

Pacific Alliances Challenge Japan's Remote DGR Strategy

A proposal by Japan's Ministry of Economy, Trade and Industry (METI) to conduct a preliminary geological survey on Minamitorishima – an isolated island under the administration of Tokyo's Ogasawara Village – has triggered regional cross-border resistance. Located fewer than 1,000 miles from Guam, the site is under evaluation for a deep geological repository (DGR) for high-level radioactive waste generated from Japanese nuclear power plants. Guam Senator William Parkinson and Ogasawara Assembly Member Gian Miyagi are leading a coalition challenging the initiative, raising questions regarding sub-national diplomacy, environmental justice, and cumulative maritime risk assessment.

The *Guam Daily Post*, in an article dated August 11, quoted Senator Parkinson as saying, "This is not Guam speaking against the people of Japan, This is Guam standing with Japanese Pacific islanders who are asking why a small and remote island should be made to bear a nuclear burden created elsewhere."

In March of this year, METI asked Ogasawara Village if it would cooperate with a literature survey that would study published information to examine if Minamitorishima could geologically support a DGR. The federal government approved the proposal in April, and the Nuclear Waste Management Organization (NUMO) initiated the desktop survey in May, marking the beginning of stage one of a site selection process that is likely to span two decades. Japan's search for a permanent disposal solution for radioactive waste already spans more than six decades, beginning with initial studies into high-level radioactive waste (HLW) in 1962 and the formal launch of geological disposal research and development in 1976.

The search for a site for a DGR is driven by spent fuel storage capacity constraints at Japan's nuclear power plants. Japan has approximately 19,000 tons of spent fuel in storage at its nuclear power plants, utilizing nearly 80% of available capacity, with some sites closer to reaching full capacity in their pools than others. Recent data from the Federation of Electric Power Companies (FEPC) of Japan show that Japan's spent fuel storage capacity is tightening nationwide, with facilities approaching critical limits as delays persist in the country's fuel reprocessing and recycling program. Some of the storage facilities at the seven reactors on three sites owned and operated Kansai Electric Power Company could reach full capacity as early as fiscal year 2028, as the spent

fuel is accumulating faster than it can be removed. Utilization exceeds 90% at the Fukushima Daiichi Nuclear Power Plant and Kansai EP's Ohi Nuclear Power Plant. Other plants, including Takahama Nuclear Power Plant, Mihama Nuclear Power Plant, Sendai Nuclear Power Plant, Genkai Nuclear Power Plant, and Kashiwazaki-Kariwa Nuclear Power Plant, are above 80%.

Minamitorishima Island has no permanent civilians living on it, but it is used for active military surface-to-ship missile testing. The island is also being looked at for deep-sea rare earth mineral extraction. Sen. Parkinson said that regulators are reviewing the mining, the missile range, and the DGR proposal separately, but he believes their combined effects on shipping, the seabed, and the surrounding ocean should be weighed together.

Opposition to the proposal exists on Ogasawara also, partly because it holds UNESCO Natural World Heritage status. According to UNESCO's website, "World Heritage is the designation for places on Earth that are of outstanding universal value to humanity and as such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy." There are 1,007 natural and cultural places inscribed on the World Heritage List to date.

As a United States territory, Guam lacks sovereign diplomatic authority, necessitating reliance on US federal agencies to formalize objections with Tokyo.

The current coalition mirrors the 1980 transnational movement, led by regional governments, local fishermen, and environmental advocacy groups, that successfully halted a Japanese proposal to discharge approximately 10,000 drums of low-level radioactive waste at a deep ocean site north of the Mariana Islands.

"Pacific islanders under the American and Japanese flags recognized that their common ocean and common future were more important than the political boundaries separating them," Parkinson said of the earlier campaign.

Senator Parkinson plans to continue to pressure Japan and the US Congress for formal consultation before the Minamitorishima review moves past its early stages, arguing that shared oceanic resources render geographical distance an inadequate buffer against systemic environmental risks. "Just so the people of Guam don't sleep on this issue, even though it sounds like it's hundreds of miles away, hundreds of miles

away is nothing when we're connected by oceans that affect our food and our environment and our ability to live out here," Parkinson said.

Phase 1 literature surveys have already been done in Suttso Town and Kamoenai Village in the Hokkaido prefecture – both in 2020 – and in Genkai Town in Saga Prefecture in 2024.

