in January; an enquiry determined that the drum had been packed improperly before shipment from the Los Alamos National Laboratory in northern New Mexico. Concerns remain about safety, as well as the long-term risk of human intrusion into a facility that will remain dangerous for thousands of years after its eventual closure. But by and large, WIPP has functioned as designed, and it could do even more to help the US Department of Energy (DOE) address the fallout from the country's nuclear-weapons programme.

Much high-level waste — produced during the reprocessing of spent nuclear fuel into plutonium — is highly radioactive and dangerous. But the evidence suggests that some of the waste that is labelled 'high level' technically qualifies as transuranic. This material is still barred from direct disposal at WIPP, purely because of how it was produced. But labels can be changed. If wastes that meet the transuranic criteria could be shipped to WIPP, it would save considerable time and effort as the DOE continues to struggle with the country's radioactive legacy.

At present, the high-level waste is scheduled to be encased in glass logs for disposal in a separate repository at Yucca Mountain in Nevada. Despite decades of delays and controversies, there are signs of progress at the DOE's flagship vitrification facility at the Hanford Site in Washington. But even if current plans hold, that facility will not begin processing high-level waste until 2032. Nor is it clear where the logs will actually go. Yucca Mountain was shut down by former president Barack Obama, only to be revived by President Donald Trump. Its long-term prospects are far from certain.

Reclassifying some high-level waste at Hanford, as well as at two facilities in Idaho and South Carolina, offers an alternative path for some of that waste, and one that would reduce an ongoing threat to workers and the environment. More than one-third of the 177 underground storage tanks at Hanford have leaked and contaminated groundwater.

The problem is inertia, compounded by fear, distrust and politics. The DOE is operating under a complex web of rules, regulations and legal agreements, and shifting course isn't easy. Although the agency has the authority to look through its nuclear-waste inventory and reclassify wastes that meet the WIPP transuranic criteria, it has resisted such a move because it fears that this would spark political uproar — and quite probably legal challenges.

Washington state, which has in place a court-ordered clean-up agreement for Hanford, has been particularly resistant to change. And New Mexico has tied the DOE's hands at WIPP by banning the disposal of tank wastes and any other materials managed as high-level waste — even if they meet the WIPP criteria. Watchdog groups, meanwhile, are concerned that nuclear-waste reclassification is simply a way of changing the rules and lowering the bar for public and environmental safety.

"The problem is inertia, compounded by fear, distrust and politics."

The proposal briefly bubbled up to the surface several years ago, but political attention shifted after the leak at WIPP. Now a coalition of local governments from communities across the nuclear-weapons industry is reviving the idea. In a white paper published last month, the Energy Communities Alliance urged a two-pronged approach involving the DOE as well as Congress, which could clarify the definition of high-level waste legislatively. The alliance estimated that the DOE could save at least US$40 billion over the lifetime of its clean-up programme — more than 15% of the estimated $257-billion price tag.

After spending some $11 billion on the as-yet-unfinished vitrification plant over the past two decades at Hanford, some may hesitate to change course. But as former DOE secretary Steven Chu said, the worst thing you can do in a multi-decade project such as nuclear-waste clean-up is to close the door to alternatives. In this case, the solution is simple enough: nuclear waste should be managed on the basis of the risk it poses and not the process that produced it. ■

Emergency access

Data platforms can help to steer emergency responses and ensure aid money is well spent.

Over the past decade, non-profit organizations have sent millions of small stoves to families in the developing world. These appliances are intended to stop people from cooking over open flames indoors — an activity linked to four million deaths per year, attributable to household air pollution.

But economists and public-health researchers have published studies that question the benefits of this effort. One randomized controlled trial (RCT), reported in 2012 and involving 15,000 households in rural India, found no evidence of improved lung function in women in the first four years after they received a stove (see go.nature.com/2zjgwny).

The RCT suggests that these efforts might be revised. But as useful as RCTs are in development economics and global health, they have limits. Findings in one place might be wildly different in another. And in a crisis, first responders are typically too busy trying to provide shelter, health care and bare necessities to design and carry out a controlled set-up.

But humanitarian groups can still improve their efforts in the short and long term through evidence obtained with new technology. A *Nature* News Feature this week (page 444) highlights software called the Dharma Platform, which enables workers on the front line of hurricanes, outbreaks or other crises to record, share and analyse useful data — for example, the spread of disease in rural villages. Dharma is being tested by Médecins Sans Frontières (or Doctors Without Borders), the World Health Organization and other groups combating crises in the Middle East. And it is just one of many new technologies that will make data faster to collect and easier to exchange.

The rush to provide food, shelter and health care can be as chaotic as the disaster itself. Hundreds of millions of dollars flood into the world's largest agencies and non-governmental organizations, which often subcontract delivery to dozens of smaller groups. In such a system, the best source of data is a person on the ground — often someone low in an organization's chain of command. It's this aid worker who listens as a mother describes how she's received four sacks of rice, yet her babies have nothing to eat. This essential feedback is typically recorded on paper. If it makes it into a report, weeks or months will pass by the time it gets to headquarters, where managers then adjust the system.

Platforms such as Dharma that collate real-time data could quicken this response time by informing groups of what people need, and help to reassure donors that their money is being spent wisely. After an acute crisis, researchers can use data collected in the heat of the moment to answer big-picture questions. For example, how might assistance better prevent tragedies that follow disasters, such as the cholera epidemic in the wake of Haiti's 2010 earthquake, or blindness in survivors of Ebola? As long as data collection is organized, consistent and secure, researchers distanced from those delivering aid can evaluate projects objectively.

Requesting more data and analysing them coldly will make failures more evident. In turn, philanthropists, taxpayers and governments that donate money should evaluate each inefficiency sensibly, and not be unforgiving. For example, a tiny fraction of donated insecticide-treated bednets may be used as fishing nets — but that fact should not negate an intervention that has been shown to reduce cases of malaria caused by *Plasmodium falciparum* by up to 62% (C. Lengeler *Cochrane Database Syst. Rev.* http://doi.org/c4f9c7; 2004). Failures at all scales must be upheld as lessons in the continuing struggle to do what's right — and not as arguments to abandon aid completely. ■