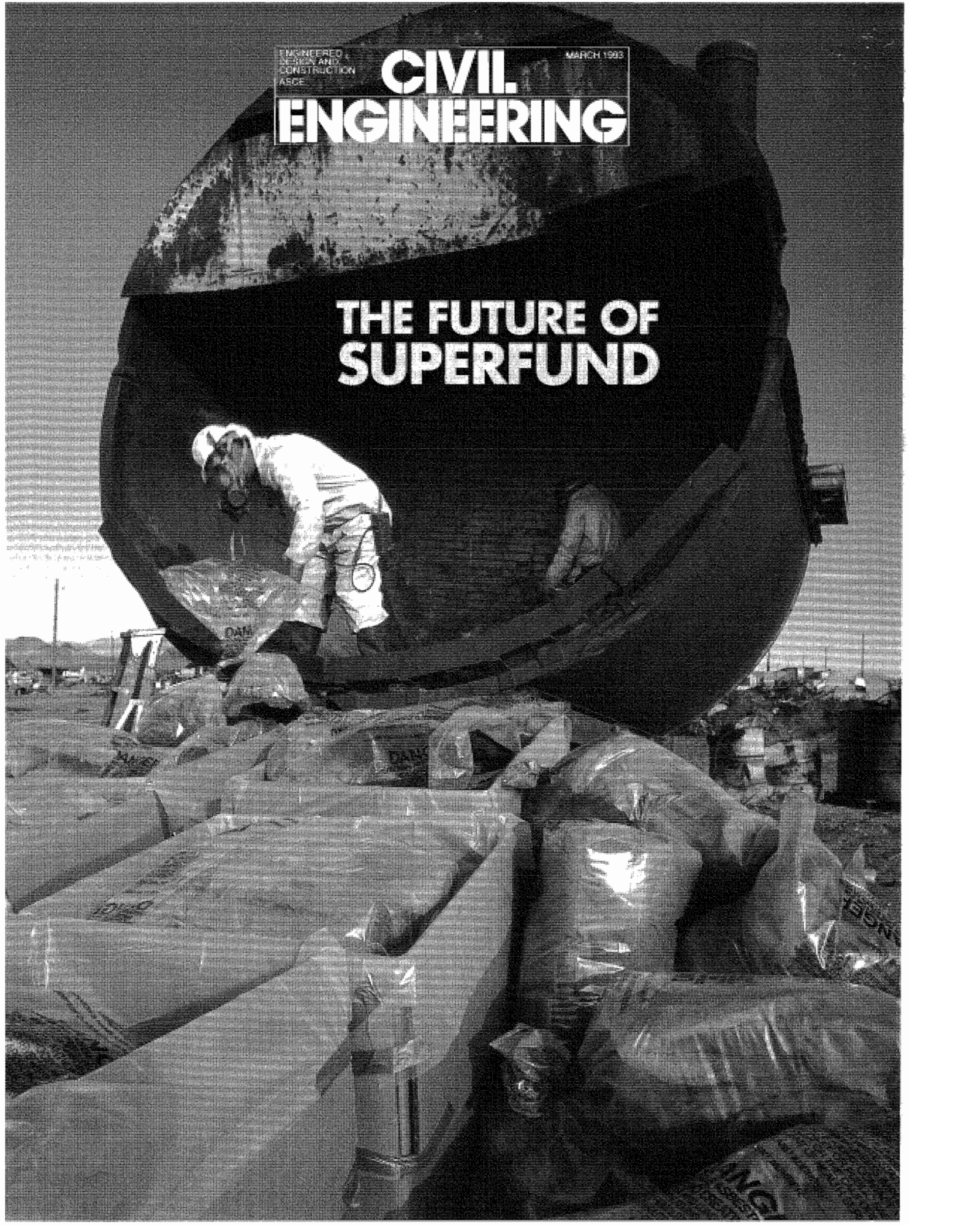


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MARCH 1993

CIVIL ENGINEERING

THE FUTURE OF SUPERFUND



FORUM

STOP SUPERFUND STAGNATION

In the 12 years since Congress established the Superfund program, one clear truth has risen to the top of an increasingly murky surface: The job is not getting done. The main reason is government unwillingness to risk getting its hands dirty. Rather than allowing cleanups, however preliminary or cautious, to begin the moment a site has been targeted, regulators have retreated into the approval process as a means of escaping potential liability. As a result, a greater volume of contaminants is being released into the environment every day—causing additional environmental degradation and potentially affecting the health of nearby residents—while study after mandated study is conducted, leading to years of delay.

