Planning for Future Transportation of Spent Nuclear Fuel

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US Department of Energy

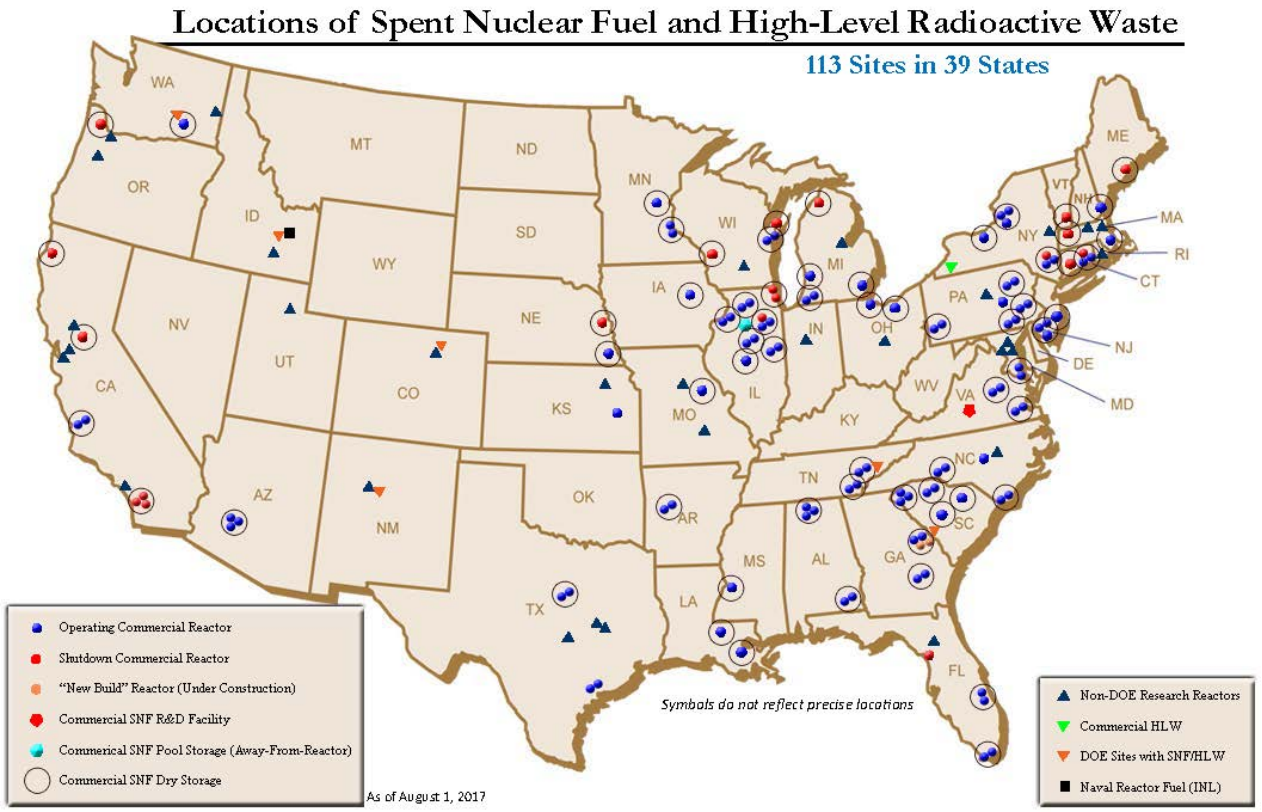
Steve Maheras, PhD
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Vermont Yankee Nuclear Decommissioning Citizens Advisory Panel
June 28, 2018

U.S. DEPARTMENT OF ENERGY

Disclaimer

This is a technical presentation that does not take into account the contractual limitations under the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (Standard Contract) (10 CFR Part 961). Under the provisions of the Standard Contract, DOE does not consider spent nuclear fuel in multi-assembly canisters to be an acceptable waste form, absent a mutually agreed to contract amendment. To the extent discussions or recommendations in this presentation conflict with the provisions of the Standard Contract, the Standard Contract provisions prevail.



