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Jewell J. Hargleroad (SBN 130285)
Law Office of Jewell J. Hargleroad
1090 B Street, No. 104
Hayward, California 94541
(510) 331- 2975
jewellhargleroad@mac.com

Attorney for Group Petitioners California Pilots Association, Citizens for Alternative Transportation Systems, San Lorenzo Homeowners Association, Skywest Townhouse Homeowners Association, Hayward Democratic Club and Hayward Area Planning Association

STATE OF CALIFORNIA

STATE ENERGY RESOURCES

Conservation and Development Commission

In the Matter of: Initially noticed as "Petition to Amend the Commission Decision Approving the Application for Certification for the Russell City Energy Center"; Later Noticed as "Modification of the Application for Certification for the Russell City Energy Center"	Docket No.: 01-AFC-7C DECLARATION OF GARY CATHEY IN SUPPORT OF GROUP PETITIONERS' PETITION TO INTERVENE, REOPEN THE ADMINISTRATIVE PROCEEDINGS, REOPEN THE EVIDENTIARY RECORD AND FOR RECONSIDERATION Date: TBD Location.: TBD Time: TBD

4. In response to the application for the RCEC project, on July 18, 2007 I prepared a letter on behalf of my Department agreeing with the CEC's recommendations that locating this plant near the Hayward Airport would present safety issues for low-level flights at the air traffic pattern altitude of 650 feet AMSL (650 Above Ground Level) for the Hayward Municipal Airport. The assessment by the CEC staff on page 4.10-9 of their report which I was provided also confirmed that "'an exhaust plume with a vertical velocity in excess of 4.3 meters per second (m/s),'" or ____ mph per second, "'may cause damage to an aircraft airframe or upset an aircraft when flying at low levels.'" Attached is a true and correct copy of my July 18, 2007 letter to Jim Adams of the Environmental Office of the CEC.

5. Despite the CEC staff's recommendation against the RCEC project as reflected in their 2007 reports, the Commission continued to entertain the application. Therefore, I attended the Alameda County Airport Land Use Commission hearing held on August 15, 2007 and offered my opinion concerning the dangers of flying through thermal plumes at low altitudes. One of the Commissioners asked what size of power plant was involved in the flyover for the CEC and the representatives of RCEC asserted that the Sutter plant was the "same" size. As reflected by CEC documents, the Sutter power plant is smaller.

6. I also attended the CEC hearing on September 26, 2007 and spoke after the FAA representative who explained the differences between their October 18, 2007 letter recommending against this project as a safety hazard to pilots utilizing the Hayward Airport, potentially requiring the FAA to close the two primary runways, and the FAA's revised opinion dated September 25, 2007. This letter recommended posting a "NOTAM" or Notice to Airmen warning pilots not to overfly the airspace above the proposed location of the power plant as a means to mitigate it's establishment. Although the evidentiary record was reopened to accept the FAA testimony, it was closed prior to the time for me to speak. Therefore, I do not believe my opinion was offered or

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S.#40
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-4959
FAX (916) 653-9531
TTY (916) 651-6827

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July 18, 2007

Mr. James S. Adams, MA
Environmental Office, MS 40
California Energy Commission
1516 9th Street
Sacramento, CA 95814

Dear Mr. Adams:

We reviewed several documents related to the proposed Russell City Energy Center (RCEC) and have the following comments:

1. The traffic pattern altitude (TPA) for Runway 10R/28L at Hayward Executive Airport (HWD) is 650' above Mean Sea Level (MSL).
2. The proposed RCEC is located about 1.5 nm south of and perpendicular to the approach end of Runway 10R/28L
3. The location of the proposed power plant is within the lateral limits of Class D airspace for Hayward Executive Airport. Two-way radio contact must be established with the Air Traffic Control (ATC) facility (i.e. tower) providing ATC services prior to entry. The airspace is restricted from the surface up to but not including 1500' MSL. ATC typically expects aircraft to be at TPA *prior to entering* the traffic pattern.
4. The location of the proposed power plant is below but within the lateral limits of Class C airspace for Oakland International Airport. Two-way radio contact must be established with the ATC facility (i.e. tower) providing ATC services and an operable Mode C radar beacon transponder is required prior to entry. The airspace is restricted from 1500' MSL up to but not including 3000' MSL.
5. The location of the proposed power plant is below but within the lateral limits of Class B airspace for San Francisco International Airport. An ATC clearance is required to enter and operate within this area. The airspace is restricted from the 3000' MSL up to 10,000' MSL.
6. The location of the proposed power plant is about 5.5 nm from the approach end of Runway 29 at Oakland International Airport. An aircraft on the Instrument Landing System (ILS) glideslope to Runway 29 would be at approximate elevation of 1833 feet MSL.
7. The California Energy Commission (CEC) Staff Report titled "RCEC Staff Assessment, Part 1 & Part 2 Combined", Executive Summary states in part that:
   - Page 4.10-10: "The City of Hayward has provided staff with aircraft tracking diagrams for the month of April 2007 that show over 40 aircraft (including single engine aircraft and Helicopters) flew over or within 150 horizontal meters (480 feet) of the RCEC site. Flight elevations ranged from 470 feet above ground level (AGL) to 1,000 feet AGL."
   - Page 4.10-9: "aviation authorities have established that an exhaust plume with a vertical velocity in excess of 4.3 meters per second (m/s) may cause damage to an aircraft airframe or upset an aircraft when flying at low levels"....