This first stage of the siting process takes approximately two years and involves studying conditions and volcanic activity based on geological sources. While the survey is being conducted, Japan's government will provide a grant of up to ¥2 billion (US\$12.57 million).

Top Story

US Surface Transportation Board approves historic DOE-CSX settlement

The United States Surface Transportation Board (STB) has officially approved a long-term settlement agreement between the federal government – primarily the Department of Energy and the Department of Defense – and CSX Transportation, Inc. Effective August 5, 2026, the agreement resolves the decade-old rate and service disputes, solidifying the regulatory and operational framework for transporting spent nuclear fuel across CSX's extensive rail network.

The decision mirrors previous landmark agreements with Union Pacific (UP), BNSF Railway, and Norfolk Southern Railway (NSR), effectively securing predictable rail access for high-level radioactive waste across nearly the entire US Class 1 rail network.

Key takeaways

- The agreement establishes a 25-year baseline term (with 5-year auto-renewals), giving the DOE stable, predictable rail transportation infrastructure through at least 2051.
- The agreement covers commercial spent fuel, naval fuel, foreign research reactor fuel, high-level radioactive waste, empty transportation casks, and buffer/escort cars.
- The agreement applies across CSX's core eastern network, including newly integrated routes from the 2022 Pan Am Railways acquisition.

Common carrier and service obligations

CSX explicitly acknowledges that transporting spent nuclear fuel and radioactive cargo falls under its common carrier obligation. This prevents the carrier from refusing shipments or imposing prohibitive extra-service barriers. The agreement sets clear operational guidelines and transparent pricing methodologies for dedicated train service, security protocols, safe handling guidelines, and emergency extra services.

Industry Calendar

- November 11-13
NEA Workshop on Reprocessing for Advanced Fuel Cycles
<https://oecd-nea.org/jcms/pl117176/recycling-for-advanced-fuel-cycles-supporting-sustainable-waste-management-solutions>
Daejeon, Korea
- November 15-18, 2026
ANS Winter Conference & Expo
<https://www.ans.org/meetings/wc2026>
Arizona Grand Resort & Spa, Phoenix, AZ
- March 7-11, 2027
WM Symposia 2027
<https://www.wmsym.org>
Phoenix Convention Center, Phoenix, AZ
- March 9-11, 2027
39th US NRC Regulatory Information Conference
Bethesda North Marriott Hotel and Conference Center
Rockville, MD

Details are available at:

<https://www.uxc.com/c/data-industry/Calendar.aspx>

Standardized rate and pricing framework

Rates will be governed by common carrier tariffs bound by maximum Revenue-to-Variable Cost (R/VC) markups tied to the STB's Uniform Rail Costing System (URCS). A specialized methodology will be incorporated that extends the "eastern Prescription Case" model to accommodate varying shipment weights, equipment, and dedicated train requirements while standardizing costs nationwide.

The agreement clarifies indemnification protocols under the *Price-Anderson Act*, explicitly covering CSX-owned property (tracks, right-of-ways, locomotives, and rolling stock) in the event of a nuclear incident where standard commercial atomic insurance is unavailable.

With this agreement in place, the Department of Energy has successfully established a uniform rail transport framework spanning both the Eastern and Western United States. Since the majority of upcoming spent fuel shipments are expected to involve multiple railroads, DOE noted in an April 2026 filing that it intends to negotiate individual agreements with the remaining small carriers to fully complete its nationwide logistics framework.

News – International

Japan's plutonium stock remained at 44.4 MT, unchanged from previous year

Japan's total unirradiated separated plutonium inventory stood at about 44.4 metric tons (MT) at the end of 2025 – unchanged from the amount held at the end of 2024, according to data released by the Cabinet office at a regular meeting of

the Japan Atomic Energy Commission (JAEC) and reported by the Japan Atomic Industrial Forum on August 9.

Of the total, approximately 9.9 MT were held in Japan, and 34.5 MT abroad, including approximately 21.7 MT in the United Kingdom and 12.8 MT in France. Compared to the previous year, domestic holdings increased by approximately 1.3 MT, while overseas holdings declined by roughly the same amount. The change reflects the shipment to Japan of mixed oxide (MOX) fuel fabricated using plutonium stored in France for use at Kansai Electric Power Company's Takahama Units 3 and 4.

The overseas holdings are plutonium sent under contract for reprocessing of spent fuel that has yet to be returned to Japan. In principle, such plutonium is fabricated abroad into MOX fuel for use in domestic reactors.

