



SIERRA CLUB
CALIFORNIA

November 8, 2007

COMMENTS BY SIERRA CLUB CALIFORNIA AND CALIFORNIANS AGAINST WASTE IN OPPOSITION TO DRAFT ICF REPORT ON LANDFILL FINANCIAL ASSURANCE

Beginning in 2003, the Board and staff commendably embarked upon a major effort to reform the existing financial assurance regulations for landfills, which were largely based upon the U.S. Environmental Protection Agency's (EPA) assurance rules.

Based upon the staff's in-depth review, it had become self-apparent that neither agencies' rules achieved their intended purpose. That is, to insure that the taxpayers do not – as they are now improperly being compelled to do at the BKK landfill – wind up bearing the costs to perpetually maintain and periodically remediate closed landfills when they fail, possibly catastrophically. Such commitment is unusual, and we greatly appreciate the agency's foresight.

As has been developed under the staff's leadership at the many workshops over the past four years, the current rules do not provide assurance for minor maintenance costs after 30 years. They also do not recognize major maintenance costs at any time, nor, in practice, the costs to remediate serious site failures. In addition, they permit assurance mechanisms like the financial means test that does not diversify risk, and they leave third parties exposed to the risks from personal injury after closure involving the release of pollutants or massive landslides. Therefore, outside of some very small items on the margins, the regulatory structures that exist today are unable to meet the fundamental taxpayer protections for which assurances were mandated by the Legislature, most recently in AB 2296.

The absence of any protection under existing rules for significant long-term landfill liabilities is an extremely serious looming crisis for California's taxpayers, just like the Savings & Loan crisis that simmered for several years before boiling over.

Therefore, we recommend that the staff develop a proposal for long term catastrophic private insurance and independent perpetual care funds.

This is the high risk backdrop against which the failings of the current assurance rules must be evaluated:

1. **Barriers will ultimately fail.** As recognized by the staffs of both EPA and the CIWMB, the very design basis for modern state-of-the-art landfills is inherently flawed. It is based upon a fitful attempt to isolate with barriers dangerous wastes that have limited lives. Pollution and the threat of catastrophic landslides is at best postponed, not prevented, and, as the staff has unsuccessfully endeavored to impress upon the consultant, "most, if not all landfills will eventually require corrective action."

2. **Mega-landfills too big to fix.** By the 1990s, the size of landfills had been ramped up by more than 100 times to be as large as 200 football stadiums, containing upwards of 100 million tons of biologically active garbage, including small generator hazardous wastes, and rising above grade as much as 500 feet. This puts key safety components, most particularly the mission critical leachate collection lines and also the liner, out of reach. The result is to make these megafills' safety systems too big to fix,





SIERRA CLUB
CALIFORNIA

and the consequences of site failures too massive to be swept under the rug.

3. **Risky siting.** To accommodate the industries' desire for short term market advantage, very risky sites for major landfills have been approved in California because they are near to the collection routes, or avoid the need for permitting a new site. These include landfills approved in wetlands, on top of leaking unlined hazardous waste dumps, next to major earthquake faults and water supplies for large population centers, and on San Francisco Bay. Imprudent siting has dramatically increased the risks and consequences of building mega-sized facilities based upon fatally flawed designs that will fail.

In response, ICF has ignored all of the key findings of the staff, including that rather decisive fact holding most or all of today's putative state-of-the-art landfills will eventually fail, and that the threat to the environment extends for hundreds of years beyond the 30 years that the inadequate assurances are posted – as well as beyond any possible length of time that most of today's companies will stay operational.

The \$45 million state pool ICF proposes is absurdly underfunded to cover miscalculations, abandonment, catastrophes and bad luck at two-hundred and eighty-two landfills over hundreds of years after assurances end. That is a few hundred dollars per landfill per year, plus or minus whatever discounting provides, and it bears absolutely no relation to the magnitude of the risks involved.

By using blatantly inapposite comparisons, and relying upon the industry's self-reports – which, not surprisingly, deny the certainty of widespread site failures and the possibility that some will be catastrophic – the ICF study wishes away the colossal liabilities and California's gamble against long odds. In the end, ICF supports a smaller pool than even the 25¢/ton assessment the waste industry proposed.

