

## Sanders, Tranette

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**From:** Mike Mohajer [mikemohajer@yahoo.com]  
**Sent:** Sunday, April 04, 2010 11:19 PM  
**To:** 'Feher, Loan'  
**Cc:** 'Walker, Scott'; 'Wochnick, Michael'; 'Gin, Watson'; 'Holmes, Robert'  
**Subject:** RE: Draft Proactive Monitoring Guidance  
**Attachments:** proactive monitoring guidance-draft.doc

I would like to thank CalRecycle for the opportunity to submit comments on the Draft Proactive Monitoring Guidance, a copy is attached. In general, the Draft Guidance captures most of the issues raised during the development of the Phase 2 postclosure maintenance, corrective action, and financial assurances regulations. However, the following issues/concerns need to be addressed:

### 1. Proactive Monitoring Components – Landfill Gas

The proposal needs to be expanded to enhance subsurface landfill gas monitoring at the landfill site property lines when there are off-site enclosed structures within 1,000 feet of the landfill footprints. Additionally, in such cases the subsurface landfill gas migration beyond the site property lines should not be allowed.

### 2. Proactive Monitoring Components – Final Cover

In urbanized areas such as Los Angeles County, greater emphasis needs to be placed on propagation of vegetation. Lack of adequate vegetation/revegetation of the final cover causes a public nuisance, odor, erosion, and dust while negatively impacting the neighboring communities' health and well being.

### 3. Step-Down Approval

The Draft Guidance states that "... approval of the step-down is **not contingent on the results** of the proactive monitoring....(emphasis added)." Please clarify why negative results from proactive monitoring would still qualify operators for a step-down. It is recommended that the phrase "...is not contingent on the results...." be revised to read "...may not be contingent on the results...."

Further, if the results of a landfill proactive monitoring indicate that additional, unplanned postclosure maintenance (PCM) activities are necessary to meet regulatory requirements, the landfill's PCM plan and costs should be updated accordingly. This should also disqualify the landfill operator from the step-down. For example, if a landfill's PCM plan indicates that final slopes should be vegetated to prevent erosion, and proactive monitoring results show that existing PCM activities are inadequate to provide sufficient vegetation coverage due to unforeseen toxic soils that require remediation, the operator should not be eligible for a step-down.

Again, it is strongly recommended that a landfill operator should not be eligible for a step-down if proactive monitoring indicates that the existing PCM activities are inadequate

### 4. Step-Up Potential

The Draft Guidance seems to suggest that the only requirement for a step-up is if proactive monitoring is no longer being performed. Please clarify that if a landfill operator has received a step-down and continues to perform proactive monitoring, but results from proactive monitoring indicate that existing PCM activities are inadequate,

whether the operator will be required a step-up. In such situations, it is recommended that a step-up procedure be implemented.

Should you have any question, please contact me at 909-592-1147.

Regards,

***Mike Mohajer***

**MikeMohajer@yahoo.com**

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**From:** Holmes, Robert [mailto:Robert.Holmes@CalRecycle.ca.gov]

**Sent:** Monday, March 22, 2010 11:55 AM

**To:** 'Larry Sweetser (sweetser@aol.com)'; 'Mike Mohajer'; 'Charles Helget'; 'White, Chuck'; 'Glenn Acosta'; 'Igraves@waterboards.ca.gov'; 'VMChan@SolanoCounty.com'

**Cc:** Walker, Scott; Wochnick, Michael; Gin, Watson; Feher, Loan

**Subject:** Draft Proactive Monitoring Guidance

Greetings,

You are receiving this e-mail because you expressed an interest in participating on a focus group and/or you possess a knowledge base that would be of great assistance to the development of this guidance document.

In accordance with the pending Phase 2 postclosure maintenance, corrective action, and financial assurances regulations (expected effective date - July 1, 2010), one of the criteria an operator must meet to qualify for a reduction in financial assurances (i.e., step-down) is to consistently perform an approved proactive monitoring program. CalRecycle identified a need to provide specific guidance on the proactive monitoring requirements.

CalRecycle staff have gotten the ball rolling by preparing a draft guidance document. The next step is to distribute the draft document to you, the focus group, for review and comment. After you have had the opportunity to comment we will distribute the draft to a broader stakeholder audience.

Please review the attached draft and return written comments by April 5, 2010 to Loan Feher, [Loan.Feher@calrecycle.ca.gov](mailto:Loan.Feher@calrecycle.ca.gov).

Thank you for participation. Please let me know if you have any questions.

