ARCHIE McPHEE
40482 GAVILAN MTN. RD.
FALLBROOK, CA 92028
(760) 723-5808



STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:
ORANGE GROVE
POWER PLANT
PROJECT

Docket No. 08-AFC-4
PRE-HEARING CONFERENCE
STATEMENT

INTERVENER ARCHIE McPHEE hereby submits its Pre-Hearing Conference Statement.

1. Stipulations of Fact and Law ☑ are ☐ are not attached.

2. Issue and Witness Identification Form ☐ is ☑ is not attached.

11/23/08
Date

Archie McPhee
Signature

☑ Check box if continuation pages are attached.

ARCHIE McPHEE
40482 GAVILAN MTN. RD
FALLBROOK, CA 92028
(760) 723-5908

STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:

ORANGE GROVE POWER PLANT PROJECT

Docket No. 08-AFC-4
STIPULATION

INTERVENER ARCHIE McPHEE hereby stipulates to the following matters

with THE CONSTRUCTION AND OPERATION OF THE ORANGE GROVE POWER PLANT (08-AFC-4).

1. NOISE ORDINANCE MONITORING
2. TERTIARY TREATED SEWAGE WATER USE AND DEFINITION
3. POTABLE WATER USE
4. RAINBOW MUNICIPAL WATER DISTRICT RIGHTS
5. TRUCK TRANSPORTATION OF TERTIARY TREATED SEWAGE WATER
6. ALTERNATIVE TO TERTIARY TREATED SEWAGE WATER USE

11/23/08
Date

Archie D. McPhee
Signature

☑ Check box if continuation pages are attached.

ARCHIE McPHEE
40482 GAVILAN MTN. RD
FALLBROOK CA 92028
(760) 723-5908

STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:
ORANGE GROVE POWER PLANT PROJECT

Docket No. 08-AFC-4
FINANCIAL HARDSHIP
PETITION

ARCHIE McPHEE hereby petitions to be excused from

☑ Filing 12 copies with the Commission Docket Unit.

☐ Serving its papers on all other parties of record.

Compliance with the above requirement(s) creates an undue financial hardship for the Petitioner in that:

11/23/08
Date

Archie McPhee
Signature

Archie D. McPhee
40482 Gavilan Mountain Road
Fallbrook, CA 92028
November 23, 2008

California Energy Commission, Docket Unit
Docket No. 08-AFC-4, Pre-Hearing Conference
1516 Ninth Street, MS 15
Sacramento CA 95814-5512

I, Intervener Archie McPhee, possess a Bachelors and Masters Degree in Chemical Engineering. I was also a PhD Candidate in Chemical Engineering at the University of Maryland. I competed all of the required course work and started my PhD Thesis when money became a serious problem. I am a California Registered Professional Civil Engineer and also possess a California Community College Teaching Certificate in Mathematics and Engineering. I have worked: in Refineries and Chemical plants as an operator, Chemical Engineer and Chief Engineer; in water resource management for the U. S. Navy as a GS 13 Chemical Engineer; in San Diego City's water/wastewater departments as a California Professional Civil Engineer; and in home construction as an owner builder. I possess years of hands on and varied engineering experience.

1. Noise Ordinance Monitoring. Orange Grove Energy Power Plant (OGP) proposes to monitor the proposed noise ordinance by responding to complaints. Animals have much better hearing than humans. My experience with noise ordinances is, out of 100 humans bothered by extremely high noises only 1 or 2 people will bother to report their discomfort to authorities, and even less if the report must be made in writing of if they are required to find who must be contacted in ordered to file a complain to. Corporations offering 24 hour noise monitoring services utilizing dB meters are available at a price. This type of monitoring service must be required for the OGP.

