DOCKET 08-AFC-7						
DATE						
RECD.	OCT 28 2008					

# GWF Tracy

#### Combined Cycle Power Plant Project - 08-AFC-7



#### **Project Location**





# Vicinity Map



#### Existing GWF Tracy Peaker Plant

- o Simple Cycle
- Two Combustion Gas Turbines 170MWs
- o Operational in May 2003
- o 10-year Power Purchase Agreement
- Community benefits \$1.3 million for Environmental Benefits and Charitable Giving



#### Tracy Peaker Plant





# Combined Cycle Conversion Benefits

- Additional MW to Meet Growing Demand
- o Increase Efficiency
- Use of Existing Infrastructure Minimizes Impacts
- Lower Emissions Per MW
- o 8000 hours/yr of Availability

#### Key Project Features

- Two New Heat Recovery Steam Generators (Limited Supplementary Natural Gas) and Stacks
- New 145 MW Steam Turbine Generator
- New Air Cooled Condenser For Steam Cycle
- Relocate Storm Water Retention Basin
- o New Auxiliary Boiler

### Minor Footprint Changes

- Annual Water Usage Increase of 25 acfeet per year
- Increase Plant Footprint by 3.3 acres
- o Temporarily Disturb 12.3 acres
- Onsite Relocation of Storm Water Retention Basin

#### **General Arrangement**



### **Electrical Interconnection**

- Modify Onsite 115-kv Switchyard
- Adjacent Interconnection to Tesla-Manteca 115-kv Line
- Reconductoring of Three Short Offsite Transmission Line Segments (3 miles total)

# Transmission Interconnect Upgrades



# Air Quality Improvements

#### Higher Efficiency Emission Controls

- Selective Catalytic Reduction NOx
- Oxidation Catalyst CO and VOC

#### Lower Concentration Limits

- NOx 2 ppmvd @15% O2
- CO 2 ppmvd @15% O2
- VOC 2 ppmvd @15% O2
- NH3 5 ppmvd @ 15% O2

# GWF Tracy Emissions Comparison

	Existing Limit	Proposed Limit	Existing Emission	Proposed	
	ppmvd @	ppmvd @	Rate	Emission Rate	
Pollutant	15% O <sub>2</sub>	15% O <sub>2</sub>	(lb/hr)	(lb/hr)	
NO <sub>x</sub>	5	2	26.45	10.3	
СО	6	2	26.57	6.0	
VOC	2	2	2.42	3.2	
PM <sub>10</sub> / PM <sub>2.5</sub>	NA	NA	3.3	5.8	
SO <sub>2</sub>	NA	<1	0.78	2.6	
Ammonia	10	5	NA	9.4	

### **GWF Tracy Annual Emissions**

Description	NOx (lb)	CO (lb)	VOC (lb)	PM <sub>10/2.5</sub> (lb)	SO <sub>2</sub> (lb)
TPP – Currently Permitted Emissions (2 Turbines)	306,920	143,240	26,732	53,334	11,200
Post Project Potential to Emit	180,566	161,845	32,117	66,995	13,899
Project Emissions Change	-126,354	18,605	5,385	13,661	2,699



#### GWF Tracy – Noise

- Designed to Achieve 42 dBA or Less at Nearest Residence
- GWF Tracy will Comply with the San Joaquin County Noise Ordinance.

#### **Nearby Noise Receptors**





#### Visual Resources

- No Visible Plumes
- Landscape Plan Review
- Major Equipment Color Chosen To Blend With Surrounding Environment
- Key Observation Point Analysis No Significant Impact



#### **Key Observation Points**





#### KOP 1 Lammers Rd. at West Schulte





#### KOP 1 – Proposed Modifications Lammers Rd. at West Schulte



# Additional Questions

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