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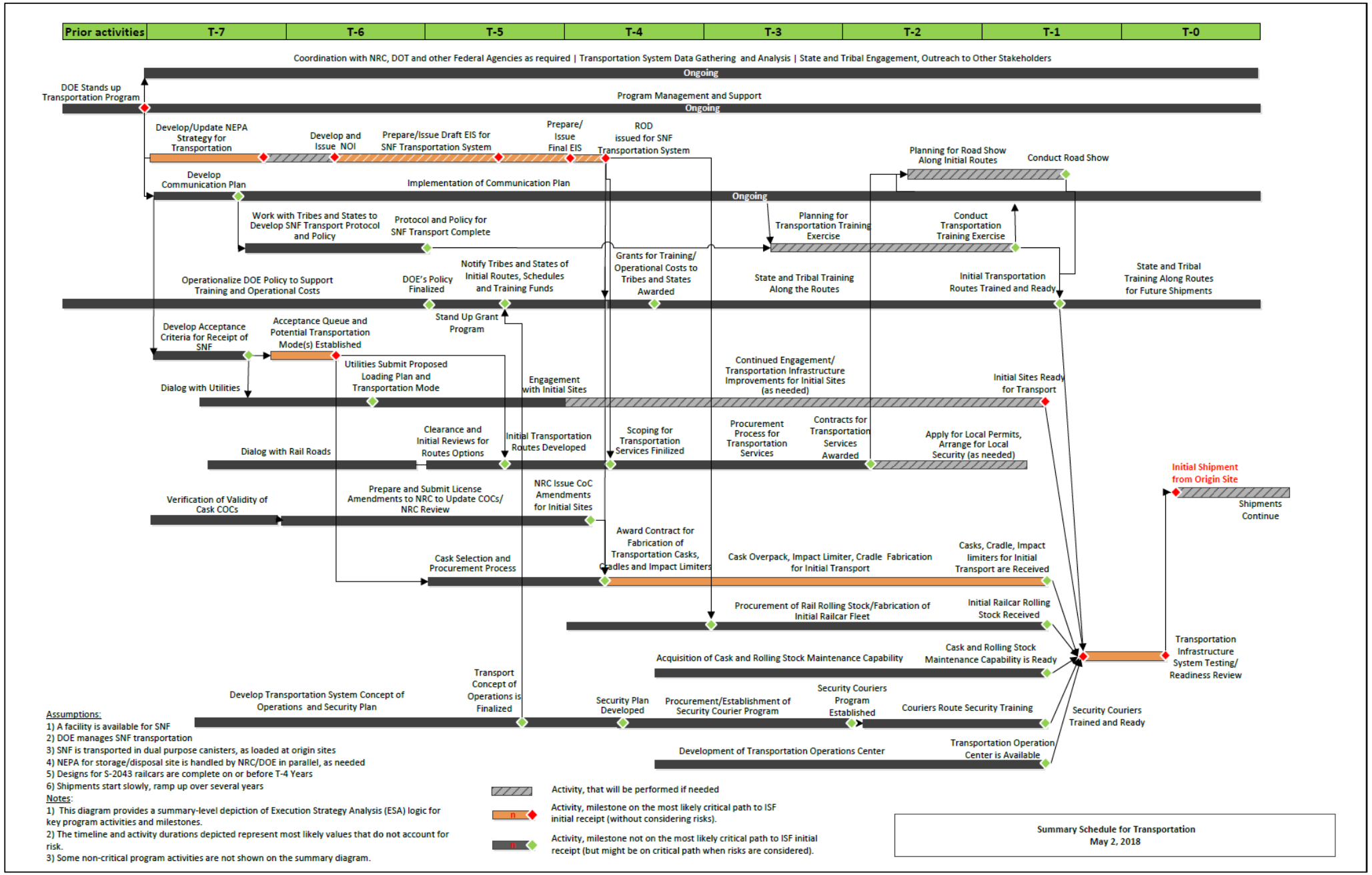
- Transportation System Planning and Timeline
- Critical Path Elements
- Uncertainty
- Current Program Status

What needs to happen to be ready to transport SNF?

- Program direction and adequate appropriations from Congress
- Procure railcar fleet
- Procure transportation casks
- Conduct transportation infrastructure upgrades
- Develop concept of operations
- Establish safety & security
- Stakeholder engagement



Overview of Estimated Transportation Activity Schedule



Assumptions for this Timeline Analysis



- A facility is available for SNF
- DOE conducts SNF transportation
- SNF is transported in dual purpose canisters, as loaded at origin sites
- Shipments start slowly, ramp up over several years
- Completed design for S-2043 railcar

Critical Path Elements

- Program direction and adequate appropriations from Congress
- NEPA process and Record of Decision
  - Award contracts for cask and rolling stock equipment
  - Award contracts for transportation services
    - Determine rail routes
- Acceptance Queue
  - Select casks to procure
  - Determine initial routes to prepare
  - Identify transportation infrastructure upgrades



Uncertainty

- 7-year timeline to be ready to transport SNF is highly dependent on how the waste management program is established and what resources are available
- 7-year timeline does not account for significant technical, supply chain, or litigation challenges

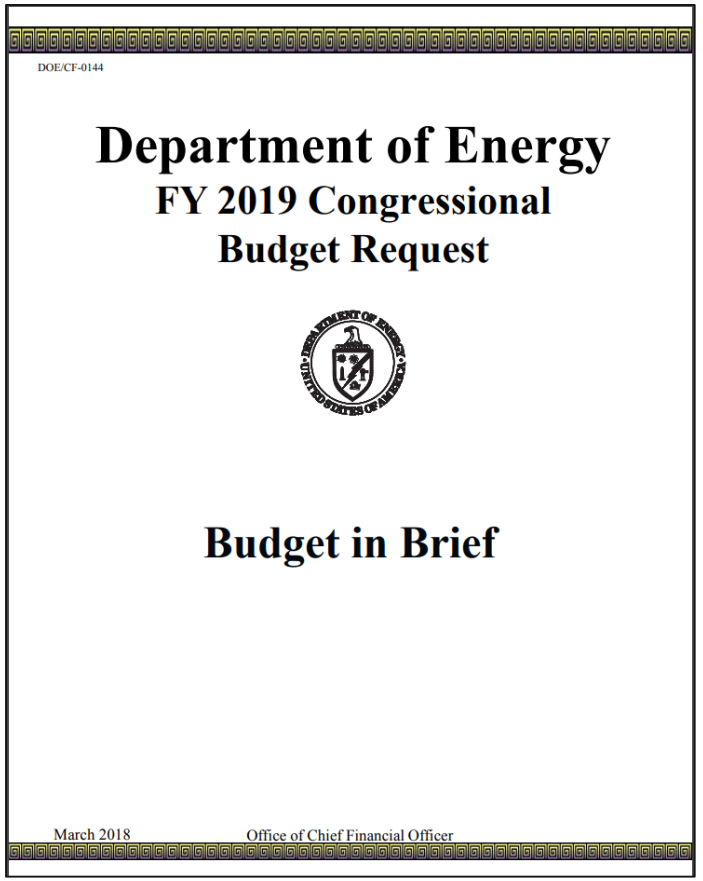




Photo credit: Entergy

Status of the Commercial Nuclear Waste Program

- President's FY18 and FY19 Federal Budget Proposal requested funding for resuming licensing Yucca Mountain and pursuing robust interim storage
- DOE is prepared to support resumption of Yucca Mountain Licensing
- DOE supports development of interim storage capabilities for spent nuclear fuel
- Awaiting Congressional FY19 appropriations

