

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-XXXX  
FOR  
SIERRA PACIFIC INDUSTRIES - MARTELL DIVISION FACILITY  
CLOSURE, AND POST CLOSURE OPERATION AND MAINTENANCE  
AMADOR COUNTY

This Monitoring and Reporting Program (MRP or Order) describes requirements for monitoring a wood waste landfill, an unlined leachate basin associated with the wood waste landfill, an ash disposal area, groundwater, surface water, leachate, and seeps in accordance with the requirements of Waste Discharge Requirements Order No. R5-2014-XXXX (WDRs or Order). This MRP is issued pursuant to Section 13267 of the California Water Code. Sierra Pacific Industries Inc. (Discharger) shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

The Discharger must comply with this MRP, the *Standard Provisions and Reporting Requirements* dated January 2003 (Standard Provisions), and Waste Discharge Requirements Order No. R5-2014-XXXX. The Discharger must fully disclose any monitoring, sampling, and analysis performed at this facility as required in the Standard Provisions, Section VIII. Failure to comply with this MRP constitutes noncompliance with the Water Code, which can result in the imposition of civil monetary liability.

### **A. MONITORING**

The Discharger must conduct all monitoring in accordance with a Sample Collection and Analysis Plan (SAP) acceptable to the Executive Officer, and must include quality assurance and quality control standards as outlined in this MRP, the WDRs, and the Standard Provisions.

All samples must be representative of the volume, nature, or matrix of material sampled. The time, date, and location of each sample must be recorded on the sample chain of custody form. If methods other than U.S. EPA-approved methods or *Standard Methods for the Examination of Water and Wastewater*, latest edition, are used, the exact methodology must be submitted for review and approval. All monitoring points must be sampled and analyzed for the monitoring parameters, which includes the field parameters, and the constituents of concern as indicated and listed herein. Unless otherwise approved by the Regional Water Board, any sampling and monitoring results must be reported. All relevant facts must be fully disclosed.

Monitoring parameters are a select group of constituents that are monitored during each monitoring event which includes the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a waste management unit. The monitoring parameters for all waste management units are those listed in Tables 1 through 6 for the specified monitored medium, and Table 7. The Constituent of Concern (COCs) include a larger group of waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit, and are required to be monitored every five years. All groundwater monitoring wells, leachate basin, leachate, seeps, piezometers, and

surface water monitoring points must be sampled and analyzed for the monitoring parameters and COCs as indicated in Tables 1 through 7.

Under the terms of a monitoring program established in 2007, the Discharger installed groundwater monitoring wells B-6R, B-7, B-8, B-9, B-10, B-11, B-12, B-13, B-14, B-15, B-16, and B-17 (Attachment B). In addition, in order to monitor the depth of groundwater within the waste at the closed ash disposal area, the Discharger has installed five piezometers PZ-A, PZ-B, PZ-C, PZ-D, and PZ-E. Groundwater monitoring wells B-1, B-2, B-3, and B-5 were installed prior to 2007. Monitoring must continue as required by this MRP until the Executive Officer issues a revised MRP.

## 1. Monitoring Points

The monitoring system for evaluation, detection, and corrective action for this facility must include the following monitoring points also shown on Attachment B:

### Monitoring Points

<u>Media</u>	<u>Location / Identification Number</u>
Groundwater	B-1, B-2, B-3, B-5, B6-R, B-8, B-9, B-10, B-11, B-12, B-13, B-14, B-15, B-16, B-17, LD-2A; and ash disposal area piezometers PZ-A, PZ-B, PZ-C; PZ-D, and PZ-E. Monitoring Well B-9 is the background well for the leachate basin.
Surface Water	Existing locations SW-1 (located adjacent to the open face of the wood waste landfill, see attachment B) and SW-2 (Location shown in Attachment B).
Leachate Basin	Leachate Basin; and
Leachate	Within the drainage course, just before the inlet to the leachate basin.

The Discharger must maintain its storm water monitoring program for industrial activities. The Discharger is regulated under Water Quality Order No. 97-03-DWQ and General Permit No. CAS000001 (General Permit) for Discharges of Storm Water Associated with Industrial Activities, and must submit monitoring data according to the General Permit.

## 2. Groundwater Monitoring

### General

The Discharger must operate and maintain a groundwater monitoring system that complies with this MRP, the Standard Provisions, the WDRs, and a SAP. The Discharger must collect, preserve, transport, and analyze groundwater samples in accordance with a SAP that has been reviewed by, and received concurrence of, the Regional Water Board. Prior to any changes in the monitoring program, the Discharger must submit an addendum to its SAP to the Regional Water Board staff for review and approval. The Discharger must have the changes and the overall monitoring system certified by a California-licensed professional civil engineer or geologist as meeting the requirements of Title 27.