We have previously submitted hundreds of pages of analysis, studies, calculations, data sets and comments over these last four years, much of which parallel what the staff has attempted to impress upon the consultant. All of this work has been provided to ICF, and all of it has been ignored by ICF – without even bothering itself to provide any reasons for doing so.

1. ***Financial means test is irresponsible.***

ICF's acceptance of the financial means test demonstrates its divergence from the sound principles that have guided the Board. This mechanism permits a landfill claiming to have a strong balance sheet in the current year (think Enron) to avoid providing any tangible assurances at all. It is no more than a large firm's IOU purporting to last for centuries, which is backed by nothing – no collateralized assets, no pledge of revenue, nothing. The very idea is absurd to provide assurance for the risks of hundreds in millions of dollars in liabilities for hundreds of years with an IOU from a company with no certainty of being in existence that long. Even if these corporations did survive that long, they would inevitably try to rid themselves of responsibility for spent assets that have not produced any revenues in decades, similar to abandonment of old mines by mining companies. When EPA added this irresponsible financial means provision to assurance regulations in 1998 in order to further minimize assurance costs to landfill owners, a firestorm erupted. Here is what the industry's own trade magazine responded in an editorial in the May/June 1998 issue of *MSW Management* (emphases added).



SIERRA CLUB
CALIFORNIA

“In it, EPA develops its rationale for the action, taking pride in reducing costs involved in the issuance of third-party assurance instruments by an estimated \$68 million per year. Pegging the total potential liability for closure and post-closure care costs at \$6.8 billion [not counting the costs of corrective action or damages for personal injury] – you may feel a twitch in your gizzards at what appear to be remarkably low estimates given the cost of recent environmental restoration

projects – the agency adds a few novel twists to the notion of ‘assurance.’ These appear to allow larger landfill-owners to substitute creative accounting practices for rock-ribbed guarantees that real reserves will be there if ever needed. As we’ve all just recently seen, some larger landfill-owners have demonstrated a real talent when it comes to creative accounting practices, and those with a strong sense of humor will appreciate the timing of EPA’s high regard for accounting ethics given those recent revelations. Perhaps renaming the agency WSPA (Wall Street Protection Agency) makes sense. ...

“In this, along with a great many other burdens of our overextended lifestyle, *we seem hell-bent on passing down the costs of proper stewardship to our heirs....*

“When Subtitle D was proposed, it seemed that EPA was doing just that [not ignoring the long term costs of landfilling], but now one has to wonder. *When we allow politics to enjoy equal footing with principle, we’re asking for trouble.*”

Recently, the Waste Board has examined the closely related captive insurance mechanism, and determined to deny its use as applied for an approved mechanism. The primary objection to captives is that there is no independent entity providing the assurance, because the assurances are only loosely backed by the landfill company itself or its parent. Without a true independent third party providing the assurance, there is no diversification of risk in the event one party fails, which is the underlying reason for objection to that mechanism by risk managers and the Board. The universally reviled financial means test is the twin brother of captive insurance companies, both of which provide large private companies with the right to fob off the assurances, to which the public is entitled.

What does ICF say about these IOUs? It ranks their security as between Medium and High, and it commends them to the Board. Almost all of the other urgently needed reforms require structural changes. If we cannot simply strike the financial means test from the approved methods, there is no practical hope of anything substantive being done for the deeper problems.

2. Major maintenance is ignored. Again, as we have previously documented and staff is working to address – but which ICF adamantly refuses to acknowledge – the current postclosure maintenance rules in practice only cover a very small portion of maintenance costs after closure. This primarily includes minor things like mowing the grass and monitoring the wells for 30 years, operating the gas wells for about 15-20 years, and securing the perimeter against intruders, which might cost \$5 million for a typical landfill. But, there are other major maintenance costs ignored by present practice.

As anyone who has a flat rubber roof can attest, those sheets of 60 mil high density polyethylene do not last forever as ICF assumes, and eventually have to be replaced. Rubber roofs rarely last 20 years, and the HDPE sheets used as final covers are only warranted by the manufacturer for 20 years, and that is only for factory defects, not common real world intrusions, such as burrowing animals, tree roots or uneven settlement. Nothing is included in the current assurances for periodic cap replacement, which would cost more than \$20 million for a large landfill, and, in aggregate be more than about five times the waste companies’ cash flows even now, nonetheless decades hence when the firms’ financial lives are spent.