- Page 4.10-11: "Staff has applied the 4.3 m/s criterion as a minimum threshold determination for a potential aviation safety hazard on aircraft over a plume generating power plant."
- Page 4.10-11, Table 4: shows 4.49 m/s velocity at 900 feet over the gas turbine and 4.44 m/s at 1,000 feet over the cooling towers.

8. Although both FAA Aeronautical Study No.s 2007-AWP-1245-OE and -1246-OE conclude that the proposed structure "... would not be a hazard to air navigation...", neither study discussed if the thermal effects from the plumes (turbulence and decreased visibility) was specifically evaluated in the analysis process. The submittal information contained in the Obstruction Evaluation/Airport Airspace Analysis database does not provide sufficient information regarding the effects of plume velocities for evaluation purposes. We suspected that only the physical exhaust stack structure(s) themselves were considered, not the associated plumes generated when the power plant is in operation. We confirmed this to be the case in a conversation with the FAA Airspace Determination Specialist on July 17, 2007.
9. FAA Safety Study Report titled "Safety Risk Analysis of Aircraft Overflight of Industrial Exhaust Plumes" (DOT-FAA-AFS-420-06-1) dated JAN 2006 states in part that historically, the number of accidents due to aircraft overflying exhaust stacks is "deemed acceptable without restriction, limitation, or further mitigation" (pg. iv, P4, S2). However, to minimize the hazards of *low level* flight above exhaust gas stacks, it also recommends several amendments to the following FAA documents: Aeronautical Information Manual (AIM), Airport/Facility Directory, FAA Order 7400.2, and Advisory Circular 70/7460-2K - "Proposed Construction of Objects That May Effect Navigable Airspace". In part, the recommendations state that the AIM should be amended to read: "...overflight at less than 1000 feet vertically above plume generating industrial sites should be avoided". It also states that FAA Order 7400.2 should be amended to "consider a plume generating facility as a hazard to air navigation when expected flight paths pass less than 1000 feet above the top of the object (i.e. the exhaust stacks)". It does not appear that this recommended policy change was incorporated into the current airspace determination process.

Therefore, given the above, we share the concerns of the California Energy Commission regarding the safety of low-level flight at traffic pattern altitude over the proposed RCEC power plant near Hayward Executive Airport, California.

Sincerely,

Original Signed by

GARY CATHEY, Chief
Office of Airports

c: FAA SFO ADO

I, Gary Cathey, hereby declare:

1. I am the Chief of the Office of Airports for the California Department of Transportation's Division of Aeronautics located in Sacramento. I attended and spoke at the hearing by the California Energy Commission (CEC) on September 26, 2007 in Sacramento, California, on the project known as the Russell City Energy Center (RCEC), a 600-megawatt thermal power plant. I am an instrument rated commercial pilot, have flown over 1,500 hours and have flown professionally for the Department for more than 12 years. I have personal knowledge of the facts set forth below and if called as a witness in this matter, would and could testify competently to the following.

2. During in the Fall of 2003 I was contacted by Eileen Allen, CEC Manager for the Energy Facilities Licensing Program to investigate allegations brought to the attention of the CEC. Numerous pilots had complained about turbulence they experienced from overflying the exhaust plume generated by the Blythe power plant, located near the Blythe Airport. On December 18, 2007, at the request of the CEC, I and CEC staff member Ms. Allen flew a 4-seat Bonanza F-33 aircraft over the Sutter Power Plant in Yuba County to investigate these complaints. Based on the information available to me, the Sutter Power Plant is a 520-megawatt power plant, smaller than the proposed RCEC plant.

3. During this flight, field notes were taken. These reflect that I began at 3,000 feet Above Mean Sea Level (AMSL) and descended in five hundred foot increments to 1000 feet AMSL. Afterwards, I had planned to continue descending in 200-foot increments. However, by the time I reached 1,000 feet AMSL, the turbulence was so great and disturbing that it affected maneuverability and control over the aircraft. I concluded in-flight that further decent below this altitude would negatively impact the safety of the flight. I believe I may have wrote a letter to document these observations to the CEC concerning this investigation conducted at their request, however, to date I have been unable to locate it.