

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 5, 2008

Prepared on November 7, 2008

ITEM NUMBER: 29

SUBJECT: Paso Robles Class III Landfill, San Luis Obispo County—Revised
Waste Discharge Requirements Order No. R3-2008-0050

KEY INFORMATION

Location: Nine miles east of the City of Paso Robles adjacent to, and north of Highway 46
Owner/Operator: The City of Paso Robles (City) owns the Landfill. Pacific Waste Services, Inc. (PWS) operates the landfill under contract with the City.
Type of Waste: Non-hazardous municipal solid wastes
Design Capacity: 6.5 million cubic yards of waste
Remaining Capacity: 5.3 million cubic yards (based on 75,000 tons per year of waste disposed); estimated closure date of 2051
Disposal: Land, based on fill module method
Existing Orders: Waste Discharge Requirements, Order No. 01-112; Landfill Super Order 93-84
This Action: **Adopt proposed Waste Discharge Requirements Order No. R3-2008-0050**

SUMMARY

The proposed Waste Discharge Requirements Order No. R3-2008-0050 ("Order" or "Order No. R3-2008-0050") for the Paso Robles Class III Landfill (Attachment 1) specify landfill design and operation modifications to protect water quality for the existing Landfill. The revisions proposed in Order No. R3-2008-0050 and Monitoring and Reporting Program (MRP) No. R3-2008-0050 (Attachment 2) update the groundwater monitoring network and regulatory and operational status of the Paso Robles Class III Landfill (Landfill). The proposed Order includes:

1. Provisions that require the Discharger to address groundwater monitoring data gaps.
2. Compliance review of the 80-acre landfill facility.
3. Description of Landfill operations including changes to the construction of waste management units.
4. Updated environmental monitoring information.
5. Specifications for disposal of treated wood waste.

The proposed Order benefits and protects groundwater and surface water through required engineering controls, corrective action, and monitoring. For instance, the proposed Order includes a provision for the Discharger to replace downgradient detection monitoring wells that are dry as a result of declining water levels. Detection monitoring is an important control mechanism to ensure that landfill containment systems (e.g., bottom liners, leachate collection and removal systems, and landfill gas recovery systems) are operating as designed to eliminate waste constituent migration to waters of the state.

DISCUSSION

The proposed Order updates and replaces Waste Discharge Requirements Order No. 01-112, adopted by the Water Board in October 2001. The proposed Order covers the current landfill operations and provides requirements for planned changes at the Landfill. For the lined portion of the facility, design and construction specifications within the proposed Order meet or exceed requirements in both the California Code of Regulations (CCR) Title 27, and 40 Code of Federal Regulations, Parts 257 and 258, both of which pertain to design of solid waste management facilities.

Since 2001, the Landfill has undergone a number of operational changes and environmental control improvements that include, in part, the following:

- Enhancement of the landfill gas recovery system via installation of new landfill gas recovery wells;
- Installation of new groundwater monitoring well and two new vapor monitoring probes;
- Improved stormwater monitoring program;
- Improved stormwater runoff to reduce the generation of leachate;
- Additional hydrogeologic investigations to define the location of perched groundwater beneath the Landfill; and
- Development of a household hazardous waste collection facility.

Facility Description: The Landfill is located approximately 32 miles inland from the Pacific Ocean, and within the southern Salinas River Valley (Figure 1 of Order No. R3-2008-0050). The Discharger opened the Landfill to the general public in 1970. The area served by the Landfill to includes all of San Luis Obispo County, and portions of Santa Barbara County.

The Landfill's property encompasses about 80 acres. The total area for existing or future waste disposal covers approximately 65 acres (80 acres less a 50-foot setback from the Landfill's boundary plus acreage needed for other improvements such as roads, buildings, basins, etc.).

The Landfill currently accepts approximately 160 tons per day of waste and the Landfill is expected to reach its full capacity by the year 2051.

