HARGLEROAD:

Q We've heard a lot of testimony concerning Chabot College and that it has a lot of employees, approximately 300 staff and employees. And there is an economic value to that employment; do you agree?

A That seems like a reasonable assumption. I don't have any personal knowledge about that.

Q Okay. And if the viability of that college is detrimentally impacted doesn't that have a socioeconomic impact on the community?

A I would say theoretically speaking, if

it were impacted, if it were to shut down or something like that. Yeah, I would agree it would have some type of economic impact on the community.

Q Okay, so your opinion is it only has an impact if it was shut down?

A Well, I mean, or curtailed or whatever.

Q Let's say as a result of --

HEARING OFFICER GEFTER: Wait, wait, Ms. Hargleroad. Did you read staff's socioeconomic analysis?

MS. HARGLEROAD: And they say there is no impact.

HEARING OFFICER GEFTER: So you know what it says, okay. And you just told me what it says. So if you would go through the staff report and focus your questions on what is there that you want to ask about because this is all theoretical.

And we already know that staff did not include Chabot College, we've gotten plenty of testimony on that. We need to move along.

MS. HARGLEROAD: I simply am making sure that that is also --

HEARING OFFICER GEFTER: It's very clear on the record.

MS. HARGLEROAD: It's also disputed under the socioeconomic section. And if that you believe is clear on the record I certainly will take that, thank you.

HEARING OFFICER GEFTER: And that's --

MS. HARGLEROAD: That's it, those are my questions.

HEARING OFFICER GEFTER: Dos anyone else have any testimony on socioeconomics? Any cross, any direct, any redirect?

MR. CARROLL: No, Your Honor.

HEARING OFFICER GEFTER: So socioeconomics will be closed at this point and we can move on to the next topic.

MS. LUCKHARDT: Okay, I have just one point of clarification. You asked us to get documents from the Air District regarding -- sorry. You asked us to obtain documents from the Air District regarding fireplace, the fireplace retrofit program. We have obtained those documents. We would like to enter them into the record. We have copies for everyone.

HEARING OFFICER GEFTER: Great.

MS. LUCKHARDT: I'll have Mr. Stein walk around with the box and send them out, pass them

out.

HEARING OFFICER GEFTER: And we can identify them as an exhibit. But in the meantime we are going to move on to the next topic which is noise. And if the parties can assemble their witnesses for that. And what I would like to do is ask Mr. Haavik to go first, actually, because Mr. Haavik has some witnesses who have been waiting all day and had raised a couple of questions and then we'll ask the applicant to raise your question on the condition.

Okay, Mr. Haavik, please introduce your witness.

MR. HAAVIK: Thank you. I'd like to open the noise and vibration section by calling forward for testimony Beth Fancher. So Beth, if you could come forward and be sworn, please.

And for information, I am going to be referring to my Exhibit 302 and Beth's declaration of 311. Thank you, Ms. Gefter.

HEARING OFFICER GEFTER: Thank you. And Ms. Fancher, I am going to swear you in.

Whereupon,

BETH FANCHER

was duly sworn.

HEARING OFFICER GEFTER: Thank you. Mr. Haavik.

DIRECT EXAMINATION

BY MR. HAAVIK:

Q Again, thank you very much, Ms. Fancher for being here today as well as hanging in there, I know it's been a long wait. Are you familiar with the testimony that you provided to me on November 19 that was filed with the Commission where you indicated your not only history but also indication of what the occurrences are at the Fremont Bank in Hayward, California?

A Yes and I have a copy of it here with me.

Q You do, very good. It's been indicated in one of the exhibits, I believe it's 302, that your bank is concerned that the closest property line to some of the areas of public areas for your employees is about 71 feet from your facility.

A That's correct.

Q And I was wondering if you could please explain to me what you do there as well as summarize your testimony, please.

A Yes. I'm a facility supervisor for Fremont Bank. I have worked for Fremont Bank for

about four-and-a-half years in the facility at the Clawiter location. I am responsible for the maintenance of about 29 buildings that we own or lease.

And as far as my testimony. Basically what we're concerned about is that we have approximately 300 employees that work at this location. Where the power plant would be is about 74 feet to an entry door. We have employees that frequently take lunches outside of our building, walk and, you know, in general recreate around our building. So there is some concern about the conditions that they would be working in at that time if the plant was put in.

Q I believe -- Are the employees there for eight hours a day, 24 hours a day? What is the shift pattern?

A Yes, we have employees there 24 hours a day and on weekends. Now we do have a limited amount of people there from about, I would say from about seven o'clock until six in the morning. We have two departments that are working at that time.

PRESIDING COMMISSIONER BYRON: Excuse me, did you say your bank has 24 hour, employees

there 24 hours a day?

MS. FANCHER: It is an operations center.