Japan has annually disclosed its plutonium holdings since 1994 in line with International Atomic Energy Agency (IAEA) guidelines, submitting the data to the IAEA to enhance transparency and bolster domestic and international confidence in its plutonium management.

According to JAEC, in 2025, no additional plutonium was recovered from the reprocessing of spent fuel stored at facilities in the United Kingdom and France, and no new MOX fuel was used at nuclear power plants in Japan. As a result, Japan's total plutonium holdings domestically and abroad remained unchanged from the previous year.

Independent safety review could delay restart of Taiwan's Maanshan nuclear plant to 2029

An ongoing independent safety inspection of Taipower's two-unit Maanshan nuclear power plant may not be completed until 2029, according to reports published on August 10. The extended review timeline threatens to delay efforts to bring the plant back online and complicates expectations for a near-term return to nuclear generation in Taiwan.

While the inspection is a critical precondition for any regulatory approval, published reports offer few details on the full scope of the safety audit, the specific drivers behind the 2029 completion date, or a revised restart schedule.

The potential delay comes despite strong political and public momentum for nuclear power. In March, Taiwan President Lai Ching-te announced plans to restart two decommissioned reactors, subject to approval by Taiwan's Nuclear Safety Commission. This was bolstered by an August 2025 referendum in which approximately 75% of voters supported restarting Maanshan.

A major obstacle to restarting Taiwan's shutdown reactors remains spent fuel management. In August 2024, the federal government finally resolved decades-long disputes with New Taipei City over its proposed spent fuel storage solution at the Kuosheng nuclear power plant. Late last year, Taipower

awarded Holtec International a contract to construct indoor dry storage facilities at the Chinshan and Kuosheng nuclear plants to help address storage constraints.

Taiwan is urgently evaluating clean energy options to support surging electricity demand driven by semiconductor manufacturing and AI development – with demand projected to more than double by 2035. To secure its energy supply, the government is expanding renewables, increasing natural gas capacity, and exploring nuclear solutions. Alongside potential restarts, Taipei launched a small modular reactor (SMR) research program earlier this year and is investigating advanced concepts, such as accelerator-driven subcritical systems, to reduce long-term nuclear waste liabilities.

Nuclea Energy expands advanced reactor platform with acquisition of Moltex Energy's asset portfolio

Advanced nuclear vendor Nuclea Energy Inc. has entered into a definitive agreement to acquire the technology and intellectual property portfolio of UK-based Moltex Energy Limited, which is currently in administration. The cash transaction, executed through wholly-owned subsidiary, Nuclea Energy Canada Inc., marks a major expansion of Nuclea's technological footprint. Known primarily for its flagship Morpheus microreactor – a lead-cooled, factory-built micro-modular design – Nuclea is now acquiring a mature suite of molten salt reactor (MSR) concepts and advanced fuel recycling technologies.

The target portfolio represents more than 10 years of research and development backed by over C\$96 million (US\$69.2 million) in funding from private investors, Canadian public funds, and the United States Department of Energy. Major financial and institutional supporters have included the Government of Canada's Strategic Innovation Fund, the Atlantic Canada Opportunities Agency, and the US Department of Energy through Advanced Research Project-Agency (ARPA-E) programs.

Prior to entering administration, Moltex made notable regulatory and technical strides in Canada. Its flagship reactor completed Phase 1 of the Canadian Nuclear Safety Commission's (CNSC) Vendor Design Review Process, while its recycling process advanced under a formal Service Level Agreement with the regulatory agency.

The acquisition broadens Nuclea's core focus – which centered on transportable, off-grid micro-power for data centers, industrial operations, and remote communities – into large-scale grid generation and closed-loop fuel capabilities.

Key acquired assets include:

- Stable Salt Reactor-Wasteburner (SSR-W) – An advanced molten salt fast reactor that uses recycled nuclear material as a fuel salt.
- Waste to Stable Salt (WATSS) – A spent fuel recycling

process engineered to convert spent nuclear fuel into fresh fuel for fast reactors like the SSR-W.

- Flex reactor – A thermal spectrum, graphite-moderated advanced reactor fueled by commercially available low-enriched uranium used in a fuel salt form, contained within fuel pins, with an output temperature of 750 degrees Celsius.
- Intellectual property portfolio – An extensive library including 80 patents across nine patent families in advanced nuclear technology, including nuclear fuel, reactor, chemistry and materials, as well as 9 pending patents on the fuel recycling process.

