CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING AND REPORTING PROGRAM

FOR

OILY WATER COLLECTION POND
MIRANT DELTA, LLC
PITTSBURG POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY

ORDER NO. R2-2006-0057

CONSISTS OF

PARTS I, II, and III

PART I

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16. This Monitoring and Reporting Program (M&RP) is issued in accordance with Provision C.16 and Board Order No. R2-2006-xxxx.

The principal purposes of a M&RP are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, and (4) to assist the Discharger in complying with the requirements of Title 27 of the California Code of Regulations (CCR).

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA Methods, and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory, or the director's designee, shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the Discharger is responsible for seeing that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

1. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 50% non-numerical determinations [i.e., "trace" or "ND"] in data from Background Monitoring Periods, the analytical method used in the Detection Limit Study (defined in Part I.B.2) or equivalent should be used to meet or exceed the derived performance standards for Minimum Detection Limits (MDLs) and Practical Quantitation Limits (PQLs) (defined in Parts I.C.7 and I.C.8).

2. MDLs and PQLs shall be derived by the laboratory for each selected analytical procedure applicable for the range of expected concentrations conducted under a Detection Limit Study (DLS). The DLS will be preformed using representative groundwater matrix and reflecting the detection and quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. Results of the DLS will be submitted within six months of the effective date of this Order. If based upon review of the groundwater data, either the Executive Officer or the Discharger determine that an additional DLS is needed, the Discharger will perform additional DLS's as needed.

3. All Quality Assurance/Quality Control (QA/QC) data shall be reported, along with the sample results to which it applies, including the analytical method, recovery rates, relative percent difference and the results of equipment and method blanks, matrix spiked samples, the frequency of quality control analysis, matrix background samples and lab control samples. In addition, analysis results for method blanks or spike recovery shall be reported unadjusted.

4. Statistical procedures for determining the significance of analytical results need not be performed for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Board staff.

5. Unknown chromatographic peaks shall be reported and flagged for easy identification. When unknown peaks are encountered, Board staff may require an estimate of the concentration of the unknown analyte, and may require that second column or second method confirmation procedures be performed in an attempt to identify and more accurately quantify the unknown analyte.

6. In cases where contaminants are detected in QA/QC samples [i.e., field, trip, or lab blanks], the accompanying sample results shall be appropriately reported.

7. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

C. DEFINITION OF TERMS

1. The "**Monitored Media**" are those water-bearing media that are monitored pursuant to this M&RP. The monitored media at this facility is the ground water in the perched water zone, in any other portion of the zone of saturation in which it would be reasonable to anticipate that waste constituents migrating from the surface impoundment could be detected.

2. The "**Constituents of Concern [COC]**" are those constituents which are likely to be in the waste in the facility or which are likely to be derived from waste constituents, in the event of a release. The Constituents of Concern for the facility are listed in Table 1 of this appendix.

3. The "**Monitoring Parameters**" are a subset of the constituents of concern and are parameters used for the majority of monitoring activity. The Monitoring Parameters designated for the facility are listed in Table 1. Monitoring Parameters are used to indicate leakage from the facility into the monitored media by comparing the monitoring results with the maximum allowable concentration limits established for a given monitored sector. For a detection monitoring program, the monitoring parameters provide a possible indication of a release. During a corrective action period, monitoring parameters provide a means to evaluate the effectiveness of the corrective action.

4. **"Standard Observations"** along the perimeter of the surface impoundment refers to:

a) Evidence of liquid leaving the surface impoundments, estimated size of affected area (identified on site map), and flow rate;
b) Evidence of erosion of surface impoundment containment structures.
c) Monitoring of surface impoundment leachate levels.

5. "**Standard Analysis and Measurements**" refers to:

a) Turbidity [only for water samples], in NTU;
b) Water elevation to the nearest 1/100th foot above mean sea level [only for ground water monitoring]; and
c) Sampling and statistical analysis of the Monitoring Parameters.