From 1970 to 1993, the City utilized the trench and the area-fill method of landfilling for disposal operations. In 1993, the Discharger began constructing and landfilling in 40 CFR-compliant, composite lined cells, starting with Module 1.

Land surrounding the Landfill is zoned for agriculture (vineyards, row crops, and grazing) and open space. Two wineries are located to the south, across Highway 46 from the Landfill, and an airport is located approximately five miles west of the Landfill. There are 13 water supply wells (primarily for agricultural and industrial use) and eight Landfill-related groundwater monitoring wells located within a mile of the Landfill.

A 100-year Floodplain Map shows the Landfill is not within a 100-year floodplain. The Landfill is located about 2,000-feet west-southwest of the intermittent flowing Estrella River (Figure 2 of the draft Order).

Geology and Hydrogeology: The Landfill is located within the Upper Salinas River Basin in an elevated area typified by small plains and rolling hills. The natural ground surface at the Landfill ranges in elevation from 990 to 1,120-feet above mean sea level.

The geology beneath the Landfill area is characterized by fine- to coarse-grained non-marine Paso Robles Formation overlying fine-grained sediments of the Pancho Rico Formation of marine origin. The Paso Robles Formation was deposited in alluvial fan, flood plain, and lake depositional environments and consists of relatively thin sand and gravel layers interbedded with thicker layers of silt and clay. In the vicinity of the Landfill, the Paso Robles Formation is approximately 1,400-feet thick. Quarternary-age alluvium deposits consisting of unconsolidated gravel, sand and silt from 0 to 30 feet thick in thickness, locally overly the Paso Robles Formation. Boring logs for onsite wells describe the lithology beneath the site as consisting of unconsolidated clayey sand to gravelly sand, sandy clay, and clay to a depth of 355 feet below ground surface.

The Landfill is located within the Paso Robles Subbasin of the Salinas Valley Groundwater Basin. The upper aquifer beneath the Landfill occurs in the Paso Robles Formation, with groundwater encountered at depths of between 250 and 350 feet below ground surface. Groundwater potentiometric surface maps indicate groundwater flows in a west to northwesterly direction at the Landfill site. Since 2005, the Discharger has not collected samples from downgradient monitoring wells MW-3 and MW-8 because these wells are dry due to falling groundwater levels.

First encountered groundwater beneath the Landfill occurs in discontinuous perched zones at approximately 75 to 180 feet below ground surface. Investigations in 2002 through 2003 indicate that perched groundwater is absent on the west side of the Landfill property boundary. The Discharger reports that the lateral extent of the perched groundwater is restricted to the eastern and southern boundaries of the Landfill facility property.

Control Systems and Monitoring: The 65-acre permitted Landfill footprint is divided into several existing and proposed "waste management units" or modules, which are detailed in Table 1 below (and shown in Figure 3 of proposed WDR No. R3-2008-0050). The north and south existing waste fill areas predate state and federal liner requirements and consequently are unlined. Modules 1, 2A, 2B, 3A and proposed Modules 3B, 3C, 4 and 5 (when constructed) will include Title 27- and 40 CFR-compliant liners and leachate collection systems. The Discharger's proposed final grading plan calls for waste to be placed above existing modules, both lined and unlined, to achieve final grading contours.

TABLE 1: Paso Robles Class III Landfill Waste Management Unit Summary

Module	Acres	Design	Status
North-Existing Refuse Fill Area	4.7	Unlined	Interim Cover
South-Existing Refuse Fill Area	14.8	Unlined	Interim Cover
1	2.1	Lined/LCRS	Interim Cover/Used as Wet Weather Area
2A	3.2	Lined/LCRS	Interim Cover/Used as Wet Weather Area
2B	2.5	Lined/LCRS	Active Fill Area
3A	2.6	Lined/LCRS	Active Fill Area
3B	3.4	Lined/LCRS	Proposed
3C	3.2	Lined/LCRS	Proposed
4	19.3	Lined/LCRS	Proposed
5	12.7	Lined/LCRS	Proposed

LCRS = leachate collection and removal system.