PRESIDING COMMISSIONER BYRON: Oh, I was hoping I could bank there perhaps.

(Laughter)

MS. FANCHER: It is an operations center.

MR. HAAVIK: Right when we're done you can go over and we'll take care of it. Thanks for that levity.

(Laughter)

BY MR. HAAVIK:

Q with the 200 and almost 300 employees that you have there, obviously you indicated that they would be out taking breaks --

A That's correct.

Q -- during their lunch hours as well as commuting to and from. Does everyone -- The regular shift, which I would assume would be Monday through Friday, is that eight to five? What's the regular arrival and departure of the employees?

A Our standard hours would range between eight and about six o'clock for the largest number

of people.

Q And is that Monday through Friday?

A Yes it is.

Q Okay. So you would consider then a smaller crew that comes on for processing both in the evening time Monday through Friday as well as on the weekend?

A That's correct. That would probably include maybe about 35 to 40 people.

Q Now the folks that are overnight I assume, are they locked in the building or can they go outside? Do they break outside? I assume you have a smoking area.

A They do. We have actually a patio area where people can break to. We do have a smoking area outside of the building as well.

Q About how many folks do you have that are -- Let me ask another question.

Do you provide day care at your facility?

A We do not.

Q Do not. Are there a number of elderly or small children there on a regular basis or irregular basis with your employees or visiting or does any of that occur?

A It does occur occasionally.

Q Ms. Fancher, we have talked a bit about noise levels and I am going to be asking some things with not only the applicant's professional staff but also with the Energy Commission staff. And I know that you have spoken with a lot of your employees there. In your opinion, being there for four-and-a-half years and you're the supervisor there at that facility, can you please summarize the feelings of your employees as well as the fact that there may be a large production facility power plant 75 feet away.

A Well I think there is a large concern about the noise level. We do have -- Predominately a lot of our work is done on the telephone or we have clients that come in and we have meetings. We go over loans, things of that nature. So noise level is a huge concern.

The other part of it I think is just the fact that we have the huge plant there and it's just, it's not a very pleasant environment for our type of business. We have clients that will be coming, they're driving there, driving past a plant like that. And I think it's just not very, it doesn't make you feel very, you know, like

you're going to a bank. I think it very possibly could affect our business.

Q And you're a facilities manager for 29 buildings?

A That's correct.

Q Of the other -- There are two buildings there, I believe.

A There's two buildings.

Q So you have 27 buildings somewhere else.

A That's true, those would be the branches.

Q The branches, okay. Are any of the branches near any heavy industrial, heavy manufacturing types of facilities like is proposed?

A Not to my knowledge.

MS. LUCKHARDT: I guess I would just want object, this is beyond the direct. Just to make the objection.

HEARING OFFICER GEFTER: (Nodded.)

MR. HAAVIK: Thank you.

BY MR. HAAVIK:

Q One last question. Would your employees feel more comfortable if there was a greater separation between the facility that is proposed

and your existing property, i.e., sound wall, i.e., any type of barrier?

A I don't think so.

Q Still would be upset?

A I think so.

Q Thank you very much.

A You're welcome.

HEARING OFFICER GEFTER: Does any party wish to cross examine the witness?

MR. PULLIN: The applicant does.

HEARING OFFICER GEFTER: Ms. Luckhardt, are you doing it or is there a co-counsel?

MS. LUCKHARDT: Mr. Pullin will be doing it.

MR. PULLIN: Nick Pullin for the applicant.

HEARING OFFICER GEFTER: Thank you. And have you given your card to the reporter so they can spell your name?

MR. PULLIN: Yes, this morning.

HEARING OFFICER GEFTER: Thank you.

CROSS EXAMINATION

BY MR. PULLIN:

Q Ms. Fancher, do you have any work experience analyzing facility noise impacts?

A No.

Q Do you have any formal training in noise analysis?

A No.

Q Were you working or employed at the Clawiter location of the Fremont Bank when the project site was used as an automotive parts stamping facility?

A No.

MR. PULLIN: I have nothing further.

HEARING OFFICER GEFTER: Does any other party wish to cross examine the witness on this topic?

MR. HAAVIK: Might I?

HEARING OFFICER GEFTER: Would you like to redirect?

MR. HAAVIK: One redirect.

REDIRECT EXAMINATION

BY MR. HAAVIK:

Q How long has Fremont Bank been in existence there at that facility?

A You know, I'm not sure, I believe it's about ten years. I believe it's ten.

MR. HAAVIK: I can make it a little easier, one moment. In the audience there happens

to be a gentleman that could tell me the exact date that the City moved from that facility. If I may, Mr. Armas.

HEARING OFFICER GEFTER: You could just, Ms. Fancher can ask Mr. Armas who was the former City Manager of the City of Hayward. Just go over there, get the information and then give it to us in the microphone since you're the witness testifying.