SIERRA CLUB
CALIFORNIA

Then there are the leachate collection lines, which are mission critical for the safety of a landfill, and, as a Wisconsin study demonstrated, are prone to clogging as a function of time that is so severe they cannot be cleaned out. Physically replacing clogged lines through several hundred feet of overlying garbage would probably cost tens of millions of dollars for each repair and is obviously not going to happen. This means the increasing depth of leachate that backs up will ultimately risk leading to major site failures, including not just releases of pollution, but also the risk of massive landslides.

In any event, regardless of whether assurances are adequate in amount and how long they are provided, the question remains whether perpetual care is ever possible. At best, the probabilities of perpetual care occurring is a low probability event.

Thus, major postclosure maintenance, where it can be done, will quintuple costs beyond current assurance for the period over which they extend, which is more than the landfill owners' cash flow reserves can cover. Therefore, that will not be done, even if the companies were inclined and capable to do so, which itself is highly unlikely. And, when postclosure maintenance is cost-prohibitive, it will be ignored, just like ICF (and before them GeoSyntec), has done in failing to recognize clogged leachate lines. or what will happen when efforts to provide perpetual care finally fizzle, and then major catastrophic failures will occur.

3. ***Corrective actions are inevitable.*** The staff has made clear that, over time, maintenance will end, covers will deteriorate and pollution will be released from most if not all landfills. Just replacing the covers and gas collection systems in such a case will cost \$30 million *at each of the large landfills*, and that will be a small part of the total costs of extraction wells and diversion trenches, and possibly the need to excavate, stabilize and re-inter tens of millions of tons of garbage.

How does ICF monetize these cascading tens or hundreds of million dollar risks at each major site? It accepts at face value, without any independent evaluation, the industry's self reports for the costs of reasonably foreseeable corrective actions, which are filed by the Regional and State Water Quality Control Boards, also without any independent investigation. Perhaps its most troubling statement in view of the facts is ICF's statement that: "An unlikely but possible event such as a major waste mass slope failure could draw from the default fund even though it was not anticipated in the estimated CA costs."

4. ***A five cents per ton statewide default fund cannot cover any costs beyond 30 years.*** a. **Postclosure maintenance.** For the centuries' long costs of postclosure maintenance, ICF ignores the direction that the process had been heading towards. First that had been to include major along with minor maintenance, and, second, to establish a perpetual care fund to provide financial assurances for the hundreds of years of major as well as minor care will be needed.

Instead, it proposes a state fund, based upon a 5¢ per ton assessment and \$45 million cap, to cover the possibility that either the maintenance estimates are too low or that the landfill owner fails to pay the necessary costs of postclosure care at any time. Since most privately owned sites will eventually be abandoned sometime after closure, it is facially absurd to argue that a total fund of \$45 million, divided by 282 sites, or \$160,000 per site (and any interest accumulation above price escalation) will cover even the minor maintenance costs, typically around \$5 million per site for just 30 years, but extending out forever.



SIERRA CLUB
CALIFORNIA

ICF attempts to get around this problem by pointing to selected historic records of bankruptcies and defaults of companies over 6 years to 42 years, which are said to be low for large companies. First off, the issue is hundreds of years, not a few decades, and corporations do not survive that long. Second, the relevant comparison is not defaults, in which the failure to perform results in foreclosure of the collateralized assets needed to remain a going concern. Rather, the issue here is defunct assets that have not produced revenues for the firm in decades. The relevant basis of comparison is closed mine sites. ICF should include in its analysis how many closed mines are still being maintained by their original owner 250 years later, or even 150 years, or even 25 years afterwards. Third, the risk profile of a diverse universe of companies across hundreds of industrial and service sectors has nothing to do with a particular sector suffering systemic risk, as the EPA and CIWMB staff agree is the case with a fatally flawed landfill design in which each site will “eventually fail.”