Leachate captured by the liners flows by gravity to two aboveground leachate storage tanks. Leachate collected in the leachate tanks is either hauled to the Discharger's wastewater treatment

plant, or used for dust control and soil compaction within lined modules. Monitoring requirements for the leachate system are detailed in Monitoring and Reporting Program No. R3-2008-0050 (MRP No. R3-2008-0050).

Future modules will be designed and constructed to meet or exceed minimum standards established in Title 27, §20240 (c), (d), §20260, and §20310, and 40 CFR 258.40 and 258.60 et al., and any additional requirements of this Water Board. For future module liner designs, the Executive Officer will evaluate engineered alternative designs on a module by module basis with respect to performance standards of the prescriptive design cited in the Order.

Landfill Gas: The Discharger installed and began operating a landfill gas recovery system in 1998. The Discharger enhanced the system in December 2003 by adding five vertical and 10 horizontal gas recovery wells, improving the landfill gas recovery rate from approximately 117 to 155 standard cubic feet per minute. The gas recovery system has successfully addressed downward migration of volatile organic carbon compounds (VOCs) from the southern unlined area, as demonstrated by declining VOC trends for samples collected from adjacent lysimeters (discussed further below). The City burns recovered landfill gas in an onsite flare per San Luis Obispo Unified Air Pollution Control District requirements. Condensate from the gas system is handled the same way as leachate.

Stormwater: There are four sediment retention basins associated with the Landfill: two terminal basins that ultimately drain offsite, and two internal basins located on the east side of the facility, (Figure 3 of the proposed Order). The two terminal basins are monitored according to Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (General Stormwater Permit for Industrial Activities), under State Water Resources Control Board Water Quality Order No. 97-03-DWQ and National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001.

Groundwater Impacts:

To date, monitoring in accordance with the MRP indicates this Landfill has not caused a release to groundwater.

In 1996, Water Board staff directed the Discharger to address a release to the vadose zone, as indicated by VOC concentrations detected in leachate from soil moisture monitoring probes (lysimeters), located on the southwest side (unlined refuse area) of the Landfill.

With the installation and startup of the landfill gas recovery system in 1998, and enhancements made in 2003, the Discharger appears to have stopped the migration of VOCs, as indicated by the overall declining VOC trends illustrated in the graph below.

