

INSIGHT BRIEFING

Financing boom supercharges Superfund

A huge wave of federal funding is allowing the EPA to accelerate Superfund remediation and incorporate new priorities — including environmental justice

BY STEVEN GILMORE



In 1980, US Congress passed a milestone piece of legislation giving the Environmental Protection Agency (EPA) the authority and funding to identify those responsible for pollution at the country's most contaminated sites. Commonly referred to as Superfund, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) also grants EPA the power to carry out remediation in the absence of an identified responsible party, using government funds appropriated by Congress. The Superfund pot has waxed and waned over the years, reaching around \$4bn in the 90s. Until 1995, funding came largely from a tax on the chemical and petroleum industries, which went into a Superfund Trust. The tax then lapsed for more than 25 years. But now the 2021 Infrastructure Investment and Jobs Act (IIJA) and the 2022 Inflation Reduction Act (IRA) have the potential to transform virtually the entire environmental sector.

The IIJA allocated \$3.5bn for Superfund cleanup work, but it also reinstated the Chemicals Superfund Tax and the Hazardous Substances Tax. Between 2021 and 2031 – when those taxes are due to expire – the government estimates they will raise approximately \$14.4bn. The IRA brought



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back an excise tax on crude oil and petroleum products that runs until 2032, and that will provide around \$12bn.

The Superfund is being supercharged, and with over 1,300 existing sites needing remediation, the funding is desperately needed.

“We expect to see an acceleration of existing projects and new sites come into the system as a result,” says Mark Robbins, chief operating officer, environmental sector at Connecticut-headquartered, global professional services company **TRC**. He expects those consultants that hold EPA contracts to see an increase in spending and expected growth in their markets. For firms like TRC, which work with the potentially responsible parties (PRPs) rather than the EPA, there will also be an increase in activity. “We’re seeing new sites designated,” says Robbins. “We’ve seen three come to us this year and we currently have around six. Part of the challenge has always been having the financing to move these projects through, and so the additional IIJA funding has certainly helped.”

New funds, more activity

An initial \$1bn from the IIJA's \$3.5bn was announced in December 2021, which the EPA said would help clear the **backlog** of 49 unfunded Superfund sites and accelerate activity at dozens of others. The agency said it started 81 cleanup projects across the whole of 2022 and started four times as many construction projects as the year before.

A second \$1bn **followed** in early 2023, which the EPA said would go to cleanup projects at 22 Superfund sites and expedite more than 100 other, ongoing, cleanups. The EPA is not only clearing the backlog, but adding new sites to its list. In early September, the agency added three new sites to the Superfund National Priorities List (NPL) and proposed another four Superfund sites.

“In a one or two year cycle you might only see one or two new sites, so that is a significant increase,” says Carole Farr, senior principal, technical discipline leader, site investigation & remediation (US) at Canadian-headquartered global design and engineering firm **Stantec**, which works on more than a dozen Superfund sites around the country.

Consultants say the increase in funding is also leading the EPA to try to address more issues in a variety of different locations. “We are getting more requests even on our existing projects, for analysis of PFAS, and other emerging compounds like NDMA, 1,2,3-TCP, hexavalent chrome, 1,4-dioxane, and perchlorate,” says Farr. “These have all been on people’s radar for a while but we’re starting to get more requests to analyse for them on a variety of sites.”

Consultants say the sites receiving IIJA funding are typically shovel-ready sites that have already been through the initial stages of the CERCLA process and are ready to move to active remediation. For these sites, the dedicated multi-year funding from the IIJA matches the higher-cost, multi-year aspect of remediation, which is why they tend to get priority under this programme. (Note the NPL is a directory of sites rather than a ranking system). Sharon Minchak, environmental market global solutions director at global professional services firm **Jacobs**, points to the firm’s **New Bedford harbour site** in Massachusetts, where Jacobs has **provided** support since 2004. “Community stakeholders being able to position the site to receive IIJA investment really helped us put the site well on its way to the final steps of remediation,” she says.

At present, it is the IIJA allocated funding that is driving the increase in activity. Consultants say just how the IRA excise tax will be used remains to be seen. It may be used as an additional funding stream on top of the IIJA funds, or the regular tax receipts could be used instead of having to go through the appropriations committees.

Either way, when the taxes lapsed in 1995, it was a very different world from 2023. Now there is a sense that the huge increase in funding brings real potential for the Superfund process to evolve from what consultants describe as a linear, stepwise process. This may entail innovations that allow the agency and the consulting industry to improve and expedite remediation, while enhancing vital aspects like stakeholder involvement. Such innovations could include the possibility for different contracting mechanisms. Minchak references Jacobs’ new \$450m five year **contract** to help the EPA’s efforts to clean up and restore 22 of the 25 remaining Great Lakes Areas of Concern by 2030. “This is an

illustration of a slightly more focused and flexible contracting mechanism that is built to address a specific area of concern," she says.

Justice to the forefront

Industry executives hope that the additional funding will also help the EPA and the wider industry not only accelerate cleanup but incorporate key aspects like environmental justice into the process. The Superfund programme is one of several EPA programmes covered by the Justice40 initiative, which aims to make sure that 40% of funding goes to underserved or disadvantaged areas. In its announcement of the first \$1bn IJJA allocation, the EPA said that approximately 60% of the sites to receive funding for new cleanup projects were in historically underserved communities. "This work is just the beginning; with more than 1 in 4 Black and Hispanic Americans living within three miles of a Superfund site, EPA is working to serve people that have been left behind," EPA administrator Michael Regan said.