6. "**Matrix Effect**" refers to any increase in the MDL or PQL for a given constituent as a result of the presence of other constituents -- either of natural origin or introduced through a release -- that are present in the sample of water.

7. "**Method Detection Limit [MDL]**", for a given analytical laboratory using a given analytical method to detect a given constituent means the MDL determined by the DLS.

8. "**Practical Quantitation Limit [PQL]**", for a given analytical laboratory using a given analytical method to detect a given constituent means the lowest constituent concentration derived from the DLS (defined in Part B.2) that the laboratory can regularly quantify within specified limits of precision that are acceptable to the Executive Officer.

9. "**Sample & Analysis Period**" means the duration separating sampling and analysis events from monitoring points or wells, for a given type of monitoring from the time the next iteration of that event. Unless otherwise specified in this M&RP, the period for sampling and analysis for the Monitoring Parameters is quarterly. The period for sampling and analysis of all Constituents of Concern (COC), is quarterly until at least one year of data is collected, thereafter at least annually for the first five years from the date of issuance of this M&RP, and then once every five years after the fifth Annual Report unless the Executive Officer requests to continue the once-per-year COC Sampling and Analysis Event. The sampling and analysis for Monitoring Parameters was modified in the second quarter of 2005 to reflect closure of the Class I units at the facility.

10. "**Sample & Analysis Event**" means the point in time that sampling and analysis is performed from monitoring points or wells, for a given type of monitoring. Unless otherwise specified in this M&RP, the sampling and analysis for the Monitoring Parameters will be quarterly, and the sampling and analysis of all Constituents of Concern will be during the 4th quarter Sampling and Analysis Period.

11. "**Reporting Period**" means the duration separating the submittal of a monitoring report from the time the next iteration of that report is scheduled for submittal. The

Reporting Period for the Annual Summary Report extends from January 1 to December 31. The due date for any given report will be 90 days after the end of its Reporting Period, unless otherwise stated.

12. "**Receiving Waters**" refers to any surface water that actually or potentially receives surface or ground waters which pass over, through, or under waste materials or contaminated soils. In this case the following surface water bodies are considered receiving waters: Suisun Bay, and the San Francisco Bay.

13. "**Control Chart**" means a graphical method for evaluating whether a process is or is not in a state of statistical control. X-Bar control charts evaluate the process level or subgroup differences in terms of the subgroup average.

D. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date and time of sampling;

3. Date that analyses were started and completed, and the name of the personnel performing each analysis;

4. Complete procedure used, including method of preserving the sample, and the identity of reagents used;

5. Calculation of results; and,

6. Results of analyses, including the MDL and PQL for each analysis.

E. REPORTS TO BE FILED WITH THE BOARD

1. A written **Quarterly Monitoring Report** for the Class II surface impoundment shall be submitted quarterly. The fourth Quarterly Monitoring Report will be the "**Annual Report**". The reports shall be comprised of at least the following:

a. Letter of Transmittal A letter transmitting the essential points in each report shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have

occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each Monitoring Report shall include a compliance evaluation summary. The summary shall contain at least:

1) **Groundwater Data:** For each monitored ground water body, a description and graphical presentation of the rate and direction of ground water flow under/around the facility, based upon water level elevations taken during the collection of the water quality data submitted in the report;

2) **Pre-Sampling Purge for Samples Obtained From Wells:** For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH temperature, conductivity, and turbidity testing, the well recharge rate, and the method of disposing of the purge water);

3) **Sampling:** For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump -- or other device -- used and its placement for sampling, and a detailed description of the sampling procedure [number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name of the person taking the samples and statement which indicates that the person actually taking the samples is qualified to take samples, and any other observations].

c. A map or aerial photograph showing the locations of observation stations and Monitoring Points;

d. For each Monitoring Report include laboratory statements of results of all analyses demonstrating compliance with Part I.B.;

e. An evaluation of the effectiveness of the leachate monitoring and control facilities.

f. A summary and certification of completion of all Standard Observations [Part I.C.4.] for the facility, for the perimeter of the facility, and for the Receiving Waters; and

g. The quantity and types of wastes discharged to the impoundment since submittal of the last such report. (To be reported quarterly).