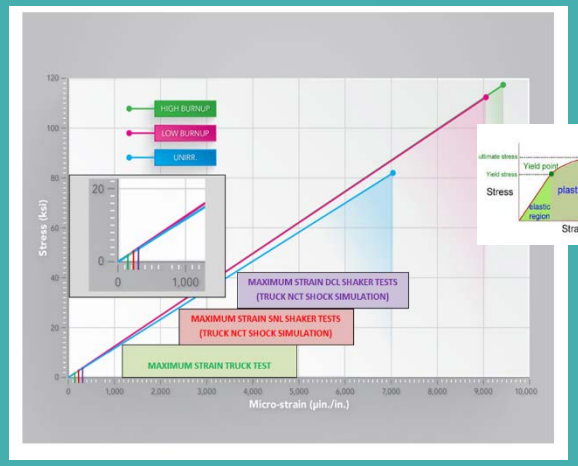


In the Interim

- Office for Spent Fuel & Waste Disposition continues to conduct analysis, research & development to support eventual spent nuclear fuel transportation



Transportation Tests



Stresses on Fuel in Transit



Fort Calhoun ISFSI

DOE FY18 Activities

- Railcar prototype fabrication
- Analysis of data from rail cask transport test
  - Model validation
- Prepare for shutdown site visit
  - Oyster Creek
- Initial site-specific de-inventory analyses
- System tools development and maintenance



For More Information:

- "Preliminary Evaluation of Removing Used Nuclear Fuel From Shutdown Sites"
  - https://www.energy.gov/ne/downloads/preliminary-evaluation-removing-used-nuclear-fuel-shutdown-sites
  - Chapter 2.13 Vermont Yankee Shutdown Site Visit
- DOE's National Transportation Stakeholders Forum (NTSF) Webinars on Initial Site-Specific De-Inventory Reports
  - http://ntsf.wikidot.com/webinars (registration required)
  - Maine Yankee & Trojan; Big Rock Point & Connecticut Yankee; Humboldt Bay & Kewaunee

Questions?

U.S. DEPARTMENT OF ENERGY

For Immediate Release

Berkeley, CA – August 1, 2018 – Deep Isolation, the leading innovator in nuclear waste disposal solutions, announced today the appointment of Rodney (Rod) Baltzer as Chief Operating Officer (COO) reporting to CEO Elizabeth Muller. The company has a unique approach to solving the $80 billion U.S. nuclear waste problem using directional drilling.

Formerly CEO at Waste Control Specialist, Baltzer is a seasoned, 20-year veteran in the nuclear waste industry, with experience in licensing and operating a low-level radioactive waste disposal facility in Texas. Having successfully filed license applications with the Nuclear Regulatory Commission for the storage of spent nuclear fuel, he is accomplished in navigating the regulatory framework as well as many other aspects of the industry.

“We are assembling a team of world class experts, top-tier experts in their fields”, said Elizabeth Muller, Deep Isolation CEO. “Rod brings experience in private-public partnerships that have solved tough problems in the low-level nuclear waste industry. That experience will be instrumental in leading our efforts to partner with our government and stakeholder communities. His industry knowledge will be beneficial as we begin our license applications and build an operating company.”

Baltzer said “I’m excited to join Deep Isolation. The similarities on what Deep Isolation is trying to accomplish and the experience I’ve had in the nuclear waste industry makes this a perfect match. The nuclear waste problem is older than I am and it is time that America had a solution. I look forward to providing a solution for the disposal of spent nuclear fuel in the very near future.”

About Deep Isolation
Berkeley based Deep Isolation is a leading innovator in nuclear waste disposal solutions. Founded through a passion for environmental stewardship, scientific ingenuity, and American entrepreneurship, Deep Isolation’s world-class team of experts has developed a patented solution using directional drilling to safely secure waste deep underground. In an industry regulated by the US Government, Deep Isolation is pioneering a pathway for a nuclear storage market that will allow private companies to participate in developing and implementing options for safe and permanent disposal of spent nuclear fuel. For more information, visit deepisolation.com.

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CITIZENS' OVERSIGHT PROJECTS
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August 30, 2018

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Greetings:

The NRC announced a "Special Inspection" at San Onofre Nuclear Generating Station to review events surrounding the Aug 3, 2018, fuel-loading "near miss" incident. Through this letter we hope to provide guidance to this investigation by the NRC from our standpoint of providing public oversight, including a request for expanding the scope of your investigation. Please distribute this letter appropriately within the NRC so our concerns will be known by the inspection team.

The issues we are concerned with are as follows:
1. NEAR MISS INCIDENT: Safety inspector and whistle-blower David Fritch spoke at the 9 Aug 2018 Community Engagement Panel (CEP) meeting in Oceanside. Fritch described a near-miss incident where a fully loaded spent nuclear fuel canister (multi-purpose canister, MPC) being lowered into the underground vault caught on the MPC Guide Ring, and was held by only 1/4 inch from falling 18 feet into the underground vault while the rigging was completely deployed, no longer supporting the canister.

Fritch, an OSHA inspector who has been working on the San Onofre site where spent fuel is being moved to the underground spent fuel storage installation only 100 ft from the water's edge, said that the workers thought they had lowered the canister into the underground vault, only to find out that it had become lodged on a guide ring.

Fritch's full remarks and the initial SCE response to them at the meeting can be viewed in the meeting video [1]. His comments are attached to this letter. See also media coverage [2].