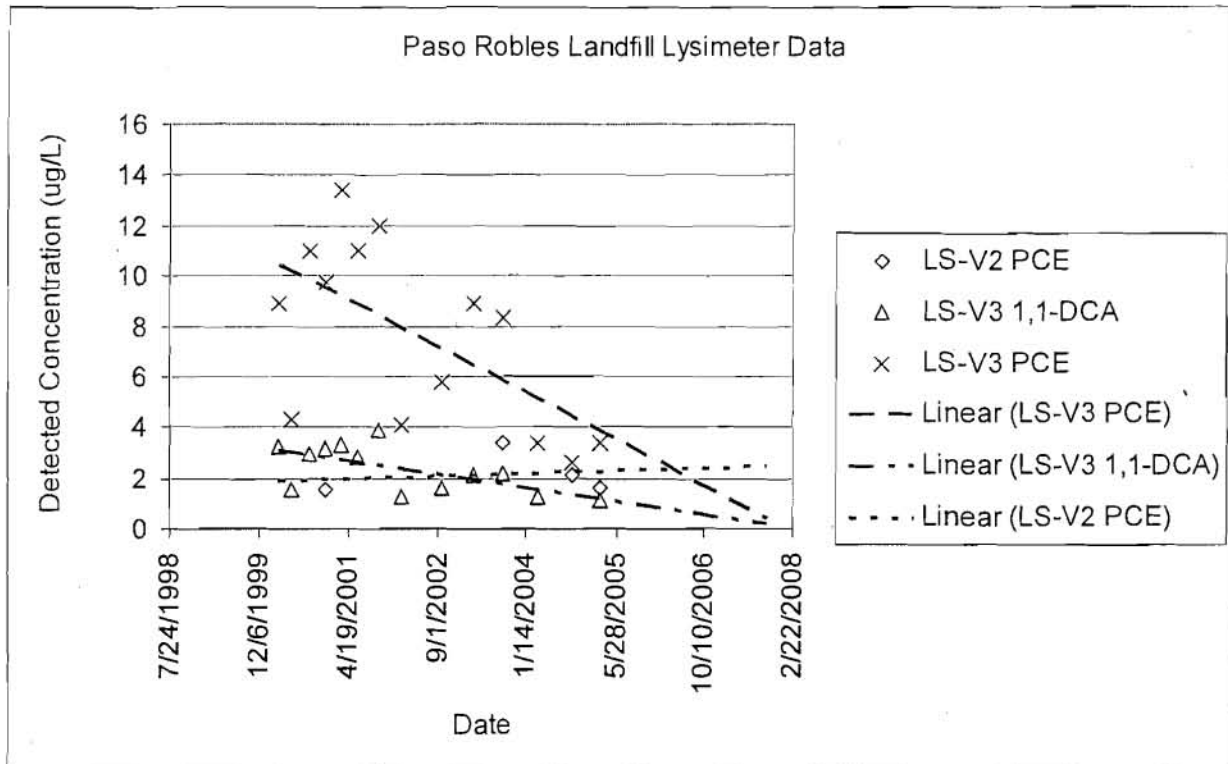


FIGURE 1. Select VOC concentration trends since 2000 from Landfill lysimeter Monitoring Points. LS-V2= Lysimeter Monitoring Point No. 2; PCE= perchloroethene; DCA= dichloroethane

The Maximum Contaminant Levels (MCL) for PCE and 1,1-DCA are both 5 micrograms per liter (ug/L). Unsaturated zone monitoring since 2005 indicates either VOC concentrations in soil pore water are below MCLs or dry conditions within the lysimeter.

Because the upper aquifer is relatively deep (approximately 250 feet below ground surface), perched groundwater and vadose (unsaturated zone) monitoring are critical for early detection of a landfill release. In 1999, Water Board staff required the Discharger to:

- Assess the vertical and lateral extent of perched groundwater beneath the Landfill. CCR Title 27 §20415 b.B.4 requires that perched groundwater be monitored in order to get the earliest possible detection of a release.

Since 1999, the Discharger has characterized the the perched zone through the installation of groundwater monitoring wells MW-V10, MW-8, MW-9, and MW-11. In addition, the discharger conducted down-hole geophysical surveys (neutron log in addition to other techniques) to delineate the perched zone. The investigation results indicate the perched zone is laterally discontinuous and restricted to the eastern and southern portions beneath the Landfill.

COMPLIANCE HISTORY

On February 10, 2003, Water Board staff issued the Landfill a notice of violation for excessive erosion and offsite discharge of sediment from the Landfill's western haul road during an intense storm event. The Discharger reported that the erosion was caused by intense rainfall that may have exceeded the predicted 100-year return period design of the stormwater control system. The Discharger addressed the problem by clearing out accumulated debris from the drainages and

directing flow off of the road to the stormwater retention basin. In addition, the Discharger installed sampling devices that automatically collect a sample from the first release from the sediment collection basins. These response actions satisfy the notice of violation.

On July 5, 2007, Water Board staff issued a notice of violation for failure to:

- 1) Submit the Joint Technical Document/Report of Waste Discharge, and
- 2) Collect confirmation samples, following a preliminary detection of VOCs in a groundwater well. Existing MRP No. 01-112 requires that the Discharger A) notify the Executive Officer when groundwater sample results tentatively indicate a release from the Landfill, and B) collect confirmation groundwater samples from the well with the initial detection. The Discharger did not do either of these things.