The desire to avoid risk also results in the selection of costly and redundant remedial options when equally effective but cheaper options exist. Unlike private companies, regulatory agencies gain no economic rewards from choosing a less expensive, riskier remedy over a more proven but costly one. Again the result is delay, as firms reluctant to pay costs they feel are unwarranted argue their point—in court.

A more significant judicial bottleneck involves Superfund's power to hold deep-pocketed polluters responsible for cleanup costs of a site that may have been used by numerous firms. Unwilling to be held responsible for all costs, corporations are taking their cases to court. Consequently, cleanups are often stalled for years until the relative liabilities of the various potentially responsible parties (PRPs) are resolved.

If this wasn't enough to nearly paralyze Superfund's progress, the meaning of EPA's own toxic-waste regulations have become problematic. Phrases and words such as "minimize," "permanent," "cost-effective" and "overall protection of human health and environment" are not backed by any meaningful criteria. Regulators must rely on their own interpretations, and, to protect themselves, often seek the most extreme solutions, treating "minimize" as synonymous with "eliminate," even though no environmental benefit may be gained by bringing contaminant levels to below detection limits.

The result of this overly protective, convoluted thinking is, inevitably, higher-than-anticipated costs and widespread dissatisfaction with the rate of the site cleanup process. More important, contaminants are allowed to spread, potentially endangering the health of those who live in the vicinity of sites.

Many within and outside government have concluded that significant changes are needed in the current approach to cleaning up hazardous waste. Clean Sites, Inc., Alexandria, Va., a nonprofit organization, has offered a number of recommendations for improving Superfund's remedy selection process, including setting national standards to simplify the selection of cleanup levels. In *Making Superfund Work*, Clean Sites sug-

gests giving more weight to expected land use, with higher levels of residual contamination permitted at sites where future use is minimal or restricted than in residential areas. Clean Sites also proposes that the EPA limit data collection at sites with generic problems, develop model remedies for recurrent site conditions and strengthen its commitment to early site action through the expanded use of removal actions. The latter recommendation carries the most promise, as early action on a site can be as critical to quick remediation as early treatment of a malignant tumor is to recovery of a cancer patient.

A typical condition that demands an early remedial response is the existence of unlined ponds with hazardous liquids and sludges. At such sites, it is imperative that all free liquids be removed and the remaining sludges be stabilized/solidified as quickly as possible. Remedial measures need not be delayed while extensive bench-scale tests are undertaken to determine the appropriate ratios and types of stabilizing/solidifying agents. Much of the testing can be performed in the field during the actual cleanup. This is preferred, in fact, since laboratory conditions never exactly match those at the site.

Other tests run during cleanups could determine whether the actual conditions at a site differ from those encountered during site characterization. If so, steps would be taken to modify the original design. Using this observational approach would reduce the probability that the completed design will fail due to improper site characterization. It makes little sense to study a site for six or seven years to identify a remedy if one that is nearly as effective can be put into place in much less time. Yet that is the standard for most cleanup jobs.

The propensity for regulatory agencies to hinder, rather than help, Superfund's progress has led industry leaders, as well as many officials, to suggest that regulators should be limited to the approval of cleanup goals and standards on sites, rather than entire cleanup processes. Specifics of meeting the agreed-upon goals and standards would be left to industry. The benefit of such a change is that the average length—and cost—of a site cleanup would be shortened significantly. No longer would projects be put on hold for weeks or months while a work plan or report underwent agency review.

Admittedly, such alterations are not likely to come trouble free. Some companies might take advantage of the looser regulatory oversight and do nothing about a site until brought to court; others might implement easier, less expensive plans that have little chance of success. Still, given the failure of the current program, there is little risk in trying a different approach.

Neno Duplancic

Canonie Environmental Services Corp.
Pleasanton, Calif.