2. Tertiary Treated Sewage Water. The water and wastewater industry standard name for tertiary treated sewage water is "reclaimed water". I have been employed in the water and wastewater industry for at least 25 years: as a GS-13 Chemical Engineer water resource manager by the U.S. Navy; and as a California Registered Professional Civil Engineer in San Diego City's water and wastewater divisions. I have never heard tertiary treated sewage water named "recycled water" before it was used on November 11, 2008 by California Energy Commission at the Fallbrook Public Utility District conf meeting. Professional magazines such as those published by the AWWA and other professional water/wastewater magazines use the term reclaimed water for tertiary treated sewage water. The City of San Diego uses the term "Reclaimed Water" for their product from their huge North City Water Reclaimation Plant as did the Fallbrook Public Utility District at least a month ago (see attachment)

Recycled Water has more than one meaning. The term recycled water was used by biologists and chemists in 1991 (who had no knowledge of the water and waste water industry standards and nomenclature) to define sewage water. It is an ancient usage term today (2008) used by the California Energy Commmission in the OGP documents. Recycled water is the term used in the Refinery and Chemical industry's to describe reused (used again, and again) potable water as a heat exchanger coolant. Recycled water is also the term used in plating and other industries for reused potable water.

In the water and wastewater industry reclaimed water has certain restrictions on its use and transportation. By law it must be labeled "Contaminated: Do not drink" and it must be transported in purple piping. San Diego City cannot use their reclaimed water due to the high cost of laying purple piping which verify's reclaimed water cannot be transported to user locations by water tank trucks. I request: the California Commission use recent water and wastewater industry printed standards, laws and regulations used throughout America for Reclaimed Water which is properly defined as tertiary treated sewage water.

In the Manuel titled "California Health Laws Related to Recycled Water" section 13555.2 and 13555.39A0 states that recycled (reclaimed) water must be delivered into the private property in a separate (purple) pipeline. This, to me, means it cannot be delivered by tanker truck from FPUD to OGP. In addition, section 13555.3 part (b)(2) states that the Rainbow Municipal Water District (RMWD) should have the rights to deliver potable water to the OGP. In this manual it is also stated that water districts cannot unlawfully manipulate the system to make an unlawful profit from reclaimed water which FPUD has done by creating a Stage 1 water shortage while still supplying potable water for new construction to Fallbrook developers. This whole tertiary treated sewage water deal looks like a plot to make a profit from reclaimed water by FPUD and OGP by using recycled/reclaimed water for uses it was never intended or specified.

3. Potable Water Use. OGP and FPUD plan to use reclaimed (recycled) water in place of the California Energy Commission's approved design requirements for potable water. Section 2.6.2.3 of the "Generator Facility Description Design and Operation" section states "Water for use in the CTG's for NOx emission control must be very high purity or turbine blade damage will result". "Demineralized potable water is required for injection into turbines for power augmentation and NOx emission control". OGP must either conduct a pilot plant study using FPUD's reclaimed (recycled) water to prove that reclaimed (recycled) water can be substituted for potable water without damage to the CTG's turbine blades over a significant period of time, or provide written proof of another such pilot plant study. I have worked in chemical process plants that were approved on paper but failed to operate properly after construction.

The Rainbow Municipal Water District (RMWP) can provide OGP with sufficient potable water to operate if OGP will install a 1.8 mile potable water pipeline connecting the existing RMWD potable water pipeline to its proposed power plant. This is not an unreasonable requirement for new construction in a remote area. Costs could, and

should, be either shared with RMWD, or paid in full by OGP. This is the proper solution instead of the stupid solution of transporting water by tanker truck and causing hate, hell and confusion to those who share the already congested two lane roads. The OGP is located in the RMWD's legal service area.

4. Rainbow Municipal Water District's Rights. On page 4.9-30, the RMWD states "if the water trucking is to be considered a permanent arrangement then RMWD is opposed to the water agreement (between OGP and FPUD) because RMWD considers them contrary to the RMWD rules and regulations and counter to the rights of the residents in the District to have a voice in the decision-making process". The unsigned portion of the potable water option agreement and the undated part of the Recycled Water Agreement is for 25 years and 2 months. RMWD stated it might agree to a 3 year term of those water agreements. Is this lawful? If OGP will build the 1.8 mile pipeline from the RMWD pipeline to OGP's operating plant all of this hate hell and discontent will disappear.