The transaction is structured as an all-cash asset purchase from Moltex's joint administrators. If completed, the deal equips Nuclea with one of North America's diverse advanced nuclear portfolios, offering a continuum of power options ranging from micro-scale distributed generation to grid-scale fast reactors backed by fuel recycling. All acquired technologies will remain in development, requiring further engineering, capital, and regulatory milestones prior to commercial deployment.

News – US

NRC meeting about eliminating ALARA draws over 550 participants

The Nuclear Regulatory Commission (NRC) held a high-profile public meeting on August 10 regarding its proposed rule to eliminate the long-standing “As Low as Reasonably Achievable” (ALARA) standard from radiation protection regulations in 10 CFR Part 20. Led by Mike Franovich, Director of the Office of Nuclear Regulatory Research and some of the NRC's technical staff, the session drew over 550 participants. The NRC was unable to address all the questions posed by the public in the scheduled time.

The proposed rule, titled, “Reforming and Modernizing the NRC's radiation Protection Framework,” was published in the *Federal Register* on July 15.

In the proposed rule, the NRC proposed dropping ALARA to reduce ambiguity and remove unnecessary conservatism in regulatory enforcement. The NRC said the ALARA concept has been “misinterpreted to require continuous dose reduction.” The proposal “restores balance in light of small risks at low doses and raises the standard for regulatory clarity.” Officials emphasized that baseline numerical dose limits for workers and the public remain unchanged, and the agency continues to uphold the Linear No-Threshold (LNT) science.

The proposed rule replaces ALARA's open-ended minimization expectations with a structured, graded framework. Licensees will follow objective dose limits and risk-informed controls rather than facing indefinite pressure to lower exposure levels. The proposed rule introduces flexibilities, but

fundamental occupational and public dose limits are not changing.

The proposal includes adjustments to effluent release limits and reporting protocols. It also introduces a “caregiver” framework that allows caregivers to receive up to 2 rem per administration regimen from patients in cases where they are visiting or caring for a patient in a facility, and up to 5 rem per administration regimen from patients following release from a facility. Dose limits for non-caregivers are 500 mrem per administration regimen.

Participants raised concerns about the 45-day comment period for such a major regulatory change. Public members and advocacy groups expressed alarm that replacing ALARA could lead to higher routine exposures or cut safety margins to save costs. NRC staff emphasized that existing operational plants are already compliant and will likely retain their current radiation protection programs.

The comment period is open until August 31. Comments should be submitted via the federal rulemaking website at www.regulations.gov/docket/NRC-2025-1140. The NRC will consider all public comments submitted. The final rule is estimated to be published in the *Federal Register* in December 2026.

Public support for permanent nuclear waste solution is over 80% according to new survey

A new nationally representative survey conducted by YouGov at the request of Deep Isolation Nuclear, Inc. highlights a growing consensus among the American public regarding the back-end of the nuclear fuel cycle. According to survey results, 81% of respondents believe that securing a permanent high-level radioactive waste disposal solution should be a national priority.

Key findings – Only 28% of respondents support continuing to store spent nuclear fuel at reactor sites for decades. Furthermore, 69% expressed explicit concern over the lack of a national repository.

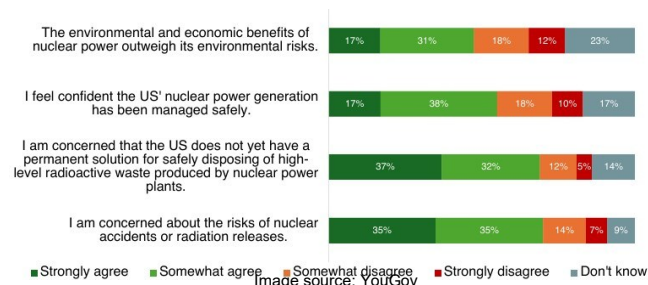
Seventy-four percent (74%) favor underground disposal methods that minimize long-distance waste transport. After receiving baseline factual context, 65% supported deep borehole disposal as a viable management framework, compared to just 58% before the contextual information.

Broad public support for the continued use of nuclear energy in the United States is evidenced by the 61% of respondents who favor nuclear power to be part of the energy mix in the US as demand for reliable, low-carbon baseload power grows.