MS. FANCHER: December 1997.

HEARING OFFICER GEFTER: Thank you. There we go, all right, thank you.

MR. HAAVIK: So about ten years. Thank you very much.

HEARING OFFICER GEFTER: Thank you.

MR. HAAVIK: Thank you.

HEARING OFFICER GEFTER: Okay. Thanks for being here, Ms. Fancher.

You wanted to cross examine staff's witness? Mr. Haavik, is that the other witness you wanted to -- or do you have some other direct witnesses?

MR. HAAVIK: No, no more direct witnesses. I would like to ask a few questions of Mr. Khoshmashrab.

HEARING OFFICER GEFTER: Right, that's staff's witness.

MR. KHOSHMASHRAB: Close.

MR. HAAVIK: Close.

HEARING OFFICER GEFTER: But before you do that what we're going to do is to have the applicant and then staff introduce their testimony on this topic. Mister -- and I don't --

MS. HOLMES: Khoshmashrab.

HEARING OFFICER GEFTER: She's good. Can I call you Khosh?

MR. KHOSHMASHRAB: She's been working on it for a week.

HEARING OFFICER GEFTER: And then he'll be available for you to cross examine.

MR. HAAVIK: Thank you very much.

HEARING OFFICER GEFTER: So applicant, would you move your exhibits on noise and then staff move your exhibit on noise.

MS. HOLMES: Ms. Gefter, I take it from that that you don't want a summary of the testimony or is it --

HEARING OFFICER GEFTER: It is not necessary. The only place it will be necessary is for us to discuss the condition, which is a

concern that the applicant has but we'll get to that.

MS. HOLMES: Fine, thank you.

MR. PULLIN: The witness needs to be sworn in first.

HEARING OFFICER GEFTER: Okay. And who is the witness?

MR. PULLIN: It's Farshad Farhang.

HEARING OFFICER GEFTER: Okay. And Mr. Farhang, would you please be sworn.

Whereupon,

FARSHAD FARHANG

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

BY MR. PULLIN:

Q Mr. Farhang, was a statement of your qualifications submitted with the applicant's prehearing conference statement?

A Yes, I believe it was.

Q Are the exhibits that you're sponsoring today attached to your testimony?

A Yes they are.

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

A I do have corrections to answers three and five.

HEARING OFFICER GEFTER: Before you testify further you need to identify the declaration where your testimony is contained.

MR. PULLIN: It is located in Exhibit 18.

HEARING OFFICER GEFTER: Okay. And any other exhibits?

MR. PULLIN: Other exhibits that we'll be moving is the noise section of Exhibit 1, Exhibit 13, Exhibit 18, Exhibit 28, 29, 46, 53 and 10.

HEARING OFFICER GEFTER: Thank you. You can go forward with your direct.

MR. PULLIN: Okay, thank you.

BY MR. PULLIN:

Q Insofar as your testimony contains statements of fact are those facts correct to the best of your knowledge?

A Yes they are.

Q Insofar as your testimony contains statements of opinion do they represent your best professional judgment?

A They do.

Q I'm sorry, we have to return to your corrections for your testimony on Exhibit 18.

A With regard to corrections I have corrections to Answer 3 to Question 3 of the testimony, as well as Answer 5 to Question 5.

Q Please read those.

A Answer 3 to Question 3 correction is: Eastshore would produce a project-only contribution of 70 DBA at the northern wall of the north Fremont Bank building. Based on a conservative application of the City's guidelines that commercial use guidelines would apply, such levels combined with existing background LDN of 67 DBA would be 77 DBA LDN, which is in compliance with the City's conditionally acceptable limits for commercial areas.

MR. PULLIN: This is located in the third paragraph of answer three.

MS. HOLMES: This goes to the heart of some of staff's testimony. Is there a written copy of this that we can look at?

MS. LUCKHARDT: We're working on creating one right now.

MS. HOLMES: It would be very helpful to have it written down in front of us in order for

our witness to be able to respond to those changes.

It looks like it's a lot of words, I'm not sure it's a significant change but it's certainly a lot of words.

HEARING OFFICER GEFTER: We would just need an updated version of the testimony, including the changes.

MS. HOLMES: Are you in the process of preparing one right now? Is that what's going on?

MR. PULLIN: Yes, yes we are, that's correct.

MS. HOLMES: Perhaps we could just --

HEARING OFFICER GEFTER: We can go forward with the testimony and then you can hand the corrections to staff so they can look at them for their cross examination. Let's go forward with the testimony.

MR. FARHANG: In relation to Question number 5 of the testimony, the correction is that Eastshore proposes to commit to a 49 DBA noise level from the project alone at R-1 using the average nighttime hourly L-90 of 45.7 DBA. This results in a combined level of 50 DBA.