5. Truck Transportation of Tertiary Treated Sewage Water. There is reason to believe, as stated above in item 2, that reclaimed water, or if you prefer the health department term recycled water, cannot be transported by tanker truck. It must be transported from its origin location to its use location in purple piping and labeled "Contaminated: Do not drink". Has the California Energy Commission considered the damage to the environment and possibly people if one of these tanker truck's overturns? I believe there is enough information supplied above to eliminate the scenario of allowing the transportation of tertiary treated sewage water by tanker truck. Tertiary treated sewage water is toilet water and sink drain water which is flushed into sewer mains. It is then subjected to Primary, then to Secondary and finally to Tertiary sewage treatment processes. It stinks from dissolved gases, it is not disinfected, it is contaminated with: waterborne diseases, harmful bacteria, and commercial and hospital waste containing blood and chemicals. It is harmful to animals such as squirrels, etc.. Think.

6. Alternative to Tertiary Treated Sewage Water. I suggest that there is a profit motive to both FPUD and OGP for the use of tertiary treated sewage water, called by the water and wastewater industry Reclaimed Water. It is prohibited by the "California Health Laws Related to Recycled Water" to utilize tertiary treated sewage water only for profit. The alternative to the use of tertiary treated sewage water is to require the OGP to build a 1.8 mile pipeline from the RMWD's existing water pipeline. Do not wait for an agreement on cost, do it now. Negotiation's on the who pays and how much can be mediated by the California Energy Commission. The cost is secondary; it is OGP that needs the water and it is similar to a new housing settlement in a remote area.