Technical credibility remains paramount to public buy-in. While 68% of respondents trust scientists and engineers to guide waste management decisions, only 37% trust government entities acting alone to establish nuclear energy policy. These findings show that public confidence is stronger when

technical experts are visibly involved in the process.

Although support for nuclear energy is strong, concerns about nuclear accidents, radiation release, and radioactive waste persist with 70% of respondents expressing concern about the risk of nuclear accidents or radiation releases, as shown in the chart below.



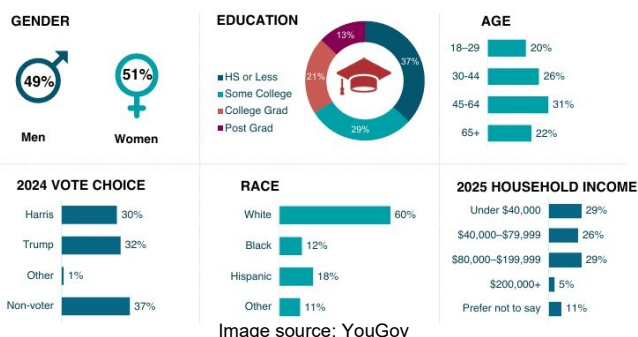
The findings illuminate a practical path forward – Americans want a permanent solution that is safe, technically credible, and guided by trusted experts. Public confidence will depend on clear communication, transparent oversight, and meaningful engagement with states and communities, including those already familiar with nuclear infrastructure.

“This research comes at an important time as policymakers and industry leaders work to advance a long-term strategy for managing spent nuclear fuel,” said Todd Abrajano, President and CEO of the US Nuclear Industry Council (USNIC). “The strong public support reflected in this survey aligns with growing interest in state-led approaches, including the Nuclear Lifecycle Innovation Campus initiative, that combine innovation with durable waste management solutions. As the US looks to expand nuclear energy to meet rising electricity demand, we must pursue practical, science-based pathways that address the back end of the fuel cycle. Deep Isolation’s findings show Americans recognize the importance of advancing long-term waste management solutions to support the next generation of nuclear energy.”

Chris Parker, Chief Commercialization Officer at Deep Isolation, noted, “The results of the YouGov survey demonstrate that Americans recognize the importance of addressing the nuclear waste challenge and are looking for practical, science-based solutions to permanent waste disposal. The survey also reinforces that transparent communication and trusted technical expertise play a critical role in building public confidence as the United States evaluates long-term disposal options.”

The survey was conducted between April 3 and April 8, 2026. YouGov interviewed 1,127 respondents, who were then matched down to a final sample of 1,000 US adults. The dataset was weighted to be representative of the US population, using demographic and political variables including age, gender, race, education, region, home ownership, and 2024 presidential vote choice.

The full report may be found here: [YouGov-US-Survey-Report_v5.0.pdf](#)



Curio secures \$2.5 million to advance NuCycle spent fuel reprocessing technology

Advanced nuclear technology firm, Curio, has secured an additional \$2.5 million cost-shared grant from the Department of Energy’s Advanced Research Projects Agency-Energy (ARPA-E). Combined with a \$1 million internal investment, the \$3.5 million will advance laboratory-scale validation of the company’s proprietary NuCycle spent nuclear fuel recycling process.

The campaign will focus on validating two critical unit operations using actual spent nuclear fuel and transuranic (TRU) elements.

- Selective fluoride volatility – Performing fluorination experiments to separate uranium from high-level fission products and achieve fuel-grade purity standards.
- Molten-salt electrowinning – Testing high-temperature electrochemical extraction experiment to recover TRU elements from liquid salt matrices as solid metal mixtures.

Expanding collaboration with national laboratories

This latest award builds on an initial \$5 million ARPA-E cost share project initiated in 2023 (“Closing the Cycle with NuCycle”). That initial effort enabled side-by-side lab demonstrations of the complete NuCycle flowsheet at Idaho National Laboratory (INL), Oak Ridge National Laboratory (ORNL), and Pacific Northwest National Laboratory (PNNL), successfully clearing critical technical go/no-go milestones in late 2025.

The next phase shifts primary testing executing to PNNL for fluorination experiments to validate NuCycle’s ability to separate uranium from other harmful radioactive materials, producing recycled nuclear fuel that meets the industry’s strict safety and quality standards. The team at Savannah River National Laboratory (SRNL) will focus on building and testing electrowinning equipment that will use ultra-high temperatures and electricity to pull transuranics out of a liquid salt and collect them safely as a solid metal mixture.