### **Installation of Any New Wells**

Whenever any new wells (including groundwater, gas, soil vapor, piezometers, and similar) are proposed, the Discharger must submit a monitoring well installation work plan that must include the information required by the Regional Water Board. **60-days after installation**, the Discharger must submit a monitoring well installation report that includes the analytical results and well construction details. The monitoring well installation report must include the information required by the Regional Water Board. Whenever any new wells are installed, such wells must be incorporated into this MRP beginning with the quarter in which such wells are installed.

### **Groundwater Flow Rate and Directions**

Once per quarter, the Discharger must determine the groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored pursuant to this MRP. The Discharger states that groundwater monitoring well LD-2A is the only well at this site considered to be in an aquifer deeper than the uppermost aquifer; therefore, the groundwater flow rate and direction are not required for LD-2A.

### **Sampling and Analysis**

Groundwater sampling for field and monitoring parameters required under this MRP must be performed in January and July. In addition, Title 27 §20415(e)(15) requires that the groundwater elevation be measured quarterly.

Groundwater samples must be collected from the existing wells and any additional wells or piezometers that may be installed at the facility in the future. Any groundwater sample obtained for monitoring must have a **turbidity of less than 10 NTUs**.

Samples must be collected and analyzed for the Constituents of Concern in accordance with the methods and frequency specified in the tables of this MRP. Organic Constituents of Concern must be analyzed for "total" concentrations. Filtering of organic samples is prohibited.

Groundwater samples collected for metals analyses listed in Table 7 may be filtered, provided that samples are obtained under anoxic conditions, that the metals samples are obtained prior to samples for other constituents, are immediately preserved and stored, and that a >10 micron polycarbonate membrane-type filter with uniform and sharp size cutoff is used. The monitoring report must document that the above conditions were met for each sample, and that pre-washing or conditioning of filters was routinely performed.

In each monitoring report, the applicable inorganic Constituents of Concern must be evaluated with regards to the cation/anion balance, and the results must be graphically presented using a Stiff diagram. Groundwater samples must be analyzed for the Constituents of Concern specified in Tables 1 and 2, in accordance with the methods listed in Table 7.

**Table 1  
 Wood Waste Landfill Groundwater Monitoring Program**

**Wood Waste Landfill Groundwater Monitoring Wells  
 Wells B-1, B-2, B-3, B-6R, B-9, B-10, B-11, B-12, B-13, B-14, B-17, and LD-2A.**

<u>Field Parameters</u>	<u>Units</u>	<u>Frequency</u>
Groundwater Elevation	ft. & hundredths, MSL	Quarterly
Temperature	°C	Semi-annual (January and July)
Electrical Conductivity	µmhos/cm	Semi-annual (January and July)
pH	pH units	Semi-annual (January and July)
Turbidity	NTU	Semi-annual (January and July)
<u>Monitoring Parameters</u>	<u>Units</u>	<u>Frequency</u>
Total Dissolved Solids	mg/L	Semi-annual (January and July)
General Minerals	mg/L	Semi-annual (January and July)
Dissolved Metals	mg/L	Semi-annual (January and July)
Tannins & Lignins	mg/L	Semi-annual (January and July)

**Table 2  
 Ash Disposal Area Groundwater Monitoring Program**

**Ash Disposal Area Groundwater Monitoring Wells and Piezometers  
 B-5, B-8, B-9, B-14, B-15, B-16, and piezometers PZ-A, PZ-B, PZ-C, PZ-D, and PZ-E.**

<u>Field Parameters</u>	<u>Units</u>	<u>Frequency</u>
<b>Wells B-5, B-8, B-9, B-14, B-15, and B-16, and Piezometers PZ-A through PZ-E</b>		
Groundwater Elevation	ft. & hundredths, MSL	Quarterly
<b>Wells B-5, B-8, B-9, B-14, B-15, and B-16</b>		
Temperature	°C	Semi-annual (January and July)
Electrical Conductivity	µmhos/cm	Semi-annual (January and July)
pH	pH units	Semi-annual (January and July)
Turbidity	NTU	Semi-annual (January and July)
<u>Monitoring Parameters</u>	<u>Units</u>	<u>Frequency</u>
<b>Wells B-5, B-8, B-14, B-15, and B-16</b>		
Total Dissolved Solids	mg/L	Semi-annual (January and July)
General Minerals	mg/L	Semi-annual (January and July)
Dissolved Metals	mg/L	Semi-annual (January and July)
Dioxins and Furans <sup>(1)</sup>	pg/L	Semi-annual (January and July)
Polynuclear Aromatic Hydrocarbons <sup>(1)</sup>	ug/L	Semi-annual (January and July)
<u>5-Year Constituents of Concern</u>		
<b>Wells B-5, B-8 B-14, B-15, and B-16</b>		
Polynuclear Aromatic Hydrocarbons <sup>(1)</sup>	ug/L	5 years (beginning with the January 2020 sampling event, and every 5 years thereafter)
Dioxins and Furans <sup>(1)</sup>	pg/L	5 years (beginning with the January 2020 sampling event, and every 5 years thereafter)