The facts broached by the testimony of Fritch at the CEP meeting have been corroborated by Southern California Edison (SCE). The workers had moved a canister full of spent fuel assemblies inside a Holtec "HI-TRAC" transfer cask using a transporter that can both lift the canister and transfer cask and roll them over to

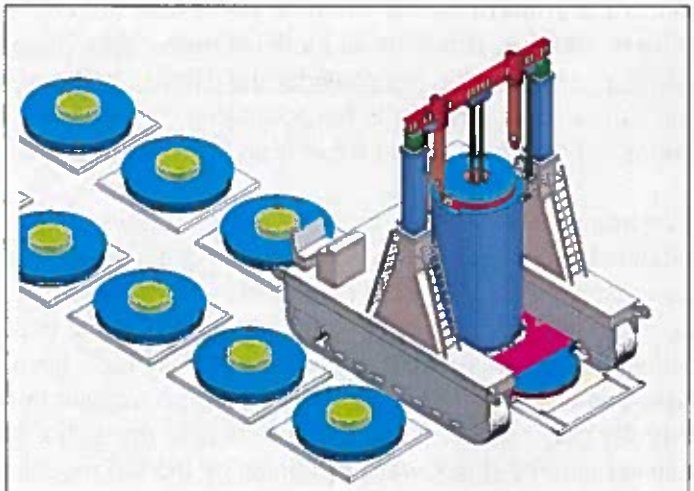


Figure 1: Transporter lowering an MPC canister into an underground vault protected by Transfer Cask

the underground vault where the canister is to be placed. Steel, lead, and water are the principal shielding materials in the HI-TRAC transfer cask so workers can work near the MPC without receiving an excess dose of radiation.
Once over the underground vault, the bottom of the transfer cask has a sliding door that can move out of the way so the MPC-37 canister can be lowered into the vault. (Figure 1).

The rigging holding the canister lowered all the way, and workers thought the canister had successfully been lowered into the vault. However, the bottom of the canister had become lodged on the top of the MPC Guide Ring, which exists about four feet from the top of the vault, and the MPC canister was only barely held by about 1/4 inch from falling about 18 feet into the vault. (Figure 2).

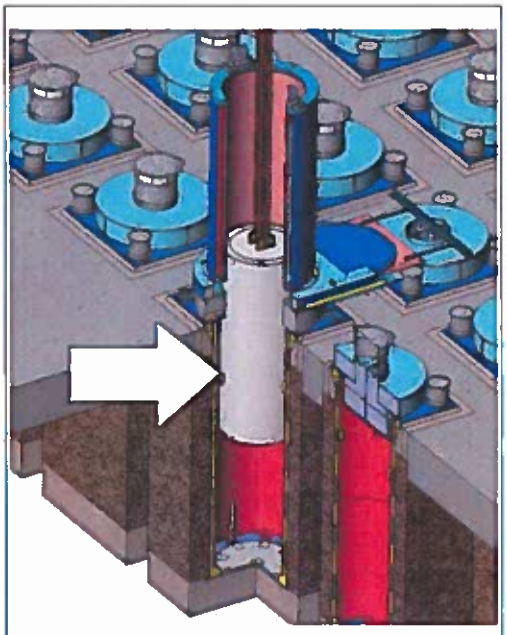


Figure 2: Arrow shows location of alignment ring which was supporting the entire ~45 ton mass on about 1/4" from falling about 18 feet into the vault.

Apparently, the workers then took radiation readings and were concerned that the readings were too high. They discovered that the canister was teetering on the alignment ring. They pulled the canister up with the rigging and re-centered it, and then successfully lowered it into the vault. Fritch also said that this was at least the second time such an incident occurred.

Some have commented that there was no risk to the public in this near miss incident. We disagree. This event **could have been a major disaster**, and it is one that has not been adequately modeled nor is there any plan to deal with it.

The NRC reviewed a mathematical model of a drop test of a canister devised by Holtec [3] Also, Brookhaven National Labs published this more detailed model [4].

Although the model devised above included a drop of the canister inside the HI-STORM (above-ground) shell, this analysis was limited to a drop of **only 12 inches, not 18 feet.** The other aspects of that report concerned drops of the HI-TRAC transfer cask holding a canister. Those models considered larger drops of up to 100 feet. But in those modeled drops, they considered that the contained canister was a "rigid cylinder" and they did not consider the damage to the MPC itself. If you've heard of drop tests of "30 feet", these tests include the transportation cask or transfer cask. These casks provide structural support and/or impact limiters, and those tests do not consider damage to the contained canister either.

As a trained engineer, my thoughts are as follows. First, models can be wrong, as they have never been validated by any actual drops of fully loaded MPC-37 canisters to see what would happen. But intuition says that if the fully loaded, (~45 tons) 5/8" thick stainless steel canister had fallen the 18 feet, it would have suffered substantial damage, particularly at the bottom which takes the full weight of the rest of the cylinder. The containment of the canister may have been breached (most likely at the weld to the base plate), and it very likely would have become wedged in the bottom of the vault (because the sides of the cylinder may have bent in and out or bent to one side). The concrete would be damaged by the falling canister and the shock wave produced by the fall may damage other nearby canisters. The canister spreading to the sides would likely damage the air vents of the underground vault, perhaps crushing them

and eliminating any circulating air. Then, the fuel may quickly overheat. If the fuel assemblies inside were also compromised, there is a risk that a critical reaction would have been sustained. It could have resulted in a meltdown or explosive scenario, contaminating the coastal area for many miles. It is unclear how anyone could then get the crumpled canister back out of the underground vault even if the canister containment boundary is not compromised.

These mistakes place the population of approximately 8.4 million residents around the facility at extreme risk of a major disaster, as well as likely radioactive contamination of the ocean and beach areas around the facility.

--> Camera systems are not utilized to allow workers to safely watch the canister at all times.
--> Of concern also was the fact that Edison did not disclose this near-miss at their own meeting.
--> It seems such events have happened at least one other time, also not disclosed.
--> Edison has no plan for what to do if a real disaster should unfold.