Engineering and licensing pathways

Alongside laboratory testing, Curio is moving parallel engineering and licensing tracks forward to support commercial deployment. Curio will develop an NRC regulatory

engagement plan, complete white papers addressing key regulatory questions, perform regulatory exemptions analysis, and deliver conceptual design reports for both the fluorination and electrowinning process equipment with preliminary process flow diagrams, equipment specifications, cost estimates, and preliminary licensing frameworks. Curio will also begin the 10 CFR Part 70 license application process.

Commercialization timeline

Curio's broader commercial strategy centers on deploying a commercial-scale demonstration facility capable of processing up to 4,000 metric tons of spent nuclear fuel annually by the end of 2027. To build out the necessary supply chain and customer ecosystem, the company has executed Memorandums of Understanding (MOUs) with key industry stakeholders, including Framatome, NuScale Power, Sargent & Lundy, and the Utilities Service Alliance.

Opposition to NLIC plans begins to emerge in Tennessee and Idaho

Local media in Oak Ridge, Tennessee reported August 13 that State Representative Ed Butler (R-41) sent a letter to Tennessee Governor Bill Lee opposing the plans for the state to potentially host a Nuclear Lifecycle Innovation Campus (NLIC) – the new initiative from the Department of Energy (DOE) that will support activities spanning the fuel cycle, including nuclear waste storage and disposition. Tennessee was one of five states DOE selected for advanced negotiations as potential host states for these campuses (*SF* No. 1622 July 31, 2026).

Rep. Butler reportedly focused his opposition on the back-end component of Tennessee's proposal, writing in a Facebook post, "Nuclear waste storage is not something we want or need in Tennessee." He said that the economic gains the state would reap would not outweigh the potential cons.

"With the innovation and beauty of Tennessee, there are no economic benefits that will outweigh the potential environmental risks associated with the Nuclear Lifecycle Innovation Campus," he wrote. "We must protect Tennessee and Tennesseans from anything that will potentially harm the state and its citizens."

State Senator Heidi Campbell (D-Nashville) has also spoken out against the proposal on Facebook and in a letter to the governor she sent on July 29, shortly after DOE announced Tennessee had been selected as one of the states for further consideration. She wrote, "You simply can't make our state a nuclear dumping ground without public awareness, input, and participation."

In Idaho, where Governor Brad Little is up for re-election, three of his opponents are concerned about his proposal to host a campus. Their focus is also on the agreement's requirement to accept and store spent nuclear fuel and radioactive waste in Idaho. One candidate, Democrat Terri Pickens,

said she would withdraw Idaho's proposal from consideration. Independent candidate John Stegner cited the 1995 Settlement Agreement that limits Idaho to storing 55 metric tons of spent fuel over 40 years. The Constitution Party candidate (who legally changed his name to Pro-Life), is morally opposed to splitting atoms and would veto everything.

SRS accelerates HLW disposition

The Savannah River Site (SRS) in Aiken, South Carolina is advancing its high-level waste management capabilities through technical process optimizations and strategic facility integration, according to reporting by the *Augusta Chronicle* on August 8. A key revision to the SRS Liquid Waste System Plan reveals operational shifts designed to maximize canister loading efficiency and streamline chemical separations, significantly accelerating legacy nuclear cleanup objectives for the Department of Energy.

Liquid radioactive waste generated during past defense material production is immobilized using a vitrification process, mixing high-level waste slurry with borosilicate glass frit before pouring the molten matrix into 10-foot-tall stainless steel canisters, each of which weighs approximately 1,000 pounds empty and 5,000 pounds when fully loaded.

Under traditional workflows, waste streams are routed through multiple preliminary staging tanks prior to final vitrification. Advanced engineering methodologies now permit select waste streams to bypass intermediate staging and transfer directly into the final feed vessel. This direct blend creates a higher degree of chemical uniformity within the waste-to-glass mixture.

By stabilizing feed variability, process engineers have increased individual canister volume capacity by approximately 5.5 gallons. Over the remainder of the liquid waste disposition program this capacity boost will yield significant operational benefits:

- Canister reduction – Requires approximately 300 fewer canisters overall.
- Footprint and handling – Reduces total canister production, lowering storage footprint demands at the Glass Waste Storage Buildings.
- Risk Mitigation – Minimizes hands-on handling requirements, directly reducing industrial radiological exposures and long-term environmental liability.