**Notes**

<sup>(1)</sup> Polynuclear Aromatic Hydrocarbons, using EPA Method 8270 Selected Ion Method with low detection limits, and Dioxins and Furans, using EPA Method 1613B total concentrations, shall be sampled and analyzed semi-annually through the end 2015 as long as the detections are sporadic and no concentrations are above the reporting limit. Thereafter, and beginning with the January 2020 sampling event, polynuclear aromatic hydrocarbons (EPA Method 8270, Selected Ion Method) and dioxins and furans (EPA Method 1613B) shall be sampled and analyzed every 5 years during the January sampling event.

### 3. Wood Waste Landfill Leachate Monitoring

Title 27 defines leachate as any liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. It includes any constituents extracted from the waste and dissolved or suspended in the fluid. At this site, leachate is formed when rainwater contacts the open face of the wood waste landfill. This leachate may contain soluble constituents extracted from the wood waste, including concentrations of iron, manganese, calcium, total dissolved solids, and tannins and lignins. The leachate generated at the wood waste landfill traverses down an unlined surface water drainage course and into an unlined leachate collection basin. The Discharger must sample this leachate just before the inlet into the leachate collection basin.

Leachate samples must be obtained during the wet season, which is defined as 1 October—30 April. Samples must be obtained during the first storm event, and monthly thereafter, provided storm events occur that produce discharge into the drainage course with sufficient volume to obtain a sample.

Samples must be collected, analyzed, and reported for the Constituents of Concern for all monitoring points assigned to the wood waste landfill leachate monitoring program in accordance with the frequency specified in Table 3 and the analytical methods listed in Table 7. If insufficient rainfall prevents a sample from being collected within a month, then the monitoring report shall include this information.

**Table 3**

#### **Wood Waste Landfill Leachate and Leachate Basin Monitoring Program**

##### **Wood Waste Landfill Leachate Sampling Location**

The sample location must be within the drainage course, just before the inlet into the leachate collection basin.

##### **Field Parameters**

Temperature

Specific Conductance

pH

TDS

Rainfall<sup>(1)</sup>

##### **Units**

°C

µmhos/cm

pH units

mg/L

inches

##### **Monitoring Frequency**

Once during the first storm event of the season, and monthly during the wet season provided surface flow occurs in the drainage course during regular business hours.

Daily, October through April

##### **Monitoring Parameters**

Total Dissolved Solids

Chemical Oxygen Demand

Dissolved metals

General minerals

Tannins and Lignins

mg/L

mg/L

mg/L

mg/L

mg/L

##### **Monitoring Frequency**

Once during the first storm event and once during any other storm event of the season during regular business hours and provided the event produces discharge into the drainage course.

##### Notes

<sup>(1)</sup> Rainfall shall be monitored and documented daily using an on-site rain gauge; the Sutter Hill Ranger Station can be used as a secondary rain gauge if necessary.

#### 4. Surface Water Monitoring

All surface water monitoring parameters must be analyzed for total concentrations, including organic and inorganic constituents. The Discharger must sample and analyze surface water at monitoring locations SW-1 and SW-2. Each surface water location must be sampled for two events **during the first hour of discharge during regular business hours** from:

- (1) The first storm event of the wet season, and
- (2) At least one other storm event in the wet season.

If no rain event occurred during a monitoring period, this must be so stated in the monitoring report.

Samples must be collected, analyzed, and reported for the field and monitoring parameters for all monitoring points assigned to surface water monitoring, in accordance with the methods and frequency specified in Table 4.

<b>Table 4</b>		
<b>Surface Water Monitoring Program</b>		
<b><u>Surface Water Sampling Locations</u></b>		
<b>Samples to be obtained at locations SW-1 and SW-2</b>		
<b><u>Field Parameters</u></b>	<b><u>Units</u></b>	<b><u>Monitoring Frequency</u></b>
Temperature	°C	Sample during the first hour of discharge during regular business hours from (1) the first storm event of the season and (2) from at least one other storm event of the season.
Specific Conductance	µmhos/cm	
pH	pH units	
ORP	mv	
<b><u>Monitoring Parameters</u></b>		<b><u>Monitoring Frequency</u></b>
Total Dissolved Solids	mg/L	Sample during the first hour of discharge during regular business hours from (1) the first storm event of the season and (2) from at least one other storm event of the season.
Total Suspended Solids	mg/L	
Chemical Oxygen Demand	mg/L	
Total iron and manganese	mg/L	
General minerals	mg/L	
Tannins and Lignins	mg/L	

#### 5. Leachate Basin Liquids and Seep Monitoring

##### **Leachate Basin Liquids**

The leachate basin freeboard must be recorded weekly during the wet season (1 October—30 April) and monthly during the dry season (1 May—30 September). Whenever the leachate basin is dry, this must be reported in lieu of the freeboard.