Archie McPhee

Archie McPhee

11/23/08

# ATTACHMENTS

**Table 6.5-1 FPUD Reclaimed Water Quality Chemistry Profile For 2006 And 2007**

| Month | TDS (mg/L) | G&O (mg/L) | Boron (mg/L) | Iron (mg/L) | Manganese (mg/L) | Calcium (mg/L) | Magnesium (mg/L) | Potassium (mg/L) | Sodium (mg/L) | Nitrate (mg/L) | Chloride (mg/L) | Sulfate (mg/L) | Nitrite (mg/L) | Fluoride (mg/L) | Ammonia (mg/L) | TKN (mg/L) | Total Phosphorus (mg/L) | MBAS (MG/l) | Sodium Adsorption Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | 768 | <5.0 | 0.261 | 0.027 | 0.021 | 79.2 | 33.9 | 14.3 | 132 | 24.8 | 154 | 237 | 5.7 | 0.23 | 6.8 | 8.2 | 0.82 | 0.07 | |
| Feb | 830 | <5.0 | 0.346 | 0.114 | 0.062 | 82.3 | 32.1 | 15 | 144 | 13.4 | 166 | 227 | 1.7 | 0.25 | 13.9 | 14.6 | 0.49 | 0.06 | |
| Mar | 822 | <5.0 | 0.288 | 0.102 | 0.032 | 70.1 | 31.9 | 13.5 | 135 | 18.5 | 172 | 252 | 2.9 | 0.2 | 8.68 | 9.24 | 0.45 | 0.15 | |
| Apr | 786 | <5.0 | 0.365 | 0.277 | 0.038 | 62.1 | 32 | 14.2 | 132 | 18.4 | 178 | 223 | 2.6 | 0.26 | 9.7 | 9.8 | 1.2 | 0.1 | |
| May | 980 | <5.0 | 0.42 | 0.048 | 0.053 | 73.8 | 32 | 13.6 | 145 | 10.7 | 177 | 233 | 1.3 | 0.35 | 12.4 | 17.5 | 1.04 | 0.17 | |
| Jun | 610 | <5.0 | 0.334 | 0.071 | 0.037 | 66.2 | 28.9 | 13.5 | 136 | 17.3 | 160 | 232 | 6.9 | 0.3 | 9.3 | 11.5 | <.02 | 0.08 | |
| Jul | 850 | <5.0 | 0.415 | 0.033 | 0.046 | 76.5 | 32 | 16.9 | 156 | 9.5 | 179 | 255 | 3.5 | 0.3 | 13.7 | 13.8 | 1.58 | 0.04 | |
| Aug | 860 | <5.0 | 0.354 | 0.049 | 0.033 | 83.6 | 30.9 | 16.3 | 142 | 10.5 | 194 | 283 | 6.1 | 0.31 | 12.1 | 14.2 | 1.96 | 0.04 | |
| Sep | 850 | <5.0 | 0.365 | 0.058 | 0.033 | 60.6 | 27.7 | 15.5 | 134 | 15.4 | 165 | 227 | 3.8 | 0.27 | 9.1 | 11.8 | 2.22 | 0.05 | |
| Oct | 840 | <5.0 | 0.377 | 0.037 | 0.04 | 66.2 | 28.5 | 15.3 | 138 | 11.8 | 181 | 240 | 2.9 | 0.27 | 11.5 | 13.6 | 2.07 | 0.05 | |
| Nov | 830 | 8 | 0.44 | 0.063 | 0.03 | 71.2 | 31.9 | 16.6 | 142 | 9.0 | 161 | 241 | 2.4 | 0.26 | 11.2 | 18.8 | 2.09 | 0.06 | |
| Dec | 490 | <5.0 | 0.323 | 0.091 | 0.028 | 79.6 | 30.7 | 18.3 | 154 | 1.9 | 97 | 229 | <.04 | 0.28 | 14.9 | 18.5 | | <.02 | |
| **Avg.** | **793** | **<5.0** | **0.357** | **0.081** | **0.038** | **72.6** | **31.0** | **15.3** | **141** | **13.4** | **165** | **240** | **3.6** | **0.27** | **11.1** | **13.5** | **1.39** | **0.08** | |
| Jan | 860 | <5.0 | 0.330 | 0.279 | 0.043 | 69.6 | 32.5 | 15.8 | 147 | 20.9 | 172 | 251 | 1.7 | 0.41 | 8.5 | 9.6 | 2.17 | 0.08 | |
| Feb | 780 | <5.0 | 0.340 | 0.180 | 0.038 | 72.9 | 30.7 | 16.8 | 155 | 9.3 | 162 | 222 | 1.5 | 0.23 | 17.2 | 18.2 | 0.02 | 0.1 | |
| Mar | 720 | <5.0 | 0.294 | 0.056 | 0.037 | 68.4 | 28.7 | 15.6 | 138 | 2.1 | 157 | 224 | 0.56 | 0.35 | 15.9 | 16 | 0.83 | 0.07 | |
| Apr | 710 | <5.0 | 0.344 | 0.060 | 0.017 | 57.7 | 24.1 | 13.1 | 123 | 35.8 | 145 | 207 | 2.8 | 0.16 | 10.9 | 15.4 | 1.2 | 0.05 | |
| May | 740 | <5.0 | 0.335 | 0.045 | 0.027 | 65.8 | 29.8 | 16.2 | 135 | 54 | 159 | 208 | 1.3 | 0.25 | 4.5 | 8.5 | 3.45 | 0.09 | |
| Jun | 960 | <5.0 | 0.365 | 0.065 | 0.028 | 65.1 | 24.3 | 15.1 | 136 | 26.1 | 151 | 204 | 5.9 | 0.2 | 8.9 | 11.9 | 0.92 | 0.07 | |
| Jul | 720 | <5.0 | 0.360 | 0.023 | 0.04 | 66 | 26 | 18 | 130 | 5.6 | 150 | 210 | 2.2 | 0.49 | 7.2 | 11 | 3.6 | 0.11 | |
| Aug | 720 | <5.0 | 0.340 | 0.030 | 0.029 | 59 | 24 | 16 | 120 | 3.2 | 140 | 230 | 2.0 | 0.39 | 9.7 | 15 | 3.5 | 0.11 | 3.4 |
| Sep | 730 | <0.9 | 0.360 | 0.039 | 0.037 | 55 | 23 | 16 | 120 | 2.3 | 160 | 220 | 1.1 | 0.48 | 12 | 20 | 1.4 | 0.25 | |
| Oct | 670 | <0.95 | 0.410 | 0.066 | 0.033 | 68 | 27 | 19 | 140 | 4.7 | 150 | 190 | 1.0 | 0.43 | 9.5 | 14 | 1.3 | 0.09 | |