HEARING OFFICER GEFTER: It's 49 DBA?

What did you say, 45?

MR. FARHANG: Forty-nine from the project alone with combined background of 50 DBA.

HEARING OFFICER GEFTER: Okay.

BY MR. PULLIN:

Q And at this time could you please summarize your testimony?

A With regard to noise, the purpose of this testimony is to discuss EEC's comments regarding the CEC proposed condition Noise-4.

Question number 3 is what noise standard is applicable to the exterior of the Fremont Bank building located immediately south of the Eastshore Energy Center site. Our testimony in answer to that particular question is that Fremont Bank is a commercial use located in an industrial zone.

The City of Hayward's land use compatibility guidelines for industrial manufacturing, utilities, and agriculture state that levels up to 75 DBA are normally acceptable and up to 80 DBA are conditionally acceptable.

The guidelines for office buildings, business and commercial state that up to 70 DBA LDN is normally acceptable and up to 77 DBA would

be conditionally acceptable. The conditionally acceptable guideline --

HEARING OFFICER GEFTER: May I interrupt for a moment because the witness is just reading the testimony. We can read that ourselves.

MR. FARHANG: Yes.

HEARING OFFICER GEFTER: If you have anything else to add that would be helpful.

MR. FARHANG: It's essentially summarizing the testimony as submitted.

Our conclusion to Answer number 3 to Question number 3 would be that the applicant commits to producing a level of 70 DBA as indicated in the application for compliance and such levels would be in compliance with the conditionally acceptable guidelines for commercial zones, even those this is in an industrial area.

With regard to Question 4. The question is, is it typical to evaluate project-related increases in ambient noise in non-residential areas as staff has done. Our assertion is that in our experience that is not typical to occur for non-residential or non-noise sensitive locations in terms of increases in noise levels.

In relation to Question number 5. What

CEQA significant thresholds has the CEC typically applied to establish noise limits applicable to a residential receptor such as location R-1 and what changes do we recommend to Noise-4 to be consistent with this threshold of significance.

The applicant commits to producing a level of 49 DBA at the residential location of R-1, which combined with the existing nighttime average noise level in terms of L90 of 45.7 DBA it would amount to 50 DBA, which would be an increase of 5 DBA above existing background levels and therefore in compliance with the significance threshold as established by CEC.

That concludes a summary of my testimony regarding noise.

MR. PULLIN: Do you adopt all of the exhibits as your sworn testimony?

MR. FARHANG: I do.

HEARING OFFICER GEFTER: So without objection we'll accept those exhibits on noise into the record. I don't think we need to repeat the exhibit numbers because they already are in the transcript.

So before we go to cross examination staff could go forward with your witness.

MS. HOLMES: I'm getting the corrections from the testimony right now.

HEARING OFFICER GEFTER: Sure.

MS. HOLMES: Could we go off the record for just a moment. Thank you.

HEARING OFFICER GEFTER: Off the record.

(Brief recess)

HEARING OFFICER GEFTER: Back on the record. We need to swear the witness.

MS. HOLMES: The witness is Shahab Khoshmashrab.

Whereupon,

SHAHAB KHOSHMASHRAB

was duly sworn.

HEARING OFFICER GEFTER: Thank you.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Khoshmashrab, did you prepare the noise section of Exhibit 200, which is the FSA, and Exhibit 202, which is the PSA?

A Yes.

Q And was a statement of your qualifications included in Exhibit 200?

A Yes.

Q Do you have any corrections to make to

your testimony?

A No.

Q Are the facts contained in your testimony true and correct to the best of your knowledge?

A Yes.

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

A Yes.

Q I think what I would like to do now is have Mr. Khoshmashrab summarize his testimony briefly with an emphasis on Noise-4, which is the contested condition of certification.

A Staff typically evaluates the project based on CEQA and all the CEQA requirements and also the local noise LORS. My conclusion was basically that the project could be certified as far as noise goes but that it will have to comply with the conditions of certifications.

At R-1, which is the monitoring location near the residential, the closest residential neighborhood to the project, I determined that for the project to create less than significant impact there has to be a limitation of 46 decibels coming

only from the project. And it is included in the condition of certification, Noise-4.

Secondly, in order for the project to comply with the applicable noise LORS the noise from the project at the bank, the exterior noise level of the project at the bank should be no greater than 60 decibels. Basically it would be ten decibels less than what the applicant had projected.

HEARING OFFICER GEFTER: Thank you. And the reason for that?

MR. KHOSHMASHRAB: The reason for that is, let's start with the, with the residential neighborhood, R-1. The applicant initially provided the noise level of 49 coming from the power plant at that location. The four consecutive quietest hours of the nighttime at this location average to 44 decibels. This is the background noise level that we call N90. If you add 49 to 44 you will get 50. So that is six decibels above the ambient.