Samples shall be collected from the leachate basin, for the parameters indicated in Table 5. Analytical methods must be those listed in Table 7.

**Seeps**

Any leachate which seeps to the surface from the wood waste landfill, the unlined leachate basin, or the ash disposal area must be immediately sampled and analyzed for the Constituents of Concern, including the Field Parameters and Monitoring Parameters upon detection of any seep. Analytical methods must be those listed in Table 7. The quantity of leachate from any seep must be estimated and reported as Leachate Flow Rate (in gallons/day). After the initial sampling upon detection, any seep must be sampled and monitored at the frequencies listed in Table 6.

**Table 5  
 Leachate Basin Liquids Monitoring Program**

<b><u>Field Parameters</u></b>	<b><u>Units</u></b>	<b><u>Frequency</u></b>
Freeboard, pond	feet & inches	Wet Season: Weekly Dry Season: Monthly
Specific Conductance	µmhos/cm	Monthly whenever liquids are present
TDS	mg/L	Monthly whenever liquids are present
pH	pH units	Monthly whenever liquids are present
ORP	mv	Monthly whenever liquids are present
<b><u>Monitoring Parameters</u></b>	<b><u>Units</u></b>	<b><u>Frequency</u></b>
Total Dissolved Solids	mg/L	Semiannually (January and July)
General Minerals	mg/L	Semiannually (January and July)
Dissolved metals	mg/L	Semiannually (January and July)
Tannins & Lignins	mg/L	Semiannually (January and July)

**Table 6  
 Seep Monitoring Program**

<b><u>Field Parameters</u></b>	<b><u>Units</u></b>	<b><u>Frequency</u></b>
Leachate Flow rate, seep	gallons/day	On detection, then <u>weekly</u> thereafter
Temperature	°C	On detection, then monthly thereafter
Electrical Conductivity	µmhos/cm	On detection, then monthly thereafter
pH	pH units	On detection, then monthly thereafter
<b><u>Monitoring Parameters</u></b>	<b><u>Units</u></b>	<b><u>Frequency</u></b>
Total Dissolved Solids	mg/L	On detection, then quarterly thereafter
General Minerals	mg/L	On detection, then quarterly thereafter
Dissolved metals	mg/L	On detection, then quarterly thereafter
Tannins & Lignins	mg/L	On detection, then quarterly thereafter

## 6. Facility Monitoring

### a. Facility Inspection

Except as indicated in the schedule provided below for the ash disposal area cover (6.c), the discharger shall conduct an inspection of the facility annually, prior to the anticipated rainy season, but no later than **30 September**. The inspection must assess the condition of the groundwater monitoring equipment (including wells, etc.), any damage to the drainage control system, and condition of the interim cover and side slopes of the WWLF. The inspection must include the Standard Observations as defined in Section XII(s) of the Standard Provisions. Any necessary construction, maintenance, or repairs must be completed by **31 October**. By **15 November** of each year, the Discharger must submit an annual report describing the results of the inspection and repair measures implemented, including photographs of any problems encountered and the repairs made.

### b. Storm Events

The Discharger must inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events in which precipitation exceeds 2 inches within a 24 hour period*. Drainage systems should be maintained clear of all debris and sediment. Necessary repairs must be completed **within 30 days** of the inspection. The Discharger must report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

### c. Ash Disposal Area Cover Inspection

The ash disposal area cover shall be inspected monthly during the years of 2013-2014, quarterly for the years of 2015-2017, and then semi-annually.

### d. Survey and Iso-Settlement Map for the Closed Ash Disposal Area

The Discharger shall conduct a survey and submit an iso-settlement map for the closed ash disposal area every five years pursuant to Title 27, section 21090(e). The initial report was due upon closure of the ash disposal area. The next report is due by **31 January 2017**.

## B. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

### 1. Water Quality Protection Standard Report

For each waste management unit (Wood Waste Landfill, Leachate Basin, and the Ash Disposal Area), the Water Quality Protection Standard shall consist of all COCs, the concentration limit for each constituent of concern, the verification retesting procedure to confirm measurably significant evidence of a release, the point of compliance, and all water quality monitoring points for each monitored medium.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the COCs, the concentration limits, and the point of compliance and all monitoring points.

Any proposed changes to the Water Quality Protection Standard other than annual update of the concentration limits shall be submitted in a report for review and approval.

The Water Quality Protection Standard report shall:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a waste management unit or portion of a unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program, groundwater monitoring program, and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with Title 27, section 20405.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).
- d. Include a proposed statistical method for calculating concentration limits for monitoring parameters and constituents of concern that are detected in 10% or greater of the background data (naturally-occurring constituents) using a statistical procedure from Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E).
- e. Include a retesting procedure to confirm or deny measurably significant evidence of a release pursuant to Title 27, section 20415(e)(8)(E) and section 20420(j)(1-3).

