

# ***Solid Waste Industry Group***

***Sanitation Districts of Los Angeles County  
San Bernardino County Department of Public Works, Solid Waste Division  
San Joaquin County Department of Public Works, Solid Waste Division  
Ventura Regional Sanitation District  
OC Waste & Recycling  
Rural Counties' Environmental Services Joint Powers Authority  
Riverside County Waste Management Department  
Salinas Valley Solid Waste Authority  
Kern County Waste Management Department  
Fresno County Public Works & Planning  
Monterey Regional Waste Management District  
League of California Cities  
California State Association of Counties  
Solid Waste Association of North America, California Chapters  
City of Sunnyvale  
City of Santa Cruz  
Tulare County Resource Management Agency, Solid Waste Division  
Lassen Regional Solid Waste Management Authority  
Waste Management  
Republic Services  
Waste Connections  
Recology***

December 27, 2010

Margo Reid Brown, Director  
CalRecycle  
1001 I Street  
P.O. Box 4025  
Sacramento, CA 95812

Dear Ms. Reid Brown:

***Subject: CalRecycle's Proposed Best Management Practices (BMPs) for  
Preparing Site-Specific Non-Water Quality Corrective Action Plans***

The Solid Waste Industry Group is writing this letter to express our continued concern over the criteria that the CalRecycle Staff is developing for the preparation of site-specific non-water quality corrective

action plans. We have previously written two detailed letters expressing our strong concerns over the direction that this guidance document has taken (attached).

The thrust of our concern is regarding the use of the term “reasonably foreseeable” by CalRecycle staff. This term is the basis for determining what events require corrective action financial assurance, so it is very important that the term is not *unreasonably* defined or broadened. “Reasonably foreseeable” does not mean *anything* that can occur in the future – only those events for which there is *reasonable* likelihood of occurrence. Financial assurances are intended to address non-routine repairs that are likely to occur. It is not intended or cost effective to set aside local government monies or private capital for hypothetical events that are extremely rare or unlikely to occur. We strongly believe that these extreme events should not be included in what is considered “reasonably foreseeable” corrective action.

### ***What is Reasonably Foreseeable?***

As we have repeatedly pointed out to CalRecycle staff, “reasonably foreseeable” is what is likely or can be predicted to occur in the not too distant future with some degree of certainty based on empirical, historical, or scientific evidence. “Reasonably foreseeable” is different from “foreseeable”. The word “reasonable” makes up 50% of that phrase. A reasonably foreseeable event cannot be one of such low probability that the chances of it occurring at any given moment are extremely remote, becoming speculative in nature. For example, if the only known occurrence was during prehistoric times, which is the case for seiches in California, then it is not “reasonably foreseeable.”

It is our contention that any of the following criteria should be used to disqualify a causal event from being considered reasonably foreseeable:

- **Extreme Uncertainty in Quantification or Estimate is Questionable** – The event is so improbable and such an outlier that there is very poor accuracy or tremendous uncertainty in quantifying the impact. An example is the 1,000-year 24-hour storm, where in October 2007 the National Oceanic and Atmospheric Administration (NOAA) considered discontinuing the publication of 1,000-year precipitation frequency estimates because of the “severe uncertainty associated with computing such extreme events.” (See attached)
- **Extremely Low Probability of Occurrence** – The severity of certain types of causal events (earthquakes, precipitation, and floods) is determined by the probability of such an event occurring in any given year. As the probability of it occurring approaches zero, however, the causal event is so improbable and so infrequent that it can no longer be considered reasonably foreseeable. It is instead considered an “extreme event” that is extremely unlikely to occur and too speculative to predict. For example, there is a 0.1 % chance of a 1,000-year 24-hour storm occurring in any given year. In other words, there is a 99.9% chance of it not occurring. Such a storm is considered an extreme event, not a reasonably foreseeable event. As another example, the Federal Emergency Management Agency (FEMA) defines an “extreme flood as a 0.2% chance of exceedance (500-year flood).” (See attached)

## ***CalRecycle is proposing events to define BMPs that are “extremely unlikely” rather than “reasonably foreseeable”***

There is absolutely no basis for calling the following extreme events “reasonably foreseeable”:

- **Precipitation.** CalRecycle staff proposes a 1,000-year 24-hour storm as the BMP. A 1,000-year 24-hour storm is an extreme event where there is tremendous uncertainty in estimating the amount of rainfall. A 1,000-year 24-hour storm is not a reasonably foreseeable causal event with a 0.1% chance of occurrence. It is our contention that a reasonably foreseeable causal event should not be greater than a 200 to 500 year 24-hour storm, depending on the results of a site-specific hazard analysis.
- **Flooding.** CalRecycle staff proposes that a 500-year flood be the causal event. FEMA considers a 500-year flood an “extreme flood,” where in any given year there is a 0.2% chance of it occurring. As explained by the Chief Meteorologist of a local news station in Atlanta in a news article, “A 500 year flood is extreme and historic.”<sup>1</sup> This flood event should not be considered reasonably foreseeable.
- **Earthquakes.** CalRecycle’s proposed BMP proposes up to a 950-year return period as a “reasonably foreseeable” event for some landfills – with as low as a 0.1 % chance of occurrence. A reasonably foreseeable return period is between 200 to 475 years, as indicated below. Additionally, the proposed method for determining the risk category for a landfill has little to do with seismic risk, so alternative methods that are more representative of seismic risk need to be allowed.

Not only do the above BMP events represent extremely unlikely occurrences, they vastly exceed existing design standards adopted by the State of California already in regulation. The BMPs also exceed design standards and criteria by which virtually all other human activities and structures are evaluated. Just to take earthquakes as an example, as we have previously pointed out, here are the standards for evaluating other types of activities that pose a far higher threat to human health and the environment than do landfills:

- The United States Army Corps of Engineers, which oversees a wide range of facilities (mostly water-bearing) ranging from minimal to extremely high seismic hazards, uses the probabilistic method and a 144-year return period as their operating basis earthquake.
- As part of the Urban Levee Geotechnical Evaluations Program, the California Department of Water Resources (DWR) uses the probabilistic method and ground motions associated with a 200-year return period to evaluate the seismic stability of critical levees in the Sacramento-San Joaquin Valley and to identify areas in need of repair. This is also used by DWR to develop mitigation measures and corrective action cost estimates.

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<sup>1</sup> Article “What does a 100-Year flood really mean?” by Kirk Melhuish, Chief Meteorologist for Atlanta Weather Examiner (<http://www.examiner.com/weather-in-atlanta/what-does-a-100-year-flood-really-mean>).

- In simple terms, the California Building Code (CBC) essentially requires that ground motions associated with a 475-year return period be used for designing buildings for human occupancy.
- The Office of Statewide Health Planning and Development has historically required hospitals to use ground motions associated with 475-year return period as a seismic design requirement for maintaining the building operational after an earthquake.

The key point is that if an extreme event were to occur, like one proposed by CalRecycle staff, the problems associated with landfills will likely be of substantially lower concern than damage to many other critical structures threatening human health and the environment (schools, roads, hospitals, buildings, homes, pipelines). Yet, if adopted as proposed, the only facilities in California with Corrective Action Financial Assurance for such extreme events will be solid waste landfills. While there have been numerous examples of building and freeway collapses during high seismic events, there has never been a substantiated or documented problem with landfills in California or elsewhere in the U.S. – yet landfills would be the only facilities to carry such extreme corrective action financial assurance. As a result, the BMP guidelines proposed by CalRecycle are excessive and extreme – rather than “reasonably foreseeable”.

The signatories to this SWIG letter urge that you withdraw the proposed Corrective Action BMP Guidelines and redevelop guidelines that are not so out-of-line with the expectations placed on other human activities and structures. We would be pleased to meet with you at your earliest convenience to discuss our concerns further.

Sincerely,

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Attachments: 1. SWIG letter on Seismic BMP – October 4, 2010  
2. SWIG Comments on all BMPs – October 15, 2010

cc: Mark Leary, Deputy Director, CalRecycle  
Ted Rauh, Deputy Director, CalRecycle  
Scott Walker, Chief, Engineering Support Branch, CalRecycle  
Michael Wochnick, Supervisor, Closure and Facility Engineering Unit, CalRecycle