And therefore to me, since the impact will potentially be felt by many homes, and because this location is densely populated residential area, the six decibels would be

considered significant.

HEARING OFFICER GEFTER: That's the staff's --

MR. KHOSHMASHRAB: And that's because --

HEARING OFFICER GEFTER: I want to ask you a question. Is that staff's threshold on CEQA if it's over five decibels?

MR. KHOSHMASHRAB: It's over five. If it's between five and ten we determine based on the facts and circumstances of each project.

Now going to the commercial building, the bank, which is next door. The project owner provided a noise level of 70 decibels that would be heard at the exterior of the bank. If you look at the -- Basically to evaluate this against the LORS the City's guidelines have a 70 decibel LDN requirement that is normally acceptable with a 77 decibel of conditionally acceptable.

Now I don't think the condition will apply in this case because the condition as written applies to the interior noise levels. And since there are many employees who would like to enjoy their breaks and they're constantly outside on the patio taking lunches and walking around, there will be an impact that I would consider

significant.

But we're not -- Let me go back, please. So therefore because of this particular reason I don't think that the condition as written and the conditionally acceptable criteria applies to this. So going back to what LORS limit applies, it would be 70 decibel LDN. For a power plant that produces a constant steady-state noise level, a 70 decibel LDN would be equal to a 64 LEQ.

Now if we have the 64 LEQ so that we can compare it to the average of the noise that is going on all the time, that is basically not all the time but is the average of the most noise sources in the environment. When you look at the LEQ level at the bank, the ambient level of 60 decibels is what you are going to get for an average daytime LEQ.

And if you add that to the power plant's noise of 70 decibel then you will get 71. This is in excess of the 64 LORS by 7 decibels so it violates the LORS. In order for this, for the noise of this project to comply with the LORS at the bank it should not be greater than -- it should not be greater than 60 DBA. Because if you add that to the ambient then you will get 64 and

that complies with the LORS.

So the criteria here is not whether we consider the bank a sensitive receptor or not. No matter how we perceive this, how we look at the bank as a sensitive or non-sensitive receptor, this particular limitation here is not going to be changed because it is a part of LORS compliance requirements.

HEARING OFFICER GEFTER: Thank you. Do you have further direct, Ms. Holmes?

MS. HOLMES: No.

HEARING OFFICER GEFTER: So is the witness available for cross examination?

MS. HOLMES: He is.

HEARING OFFICER GEFTER: Okay, thank you. At this point, Mr. Haavik, I know you wanted to cross examine both the applicant's and the staff's witnesses so it's your turn.

MR. HAAVIK: Thank you very much.

CROSS EXAMINATION

BY MR. HAAVIK:

Q I do have only one question after that very succinct explanation, thank you Mr. Khoshmashrab.

A You're doing well.

Q I'm getting better.

A Very good.

Q Thank you. Obviously the R-1 residence, which is the closest residence, is noisy at night and that's what you said. You had the background, the ambient background noise, currently is noisy at night. And adding the noise of the power plant would then put it to a threshold of about 49 DBA; is that correct?

A If you add the power plant -- Let me just make one clarification. The noise, the average noise level at nighttime at R-1 is typical of an environment that we are looking at, such an environment like a commercial, industrial environment. So it doesn't seem to be too high. So from my past experience I would see that, I would think that this is a typical limit or a typical ambient noise environment in the area.

Q Okay.

A And if you add the 44 to the 49, yes, you will get 50 decibels, which is 6 decibels above the ambient.

Q And that does not qualify, it would be out of compliance then? It would be a significant level.

A It would be considered a significant impact in this case because we are talking about a lot of homes that could potentially be impacted.

Q Certainly. And it's all those cars that go to the 24 banking over at Fremont Bank that Commissioner Byron will be participating in very soon. (Laughter) Thank you very much.

A You're welcome.

MR. HAAVIK: I'm sorry, sir, I don't have your name.

MR. PULLIN: It's Nick Pullin.

MR. HAAVIK: Nick?

MR. PULLIN: Yes, and this is Mr. Farshad Farhang.

CROSS EXAMINATION

BY MR. HAAVIK:

Q Sir, you were responsible for the measurements of R-1, the R-1 receptor? The measurements that were taken at the R-1 receptor, the residence.

A Measurements were taken by our staff, that's correct.

Q So the staff took not only measurements there but also at the Fremont Bank receptor; is that correct?

A That is correct.

Q And then you evaluated those results.

A That is correct.

Q Okay. How can you justify, especially with the bank -- is that considered R-4 or R-2?

A That's called R-2.