The Water Quality Protection Standard report shall be certified by a California-registered civil engineer or geologist as meeting the requirements of Title 27. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

The Water Quality Protection Standard shall be updated annually for each monitoring well using new and historical monitoring data.

## **2. Monitoring Parameters**

Monitoring parameters are a select group of constituents that are monitored during each monitoring event that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a waste management unit. The monitoring parameters for all waste management units are those constituents listed in Tables 1 through 6 for the specified monitored medium.

### 3. **Constituents of Concern (COCs)**

The COCs include a larger group of waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit, and are required to be monitored every five years. The COCs for all waste management units at the facility are those listed in Table 7. The Discharger shall monitor all COCs every five years, or more frequently as required in accordance with any Corrective Action Program. The five year monitoring can coincide with monitoring parameter sampling to avoid duplicative sampling for the same constituent.

### 4. **Concentration Limits**

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or
- b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

The Concentration limit for this site is based on semi-annual groundwater sampling of monitoring well B-9, conducted from January 2008 to July 2012 using the following equation:

$$\text{Upper Tolerance Limit} = \bar{X} + KS$$

This equation is based on a normal distribution of the groundwater data and is calculated using the mean ( $\bar{X}$ ) and standard deviation (S) of the population and the one-sided normal tolerance factor (K) with a probability level of 95% that 95% of the observations should fall below the calculated tolerance limit. The limits established are the following: TDS concentration of 696 mg/L, Iron concentration of 0.663 mg/L, Manganese concentration of 0.050 mg/L, and Tannins and Lignins concentration 0.694 mg/L. These concentration limits will apply to corrective action and detection monitoring evaluation.

### 5. **Sentry Well Limits**

Intrawell limits shall be established for monitoring wells B-12, B-13, LD-2A and B-6R (see WDR Finding 50) to determine during corrective action that groundwater degradation defined in monitoring well B-14 and B-2 (see WDR Finding 43 and 44) is not moving further downgradient. The data set to be used is samples collected from years 2008 through January 2013. The statistical formula in B.4 shall be used, and seasonal/spatial variability and outliers evaluations shall be completed per Title 27 Section 20415(e)(9)(F & G).

## **6. Monitoring Points**

All monitoring wells established for the monitoring program must constitute the monitoring points for the groundwater Water Quality Protection Standard.

## **7. Point of Compliance**

The point of compliance for the water quality protection standard at each Unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

## **8. Compliance Period**

The compliance period for the wood waste landfill, unlined leachate basin, and ash disposal area must be the number of years equal to the active life of the wood waste landfill and ash disposal area plus the closure period. The compliance period is the minimum period during which the Discharger must conduct a water quality monitoring program subsequent to a release from any Unit. The compliance period must begin anew each time the Discharger initiates an evaluation monitoring program. For this site, the compliance period is 53 years.

## **9. Background Monitoring Point**

For the facility, the background monitoring point is groundwater monitoring well B-9.

# **C. REPORTING REQUIREMENTS**

## **1. Record Maintenance**

The Discharger must retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records must be maintained throughout the life of the facility including the postclosure period. Such legible records must show the following for each sample:

- a. Sample identification number, the monitoring point or background monitoring point from which it was taken, and the identity of the individual who obtained the sample;
- b. Date, time, and manner of sampling;
- c. Date and time that analyses were started and completed, and the name of the responsible personnel and laboratory performing each analysis;
- d. Complete procedure used, any deviations from the procedure, and the method of preserving the sample;
- e. Calculation of results; and

- f. Results of analyses, and the method detection limit (MDL), practical quantitation limit (PQL), and trace quantities for each analysis.

## 2. Transmittal Letter and Certification

A transmittal letter explaining the essential points must accompany each report. The transmittal letter must include the WDR's Order number, and the date of the Standard Provisions. In addition, the transmittal letter must identify and discuss any violations found since the last report was submitted, and if the violations were corrected. The Discharger must reference any previously submitted time schedules for any corrective action, other enforcements, or evaluation monitoring. If no violations have occurred since the last submittal, this must be clearly stated in the transmittal letter. The transmittal letter must contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions, General Reporting Requirements. All reports and transmittal letters must be signed by persons identified below:

- a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
- b. For a partnership or sole proprietorship: by a general partner or the proprietor.
- c. A duly authorized representative of a person designated in a or b above if the authorization is made in writing by a person described in a or b of this provision; the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and the written authorization is submitted to the Board.

## 3. Report Prepared Under Supervision of Registered Geologist or Civil Engineer

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments must be performed by, or under the direction of, registered professionals competent and proficient in the fields pertinent to the required activities. All monitoring reports, sampling and analysis plans, and any other reports or plans must be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each monitoring report, other report, or plan submitted by the Discharger must contain the professional's signature and stamp of the seal.

