ATTACHMENT 13

DYNEGY SOUTH BAY, LLC

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May 7, 2007

Mr. Brian Kelley,
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

RE: Final Progress Report – Work Plan for Relocation of Thermal Discharge Limitations Compliance Point to the Property Line and Semi-Annual Progress Report for Work Plan for Compliance with Final Copper Effluent Limitations, Dynegy South Bay, LLC (IC:13-0091.01;chenc)

Dear Mr. Brian Kelley:

Please accept this letter as the final progress reporting requirement for the thermal study and the semi-annual progress report for the copper work plans for the South Bay Power Plant (SBPP).

SBPP CW Discharge Channel Thermal Studies:

A study of the fine-scale patterns of temperature, speed and direction of cooling water flows in the discharge canal of the Dynegy South Bay Power Plant (SBPP) was conducted with the use of a multi-point monitoring system. The study, which spanned the period of July 2006 to January 2007, collected synchronized, multi-point temperature and flow data along the canal's cross-section at the facility's property line. The purpose of the study was to verify that the temperature monitoring location, as designated by the Board, could provide representative samples of discharge temperatures for the various combinations of plant pump and generating configuration, tidal elevation, and other receiving water conditions, such as ambient temperatures, wind and isolation.

Instruments for monitoring temperature and flow at the property line of the SBPP discharge channel were installed on July 6th and 7th, 2006. Monitoring stations included six buoy stations distributed across the channel at the property line and near-shore intertidal stations. Temperature recorders on the buoys were positioned at the float and anchor of each station and at one-meter intervals in between. Because of differences in depth, the number of recorders deployed at each station ranged from 3 to 6 with a total of 29 installed between the stations (**Figure 1**).

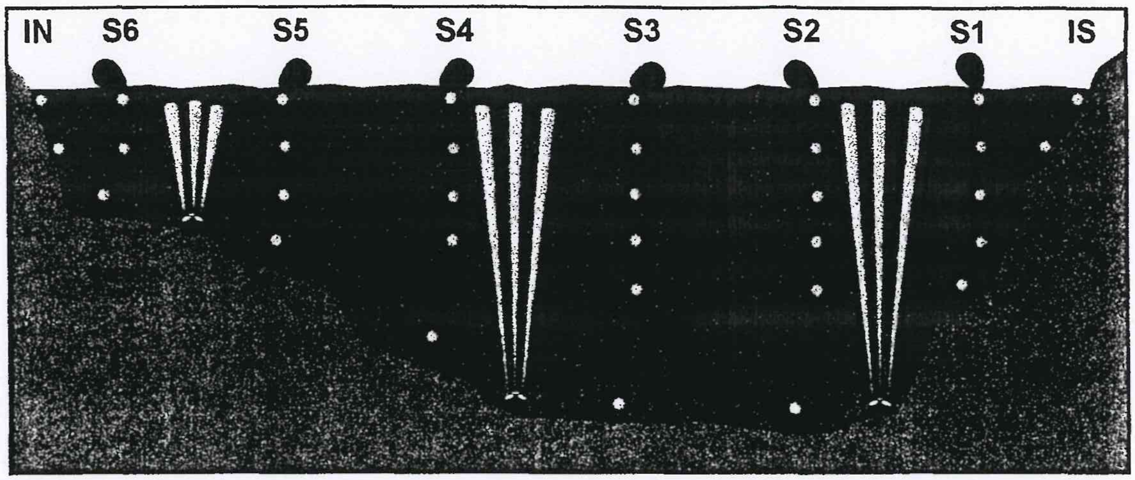

Figure 1. The South Bay Power Plant discharge channel temperature and current velocity monitoring installations. Six subtidal buoy stations (S1 – S6), two intertidal stations on the north and south shoreline of the channel (IN and IS), and three upward-facing Acoustic Doppler Current Profilers (ADCP).

Water column temperatures in the channel were monitored with recorders attached at fixed intervals along an anchored float line. With the exception of the recorder mounted on the station anchor, all of the buoyed recorders measured temperature at a fixed distance from the water's surface as it rose and fell with the tides; unless, as would happen on occasion, the recorder was grounded by a descending tide,.

Intertidal temperatures were recorded at stations established on the south and north sides of the channel, each with a single temperature recorder deployed at a fixed elevation. Another recorder was attached at the –1 meter level to the SBPP S2 discharge temperature monitoring buoy, which is moored at the property line. It should be noted that the S2 buoy has been moved about 30 feet to the south of it's original position based on the results of earlier monitoring studies.