In response to the notice of violation, the Discharger submitted their Joint Technical Document in August 2007. Additionally, the Discharger collected confirmation samples and submitted results to the Water Board. Sample results indicated the initial VOC detection of PCE was a false positive. These combined response actions satisfy the notice of violation.

Other than violations discussed above, according to Water Board staff's review of the Landfill's correspondence files, the Discharger has met all other WDR and MRP requirements since issuance of the last WDR.

MONITORING AND REPORTING PROGRAM

The Landfill's current monitoring system includes:

- Eight groundwater monitoring points (wells MW-2, MW-3, MW-V4, MW-V5, MW-8, MW-9, MW-11, and MW-V10);
- Two stormwater monitoring points (western and eastern stormwater sediment basins);
- Six Lysimeters (LS-V1 through -V6);
- Seven gas probes (GP-V1, -2, -3, -4, -5, -7, and -8)

Water Board staff updated the Landfill's MRP; these changes are reflected in the proposed MRP (Attachment 2) and summarized below:

- Deleted iron, chromium, lead, and zinc: These parameters are not good indicators of a landfill release to groundwater because they are either not detected or their concentrations are not sufficiently elevated in leachate collected from the Landfill. Water Board staff added total alkalinity because landfill gas or leachate can cause significant increases in concentrations of alkalinity in groundwater.
- Modified stormwater sampling parameters to be consistent with the General Stormwater Permit for Industrial Activities and to also monitor runoff from stockpiled waste metals and biosolids at the Landfill. The proposed MRP includes the stormwater parameters defined for landfill operations (per Standard Industrial Code [SIC]), including pH, total suspended solids, specific conductance, total organic carbon, and iron. In addition, the proposed MRP requires analyses of stormwater samples for zinc, cadmium, nickel, and nitrate for purposes of monitoring the stockpiled waste metals and biosolids.
- Added organophosphorous pesticides and chlorinated herbicides: these parameters were added to the COC list (monitored every five years) because of their significant potential to be in landfill wastes.
- Addition of monitoring well MW-11: In 2006, Under requirement from the Water Board, the Discharger installed groundwater monitoring well MW-11, and soil vapor probes GP-7 and GP-8, to assess repair of a torn bottom liner. The MRP now includes monitoring well MW-11.

COMMENTS ON ORDER NO. R3-2008-0050

Water Board staff distributed the draft Order No. R3-2008-0050 and MRP No. R3-2008-0050 to interested parties and agencies involved with the Landfill. Comments received on the draft Order and MRP are included as Attachment 3. All submitted comments were considered and nearly all are either included herein or had previously been addressed in the original draft versions.

Comments from SCS Engineers, the City of Paso Robles' contractor:

1) The draft Staff Report suggests that geocomposite clay liners (GCL) do not perform as well as the prescriptive design for base liners and cover systems and that alternate materials will be required. This is an important consideration for future design, environmental protection and costs. GCLs are commonly employed and have been permitted for Title 27 / 40 CFR landfills throughout California and the U.S. We are aware of some agency concerns in this regard. However, in SCS's experience, perceived performance deficiencies may be attributed to construction practices, rather than material properties. Problems can be alleviated by specifying and installing appropriate overlap between GCL panels (to prevent subsequent shrinkage/creep of GCL materials and ensure a uniform barrier surface). In the absence of supporting data suggesting GCL performance problems, we respectfully request that the Staff Report be modified to allow the City to retain the right to petition for use of GCL in future base liner design and construction.

Water Board staff's Response: The draft Staff Report and the proposed WDR cite the federal and state regulations as the minimum standards for base liner designs (prescriptive design). This does not mean that future landfill modules have to be constructed using the prescriptive design; rather, for future module liner designs, the Executive Officer will evaluate engineered alternative designs (as allowed by the regulations) on a module by module basis with respect to performance standards of the prescriptive design. This issue will be further addressed when the City submits their design report for the next module build-out. At that time, staff will evaluate the proposed design with respect to the prescriptive standards.