## 4. Report of Seeps

The Discharger must report by telephone any seepage from any Unit **immediately** after it is discovered. A written report must be filed with the Regional Water Board **within seven days**, containing at least the following information:

- a. A map showing the location(s) of seepage;
- b. An estimate of the flow rate;
- c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);

- d. Verification that samples have been submitted for analyses of the Constituents of Concern listed in Table 7 of this MRP, and an estimated date that the results will be submitted to the Regional Water Board; and
- e. Corrective measures underway or proposed, and corresponding time schedule.

## 5. Reporting Schedule

The Discharger must submit reports with the data and information required in this MRP, the WDRs Order No. R5-2014-XXXX, and the January 2003 Standard Provisions and Reporting Requirements.

Storm water monitoring will be reported annually in accordance with the General Industrial Storm Water Permit. All reports will be sent to the Central Valley Regional Water Board, with copies to the local enforcement agency and CalRecycle.

### Monitoring Reports

Any reports for monitoring, sampling, and analysis required under this MRP must be submitted by the Date Due as shown on the table, below:

#### Monitoring Reports

<u>Report Type</u>	<u>Sampling Frequency</u>	<u>Reporting Period</u>	<u>Date Due</u>
Semiannual	Weekly, monthly, quarterly, semiannual, annual, and 5-year COC	1 January – 30 June 1 July – 31 December	<b>31 July</b> <b>31 January</b>

#### Other Reports

<u>Report Type</u>	<u>Date Due</u>
Annual Monitoring Summary Report	<b>31 January</b> of each year
Facility Monitoring Report	<b>15 November</b> of each year
Response to a Release	<b>As necessary</b>

## 6. Semiannual Monitoring Reports

Semiannual monitoring reports must include the following information:

- a. Surface water monitoring results must be reported in the semiannual reports. If no surface water was present during the monitoring period, then this must be stated in the report.
- b. The Discharger must determine and report the groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored pursuant to this MRP. Results must be reported semiannually, including the times of highest and lowest elevations of the water levels in the wells. Groundwater flow rate and direction of flow are not required for LD-2A, located in a deeper aquifer as stated by the Discharger.
- c. In reporting the monitoring data, the Discharger must arrange the laboratory-reported data in tables so that the date, the constituents, the concentrations,

units, qualifiers, and compliance or lack thereof is readily discernible. Showing readily discernible compliance or lack thereof must include shading a cell with gray fill or using bold, italics, and underlined font. The data must be summarized in such a manner so as to illustrate clearly the compliance with the WDRs or lack thereof. All historical and current groundwater, leachate, seep, and surface water analytical results must be tabulated and submitted.

- d. Field and laboratory tests must be reported in each monitoring report. Weekly, monthly, quarterly, semiannual, and annual monitoring reports must be submitted in accordance with the schedule, above, for the monitoring period in which samples were taken or observations made.
- e. A discussion of the monitoring results, including notations of any water quality violations must precede any tabular summaries. Increasing and/or decreasing concentration trends must be identified.
- f. For the wood waste landfill, each monitoring report must have a tabulated summary of the monthly total quantity of wood waste hauled off site during the reporting period, the annual quantity of wood waste hauled off-site for each year beginning with 1997, and the total cumulative quantity since the start of this Discharger's clean closure in 1997.
- g. The Discharger must include a site map showing the facility features, existing and historical monitoring wells, direction of groundwater flow, and stormwater and surface water monitoring locations.
- h. The Discharger must include hard copies of all analytical reports as signed by the laboratory's responsible personnel. Alternatively, the discharger may submit a CD with the analytical reports, provided that a summary table is provided that shows the sample location number with each analyte cross-referenced to its laboratory report number, and page number(s) in the laboratory report.
- i. The Discharger must include the monitoring well data sheets, including the date and time, sampling mechanism or type of pump, purging and sampling method, and water disposal method.
- j. The Discharger must provide a 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, and any other observations).
- k. Each monitoring report must include a compliance evaluation summary. The summary must contain at minimum:
  - 1) Laboratory statements of results of all analyses evaluating compliance with requirements.
  - 2) A technical evaluation of the effectiveness of the leachate monitoring and control facilities.
  - 3) A technical evaluation of the effectiveness of the run-off/run-on control facilities.
  - 4) The quantity and types of wastes discharged into the wood waste landfill, and the locations in the wood waste landfill where waste has been placed since submittal of the last such report.