In addition to the temperature recorders, three acoustic Doppler current profilers (ADCP) were installed at the property line (**Figure 1**). The ADCPs were positioned in an upward-looking orientation in order to measure water velocities at different levels between themselves and the surface of the water. The ADCPs were also set to record at 20 minute intervals.

On October 17th and 18th, 2006 the temperature recorders were retrieved and replaced with new units. At the same time the ADCPs were retrieved, downloaded, reprogrammed and reinstalled. It was noted that the southernmost buoy had been dragged shoreward from its original position, and it was returned to its proper location. Temperature recorders were taken to Tenera's SLO office downloaded and checked for accuracy.

Retrieval and replacement or redeployment of the temperature recorders and the ADCPs was repeated on January 9th and 10th, 2007. All of the stations were in their original positions. The retrieved temperature recorders were again checked; post-download, to assure their accuracy.

The temperature (500,000+ data points) and current data (every 0.25 m depth for each 20 minute period) were analyzed in conjunction with tide/water depth data and SBPP plant operation information (Unit MW output, pump operation, plant inlet and outlet temperature data, etc). The synoptic current and temperature data were interpolated to provide a time series of cross-sectional measurements of the channel at the property line that displayed the flow and temperature characteristics of the discharge under all of the operational and tidal conditions that occurred between July and December 2006.

The analysis was used to create a grid of interpolated data, 20 cells high by 50 cells wide, of instantaneous temperatures in the cross section of water column of the SBPP discharge channel at the property line. For each of the data ensembles (20 minute interval data acquisition), the temperature and current data were used to calculate the temperature and water speed in each of the grid cells. Using the values determined for each submerged cell, a flow-weighted average temperature was calculated for the entire property line cross section for each measurement interval. The actual temperatures recorded by each of the temperature-monitoring units could then be compared with the cross-sectional average flow-weighted temperature to calculate their deviation from that value at each 20-minute period. **Table 1** shows the percentage of the readings taken by each temperature recorder that deviated by 0.4° C or less from the calculated average (± 0.4° C was the minimum accuracy of any of the temperature recorders used in the monitoring program). Since the goal of this study was the accurate and representative measurement of the SBPP's discharge temperature at the property line, only data collected while the plant was generating electricity (40 MW or more) were used in the **Table 1** calculations.

Table 1. Percentage of the readings taken by each temperature recorder that were within 0.4°C of the flow-weight average temperature calculated for the property line cross section of the SBPP discharge channel at each 20 minute interval. Only readings taken while the power plant was generating electricity (at least 40 MW) were included.

IN	S6	S5	S4	S3	S2	S1	IS
10%	38%	33%	37%	59%	78%	59%	16%
30%	36%	32%	60%	**83%**	**85%**	49%	54%
	35%	28%	60%	80%	76%	65%	
		42%	40%	53%	74%	66%	
			47%	49%	68%	54%	
				31%	55%		

Of the 33 temperature recorders that comprised the monitoring grid deployed across the SBPP discharge channel at the property line, the recorder positioned at the –1 meter depth of buoy station S2 had the highest percentage of agreement with the flow-weighted averages calculated for each 20 minute reading (85% within 0.4° C). The –1 meter recorder at the adjacent station S3 had the next highest percentage with 83% of its readings falling within 0.4° C of the flow-weight average while SBPP was generating at least 40 MW.

Figure 2 provides a histogram of the distribution of the deviations from the flow-weighted average temperature at the –1 meter level of stations S2 and S3.