Fritch also listed a number of concerns regarding the dismal safety culture at the plant. He said they were under-trained, under-staffed, and did not communicate lessons learned to subsequent workers.

2. CHANGED COMPONENTS: Secondly, we learned at the March 2018 CEP meeting that Holtec had modified the MPC canister system by changing the design of the ends of the "shim" blocks, which are open to encourage circulation of the helium inside the canister. The design was changed from a more robust end with cut-outs to a flat cut design with stand-off pins. SCE reported that they discovered some loose pins in the bottom of a canister.



Holtec apparently changed the design without informing their customers or the NRC.

We note that the two issues combined would have caused even worse problems. That is, if the pin design is used, coupled with the near miss drop, then these pins would surely bend or break off and the canister would more quickly overheat due to lack of internal cooling circulation of the helium.

Given this newly acknowledged accident scenario, we request that the NRC expand the scope of their inquiry to include the defective canisters already installed in the ISFSI. As these are defective designs, Holtec should pay for the removal of the four defective canisters and to swap out the assemblies into a canister that meets specifications.

3. NO ACCIDENT SCENARIO PLANS: Coupled with these two issues is the lack of any plans for what to do if such an event were to occur. The response by SCE representative Tom Palmisano to the question regarding what they would do had the canister actually fallen the 18 feet (see [1]) was that they would take readings, make reports, and then figure out what to do. We find this lack of pre-laid plans

appalling. We have also learned that moving a compromised canister back to the spent fuel pool is problematic, as reflooding a very hot canister is a tricky and dangerous proposition that may result in cracking the cladding due to the sudden temperature changes. However, it has been a standard assumption in the nuclear industry that a pool would be available at the dry storage site and used to stabilize a failed or compromised canister. [5]

It is important to note that the Holtec spent fuel dry storage systems uses components that are used at various stages in the process and each component provides only part of the functionality of the overall system. The MPC itself provides only containment and does not provide shielding nor sufficient structural robustness for transportation or storage. Shielding is provided during transfer of the MPC to the ISFSI through the use of the Transfer Cask (HI-TRAC) which surrounds the MPC. This is transported to the U-MAX underground ISFSI after the spent fuel assemblies are inserted in the MPC and it is welded shut. It is at this stage of handling the MPC canister, lowering it into the underground vault, that we find the canister has no additional protection from the fall. Also, when the canisters are to be moved to their ultimate destination and each is removed from the ISFSI and loaded back into the Transfer Cask, we again have the risk that it might fall into the vault. Then finally, when the MPC is removed from the Transfer Cask and moved into the Transportation Cask (Holtec HI-STAR 190), we have a similar highly risky period when the MPC is not yet protected by the transportation Cask. These transitions include manipulations of the MPC alone, and mean that risk factors will be higher. All these transitions should be included in the review process which should occur at this juncture. We notice also that these critical transitions are not adequately covered by NRC human factors documents. [6]

Citizens Oversight has petitioned the NRC to improve the rules surrounding the storage of spent nuclear fuel accepted by the NRC for processing. The Docket Number for the Petition: PRM-72-8. The two related documents are available as ADAMS Accession number for the Petition (NRC Rule Changes): ML18022B210; the attachment (HELMS Proposal) ML18022B213. One of the key suggestions to satisfy the HELMS criteria is to upgrade the canisters with a secondary outer shell so as to meet the 1,000 year design life criteria. We submit that this may be an essential tool to deal with a compromised canister that is leaking to the environment. Therefore, we request that the information related to this incident be provided to those NRC analysts working on the rule-making petition mentioned above.

Citizens Oversight calls on the NRC to include the following in a formal investigation into the situation. including the following:

1. **STOP:** Make a full-stop on any further movement of spent fuel to the underground facility until a full analysis, report, and corrective actions are defined and taken.

2. **INVESTIGATE:** The Nuclear Regulatory Commission (NRC) must investigate this incident to determine:
    1. how these mistakes occurred.
    2. a list of similar incidents which also occurred, as mentioned by Fritch.
    3. why the NRC was unaware of this incident, and why such incidents are not reported and why a special inspection and investigation is required to know about such near-miss incidents.
    4. a list of similar accidents that may occur during the sensitive transitions of the MPC from one enclosure to another, for example during the removal of the canister from the vault and then lowering it into the upright transportation cask.
    5. whether scraping damage to canisters will compromise their corrosion immunity.

6. engineering modeling of accident scenarios including a free drop of at least 18 feet (and probably more to account for full rigging failure) including modeling of canister internal structures and allowed design changes (such as the aforementioned bolt changes).
7. further modeling of the ISFSI structure, including the steel vault liner and concrete, to determine if such a drop would compromise part of or the entire ISFSI facility, knowing that the high-high tide line is only inches below the bottom of the ISFSI structure. During construction, whistle-blowers informed us that SCE had to pump down the ground water in the excavation for the bottom slab structure.
8. what would be done if everything went wrong, i.e. the canister is dropped in the vault, it gets stuck in the bottom, the containment is breached, and a critical reaction commences. How would the canister be stabilized? To remove it, would the concrete slab need to be cut apart? Unlike the horizontal NUHOMS design, this ISFSI is not modular and there is no means to take it apart to allow access to a canister that has been dropped.

3. **DISCLOSE:** SCE should disclose all prior similar events, including the one referenced by Mr. Fritch, and any other "mistakes" made by their staff during the spent fuel loading operation. The NRC must insure that all issues are being addressed appropriately.

4. **RESPOND:** SCE should provide a response to the claims that they are under-staffed, under-trained, and have a poor safety culture, including steps to be taken to become safety oriented.