Q R-2. How do you justify -- In your brief summary there you indicated that the facility was located in a commercial zone and that you felt as though the 70 DBA which you're requesting would be theoretically acceptable with the rules and regulations and LORS with the City of Hayward; is that correct?

A That is correct. The statement that was made was that this is a commercial use in an industrial zone.

Q Okay. Does that take into account, as the testimony of Ms. Fancher indicated as well as some of the other information brought forth with staff, that they are immediately adjacent to your facility, proposed facility, within 75 feet, upwards to 300-plus people every day? Is that a concern or would that change the qualification of the City's LORS and the criteria for going from a 60 DB level to a 70 DB level because it's a

commercial area?

A The commercial noise guidelines are currently for the City of Hayward 70 DBA exterior LDN being normally acceptable and 77 DBA being conditionally acceptable.

Q I guess what I am looking at is the fact that you are trying to meld a three- to four-hundred person office building next to a loud power plant. Is that -- I guess by doing that you can increase the DBA from 60 to 70 and be able to qualify still within that particular guideline; is that correct?

A The definition of conditionally acceptable pertains to --

MR. PULLIN: Sorry, applicant objects to the characterization of the plant as, quote, loud.

MR. HAAVIK: Okay, accepted, a power plant. We'll strike loud.

MR. PULLIN: Thank you.

MR. HAAVIK: You're welcome. Go ahead, sir.

MR. FARHANG: The definition of conditionally acceptable as stated in the testimony is a building with windows and doors closed that is furnished with air conditioning or

an air circulation system and thereby allows for interior activities that would be amenable to higher noise levels on the exterior.

MR. HAAVIK: Thank you very much.

HEARING OFFICER GEFTER: Does that conclude your cross examination?

MR. HAAVIK: Yes.

HEARING OFFICER GEFTER: Now I know applicant wanted to talk to staff about the condition. Do you have any cross examination of staff?

MR. PULLIN: Yes we do.

CROSS EXAMINATION

BY MR. PULLIN:

Q Mr. Khoshmashrab, is Fremont Bank a commercial use pursuant to the Hayward zoning code and/or general plan?

A The zoning code?

Q Would it be considered a commercial use?

MS. HOLMES: If you don't know the answer you can --

MR. KHOSHMASHRAB: I don't know the answer.

HEARING OFFICER GEFTER: We need a microphone over there.

MR. KHOSHMASHRAB: I don't know the answer to that.

BY MR. PULLIN:

Q Would a bank or something of that use be considered commercial in any other zone?

A Related to noise as defined, yes.

Q So is the Fremont Bank at that location located within the industrial district of the City of Hayward?

A I don't know the exact zoning where it's located.

Q Okay. In the Russell City proceeding is it true that the staff did not address increases in noise at a non-residential area?

A I think they did. I read that the other day. But they did address the noise impact of the project at non-residential neighborhoods. They did address it.

Q In your experience has the CEC ever applied an increase in noise level at a commercial building as a significant standard or has it been strictly residential?

A It hasn't been strictly residential. Everything that falls under the definition of sensitive noise receptor would be treated that

way. A commercial office building is typically not considered a sensitive noise receptor.

The bottom line is, if I may add. The bottom line is, no matter now you look at this the LORS limit of 64 LEQ of the City of Hayward needs to be complied with. None of the requirements in the conditions of certification related to noise are there because of making a conclusion that this place, this bank is a sensitive receptor.

Q And when you refer to the City of Hayward's LORS you're referring to Appendix N?

A N, yes.

Q Of the noise guidelines?

A Of the noise guidelines.

Q Thank you. I know you stated before that for normally acceptable under the noise guidelines for commercial uses it's up to 70 DBA for a day/night metric and conditionally acceptable goes up to 77 DBA. And then furthermore for industrial uses it's up to 70 DBA and normally acceptable 80. I mean conditionally acceptable for 80 DBA.

So even if the Fremont Bank was subject as a commercial use, even though it is located within an industrial zone, would you agree that it

is of conventional construction with closed windows and fresh air supply or air conditioning pursuant to Figure 1? Is that the type of building?

A I don't understand your question the way you're putting it. If you can make that, rephrase it, please.

Q Under the conditionally acceptable uses under Figure 1.

A Under Figure 1 of what?

Q Of Appendix N.

A Appendix N. Okay, I have to look at it.

HEARING OFFICER GEFTER: Appendix N to what?

MR. PULLIN: To the Hayward noise guidelines.

HEARING OFFICER GEFTER: And what exhibit is that?

MS. HOLMES: Can the witness go retrieve a copy of Appendix N?

HEARING OFFICER GEFTER: Sure.

MS. HOLMES: Thank you.

HEARING OFFICER GEFTER: But what exhibit is Appendix N?

MR. PULLIN: It's referred to in the

FSA.

