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December 2, 2008

Mr. Michael Kehetian
Air Pollution Meteorologist
San Diego County Air Pollution Control
10124 Old Grove Rd
San Diego, CA 92131

Re: Additional Air Toxics Impacts Scenarios for Orange Grove Energy

Dear Michael:

The AFC submittal (June 2008) included air toxics impact analyses for the operation of both turbines: HARP Estimated Carcinogenic Risk (Table 6.16-5) and HARP Estimated Chronic and Acute Risks (Table 6.16-6). Per our subsequent discussions, further analyses were conducted to evaluate risk from:

- Ammonia and manganese from the cooling tower cells
- Simultaneous startup of both turbines (Acute)
- Simultaneous commissioning of Turbine #1 and startup of Turbine #2 (Acute)

The cooling tower analysis was done assuming that all ammonia is stripped from the input make-up cooling water (38 gallons per minute, 3,200 hours per year, see Appendix 2-D of the AFC, Water Balance Design Basis Condition). The highest monthly ammonia concentration in the reclaim water was reported as 17.2 mg/L. The manganese was assumed to be a portion of the particulate in the drift loss. The highest monthly manganese concentration in the reclaim water was reported as 0.053 mg/L. This concentration was multiplied by a factor of five to account for dissolved solids concentration increases due to cooling water recycling. Table 1 shows the risk values associated with these compounds from the cooling tower are minimal.

Table 1: HARP Estimated Risk for Cooling Tower Cells

Risk Criteria	Highest predicted risk based on ISC3 dispersion modeling and Escondido Met Data			Risk Threshold (2)	Meet Limit?
	Offsite(1)	Residence	Worker		
HARP Cancer Risk with T-BACT	0	0	0	---	---
Ethylbenzene Inhalation Cancer Risk	N/A	N/A	N/A	---	---
TOTAL Updated Cancer Risk	0	0	0	1.0E-05	Yes
Chronic Health Hazard Index	0.000562	0.0000854	0.00006	1.0	Yes
Acute Health Hazard Index	0.00465	0.00165	0.000739	1.0	Yes

(1) Offisite predictions are based on maximum health risk based on a potential receptor outside the property boundary.
(2) Applies only to residential and worker risks

For the simultaneous start-up of both turbines, we took the worst case start-up parameters for the turbine (Case 133) from the start-up spreadsheet shown in Appendix 6.2C of the AFC. This case has the lowest stack temperatures and exhaust velocities, and so is expected to result in the highest ground-level predicted impacts. Case 133 start-up takes 6 minutes and the balance of the hour is modeled at full load (worst-case) steady state operating conditions. Comparing Table 2 below with the previously reported acute HARP impacts, there is no difference in the Acute Health Hazard Index value.

Table 2: HARP Estimated Acute Risk (Hazard Index) for Simultaneous Startup of Both Turbines

Risk Criteria	Highest predicted hazard index based on ISC3 dispersion modeling and Escondido Met Data			Harzard Index Threshold (2)	Meet Limit?
	Offsite(1)	Residence	Worker		
Acute Health Hazard Index	1.54	0.538	0.495	1.0	Yes

(1) Offisite predictions are based on maximum health risk based on a potential receptor outside the property boundary.
(2) Applies only to residential and worker risks

SDAPCD also requested the analysis of the commissioning of one turbine while the other turbine is in startup. Table 3 shows those impacts are only slightly higher (Offsite and Residences) or the same (Worker) compared to the other acute HARP impacts.

Table 3: HARP Estimated Acute Risk (Hazard Index) for Commissioning of Turbine #1 and Startup of Turbine #2

Risk Criteria	Highest predicted hazard index based on ISC3 dispersion modeling and Escondido Met Data			Hazard Index Threshold (2)	Meet Limit?
	Offsite(1)	Residence	Worker		
Acute Health Hazard Index	1.56	0.542	0.495	1.0	Yes

(1) Offisite predictions are based on maximum health risk based on a potential receptor outside the property boundary.
(2) Applies only to residential and worker risks

The enclosed CD-ROM contains the input and output files for the above HARP analyses.

Sincerely,

Michael B. Newman, PE
Project Consulting Chemical Engineer

Enclosure: (1 CD-ROM)

CC: Felicia Miller, CEC (with 2 copies of modeling files)
William Walters, Aspen Environmental Group
Mike Jones, J-POWER
Steve Thome, J-POWER
Jane Luckhardt, Downey Brand