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## REGULATORY GUIDANCE

### FOR

## 27 CCR FINANCIAL ASSURANCE COMPLIANCE

### **Postclosure Maintenance Step-Down Criteria - Proactive Monitoring**

State regulations (Title 27 California Code of Regulations [27 CCR] section 22211) require the operator of each solid waste landfill that accepted waste on or after January 1, 1988, to demonstrate financial responsibility (financial assurance) for postclosure maintenance until released from postclosure maintenance. Postclosure maintenance financial assurance is required for the entire postclosure maintenance period; that is, until the owner/operator demonstrates that the waste no longer poses a threat to public health, safety, and the environment.

#### Amount of Financial Assurance

For landfills that did not have final closure and postclosure maintenance plans approved prior to July 1, 2010, the amount of financial assurance must be the larger amount of either the most recently approved or most recently submitted postclosure maintenance annualized cost estimate multiplied by 30. Unless the operator meets specified conditions contained in the regulations, this multiplier will continue for a minimum of 30 years and until the owner/operator is released from postclosure maintenance by demonstrating that the waste no longer poses a threat to public health, safety and the environment

After five (5) years of completed postclosure maintenance activities, at each postclosure maintenance plan review, the operator may submit a request for approval to use a reduced multiplier (i.e., step-down). A reduced multiplier may be approved if certain criteria have been satisfied.

#### General Step-Down Criteria

The purpose of allowing an owner/operator to step-down (i.e., provide less financial assurance), is to provide an incentive for an owner/operator to perform high-quality postclosure maintenance. Accordingly, a four-part, performance-based criteria must be satisfied for approval of the step-down. The criteria provide evidence that the owner/operator is performing high-quality postclosure maintenance. High-quality performance during these years is anticipated to result in lower future maintenance and repair costs and fewer and less costly corrective actions. Lower costs and frequency of correction will reduce the risk to the State upon default by an owner/operator. The criteria for qualifying for a step-down are stringent but achievable.

The criteria include:

- No enforcement order has been issued by EA, CalRecycle, or RWQCB during the five-year interval prior to the requested reduction, with certain exceptions, and the landfill has not been placed on the Inventory of Facilities Violating State Minimum Standards;
- There must have been no disbursements from the corrective action financial assurance demonstration during the same five-year period;
- The postclosure maintenance estimated activities and costs must have been consistent with the actual activities and costs at the closed facility; and
- The owner/operator also must have consistently performed an approved proactive monitoring program.

#### Proactive Monitoring Criterion

Specifically, for the proactive monitoring criterion, the regulations state:

“The operator has consistently performed a proactive monitoring program that has been described in the operator’s postclosure maintenance plan that has been approved by EA, CalRecycle, and RWQCB. The proactive monitoring program shall include, but not be limited to the following: leachate quality and quantity; landfill gas generation and migration; groundwater quality; and final cover settlement, stability, integrity, and maintenance history including repair and replacement. If the operator is already monitoring one or more of the items identified in this section due to other requirements, these may be included within the proactive monitoring program. The proactive monitoring program shall ensure that the operator is obtaining information in order to determine the characteristics and trends of leachate, landfill gas, groundwater and final cover both individually and as they interact with each other in the landfill. The operator shall analyze the data to determine if postclosure maintenance activities have been and will be effective in meeting the requirements of §§21090 and 21180. The monitoring data and evaluation shall be made available to EA, CalRecycle, and RWQCB upon request.”

In other words, a proactive monitoring program is one which evaluates and demonstrates the overall condition of the landfill. The program must be described within the postclosure maintenance plan and approved by the regulatory agencies.

#### Proactive Monitoring Program

To the extent that proactive monitoring is already being conducted, the owner/operator would not have to increase monitoring efforts. However, routine regulatory required monitoring such as quarterly monitoring of ground water and landfill gas migration monitoring wells, would not be considered proactive monitoring. The purpose of these wells is to determine if leachate or gas has adversely impacted the environment. However, this monitoring alone does not define the overall condition of the landfill. The purpose of proactive monitoring is to determine the overall condition of the landfill and any trends in the condition. A properly designed, closed, and

maintained landfill should stabilize over several years after closure. A proactive monitoring program is one which monitors and confirms this stabilization.