2. CONTINGENCY REPORTING

a. The Discharger shall report by telephone, immediately after discovery, evidence of a significant release that may pose an imminent threat to surface or subsurface waters of the State from the Class II surface impoundment or beyond any boundary of the Facility. A written report shall be filed with the Board within seven days, containing at least the following information:

1) A map showing the location(s) of release;
2) An estimate of the flow rate;
3) A description of the nature of the discharge (e.g., all pertinent observations and analyses); and
4) Corrective measures underway or proposed.

b. Should the statistical comparison [Part III] indicate, for any Constituent of Concern or Monitoring Parameter, that a statistically significant release is tentatively identified, the Discharger shall immediately notify the Board verbally as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination, and shall follow the Discharger's approved discrete retest procedure. If the retest confirms the existence of a significant release, the Discharger shall carry out the requirements of Part I.E.2.d. In any case, the Discharger shall inform the Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

c. If either the Discharger or the Board determines that there is significant physical evidence of a release, the Discharger shall immediately notify the Board of this fact by certified mail [or acknowledge the Board's determination] and shall carry out the requirements of Part I.E.2.d. for all potentially-affected monitored media.

d. If the Discharger concludes that a release, or a statistically significant increase in contaminant concentration, has occurred:

1) Then the Discharger shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analysis. Within seven days of receiving the laboratory analytical results, the Discharger shall notify the Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point;

2) The Discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting

the requirements of; and

3) The Discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of Title 27 to provide for a corrective action or improve any existing corrective action.

3. ANNUAL SUMMARY REPORT

The Discharger shall submit an annual report to the Board covering the previous monitoring year. The Reporting Period ends December 31. This report shall contain:

a. **Graphical Presentation of Analytical Data.** For each Monitoring Point and any Background Monitoring Points, submit in graphical format the laboratory analytical data for all samples taken on a quarterly frequency. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. All graphs for a given constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation, the results of which will determine whether or not a release is indicated;

b. All monitoring analytical data obtained during the previous years' Reporting Periods, presented in tabular form as well as on a Compact Disc (CD), in a file format acceptable to the Executive Officer. The Board regards the submittal of data in hard copy and on diskette as the form necessary for statistical analysis, in that this facilitates periodic review by the Board's statistical consultant;

c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements;

d. A written summary of the groundwater and, if applicable, soil-pore gas analyses, indicating any changes made since the previous annual report; and

e. An evaluation of the effectiveness of the leachate monitoring/control facilities.

Part II: MONITORING AND OBSERVATION SCHEDULE

A. WASTE MONITORING - Report quarterly, as part of the Monitoring Report

1. Record the total volume of wastewater discharged to the surface impoundment during each quarter.

2. Record a description of the waste stream.

B. WATER SAMPLING / ANALYSIS FOR MONITORING

1. **Thirty-Day Sample Procurement Limitation.** For any monitored medium, the samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible**.** Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters [temperature, electrical conductivity, turbidity] for that Monitoring Point or Background Monitoring Point. Ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the Spring and Fall ground water flow rate/direction analyses. Statistical or non-statistical analysis shall be carried out as soon as the data is available, in accordance with Part III of this program.

2. **Monitoring Points and Background Monitoring Points For Each Monitored Medium:** The Discharger shall sample Monitoring Points and Background Monitoring Points, in accordance with the sampling schedule given in Table 1.

3. **Quarterly Determination of Ground Water Flow Rate/Direction:** The Discharger shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part II.B.2. once per quarter, including the times of expected highest and lowest elevations of the water level for the respective ground water body. This information shall be included in the quarterly monitoring reports required under Part I.