In response to this comment, Water Board staff also revised Specification C.3 of the proposed WDR regarding liner and leachate collection system and removal system. The cited requirements for the system were not prescriptive standards. Water Board staff changed the language to reflect the prescriptive standards in the California CCR Title 27 and Federal 40 CFR regulations for leachate collection and removal systems.

2) The pre-draft Staff Report suggests that existing lysimeters be retained and incorporated in the monitoring program. Historically, sampling (via vacuum pumping) has not produced sufficient liquids volumes to analyze for all required monitoring parameters. Since 2005, the majority of the lysimeters have been dry. It is recommended that the need for continued semi-annual lysimeter monitoring be reconsidered as part of the proposed WDRs.

Water Board staff's response: We recommend retaining the lysimeters in the monitoring program because the information obtained from them is useful for assessing potential release or cleanup of a release from the landfill, as indicated by the graph in this staff report. The groundwater is very deep (greater than 250 feet below ground surface), so there is a very thick unsaturated zone beneath the site. Therefore, a significant amount of contaminant mass could potentially "load up" the unsaturated zone before an impact is detected by the groundwater monitoring wells. The lysimeters, along with the soil-gas monitoring probes, provide a good early warning system. As for the lysimeters going dry, wetter years may produce sufficient water for sample collection and there are also procedures that would improve the performance of the lysimeters. In addition, the lysimeter's dry

condition may suggest the landfill gas extraction system is drying out the local unsaturated zone. This is useful information provided by lysimeter monitoring. However, historical monitoring shows that VOCs were primarily the only constituents analyzed by the laboratory from the lysimeter samples. As a result, Water Board staff added an analyte priorities list in the MRP that places VOC sampling as the top priority, followed by general minerals and metals, etc.

3) We request that reasonable notice be given in advance of any agency inspections. Further, all personnel on-site shall be responsible for their own worker health and safety.

Water Board staff's response: An important part (and a legal right) of the Water Board's ability to effectively regulate any activity that could potentially pollute waters of the state is the element of unannounced visits. The Water Board is ultimately responsible for their own worker's health and safety; however, facilities are responsible for running safe operations and alerting employees and visitors of potentially dangerous situations. The Water Board staff, however, recognizes the health and safety issues and will provide notice as appropriate.

4) Section F of the MRP, Analytical Monitoring and Monitoring Locations, Item 5, Table 3, Page 5-Metals should be analyzed for dissolved constituents.

Water Board staff's response: Staff concurs with this request because total metals results can vary depending on the turbidity in the groundwater produced from a monitoring well during purging. The amount of turbidity varies depending on well construction, monitored geologic units, purge rate, and water level. Total metal results include both the metals in the sediment that creates the turbidity and the dissolved metals in the groundwater so that the results can be highly variable from sample to sample. Hence, dissolved metal results from filtered samples generally provide more statistically meaningful trends for evaluating whether there has been a release from the landfill. Tables 1 and 3 of the MRP were revised accordingly.

Comments from Mr. Michael Hoover, Chicago Grade Landfill:

1) General Finding No. 41 requires the landfill operator to provide the Executive Officer with reports that are on file (and required) by another public agency. As I recall, AB 1220 divides the authority for the implementation of title 27 between the SWRCB and the California Integrated Waste Management Board (CIWMB). The intent of AB 1220, in part is to keep the landfill operator from having to respond to two public agencies over the same manner. Thus General Finding No.41, which requires the operator to provide the CIWMB's annual approval of the operator's financial assurance mechanism to the Water Board, should be deleted from the order.