HEARING OFFICER GEFTER: Off the record again while the witness --

MR. PULLIN: It is also attached to the AFC as Exhibit 1.

HEARING OFFICER GEFTER: Okay, wait a minute. Exhibit what?

MR. PULLIN: It's attached to the AFC under the noise section, which is Exhibit 1.

HEARING OFFICER GEFTER: The AFC is Exhibit 1. Okay, thank you.

HEARING OFFICER GEFTER: Now we'll go off the record.

(Brief recess)

BY MR. PULLIN:

Q Would you consider a building such as Fremont Bank's, which is about ten years old, if it is of conventional construction with closed windows and a fresh air supply and/or air conditioning pursuant to Figure 1?

A Yes.

Q And also pursuant to Figure 1 of the noise guidelines a noise level of 77 DBA, does that fall within the conditionally acceptable range for such commercial buildings?

A No. It does if you're looking at the interior. Let me read it again, hold on. The condition says that only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design, in which case the applicant has included mitigation measures. But it doesn't mean that the project will not need any more mitigation in the future.

HEARING OFFICER GEFTER: Mr. Pullin, I have a question.

MR. PULLIN: Yes.

HEARING OFFICER GEFTER: To cut to the bottom line here, apparently the applicant is objecting to staff's condition because it would require additional noise abatement investment. So the question is really, is it that the applicant doesn't want to pay for additional noise abatement or that it doesn't exist?

Because it's not a huge amount of decibels that we're talking about here. And to keep spending time on that where the staff witness is telling us that the condition is based on existing LORS. So my question is whether or not it is applicant's position that it is infeasible

to install the noise abatement that would be required in order to meet that staff's condition?

MR. PULLIN: I think that what we're looking at here is an unreasonable request to mitigate the noise level to only two DBA above the existing ambient.

HEARING OFFICER GEFTER: Well why would it be? Is it unreasonable because it's infeasible? Is it economically infeasible, is it technologically infeasible or can it be done?

MR. PULLIN: We don't know at this point. Mr. Trewitt would have to answer this question.

MR. TREWITT: It could be that 64 DBA, which is two DBA above ambient at the site now currently could be infeasible.

HEARING OFFICER GEFTER: In what way, technologically infeasible --

MR. TREWITT: Yes.

HEARING OFFICER GEFTER: Or financially?

MR. TREWITT: Technologically.

HEARING OFFICER GEFTER: And do you have evidence to prove that? Have you provided us any testimony on that?

MR. TREWITT: No, I don't have anything

on that yet.

HEARING OFFICER GEFTER: Because I think where staff's witness continues to tell us that it meets the LORS requirements, what you would be asking us to do here is disregard the LORS requirement. So I am trying to find out on what basis you would ask us to do that.

MR. PULLIN: Applicant would like to be able to brief the LORS issues on this.

HEARING OFFICER GEFTER: Well of course you have that right. Do you have any additional cross examination of the witness?

MR. PULLIN: Okay, we'll move on. I just have a few questions on the residential R-1.

HEARING OFFICER GEFTER: Sure.

BY MR. PULLIN:

Q Regarding the nearest residence at 2765 Depot Road using an L90 metric you arrived at an ambient noise level of 44 DBA; is that correct?

A For the four quietest consecutive hours of the nighttime.

Q Right, for the four quietest. Yes, that was my next question. I'm not sure if you are familiar with the 2002 Russell City Final Staff Assessment or the Amendment, both of which used an

eight hour average from ten p.m. to six a.m.; is that correct?

A No, I am not aware of that.

MR. PULLIN: No further questions.

HEARING OFFICER GEFTER: Thank you. Do you have any redirect of the witness?

MS. HOLMES: No.

HEARING OFFICER GEFTER: What we have now then is you've submitted your revised proposed condition Noise-4 and the staff has given us their testimony as to why they support Noise-4 the way it's written. So when briefing you'd be entitled, of course, to indicate, to establish to us why we should accept your changes to Noise-4.

And Mr. Haavik, I don't know if you have any more cross examination of the witnesses or your one.

MR. HAAVIK: Not at this time.

HEARING OFFICER GEFTER: We're going to close the topic except for the briefing.

MR. HAAVIK: None.

HEARING OFFICER GEFTER: Okay, thank you.

MR. HAAVIK: My address is 2765 Depot Road.

(Laughter)

HEARING OFFICER GEFTER: Okay. Commissioner Byron.

PRESIDING COMMISSIONER BYRON: I have one question. Mr. Khoshmashrab or whoever on staff may be able to address this. Have we given any consideration as to what the applicant might do in order to reduce the noise output from the plant?

MR. KHOSHMASHRAB: Are you referring to specific mitigation?

PRESIDING COMMISSIONER BYRON: In order to meet, in order to meet Noise-4.