Consultants note that the Justice40 approach has thus far focused heavily on the EPA itself, and has led to additional training, different approaches to stakeholder involvement and a focus on improving accessibility of information. The funding has also helped the EPA to develop its [environmental justice screening tool](#), which



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should ensure a more balanced and equitable approach to site selection. The EPA's research establishes strong links between environmental justice and air pollution. Farr notes the agency is becoming more focused on vapour intrusion in disadvantaged areas.

As the Justice40 initiative is still in the early stages, it has yet to have a major impact on remedy selection. But consultants report an increasing focus on community outreach, workforce development and the environmental economics and justice components of a given site. "Justice40 will change the decision making dynamics of what sites are prioritised and it will affect the remedy selection on some of these sites," says Robbins at TRC. "We expect this to be an increasingly important factor going forward."

There will be huge opportunities for the consulting industry to bring its own expertise with community involvement and decision making to support the EPA. The focus on environmental justice could also unlock new methods for incorporating environmental economics and justice into remediation, to create positive social outcomes for a given community. But as the agency and the industry incorporate these increasingly complex factors into their approach, there are also likely to be important trade-offs. Remediation solutions with the best outcomes from an environmental justice standpoint, for instance, may not be those most appropriate in terms of sustainability and carbon emissions.

"There are going to be big questions over the next couple of years about how to prioritise human health and sustainability in a really meaningful way," says Farr.

The far future

In addition to environmental justice, ESG and future resilience are also becoming increasingly important factors in how Superfund and remediation work is carried out. Farr says that Stantec is seeing more requests from the EPA to consider issues like sea level rise in its remediation design. "If it's a coastal area, EPA may request that we consider sea level rise out to the year 2100 in our design," she says. And – referring to long-term resilience – "In an area that is seismically active, we might be asked to design a remedy to account for a 500 year seismic event. There are a variety of different requests related to how the remedy deals with



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future uncertainty." PRP clients are typically responding to EPA requests to incorporate resilience, but Farr notes that some individual states are also starting to require similar climate resilience consideration.

There will be increasing pressure on the EPA to prioritise lower carbon solutions. Although the agency does highlight these issues in its operations, it still has a tendency to begin from the standpoint that the best way to protect a community is to physically remove the problem. This opens opportunities for the consulting industry to help drive compelling discussions about implementing greener, lower carbon solutions. There will need to be more discussion about the different risks and trade offs. Truck traffic or trains full of contaminated soil or sediment present their own hazards, in addition to emissions.

Growing ESG priorities – along with more funding – could also help drive innovation. "There should be a natural progression in the areas of remediation and restoration," says Farr. "If we can figure out ways to not only remediate a chemical impact, but improve an ecosystem and potentially sequester some carbon at the same time, those are all great outcomes."

Consultants already have multiple avenues through which to update the agency on innovation. Minchak notes one: Jacobs has been implementing sustainable practices on its [Iron Mountain Mine](#) site in California and is presenting its approach during the Design and Construction Issues at Hazardous Waste Sites (DCHWS) West 2023 conference. “Part of what we want to do is to create long-run solutions that are sustainable and implementable for the EPA and the stakeholders,” she says.

New skills in demand

The increase in Superfund activity paired with emerging factors like environmental justice and climate remediation are starting to have knock-on effects in hiring practices. “We are always looking for smart engineers but as we start looking at sustainable remedial options we have to include geochemistry, ecosystems restoration, detailed health risk assessments and climate risk and resilience expertise in our remediation strategy recommendations and decisions,” says Farr.

Consultants that hold EPA contracts are looking to increase capacity in response to the additional spending. But as always, the consulting industry faces a tight labour market and potential resource limitations. “Everybody is dealing with the same challenges of personnel, capacity and the ability to access the materials needed,” says Minchak.

PFAS regulation is certain to increase remediation work as a whole and is another area where consultants say they are looking



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to increase expertise. While it is unlikely that PFAS – as a discrete issue – will lead to an increase in Superfund sites, it is highly likely that PFAS will be included in the analytical suites used at Superfund sites. CERCLA typically requires five year reviews on all sites where hazardous substances remain above certain levels. It is now routine to see PFAS added as a consideration during these reviews.

Consultants say that private sector and non-governmental clients have yet to begin looking at sites where they believe they may be liable. Instead they are waiting until the regulatory requirements become clearer.

In June, the EPA extended the timeline for publication of its final rule designating PFOA and PFOS as hazardous substances under CERCLA. The agency now expects to publish the rule in February 2024. The CERCLA designation will make owners, operators and transporters – past and present – liable for PFAS release.

The added PFAS dimension, combined with the funding boost, has the potential to turbocharge an already powerful piece of legislation. CERCLA establishes liability for current and former owners and operators of facilities where hazardous wastes were released or disposed, as well as generators and arrangers of disposal or transportation of hazardous substances, and transporters of hazardous substances. CERCLA also imposes retroactive liability, which means previous owners of contaminated land can be held liable. Even Superfund sites that have been previously closed could be reopened.

“We’re seeing a lot of activity around PFAS assessment and monitoring, which will undoubtedly create some new activity,” says Robbins. “There’s going to be a lot of resistance from the business community about the prospect of closed Superfund sites being reopened. But we believe that up to 500 sites might be impacted by the CERCLA classification.”

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Online event

Innovative & Equitable Solutions to bring Superfund Sites back to Beneficial Use

23 January at 11am-1pm EST / 8-10.00am PST

This online event will include updates on EPA policy and Superfund Remediation, Technology & Redevelopment Programs, as well as case-study presentations and an industry panel discussion on best practices to support the return of superfund sites to beneficial use.

If you’re interested in speaking or sponsorship opportunities please get in touch with simon.king@environment-analyst.com