As had been originally contemplated, a state perpetual care fund for major as well as minor maintenance costs should be quickly accumulated, and also be legally protected from raids by the state to meet unrelated budget needs. From this fund, costs can be drawn down annually and remitted back to the landfill owner if the required maintenance task have been performed, with such draw downs adjusted in relation to new information of costs greater or lesser than originally estimated. Otherwise the state can perform the work itself with any draw downs.

b. Corrective actions. With regard to corrective actions, the state pooled fund is not applicable. Not only will the entire fund contemplated by ICF be exhausted by paying just the minor costs of maybe a few landfills forever, but the state has no technical capacity to risk rate 282 landfills’ future liabilities. . Corrective actions will cumulatively exceed billions of dollars, and accurately assessing their risks today is not only critical in order to establish an effective mechanism for cost recovery, but also to assign the true relative costs of the imprudently risky siting that has been permitted in California. The history of state funds for predictable leaking underground gasoline tanks, discarded tires and the very small abandoned open dumps has no applicability whatsoever.

5. Insurance was shortchanged. ICF established preconditions for insurance that are contrary to market forces before having insurance experts review insurance as an assurance mechanism for corrective actions. ICF then reports to the staff that insurance is not viable. However, the only mechanism for corrective action, which is probabilistic in nature, and needs an entity motivated to report the true costs and risks in the future, is insurance. Were there a desire to develop an insurance mechanism, that could be done, but apparently not with ICF.. Since it views its fund as competent to handle all of the risks and certainties of failure, ICF does not attach any importance to producing an independent assessment of landfills’ long term risks.

6. Risk assessment cannot be automated. The second purpose of the work assigned to ICF was to essentially automate the process of risk-rating the 282 landfills in California. In this, we do not criticize the meaningless results that ICF produced as the fault of the consultant. Rather, we do not believe that this task can be automated.

The fact that the risk-related factors listed by ICF, such as depth to groundwater or distance to fault lines, bear some relation to the site’s risk does not mean that, we know anything about the magnitude of the risk at a particular site in relation to each factor, individually, nonetheless acting upon each other.





SIERRA CLUB
CALIFORNIA

First, as the landfill representatives correctly objected, the assignment of a relative value for risk to each factor in the report is purely arbitrary and without any objective validation. ICF says that is professional judgment, but it is in fact meaningless. Second, ICF proposed to give a pass to landfills that have a risk factor, such as propinquity to groundwater or earthquakes, if the landfill owner alleges that it has engineered around the problem. However, these engineered resolutions are often ridiculous, usually contentious, and often involve extraordinary additional efforts that must be applied forever. Third, there is always the distinct prospect of risk factors arising at a particular site that do not happen to be included in ICF's criteria list.

This entire exercise is meaningless and should be abandoned before anymore time is wasted on it. Particularized risk assessment is expensive but that is part and parcel to an industry that is permitted to construct and operate megasized facilities in the most inappropriate sites that, it is known, all will eventually fail.

We recommend that:

1. The staff inform the Board of the shortcomings of the ICF study, as detailed above.
2. An independent perpetual care fund, provided by a per ton assessment on landfilled wastes, and sheltered from state budget transfers, should be established to cover the costs after postclosure ends for the state to undertake the annual major as well as minor costs of maintenance in perpetuity at the landfills in California, including a substantial contingency factor for misestimation, price inflation and premature closures. For each year that the landfill owner properly undertakes postclosure maintenance, an amount equal to the costs, less that which is needed to actuarially maintain the fund in perpetuity, should be remitted to the owner.
3. Long term catastrophic private insurance should be established for coverage not less than \$100 million per site, and any additional amount for which a market exists by two or more qualified insurers. To reduce risk, only insurers with high credit ratings should be considered, and the use of insurance pools and reinsurance should be included. Also, to reduce premiums, a \$10 million deductible should be included, which should be paid from a state fund paid by landfill owners. If what the staff states about the certainty of failure is correct, certainly the premiums will be expensive. But, the old adage is true that if one cannot afford the premiums, then one cannot afford the risk.
4. A second perpetual fund should be established, provided by a per ton assessment on landfilled wastes, to cover the cost of paying the premiums on that insurance in perpetuity, based upon the anticipated premiums. Again, for each year that the landfill owner properly pays the insurance premium, an amount equal to the premium, less that which is needed to actuarially maintain the fund in perpetuity, should be remitted to the owner.

Respectfully Submitted,

Bill Magavern

Bill Magavern
Senior Representative
Sierra Club California

Scott Smithline

Scott Smithline
Director of Legal and Regulatory Affairs
Californians Against Waste



SIERRA CLUB
CALIFORNIA