5. **PLAN:** Akin to Item 2.8 above, SCE & NRC should explain the steps they would take to deal with the problem, assuming the worst, as described above. It is unacceptable to hear yet again from Tom Palmisano of SCE that they would "evaluate the situation and decide what to do at the time." Since similar accident scenarios could occur when the canisters are eventually removed from the ISFSI vaults and transferred to the Transportation Casks for transportation out of the facility, how will a dropped canister be stabilized if the spent fuel pools are demolished? <u>If a spent fuel pool is necessary in such a scenario, then NRC should not allow the pools to be demolished prior to removal of all of the spent fuel from the site.</u>

6. **REDESIGN:** Holtec should change their design of the spent fuel system so that:
   1. It is impossible for a canister get stuck in the lowering process
   2. Observability is improved during that process so there can be no confusion as to the state of the canister at all times. We suggest the canister lowering process should be live-streamed so the public can witness the operation.
   3. All other transitions, when the canister is moved from one containment to another, are critical and must be addressed with specific plans.
   4. Movement of spent fuel should not continue until these now known accident conditions are fully addressed and accounted for in the FSAR and CoC.

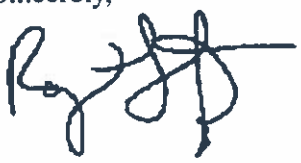
7. **REMOVE DEFECTIVE CANISTERS:** SCE and Holtec should remove the four defective canisters that use the bolt design and replace the canister with one which meets all specifications. This is particularly important now with acknowledgment of this and similar accident scenarios that include drops of at least 18 feet.

8. **ROBUST, COMPREHENSIVE AND TRANSPARENT MONITORING** -- The fact that this near disaster was not disclosed to the public is related to the culture of secrecy and poor transparency. We see this also in the lack of robust and transparent monitoring. It is all but

impossible to find and decode the official reports of radioactive monitoring and the public has had to look to third party resources to set up their own monitoring. This does not assuage fear and doubt which otherwise will surface. The NRC should review monitoring and reporting procedures to insure that they are robust, comprehensive, transparent, and easy to interpret.

Nuclear Regulatory Commission, please completely fulfill your responsibilities and include the full scope of this failure in your review.

Sincerely,



Ray Lutz, Engineer
Citizens' Oversight Projects (COPs)
619-820-5321

Joined and endorsed by:
Dr. Tom English, Former Advisor on high-level nuclear waste disposal to President Carter's Office of Science and Technology Policy, Sweden's Ministry of Industry, NASA, and California Energy Resources Conservation and Development Commission.

More Information:
[1] Video of the CEP meeting with Fritch's comments and response by SCE, as well as other references on this issue: http://www.copswiki.org/Common/M1870

[2] San Diego Union Tribune Article: http://www.sandiegouniontribune.com/business/energy-green/sd-fi-songs-whistleblower-20180810-story.html

[3] Preliminary Safety Evaluation Report, Docket No. 72-1040, HI-STORM UMAX Canister Storage System, Holtec International, Inc., Certificate of Compliance No. 1040" which can be accessed from the NRC ADAMS document repository: https://www.nrc.gov/docs/ML1412/ML14122A441.pdf

[4] Impact Analysis Of Spent Fuel Dry Casks Under Accident Scenarios, Brookhaven National Labs (2003) https://www.bnl.gov/isd/documents/25144.pdf

[5] Macfarlane, Allison "Interim Storage of Spent Fuel in the United States", Annu. Rev. Energy Environ. 2001. 26:201–35, "The waste handling building will need at least one pool in the event of failed casks, failed spent-fuel assemblies, or earthquake damage." http://web.mit.edu/stgs/pdfs/annurev.energy.pdf

[6] Sandia National Labs & NRC, "Preliminary, Qualitative Human Reliability Analysis for Spent Fuel Handling", NUREG/CR-7017, https://www.nrc.gov/docs/ML1105/ML110590883.pdf Sec. 7.2 "Dropping a Cask"

TRANSCRIPT OF DAVID FRITCH STATEMENT AT 9 AUG 2018 CEP MEETING

Thank you, my name is David Fritch. I'm a worker on the ISFSI project. I work in the spent fuel project – F-R-I-T-C-H. I do industrial safety, so OSHA stuff, not nuclear stuff, but I'm out there.
And uh, I may not have a job tomorrow for what I'm about to say, but that's fine. Because I made a promise to my daughter that if no one else talked about what happened on Friday, that I would.

About 12:30, August 3rd we were downloading, and the canister didn't download, but the rigging came all the way down. There were gross errors on the part of two individuals. There were gross errors on the part of two, two individuals, the operator, and the rigger, that are inexplicable.

So what we have is is a canister that could have fallen 18 feet. That's a bad day. That happened. And you haven't heard about it. And that's not right.

My friend here is right, public safety should be first. And I've been around nuclear for many years. It's not. Behind that gate, it's not.

Here's a few things that I've observed in the three months I've been here. SCWE, um, the Safety Conscious Work Environment, where people are constantly given encouragement to raise concerns. It's not repeatedly or even, I've never even received SCWE training since I've been on site. That's not standard for a nuclear site.

Operational experience is not shared. That problem had occurred before, but it wasn't shared with the crew that was working.

We're undermanned. We don't have the the proper personnel to get things done safely.

And certainly undertrained. Many of the experienced supervisors, what we call CLS's, Cask Load Supervisors, once they understand the project and how everything works, are often sent away, and we get new ones that don't understand as well as even the craft, basic construction craft. And a lot of them who haven't been around nuclear before are performing these tasks - not technicians, not highly trained, not thorough briefs.

This is an engineering problem. What happened is, inside of that cask there's a guide ring about four feet down. And it's to guide that canister down correctly to be centered in the system. Well, it actually caught that. And from what I understand, it was hanging by about a quarter inch.