4. **"Direct Monitoring" of All Constituents of Concern .** In the absence of a release being indicated **(1)** for a Monitoring Parameter, **(2)** based upon physical evidence, pursuant to Part I.E.2.c., or **(3)** by a study required by the Executive Officer based upon anomalies noted during visual inspection of graphically-depicted analytical data [Part I.E.3.a.], **then** the Discharger shall sample all Monitoring Points (specified in Table 1) and Background Monitoring Points for water-bearing media for all Constituents of Concern every fifth year, beginning with the year of the effective date of this Monitoring and Reporting Program, with successive direct monitoring efforts being carried out alternately in the Spring of one year (Reporting Period ends March 31] and the Fall of the fifth year thereafter [Reporting Period ends September 30].

5. **Initial Background Determination:** For the purpose of establishing an initial pool of background data for any new Constituent of Concern at each Background Monitoring Point in each monitored medium.

   a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Order, the Discharger shall collect at least one sample quarterly for at least one year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and

   b. Whenever a new Background Monitoring Point is added, including any added by this Order, the Discharger shall sample it at least quarterly for at least one year, analyzing for all Constituents of Concern and Monitoring Parameters.

6. **Monitoring Points and Background Monitoring Points For Each Monitored Medium:**
   The Discharger shall sample the Monitoring Points and Background Monitoring Points in accordance with the sampling schedule listed in Table 1.

C. LEACHATE COLLECTION AND REMOVAL SYSTEM MONITORING

1. The Discharger shall, on a weekly basis, inspect, monitor leachate levels, and determine rate of liner leakage, for the Class II impoundment's leachate collection and removal system (LCRS). All pumpable liquids shall be pumped from the LCRS, and the volume pumped shall be measured and recorded. The results of the weekly inspections shall be maintained by the Discharger and a summary reported in the quarterly report submittals.

2. Records of liquid levels and volumes of liquid removed from the LCRS shall be reviewed weekly and compared to the previous data.

3. If greater than five gallons of leachate is removed from a LCRS standpipe during a weekly inspection, the frequency of inspections shall be increased to once per day. If the amount of leachate removed from the primary system is greater than 30 gallons per day for two consecutive days, the surface impoundment will be emptied and removed from service. The sludge will be removed from the impoundment and the liner repaired. Prior to returning the surface impoundment to service, the liners will be tested to assure there is no leakage through the liners.

Part III: STATISTICAL ANALYSIS OF SAMPLE DATA DURING A DETECTION MONITORING PROGRAM

The Discharger has proposed and has received approval for the statistical method outlined in Section 7.0 of the Groundwater Monitoring Plan (revised June 1994) which will hereby be used to evaluate groundwater data for the Class II surface impoundment.

The approved statistical procedure meets the definition for an Alternate Statistical Method (ASM) pursuant to Title 27. The approved statistical method consist of an X-Bar Control Chart, a procedure to evaluate non-detects, a procedure to manage quality control data, and a list of proposed PQLs to be updated later by the Detection Limit Study. The proposed ASM outlined in the procedure to determine a Statistical Significant Increase and a Double Discrete Retest for confirmation statistics.

The Groundwater Monitoring Plan contains a list of Constituents of Concern, Monitoring Parameters, Points of Compliance, Monitoring Points, frequency for sampling and statistical analysis, and procedure to establish and update Concentration Limits pursuant to Title 27 in defining the Water Quality Protection Standards and complying with the Detection Monitoring Program Performance Standards.

The four RCRA Class I Surface Impoundments at the Facility were decontaminated and clean-closed consistent with the approved Closure Plan in 2004. The Department of Toxic Substances Control (DTSC) acknowledged clean closure of the Class I impoundments in a Technical Completeness Determination letter dated April 28, 2005. Groundwater monitoring for the Class I units has been terminated, and the Class I ponds are considered formally closed. Groundwater monitoring for the Class II unit will continue consistent with this Order.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing Monitoring and Reporting Program:

1. Will be developed in accordance with the procedure set forth in this Board's Resolution 73-16 in order to obtain data and documentation of compliance with waste discharge requirements established by this Board.