Complementing vitrification enhancements, SRS is restarting uranium recovery operations at H-Canyon – the nation's only remaining industrial-scale radiochemical processing facility.

Restarting uranium recovery eliminates an auxiliary waste management process that began in 2023. By leveraging H-Canyon's chemical separation infrastructure to process spent nuclear fuel and target materials directly, the site eliminates intermediate liquid processing steps, preventing additional

secondary waste streams from entering the tank farms.

“Continuous improvement is a core value of our mission – whether it’s enhancing safety, streamlining processes, or maximizing resources, said Steve Howell, Senior Vice President and Optimization and Integration Director for liquid waste contractor Savannah River Mission Completion. “Every advancement we make brings us closer to our cleanup goals and ensures we deliver the best possible results for the site, the community, and the environment.”

DOE awards first civil nuclear credit payment to Diablo Canyon to support extended operations

The Department of Energy announced August 14 it has awarded \$271 million to Pacific Gas & Electric Company (PG&E) to support the continued operation of California’s Diablo Canyon Power Plant, marking another major milestone in the federal effort to preserve baseline nuclear generation.

The award represents the latest tranche of support under the federal Civil Nuclear Credit (CNC) program, an initiative designed to provide financial relief to economically challenged nuclear assets, preserve high-paying technical jobs, and maintain grid stability across key regional power markets.

Under the CNC framework, PG&E remains eligible to receive up to \$1.1 billion in total conditional funding. The capital is designated for critical life-extension requirements, including component replacements, balance-of-plant equipment upgrades, nuclear fuel procurement, and unbudgeted capital expenses tied to long-term operational maintenance.

The financial support follows a pivotal regulatory win earlier this year, when the Nuclear Regulatory Commission formally approved 20-year license renewals for both units at Diablo Canyon.

Located in San Luis Obispo County, the two-unit plant provides nearly 10% of California’s total electricity generation and roughly 20% of its carbon-free energy. Units 1 and 2 were originally scheduled to undergo permanent shutdown and decommissioning in 2024 and 2025, respectively. However, rapidly accelerating power demand, extreme weather events, and grid reliability concerns prompted state and federal policymakers to enact legislative and financial mechanisms to keep the plant operational.

The award aligns with broader federal policy goals focused on energy security, domestic power supply expansion, and infrastructure preservation. “Keeping Diablo Canyon online is critical to meeting California’s growing demand for affordable, reliable, and secure electricity,” said Assistant Secretary for Nuclear Energy Ted Garrish. “The Civil Nuclear Credit Program is helping preserve this vital source of baseload power and ensuring that we don’t prematurely take reliable

generation off the grid. The Department of Energy is committed to unleashing American nuclear energy and keeping facilities like Diablo Canyon operating safely and reliably for the American people.”

SRNS completes flammable gas analysis, allowing shipments of RH-TRU waste to resume

Savannah River Nuclear Solutions (SRNS) Solid Waste and Deactivation Management team recently completed a critical flammable gas analysis campaign on legacy, high-dose-rate transuranic (TRU) waste containers, clearing the way for the Department of Energy Office of Environmental Management (DOE-EM) to resume shipments of remote-handled (RH) TRU waste drums from the Savannah River Site (SRS) near Aiken, South Carolina to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico for permanent disposal. The analysis confirmed that the containers met the safety requirements for transport to the underground repository.

The flammable gas sampling is a critical safety measure, SRNS emphasized. The characterization milestone addresses key repository waste acceptance criteria (WAC) and transportation safety mandates by quantifying radiolytic gas generation – specifically hydrogen, methane, and volatile organic compounds (VOCs) – to prevent the risk of internal drum pressurization or flammability during transport and deep geological disposition.

Characterizing legacy RH-TRU waste presents distinct operational hurdles compared to contact-handled (CH) inventories. Due to elevated surface dose rates, RH-TRU containers require specialized shielding and remote handling equipment to limit occupational radiation exposure in accordance with ALARA (as low as reasonably achievable) principles.

Furthermore, prolonged storage of legacy waste matrices increases the potential for radiolytic degradation of organic materials, making precise headspace gas sampling essential prior to payload assembly and canister loading.

Anthony Carraway, SRNS Solid Waste and Deactivation Facility Manager, stressed the importance of the analysis as a vital step in a complex process that ensures safe, compliant, and efficient shipment of TRU waste to WIPP. Carraway commented, “The characterization of these containers is essential to meet our mission of shipping these transuranic waste containers out of South Carolina and getting them to permanent disposition at the WIPP facility. Our team ensures that we follow all required procedures and controls to keep personnel safe while keeping the environmental remediation moving forward.”