So, obviously, the point is clear. As people said, Edison is not forthright about what's going on. I'm sure they'll tell you that they were going to bring this out once it was analyzed, et cetera, et cetera. I'm sure they're preparing what they would answer if it comes out.

I came here tonight to see if this event would be shared with the community. And I was, I was disappointed to see that it was not.

And I want to thank the community of San Clemente. It's a beautiful, wonderful community with amazing people. You've been great to me. My family's here with me for the month.

Unless Edison and Holtec commit to defining success on this project as safety, and I'm not, I'm not talking about any of the concerns voiced today, I'm just talking about downloading – getting the fuel out of the building safely.

Are we going to address what would have happened to that canister if it would have fallen? Even if the shell wasn't penetrated, now will, will they take it in a repository site?

The question is, will, will Edison and Holtec commit to defining success primarily in terms of nuclear safety. And there will there be transparency, commitment to safety, and the financial commitment to make sure that it's done successfully. Thank you.

This Energywire story was sent to you by: David Victor

AN E&E NEWS PUBLICATION

NUCLEAR

A Texas waste storage plan is back. So is the opposition

Edward Klump, E&E News reporter

Published: Tuesday, September 11, 2018



Interim Storage Partners LLC is seeking a license for a proposed consolidated interim storage facility for spent nuclear fuel. The project would be located in West Texas. Interim Storage Partners

A proposal to send used nuclear fuel to West Texas didn't end last year, but it did stall during a trip to corporate purgatory.

Now a joint venture called Interim Storage Partners LLC has the plan moving forward again. The Nuclear Regulatory Commission recently restarted its review of a consolidated interim

storage application for a site in Andrews County, Texas. And the NRC staff's safety, security and environmental reviews could be finished in summer 2020.



Karen Hadden. Hadden/Special to E&E News

Critics are worried about what's brewing. They're asking questions and hoping for more public meetings. Some would like to halt the project. One of the chief opponents knows the proposal won't be easy to stop, but she's working to rally Texans and others against the plan.

"Most people don't even know this is happening," said Karen Hadden, executive director of the Texas-based Sustainable Energy and Economic Development Coalition. "The public is unaware, and they're unaware of the risks that they are about to be exposed to."

The project is another flashpoint in a long-running debate over nuclear energy and associated waste after a number of U.S. nuclear plants stopped producing power or announced plans to close. Congress has considered legislation that could help pave the way for interim storage facilities in Texas and New Mexico as well as a longer-term site at Yucca Mountain in Nevada. Hadden has voiced concern about those three sites and potential plans to transport nuclear waste across the country.

The spent fuel storage plan for West Texas is tied to Waste Control Specialists (WCS), which has endured financial issues and houses low-level radioactive waste in the region. A plan by Valhi Inc. to unload WCS to EnergySolutions collapsed in 2017. Early this year, J.F. Lehman & Co. announced that an investment affiliate had acquired WCS. That was followed in March by news of a planned venture involving Orano USA and WCS (***Energywire***, March 19).

The new Orano-WCS entity — now called Interim Storage Partners, or ISP — later sought a restart of the NRC review that was halted in 2017. In August of this year, the NRC said the revised **application** was acceptable but that additional information would be sought.

"The NRC staff has reviewed your request and concludes that the revised license application provides information sufficient to resume its detailed review," the NRC **said** in a letter.



Waste Control Specialists operates a facility for low-level radioactive waste in Andrews County, Texas. Edward Klump/E&E News

Jeff Isakson, chief executive of ISP, said in a recent **statement** that ISP looked forward "to an energized and timely process."

'Snickering and giggling'

ISP said its venture initially is intended to store used nuclear fuel from shutdown reactor locations. That would lower the burden on U.S. taxpayers and allow sites to be redeveloped, it said. The application is for 40 years, though it could be extended by decades.

ISP outlined a first phase for storing 5,000 metric tons of heavy metal, which primarily is used uranium fuel. Reaching a capacity of 40,000 metric tons would involve future license amendments.

Construction and preoperational testing on the project could be finished by April 2022, according to an ISP environmental report.

A license application with the NRC said Orano USA ultimately is majority owned and controlled by an entity of the French government. But ISP has said its governing officers and management board members are U.S. citizens.

ISP said in a statement that the joint venture "combines the strengths of Orano's decades of expertise in used nuclear fuel packaging, storage and transportation with WCS' experience operating a unique facility serving both the commercial nuclear industry and the U.S. Department of Energy." There's a WCS information center in West Texas for people to seek more information. ISP also has a website about its plans.

Much of nuclear waste critics' focus had turned to an interim storage proposal from Holtec International for New Mexico. That plan is also under review at the NRC (***Greenwire***, May 9).

While Hadden said there was "a nice reprieve" on the West Texas proposal, she said "the threat is ever-present and on the burner now."

Instead of using the proposed interim sites or Yucca Mountain, Hadden would like to see the United States pursue a new location for a permanent repository that's geologically sound and uses improved storage technology.

A public step in the process for the West Texas site was evident in late August: a meeting about the emergency response plan. Representatives of the NRC, ISP and other interested parties attended in person in Maryland or on the phone.



Jeff Isakson. Interim Storage Partners

The meeting covered aspects of the response plan and gave people a chance to interact. At one point, a speaker said that "nobody lives anywhere near us." That was followed by a description of the location as "in the middle of stinking nowhere." The remarks drew laughter as well as an unhappy response from a listener on the phone who wasn't sure who made them.

"There was a statement made about this site being in the middle of nowhere, and there was some snickering and giggling," said Monica Perales, an attorney. "I live in the middle of nowhere, and that's not appreciated."

In an interview last week, Perales said the attitude during the meeting "made me feel as though we in West Texas are expendable." She is a staff attorney with Fasken Oil and Ranch Ltd. of Midland, Texas. Perales said the company has concerns about how the project could affect its interests in the Permian Basin.