- 5) A **summary and certification of completion** of all **Standard Observations** for the wood waste landfill and ash disposal area, for the perimeter of the wood waste landfill and ash disposal area, and for the receiving waters. Standard observations must be conducted **weekly** during the wet season (1 October to 30 April) and **monthly** during the dry season (1 May to 30 September). The Standard Observations must include:

For the wood waste landfill, ash disposal area, and associated perimeters:

- a) Evidence of ponded water at any point on the facility (show affected area on map);
  - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source;
  - c) Evidence of erosion and/or of day-lighted refuse; and
  - d) Evidence of seeps and/or liquid leaving or entering the wood waste landfill and ash disposal area, estimated size of affected area, estimated flow rate, and color of liquids (show affected area on map).
- 6) For each monitoring point and background monitoring point addressed by the report, a description of:
- a) The time of water level measurement;
  - b) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
  - c) 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; and the method of disposing of the purge water) to remove of the water that was in the well bore while the sample was being taken;
  - d) The type of pump - or other device - used for sampling, if different than the pump or device used for purging;
  - e) A statement that the sampling procedure was conducted in accordance with the approved SAP;
  - f) A discussion of upward trends in any constituent concentration; and
  - g) A discussion of violations
- I. For polynuclear aromatic hydrocarbons, the Discharger must conclude that a release is tentatively indicated if the data for any Monitoring Point contains either:
- a) Two or more qualifying constituents that equal or exceed their respective MDLs, or
  - b) One qualifying constituent which exceeds its PQL

For dioxins & furans: the Discharger must conclude that a release is tentatively indicated if two or more dioxin or furan constituents are present above their respective minimum levels as described in EPA Method 1613B.

For tannins and lignins: the Discharger shall develop concentration limits (intra-well comparisons) at the points of compliance monitoring wells for the Wood Waste Landfill (B-2, B-3, B-11, and B-14). The Discharger must conclude that a release is tentatively indicated if the tannin and lignin data for any Point of Compliance Monitoring Point exceeds the concentration limit for that Monitoring Point.

Based on the above, if the Discharger determines that there is measurably significant evidence of a release from the wood waste landfill, leachate basin, or ash disposal area at any monitoring point, the Discharger must **immediately** implement the requirements of the **Standard Provisions’ Response to a Release**.

## 7. Annual Monitoring Report

The Discharger must submit an **Annual Monitoring Summary Report** to the Regional Water Board staff covering the reporting period described in the table, above. This report must contain:

- a. All Constituents of Concern must be graphed so as to show the concentrations and historical trends at each monitoring point and background monitoring point for all historical samples. Each such graph must plot the concentration of one constituent for the period of record for monitoring points or background monitoring point, at a scale appropriate to show trends or variations in water quality. Each concentration line for a specific well must be readily discernable from that of any other well's concentration line. The graphs must plot each laboratory-reported datum, and must **not** plot mean values. For any given constituent or parameter, the scale for background plots must be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
- b. All historical monitoring data, including all data for the previous year, must be submitted in tabular format and in a digital file format (e.g., an electronic file with an Excel spreadsheet) acceptable to the Regional Water Board. The Regional Water Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [Title 27 CCR Section 20420(h)], in that this facilitates periodic review by the Regional Water Board. The electronic Excel spreadsheet must include the location identifier (e.g., well number or other monitoring point), analytical results, units, MDLs, PQLs, trace concentrations, analyte, CAS number, analytical method number, sample date, and laboratory. The acceptable format is shown below:

Sample Location ID	Date Sampled	Analyte	Result	PQL	MDL	Qualifier	Units
Location ID #1	mm/dd/yy	Analyte 1	0.004	0.005	0.0025	J	mg/L
Location ID #1	mm/dd/yy	Analyte 2	ND	0.005	0.0025		mg/L
Location ID #1	mm/dd/yy	Analyte 3	40	25	12		ug/L
Location ID #2	mm/dd/yy	Analyte 1	0.6	0.005	0.0025		mg/L

Sample Location ID	Date Sampled	Analyte	Result	PQL	MDL	Qualifier	Units
Location ID #2	mm/dd/yy	Analyte 2	10	0.005	0.0025		mg/L
Location ID #3	mm/dd/yy	Analyte 1	0.6	0.005	0.0025		mg/L
Location ID #3	mm/dd/yy	Analyte 3	26	25	12		ug/L

- c. A comprehensive evaluation and determination of the Discharger's 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 WDRs.
- d. The groundwater flow rate and direction, including the dates of highest and lowest elevations of the water levels in the wells.
- e. Hydrographs of each well must be submitted annually showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well must show the cumulative quarterly data.
- f. The applicable Constituents of Concern must be evaluated with regards to the cation/anion balance, and the results must be graphically presented annually using a Stiff diagram. Plots of each well must be prepared semiannually and submitted annually.
- g. Tabulated data showing the annual historical volume of material extracted and excavated out of any waste management unit (i.e., the wood waste landfill, ash disposal area, and Leachate Basin) and transported off-site.
- h. Tabulated data for the current calendar year showing the monthly and cumulative total quantity of any extracted material that has been transported off-site.
- i. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.
- j. A discussion and evaluation of any statistically increasing/decreasing trends in constituent concentrations at any monitoring well must be provided.
- k. Annually beginning with the report due **31 January 2014**, the Discharger must list in tabular format all groundwater monitoring wells (both historical and existing), depth of boring, the horizontal survey coordinate, the vertical survey coordinate, the surveying reference datum (e.g., NAD 83, NVD 88, etc), the date installed, and the date decommissioned.
- l. The Discharger must include all information required to be reported by the Standard Provisions, this MRP, and the Waste Discharge Requirements.
- m. By **3 March 2014**, a topographic map, which includes the **current remaining volume of waste expressed in cubic yards**, must be submitted. Thereafter, a revised topographic, which includes the current remaining volume of waste