Water Board staff's response: The proposed WDR Order will retain reference to the discharger's responsibility of maintaining financial assurances pursuant to Title 27 Section 20380(b) "...waste discharge requirements (WDRs) for a Unit subject to this section shall contain a provision which requires the discharger to obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the Unit." However, Water Board staff agrees that it is CIWMB's responsibility to track and ensure that the financial assurance mechanisms meet regulatory requirements but it is the Water Board's responsibility to coordinate with the CIWMB on these matters. In addition, pursuant to Sections 22220 and 20950(f) of Title 27, the Water Board shall assist the CIWMB by verifying the amount of coverage proposed by the discharger to meet applicable State Water Resources Control Board-promulgated requirements. Therefore, the proposed WDR includes a requirement for the Discharger to submit a report estimating the amount of financial assurance necessary for corrective action, as landfill conditions significantly change or as requested by the Executive Officer. The CIWMB determines compliance with all the financial assurance mechanisms and the Water Board Executive Officer approves existing or potential future corrective action scenarios and associated cost

estimates. In addition, the Executive Officer assists the CIWMB in determining reasonableness of closure and post-closure cost estimates.

Based on this comment, Water Board staff removed the requirement that the discharger demonstrate compliance with financial assurance on a yearly basis. Instead, Provision E.18 of the proposed WDR requires that the discharger demonstrates compliance either A) every five years, or B) when the discharger submits a revised cost estimate to the CIWMB, or C) when the discharger submits a revised JTD. The Joint Technical Document (JTD) is due for submittal every 5-years. The JTD is a good vehicle for documenting financial assurance compliance because it includes both CIWMB's and the Water Board's portion of Title 27 Regulations (i.e., streamlining of regulatory reporting).

2) Reporting Requirement No. 22 requires a new Compliance Report every year. In the past, the Compliance Report was required every 5 years, immediately after the issuance of new WDRs. It was the intent of the Technical compliance Report to make sure that the discharger understood the new Water [Waste] Discharge order. Reporting Requirement No. 22 should be changed back to every 5 years, or September 30, 2013 in this case.

Water Board staff's response: Water Board staff agrees that a Compliance Report is redundant as long as the Annual Summary Report (that is required in accordance with the MRP) includes details on noncompliance issues regarding monitoring and all other aspects of landfill maintenance. As such, Water Board staff removed the Compliance Report requirement.

3) The M&RPs order discusses the need to perform site inspections when a storm "produces storm water runoff and discharge." It is assumed that this requirement refers to discharge from a storm water basin to the waters of the State, not storm water runoff that occurs only within the facility. The definition of a storm event is appears most clearly defined in Part 1 F6, which discusses sampling requirements for the State Water Resources Control Board Order 97-03-DWQ (Industrial Stormwater Permit); however it is inconsistent with other sections in the MRP that address stormwater inspections. In Order 97-03-DWQ, new storm events (and therefore new inspections) are defined as being preceded by three working days without a stormwater discharge, yet this is not included in the MRP's definition of a storm event. Is the MRP's definition of a storm event, as it pertains to inspections, the same as the definition of a "storm event" in Order 97-03-DWQ? When considering your response, please consider that the MRPs at this site already require 29 facility inspections, plus additional (drainage system) inspection for "runoff-producing storm events," which result in additional cost that will have to be passed on to the business community during these financially difficult times. These inspections do not add a commensurate level of protection of the state's waters.

Water Board staff's response: The objective of the Landfill's MRP monitoring program is different from that of the Industrial Stormwater Permit; therefore, the definition of runoff is different. The intent of the inspections required by the MRP is to observe potential onsite facility and waste containment problems caused by surface water flow such as cover erosion, leachate seeps, ponding, and sediment basin damage before these problems cause impacts to groundwater and surface water. The objective of the Industrial Stormwater Permit is to monitor discharges that leave the facility, and ensure that best management practices are used to minimize contamination in stormwater discharges that might result from landfill activities. The MRP cites the 97-03-DWQ monitoring requirements, but the permit functions separately from the MRP. Inspections performed in accordance with the MRP and Stormwater Permit, followed by proper maintenance, can potentially save the operator money by preventing erosion and catastrophic failures of facility structures like sediment retention basins. The inspections are an essential part of successful landfill operation, take minimal time, and can be performed in conjunction with other landfill inspections and tasks.