2. Is effective within 90 days upon adoption of this Order.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger upon which revisions may be ordered by the Executive Officer or the Board.

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BRUCE H. WOLFE
Executive Officer

September 13, 2006
Effective Date

TABLE 1

CLASS II SURFACE IMPOUNDMENT MONITORING SPECIFICATIONS

LIST OF MONITORING PARAMETERS, CONSTITUENTS OF CONCERN, AND WATER QUALITY PARAMETERS

Constituents of Concern	**Oily Water Collection Pond** well monitored: A-1 (ML-7)	**Background Well** well monitored: A-5 (ML-9)
Carbonate/ Bicarbonate	WQ	WQ
Calcium	WQ	WQ
Magnesium	WQ	WQ
Sulfate	WQ	WQ
TPH (8015/3550)	MP	WQ

LEGEND:
MP = Monitoring Parameter
WQ = Water Quality Parameter

Frequency of Monitoring

a. Monitoring Parameter - Quarterly sampling with statistical analysis
b. Water Quality Parameter – Quarterly sampling for one year, then annual sampling without statistical analysis

ATTACHMENT 1
RESPONSE TO LIQUID IN THE LEACHATE COLLECTION SYSTEM

After comparing the actual volume detected in the standpipe with the Response Chart (Attachment 2) the appropriate response, as described below will be performed.

EMERGENCY RESPONSE

The operating foreman, supervisor, or qualified individual, with the assistance of plant personnel, will evaluate the Oily Water Collection Pond Log, and the Operator's assessment of the situation. All notifications to the agencies will be done by plant personnel. Liquids in the leachate system will be sampled and analyzed to determine the source of the liquid.

RESPONSE LEVEL 1

A. If normal plant operations for the OWCP are in progress, continue the operation and discharge the liquids into the pond.
B. Follow the normal treatment procedures before emptying the leaking pond.
C. Inspect and repair the primary liner at next annual inspection. Prove a performance standard of no leakage through the repaired liners, before putting the surface impoundment into operation.

RESPONSE LEVEL 2

A. Notify the Board, consistent with the provisions of the WDR.
B. If normal plant operations for the OWCP are in progress, continue the operation and discharge the liquids into the pond.
C. Follow the normal treatment procedures before emptying the leaking pond.
D. Inspect and repair all liner systems at the next annual inspection. Prove a performance standard of no leakage through the repaired liners, before putting the surface impoundment into operation.

RESPONSE LEVEL 3

A. Notify immediately and provide in writing an evaluation of the potential for unauthorized discharge from the impoundment to the Board, consistent with the provisions of the WDR.
B. Discontinue all discharges to the pond. If possible, route all discharges to a non-leaking pond.
C. Transfer contents of leaking pond to a non-leaking pond (if possible).
D. Expedite normal treatment and discharge procedures.
E. Remove leaking pond from service.
F. Inspect and repair primary liner. Prove a performance standard of no leakage through the repaired liners, before putting the surface impoundment into operation.

ATTACHMENT 2
REVISED RESPONSE CHART

Mirant Delta, LLC
Pittsburg Power Plant

Oily Water Collection Pond
Class II Surface Impoundment

		Leachate Collected (gal/day)	
	If < 5 gallons/day Response Level 1	If > 5 gallons/day Response Level 2	If >30 gal/day—for two Consecutive Days Response Level 3
Response	Normal Operations; continue weekly inspections and leachate monitoring	Begin Daily Inspection of Leachate Collection Removal System; All Liquids shall be pumped and volumes recorded.	Remove Pond from Service. Repair liners and test to assure no leakage