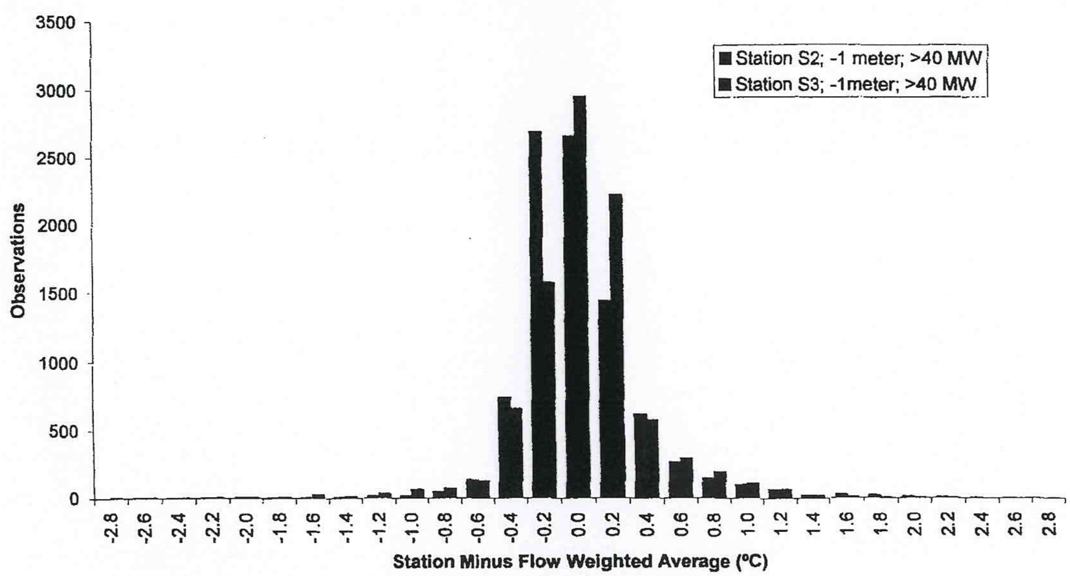

Figure 2. Distribution of the deviations from the flow-weighted average temperature at stations S2 and S3 (-1 meter) during the period July – December 2006. Total SBPP generation at least 40 MW.

The differences (ΔT) between the instantaneous average flow-weighted temperature and the instantaneous flow-weighted temperature at both stations, S2-1 and S3-1 appear normally distributed and as shown in Figure 2 are tightly grouped around the mean. Station S2 is slightly skewed to the positive side (more likely to read warmer than the flow-weight average); S3 is slightly skewed in the opposite direction. Mean deviations from the flow-weighted averages at both stations were close to zero, with 95% of the readings occurring within less than ±0.8° C of the average. **Table 2** summarizes the relationship between the data acquired at stations S2 and S3 (-1 meter) and the flow-weight average temperatures from the July – December 2006 study period. The table includes calculations made using data from the entire July - December period, including those times when little or no electricity was being generated, and calculations restricted to those times when SBPP electrical output was, at least, 40 MW.

Table 2. Statistics of temperatures measured at SBPP property-line Stations S2 and S3 (-1 meter) minus the flow-weighted average temperature calculated for the entire thermal monitoring grid. Two conditions are shown: (1) for all plant operations July-December 2006; and (2) for SBPP output above 40 MW only.

	Station S2 (-1 m) All Conditions	Station S2 (-1 m) >40 MW	Station S3 (-1 m) All Conditions	Station S3 (-1 m) >40 MW
Observations	12810	9081	12810	9081
Minimum Δ °C	-5.82	-4.17	-6.07	-6.07
Maximum Δ °C	3.33	2.58	3.24	2.70
Standard Dev °C	0.35	0.36	0.37	0.39
Mean Δ °C	-0.01	0.01	0.01	0.03
Median Δ °C	-0.05	-0.05	0.03	0.04

On the basis of the S2 and S3 (-1 meter) temperature recorders' close agreement with the flow-weighted average and their complimentary distributions, the SBPP plans to establish the property-line monitoring buoy at a location midway between the positions of the S2 and S3 buoys, with a single sensor at the –1 meter level. For the purpose of redundancy, to assure uninterrupted data acquisition, a second float with a –1 meter sensor shall be installed immediately adjacent to the primary sensor. These property-line temperature monitors will be installed and operational prior to the November 2007 deadline.

SBPP Copper Effluent Limitations:

As discussed in the copper work plan, there are no feasible technical solutions to the potential copper compliance issue and we are therefore not pursuing a technical solution. Staff from Dynegy South Bay, LLC met with SDRWQCB staff on April 2, 2007, to discuss available compliance options, including potential modifications to the sampling methodology. The SDRWQCB staff said they would consider the options discussed but no definitive path forward has yet been determined.

If you have any questions, please call James White, Regional HSE Manager, at (805) 595-4295.

Sincerely,

Michael D. Horn
Manager, South Bay Power Plant

MDH/jhn

cc: James White, Jim Nylander

File # 403.55.00, EHS# 07-051