expressed in cubic yards, must be included every three years in the annual report starting with 2016 annual report (i.e. 2016, 2019, 2022, etc.).

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
(Date)

**TABLE 7 CONSTITUENTS OF CONCERN AND ANALYTICAL METHODS\***

**Field Parameter**

Specific conductance  
 pH  
 Turbidity  
 ORP/Dissolved oxygen  
 TDS

**Method**

Calibrated field instrument  
 Calibrated field instrument  
 Calibrated field instrument  
 Calibrated field instrument  
 Calibrated field instrument with conversion factor approved by  
 Regional Water Board

**Monitoring Parameter**

**Metals, Dissolved\*\***

Iron  
 Manganese  
 Arsenic

**Method**

EPA 6020  
 EPA 6020  
 EPA 7061

**General chemistry**

Specific conductance  
 Tannins & Lignins  
 Chemical Oxygen Demand  
 Total Dissolved Solids

EPA 120.1  
 SM 5550B  
 EPA 410.4  
 SM2540C

**General minerals**

Chloride, total  
 Sulfate, total  
 Carbonate, total  
 Bicarbonate, total  
 Calcium\*\*EPA 6020\*\*  
 Magnesium\*\*  
 Sodium\*\* EPA 6020\*\*  
 Potassium\*\*

EPA 300  
 EPA 300  
 2320B  
 2320B  
 EPA 6020\*\*  
 EPA 6020\*\*  
 EPA 6020\*\*

**Polynuclear Aromatic Hydrocarbons, Selective Ion Monitoring (SIM) USEPA Method 8270C**

Naphthalene  
 Pyrene  
 Acenaphthene  
 Acenaphthylene  
 Fluorene  
 Phenanthrene  
 Anthracene  
 Fluoranthene  
 Benzo(a)anthracene  
 Chrysene  
 Benzo(b)fluoranthene  
 Benzo(k)fluoranthene  
 Benzo(a)pyrene  
 Indeno(1,2,3-c,d)pyrene  
 Dibenzo(a,h)anthracene  
 Benzo(g,h,i)perylene

**Tetra- through Octa-Chlorinated Dibenzodioxins and Dibenzofurans (dioxins/furans), USEPA Method**

## TABLE 7 CONSTITUENTS OF CONCERN AND ANALYTICAL METHODS\*

### 1613B, Total Concentrations

2,3,7,8-TCDD  
Total TCDD  
2,3,7,8-TCDF  
Total-TCDF  
1,2,3,7,8-PeCDD  
Total-PeCDD  
1,2,3,7,8-PeCDF  
2,3,4,7,8-PeCDF  
Total-PeCDF  
1,2,3,4,7,8-HxCDD  
1,2,3,6,7,8-HxCDD  
1,2,3,7,8,9-HxCDD  
Total-HxCDD  
1,2,3,4,7,8-HxCDF  
1,2,3,6,7,8-HxCDF  
1,2,3,7,8,9-HxCDF  
2,3,4,6,7,8-HxCDF  
Total-HxCDF  
1,2,3,4,6,7,8-HpCDD  
Total-HpCDD  
1,2,3,4,6,7,8-HpCDF  
1,2,3,4,7,8,9-HpCDF  
Total-HpCDF  
OCDD  
OCDF

#### Acronyms:

TCDD = Tetrachlorodibenzo-*p*-dioxin;  
TCDF = Tetrachlorodibenzofuran;  
PeCDD = Pentachlorodibenzo-*p*-dioxin;  
PeCDF = Pentachlorodibenzofuran;  
HxCDD = Hexachlorodibenzo-*p*-dioxin;  
HxCDF = Hexachlorodibenzofuran;  
HpCDD = Heptachlorodibenzo-*p*-dioxin;  
HpCDF = Heptachlorodibenzofuran;  
OCDD = Octachlorodibenzo-*p*-dioxin  
OCDF = Octachlorodibenzofuran

- \* Constituents of Concern must be prepared and analyzed for "total" concentrations unless otherwise approved by the Regional Water Board.
- \*\* Dissolved metals are to be obtained with a >10 micron filter as required under this Monitoring and Reporting Program. Calcium, magnesium, sodium, and potassium may be field-filtered with a >10 micron filter as required under this Monitoring and Reporting Program.