Based on this comment, Water Board staff added a definition for onsite runoff as follows, "onsite runoff is defined as: 1) surface water flow that produces a discharge to a sediment retention basin or 2) surface water flow that results from a minimum of 1-inch of rain within a 24-hour period." This definition applies to the trigger for facility inspection in Part I A.1.a and B.1 if the MRP. As for Part I.F.6 that applies to 97-03-DWQ, a storm event "is an event that produces discharge from the sediment retention basin(s)." The following text was added to the above quote for clarification: "to waters of the state." In addition, under Part I.F.6, per this comment, the second bullet was changed to "During at least one other wet-season storm event, following a minimum of three working days without a stormwater discharge from the first storm event."

4) In Part 1 F6, the discharger is required to install or at least utilize automatic storm water sampling devices. This requirement is in conflict with SWRCB Order 97-03-DWQ which requires hand samples during the first hour of discharge or the first hour the facility is open if the discharge occurs at night. Automatic storm water sampling devices are inferior to hand samples because certain monitoring parameters like dissolved oxygen, turbidity, and pH need to be measured immediately. There is also a substantial cost of installing automatic storm water samplers. The operator should be given the option of using automatic sampling equipment or obtain grab samples.

Water Board staff's response: The automatic stormwater samplers are already installed at this landfill. The Discharger may use automatic storm water sampling devices to comply with the requirements of the General Stormwater Permit for Industrial Activities. The Water Board required the discharger to install the samplers in order to better "catch" the first storm event of the season. In regards to the concerns over the sample quality, 1) the required monitoring parameters do not include turbidity and dissolved oxygen, so these parameters are not relevant, 2) pH can be a field measured parameter, therefore by its nature it is a qualitative measurement, and 3) the automatic sampler chamber seals after it fills, therefore dissolved gases that influence pH, such as carbon dioxide, are preserved such that the pH measurement should be relatively accurate.

To clarify the fourth bullet of Part 1 F6, Water Board staff added text requiring that samples be shipped to the laboratory within holding times. Nitrate analysis was changed to nitrate & nitrite to increase holding times. Therefore, the shortest holding time is for total suspended solids (7 days). Water Board staff agrees that for facilities that do not have auto-samplers, grab sampling is allowed provided that 97-03-DWQ collection times are met.

5) Part I F7 addresses perimeter gas monitoring probe sampling. Beginning in September 2008, the number of perimeter gas probes at each landfill will increase in response to new regulations passed by CIWMB. It is desirable to make the perimeter gas monitoring as cost efficient as possible. Section F7 of the M&RP requires analysis of landfill gas for VOCs by "method TO-14 (or equivalent)." Does this mean that method EPA 8260 will suffice?

Water Board staff's response: No, EPA 8260 will not suffice because this method is intended for solids and liquids. However, TO-15 can be used in place of TO-14.

CONCLUSION

To date, monitoring in accordance with the approved monitoring program indicates this Landfill has not caused a release to groundwater.

As the Landfill progresses towards design capacity, with expansion of the waste to the north, additional monitoring wells will likely be needed. Water Board staff will continue to work with the Discharger to make sure the Landfill's groundwater monitoring program is adequate to measure a potential release from the Landfill.

The proposed Order benefits and protects groundwater and surface water through required engineering controls, corrective action, preventative inspections, and monitoring.

RECOMMENDATION

Water Board staff recommends adoption of proposed Waste Discharge Requirements Order No. R3-2008-0050.

ATTACHMENTS

1. Proposed Waste Discharge Requirements Order No. R3-2008-0050
2. Proposed Monitoring and Reporting Program No. R3-2008-0050
3. Comments Received on Draft Order and MRP No. R3-2008-0050

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