While SRS has successfully offloaded the vast majority of its historical CH-TRU baseline, the remaining legacy inventory comprises high-activity and complex waste streams requiring specialized processing, recharacterization, or repackaging prior to certification.

Despite the technical complexity of the remaining drum inventory, SRS off-site shipping rates have consistently outpaced annual baseline projections. Against a standard performance goal of 12 shipments per year to WIPP, SRS executed 18 TRU shipments in fiscal year (FY) 2025 and 24 in FY 2024. Since SRNS assumed the management and operations contract in 2008, the site has completed 929 TRU waste shipments to the New Mexico repository.

The successful validation of this high-dose legacy drum campaign allows DOE-EM and SRNS to maintain momentum in drawdown operations, moving complex RH-TRU inventories out of temporary surface storage into underground permanent isolation.

Savannah River Nuclear Solutions, a Fluor and HII partnership company, is responsible for the management and operations of SRS.

Hanford completes 24th single-shell tank waste retrieval as dual-strategy push advances

The Department of Energy Office of Environmental Management (DOE-EM) and contractor Hanford Tank Waste Operations and Closure (H2C) have completed waste retrieval operations on Single-Shell Tank A-106. Workers transferred approximately 79,000 gallons of legacy radioactive waste into a double-shell tank, bringing total waste retrieved across the site's aging single-shell units to 3.5 million gallons.

To mobilize the sludge, H2C applied water to dissolve surface salt and reused transferred liquid waste – a retrieval method last deployed at Hanford nearly a decade ago.

Operations are scheduled to begin retrieval operations at the 25th single-shell tank, A-103, in October. However, with double-shell storage tanks operating near capacity, continuous retrieval depends heavily on expanding downstream waste processing. Hanford's tank-site treatment system, which removes over 99.9% of radioactivity from low-activity liquid waste – has been paused since March 10 while awaiting the Waste Treatment Plant (WTP) to ramp up, leaving roughly 400,000 gallons untreated and threatening to stall Tank A-103 progress.

To clear the bottleneck, DOE's Hanford Field Office submitted two permit modification requests to the Washington State Department of Ecology. The requested modifications support a dual "glass-plus-grout-strategy," allowing tank-side treated waste from double-shell tank A-106 to be either

routed to WTP for glass immobilization or transferred via the Effluent Management Facility (EMF) into Department of Transportation-approved tanker trucks for commercial grouting and out-of-state disposal. This request is about excess waste beyond WTP capabilities," said Hanford Field Office Manager Ray Geimer. "Hanford's dual path strategy is about safely dispositioning more waste sooner. This approach would get up to a million gallons of additional tank waste grouted and shipped out of Washington state for disposal by the end of next year – that's on top of the amount we will immobilize in glass and store on site."

Perma-Fix wins Hanford nuclear waste treatment subcontract

Perma-Fix Environmental Services, Inc. announced August 12 it has been awarded a Master Indefinite Delivery/Indefinite Quantity (IDIQ) subcontract by Hanford Tank Waste Operations & Closure, LLC (H2C) for the treatment and disposal of pretreated liquid mixed low-level radioactive waste from the Department of Energy's Hanford Site.

The Master Subcontract took effect on August 11; task orders may be issued from January 1, 2027 through December 31, 2041.

Waste treated will be performed at Perma-Fix Northwest, the company's licensed and permitted waste treatment facility in Richland, Washington. The scope encompasses full lifecycle management of the pretreated tank waste, including Department of Transportation (DOT)-compliant transportation, receipt verification, treatment and stabilization through grouting, compliance verification against land disposal restrictions and waste acceptance criteria, packaging, temporary storage of treated solids, rail transportation, and documentation of final disposal.

Final disposal will occur outside the State of Washington at a licensed, commercial MLLW disposal facility. In accordance with *Resource Conservation and Recovery Act* (RCRA), DOE retains legal title to and responsibility for the waste. Perma-Fix is required to maintain the capability to treat and dispose of pretreated tank waste at a rate of 100,800 gallons per week in accordance with facility license and permit conditions.

The multiple-award IDIQ procurement provides for a maximum cumulative quantity of 50,000,000 gallons, with a maximum cumulative value of \$4,367,300,000.

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