Although additional monitoring wells may be a portion of a proactive monitoring program (PMP), a PMP is not just additional ground water and gas migration wells and/or increased monitoring of these wells. A PMP entails monitoring of additional aspects of the landfill, including, but not limited to, leachate and landfill gas quality and quantity; settlement, including differential settlement; vegetation propagation; slope stability; ground water movement; and erosion control. In addition to monitoring these aspects, a PMP would also analyze for trends in these aspects. A continuing trend of lower volumes and quality of leachate and landfill gas and less settlement would indicate that the landfill is stabilizing. The PMP data and analysis is needed to determine the overall condition of the landfill and the level of potential threat posed by the landfill.

### Proactive Monitoring Components

The primary components for proactive (or performance-based) monitoring during the postclosure maintenance period include: leachate quality and quantity; landfill gas generation and migration; groundwater quality; and final cover settlement, stability, integrity, and maintenance history including repair and replacement.

Examples of the data necessary for proactive monitoring may include, but are not limited to:

- *Leachate* – Leachate quality indicators such as biochemical oxygen demand (BOD) and chemical oxygen demand (COD) and other constituents of concern; current and historic leachate generation rate; sampling and analytical methods and frequency and locations of sampling.
- *Landfill Gas (LFG)* - Current and historic LFG generation rate; methodology to determine the LFG generation rate such as the type of model, site-specific modeling input parameters; model output; LFG composition (bulk gases, trace components, non-methane organic constituents (NMOC)); sampling and analytical methods and frequency and locations of sampling; internal gas pressure in the landfill (from wellheads, permanent/temporary probes).
- *Groundwater* - Current/historic surface water (the regulations do not address surface water) and groundwater monitoring data and flow direction (background and points of compliance (POCs)); previous/existing impacts attributable to leachate, history and current status of corrective action measures.
- *Final cover* – Settlement calculations (current and historic); propagation of vegetation; current and historic erosion; stability reactions to seismic events; cover component integrity (including permeability testing).

Guidance documents have been prepared which address proactive (or performance-based) monitoring. These documents include:

- Interstate Technology Regulatory Council (ITRC), Alternative Landfill Technologies Team, postclosure care approach titled, “Evaluating, Optimizing, or Ending Post-Closure Care at

Municipal Solid Waste Landfills Based on Site-Specific Data Evaluations,” Dated September 2006.

- Environmental Research & Education Foundation (EREF) postclosure care approach titled, “Performance-Based System for Post-Closure Care at MSW Landfills: A Procedure for Providing Long-Term Stewardship under RCRA Subtitle D,” prepared by GeoSyntec Consultants, dated September 2006.

While the ultimate goal of these documents is to facilitate optimizing postclosure maintenance, the underlying principal of the documents is to develop a PMP to provide a holistic evaluation of the overall condition of the landfill. These documents provide detailed options for monitoring based on various landfill factors and may be used to develop a site-specific proactive monitoring program. The ITRC report may be found at: <http://www.itrcweb.org/Documents/ALT-4.pdf>. The EREF report may be obtained from EREF at <http://erefdn.org/index.html>.

#### Proactive Monitoring Plan Approval

If an operator intends to implement a PMP, PMP needs to be specifically described in the postclosure maintenance (PCM) plan for the landfill. The PCM plan shall designate which monitoring items would be considered the proactive monitoring portion. The PCM plan will be reviewed to determine compliance with the regulatory performance standard and if PMP provides the necessary data to evaluate the overall condition of the landfill. Approval of the PCM plan would also entail approval of PMP.

As with PCM plans, PMP shall be reevaluated at least every five years to determine if the program is providing the appropriate data to demonstrate the overall condition of the landfill.

#### Step-Down Approval

For a step-down to be approved, the operator must demonstrate that the operator has consistently performed an approved proactive monitoring system that is a holistic evaluation of the condition, characteristics, and trends of the landfill.

While approval of the step-down is not contingent on the results of the proactive monitoring analysis, by conducting this monitoring, an operator would increase its knowledge about the landfill conditions and any deficiencies and would be able to accurately determine the needed postclosure maintenance and attendant costs. An operator would then be able to take proactive action to remedy any deficiencies and to lower its future costs. This would also result in reduced risk to the State upon an default by an owner/operator.

#### Step-Up Potential

To provide an incentive for the operator to continue performing high quality postclosure maintenance, the regulations also set forth the criteria for increasing the multiplier if the multiplier had been previously decreased. When proactive monitoring is no longer being performed, the operator would be required to increase the multiplier. Therefore, to maintain the lower multiplier the operator would need to continue proactive monitoring until released from postclosure maintenance. However, the operator may be able to justify modifications to the proactive monitoring program based on the specific condition of the landfill.

