

Solid Waste Industry Group

September 5, 2007

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Via E-Mail: bgarcia@ciwmb.ca.gov

Subject: Comments to ICF Draft Risk Factors (Task 6, Step 2) for the “Study to Identify Potential Long-Term Threats and FA Mechanisms for Long-Term PCM and CA at Solid Waste Landfills”

Dear Bobbie:

Thank you for the opportunity to comment on the proposed risk factors to be used as a screening method/tool to determine the overall potential threat of a landfill to human health and the environment with respect to post-closure care, corrective action, and financial assurance. In accordance with the ICF Scope of Work, the goal of Task 6 is to develop a “relatively short list of dominant (material) factors with benchmark values identifying very high and very low risk.” The proposed revisions provided in the attached should provide a technically defensible basis for meeting the goal of Task 6, which is to develop a reasonable Risk Screening Methodology for landfills in California.

The ICF Consulting Services, LLC (ICF) revised Work Plan describes the goal of Task 6 to be “develop a method that can be applied to any individual landfill to determine whether its risk factors for Post-Closure Care (PCC) and/or Corrective Action (CA) are high, medium, or low.” The method is suggested to be used to triage affected California landfills into defined High/Medium/Low subsets using a suite of factors/criteria for risk screening. In ICF’s draft Task 6, Step 2 recent White Paper (i.e., risk factor table) that was issued for comment they have divided the potential screening factors into three primary groups: 1) site geotechnical factors, 2) receptor factors outside of the landfill, and 3) landfill design, construction, maintenance, and compliance factors.

While these screening categories attempt to provide simple and easy to compile qualitative screening criteria, a reliable evaluation of sites-specific conditions will require much more granularity to be useful for the purposes proposed by CIWMB and ICF,

particularly in terms of several fundamental quantitative site-specific screening criteria. A reliable threat-based evaluation is particularly important if the proposed approach were to be used to ascertain the relative contribution of each landfill into an insurance pool based on level of potential risk. The draft ICF proposed risk factor table has the following problems:

- ***Overly Simplistic.*** Risk factor categories are too broad in nature to account for site characteristics and the engineering already in place since Subtitle D and Title 27 have been in place.
- ***Risks Have Unequal Weight.*** All risk factors should not have the same equal weight, so each risk factor should be assigned a percent of total potential risk.
- ***Magnitude vs. Probability.*** Does not separate magnitude of an impact from the probability of an impact occurring. This issue is important because some factors have little to no potential of ever occurring at many landfills.
- ***Overly Broad Response Measures.*** Control and mitigation measures are too broad in description to be of any value.
- ***Varying Degrees of Impact.*** For example, a "leak" through an unlined landfill with highly permeable soil and high groundwater table may impact groundwater – but the "leak" itself would not lead to LFG migration or a surface water impact. Consequently, there should be a ranking of what is likely to be impacted the most to the least likely.

There are a number of alternative approaches that should be considered by the CIWMB in evaluating landfills with respect to their potential threat to human health and the environment. Attached to this letter is an alternative conceptual approaches that we request be considered by the CIWMB and ICF. Before a final approach is selected we strongly request a meeting between stakeholders, CIWMB staff and ICF consultants to work through the various approaches and their implications.

Waste Management Conceptual Approach

Waste Management proposes that the categories be divided into at least five (5) categories and include more quantitative screening criteria that meet the intent of category. The 5 proposed categories are:

- 1) Siting/Climate Factors – geotechnical stability, climatic stressors, proximity to drinking water sources;
- 2) Landfill design, construction, and maintenance factors – containment, control, and treatment systems in-place, record of performance for these systems;
- 3) Operational practice – operated to treat waste to reduce long-term threat potential or contain and monitor for system integrity;
- 4) Potential for migration/distance to sensitive receptors – identification of potential migration pathways relative to distance to receptors (human or ecologic); and

- 5) Compliance record for system releases/upsets – documented evidence of release to surface water, groundwater, or subsurface explosive gas migration that indicates a system upset that may require additional resources over the post-closure life of the facility.

While most of the categories noted above are similar to those proposed by ICF, this categorization attempts to provide a framework whereby some categories provide site-specific evaluation of data while others can be screened on a more general basis. For example, item #5 responds directly to the unsubstantiated assumption included in Task 3, Step 4 that “most, if not all, LFs will require corrective action (CA) eventually.” This erroneous assumption is based on a CA SWAT conducted during the 1980’s and early 1990s on unlined and clay-lined landfills. The possibility that unlined or clay-lined landfills have a greater risk of leakage than an engineered designed containment system is not accounted for in this assumption, but can be accounted for separately in a landfill design criteria. There is no evidence to support that all Subtitle D (or equivalent) landfills will fail and therefore require corrective action. It is more appropriate to consider the site-specific evidence of system upset or failure as a leading edge indicator of potential actions, rather than an overly conservative and indefensible baseline assumption.

A preliminary revised table in Word Format is attached to provide details on revised risk factors that could be used to provide a more useful screening tool to evaluate risk factors. However, Waste Management believes that much more development and refinement of the attached revised conceptual table is required. It is only offered here to stimulate additional discussions for developing a revised conceptual framework. In some cases, the suggested factors have regulatory or technical precedent; in others, the recommendations involve discretion and would profit from further discussion by the stakeholders.

If you have any questions regarding the conceptual Waste Management Approach, please contact Louis Bull at (303) 486-6090.

Los Angeles County Sanitation District (LACSD) Conceptual Approach

Rather than try to amend the CIWMB risk factor table, the LACSD has developed an alternate risk factor spreadsheet table in Excel format that addresses our bulletized concerns described above in a much more detailed fashion.

A second spreadsheet table has been developed by LACSD in the same Excel file as a way of looking at what risk factors may impact a particular resource.

We understand that LACSD will be submitting this proposal under separate cover for your consideration. If you have any questions regarding the conceptual LACSD approach, please contact Glen Acosta at (562) 908-2723.

Need to Meet and Confer

As we have repeatedly offered and requested from the beginning of this project, we believe it would be most appropriate to meet to further discuss the best approach to be

used for this important project. We further request in this letter that a meeting be scheduled at which representatives of the Solid Waste Industry Group could meet with CIWMB and ICF representatives to develop a risk screening methodology that best serves the needs of this project.

Please let me know if you have any questions, concerns or require more information concerning the contents of this letter and its attachments.

Sincerely,

Original Signed By:

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for: The Solid Waste Industry Group
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Attachment: Word Document – Waste Management Conceptual Approach, Revised
Table