MR. KHOSHMASHRAB: Mitigation measures.

PRESIDING COMMISSIONER BYRON: Have you put any thought into how they might meet that?

MR. KHOSHMASHRAB: We have included basically a list of possible mitigations.

PRESIDING COMMISSIONER BYRON: In the Noise-4?

MR. KHOSHMASHRAB: No, not in the Noise-4.

PRESIDING COMMISSIONER BYRON: I didn't think so. I read that, I didn't see it.

MR. KHOSHMASHRAB: Yeah, it's not in

Noise-4 but it is in the body of the testimony.

PRESIDING COMMISSIONER BYRON: Okay, thank you.

MR. KHOSHMASHRAB: You're welcome.

HEARING OFFICER GEFTER: At this point with that we're going to close noise and we will -- if you want to move your exhibits in. I think the applicant has already done that. I had actually a question. Applicant moved Exhibit 10 and Exhibit 10 relates to alternatives so I'm not sure why you were moving that exhibit. Is there something about noise in that exhibit?

MS. LUCKHARDT: No, Exhibit 10 should not be included, that should come in under alternatives.

HEARING OFFICER GEFTER: Okay, so we're going to hold on Exhibit 10. And then Exhibit 53 includes revisions to air quality conditions. It also includes the noise revisions?

MR. PULLIN: Yes, that's all the conditions.

MS. LUCKHARDT: Yes.

HEARING OFFICER GEFTER: Okay. And then the applicant just distributed a document called Spare the Air in the Bay Area, Santa Clara County

Woodsmoke Rebate Program. We want to identify that document as Exhibit 55. The Committee asked the applicant to obtain this document, it's been circulated to the parties. Ms. Luckhardt, do you want to move this into the record, Exhibit 55? Is it complete?

MR. MASSEY: I would ask that we get a better printout. It looks like they hadn't scaled it so the right side is cut off on every single page and it's hard to read.

HEARING OFFICER GEFTER: Okay, fine, that's fine. We'll get you, applicant will make sure that better copies are provided. But at this point do you want to move 55 into the record?

MS. LUCKHARDT: Exhibit 55 contains a variety of different reports and PowerPoint presentations and other documents from the Bay Area Air Quality Management District regarding its Woodsmoke Program. And we'd like to have that marked and -- I think the next one in order would be 55.

HEARING OFFICER GEFTER: Okay. And without objection that will be received into the record. However, the applicant is going to provide the parties with a better copy since

apparently this copy is cut off on the right side margin. The other items that are pending --

MS. LUCKHARDT: I think it's just the first page but we'll check it all and make sure.

HEARING OFFICER GEFTER: Well thank you.

MR. MASSEY: I appreciate that. Pending items are Condition Public Health-1 and Condition AQ-SC8. And we have asked the parties to consult to try to coordinate on Public Health-1 with AQ-24 and so we'll look for those revisions in terms of timing and perhaps some better language.

MS. LUCKHARDT: We appreciate that direction.

HEARING OFFICER GEFTER: AQ-SC8, also the parties were going to discuss that further as far as I understand from yesterday's testimony. So those two items are still pending.

And then in terms of our schedule for Monday, January 14, 2008. The hearing would continue in this room, we have reserved it from the City of Hayward. Thank you very much, Mr. Bauman, and all the people you work with.

At this point we will schedule it from ten a.m. to eight p.m. like we did yesterday. We can consult about additional time during that day

but we also want to provide time for the public to again address us during that process that day.

And we are going to do land use, local system engineering and alternatives. Then we'll discuss briefing and probably discuss the issue of override in the context of the local system effects topic.

MS. LUCKHARDT: Okay. Is the record then closed on the subject areas that we have completed as of today but for those items that you identified specifically?

HEARING OFFICER GEFTER: As far as I know. Unless anyone else has anything else to add on that we are closed on all the other items. All the other topics are closed except for the ones that we are going to do on January 14 and the air quality and public health conditions.

MS. LUCKHARDT: Okay, thank you.

HEARING OFFICER GEFTER: At this point them Commissioner Byron would like to say goodbye and then we're going to adjourn.

PRESIDING COMMISSIONER BYRON: Well it is not really a goodbye, is it. It's until we meet again.

I would like to thank you all very much

for the way that you conducted yourselves today. I am very sorry that we were not able to complete in the two days that we allocated, or that I should say we had available to us. But I look forward to being back here on the 14th and we'll see you all then.

Thank you, we are adjourned.

HEARING OFFICER GEFTER: Off the record.

(Whereupon, at 6:35 p.m., the Evidentiary Hearing was adjourned.)

--oOo--

CERTIFICATE OF REPORTER

I, JOHN COTA, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Prehearing Conference; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said conference, nor in any way interested in outcome of said conference.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of January, 2008.