In a recent statement, ISP said Isakson led a presentation by a number of ISP presenters.

"The intent of the comments was to emphasize the benefit of there being no residences within ISP's Emergency Planning Zone for nearly four miles from the site in all directions," Isakson said in the statement.

He apologized on behalf of ISP for "a poor choice of words by a technical team member." And Isakson said operating safely for the region's people, wildlife and environment is a priority.

Hadden sought information during the August meeting call about remediation plans if something were to happen. She was told the emergency plan establishes a framework and that more details would be developed in the future.

View from the NRC

Before the call ended, Tom "Smitty" Smith, an environmental activist in Texas who works on special projects for Public Citizen and is married to Hadden, unloaded on the NRC.

"I want to point out that we're having an emergency because our regulatory agency is failing to allow citizens to ask questions that are appropriate to protect themselves," Smith said, adding: "Our mouths are being taped shut because of actions by this commission."

An NRC representative said the meeting was ending due to time constraints and that some questions were beyond the meeting's scope. He said various venues are available for questions and concerns.

In a statement last week, David McIntyre, an NRC spokesman, said time can run short when several people are interested in speaking during a meeting. He said the staff does its best to accommodate people who want to speak.

McIntyre said the public generally can participate in this sort of licensing review in three ways — during the public comment on a scoping period and a draft environmental impact statement, through petitioning for an adjudicatory hearing, and by asking questions of NRC staff during certain technical meetings.

In a recent interview, Isakson of ISP said the NRC has a pretty good process to handle a license application.

There's an "opportunity for the public to be involved as part of that," he said.

Opponents have raised questions about the WCS site in the past and its potential effects on the environment, but ISP praised the location. ISP said the area includes a "formation of almost impermeable red-bed clay in a relatively remote, semi-arid, sparsely inhabited area."

The plan to store used nuclear fuel there has seen support over the years from some leaders and residents in the region.

"To fully support the continued generation of clean air nuclear energy in the United States, our nation will need multiple, flexible used fuel management resources while developing a permanent federal repository," ISP said. "Our facility will be one of those resources."

A couple of key dates are approaching in terms of the NRC review of the West Texas storage proposal. Parties that wish to comment on the scope of the environmental impact statement should submit comments by Oct. 19. Previously received comments on that aspect will be considered by staff, the NRC said. Those that want to request a hearing related to the current license application should do so by Oct. 29.

McIntyre noted that ISP's application and the NRC's review is specific to the storage facility. If a license were granted, he said, ISP would decide what transportation packages and routes to use.

"The packages and routes would have to be approved by the NRC," McIntyre said. "ISP can choose from package designs previously certified by the NRC staff, or submit a new design for our review and approval."

ISP said its license application refers to used nuclear fuel being sent to the interim storage site by rail. Existing rail infrastructure could be expanded to help accommodate such deliveries.

Not taken for granted

Critics remain concerned about transportation, including the potential effects on cities and the potential for terrorists to target waste.

Hadden has called for public meetings in places such as Dallas, Houston, San Antonio, Midland, El Paso and Andrews County to discuss issues related to possible interim nuclear waste storage in Texas. She's working on a public awareness campaign that's expected to take place later this month and run into October, featuring a full-scale mock radioactive waste transport cask.

Hadden argued future NRC requests for additional information could bring up new issues the public should be able to examine, so NRC deadlines should be extended. Critics say there is already a new financial situation to analyze in terms of ISP's involvement.

McIntyre said that once a draft environmental impact statement is completed — which could be in about a year — it would be typical to return to the region for public meetings and present draft conclusions and take public comments on the report.

The *Federal Register* ended up running a correction regarding the date by which a hearing should be requested in the ISP proceeding — changing it to Oct. 29 from Aug. 29. That was necessary because of what McIntyre called a mistake made at the printer. Hadden saw a bigger theme at play.

"That just strikes me as illustrative of the lack of attention to detail that's needed when you're dealing with radioactive waste," she said. "It's just one example that's sloppy."

Questions also remain about potential congressional action that could amend the Nuclear Waste Policy Act. The House passed a bill this year to help reform U.S. nuclear waste management (***Greenwire***, May 10). It would need to pass in the Senate to move forward, though the outlook is uncertain. In May, the CEO of the Nuclear Energy Institute praised the House vote as a step toward implementing "the federal government's statutory obligation to manage used nuclear fuel."

ISP said "clarifying" the role of DOE in used fuel management would be welcome. But the venture insists that, even without a policy change, developing a private interim storage site would give fuel owners another cost-effective option.

"I think our business can go forward," Isakson said in an interview, "if the waste policy act is not changed."

The ISP CEO said his company is pleased to be involved in Andrews County. And he said WCS and Orano have a strong safety culture.

"There's been a long history of WCS working with the community and the community being comfortable with WCS," Isakson said. "We don't want [to] take it for granted."

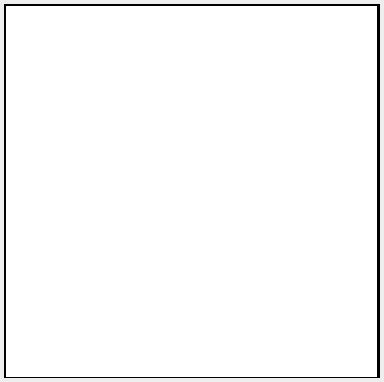
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SAN ONOFRE

Be transparent about nuclear plant

By Garry Brown

Orange County families deserve to enjoy living near our stunning coastline with the peace of mind that they are safe from any health risks from radiation exposure.

But just 1,200 feet from the ocean, two shuttered nuclear generators sit full of nuclear waste, which is in the process of being transferred from pools to dry canisters. A few weeks ago, a mistake during a fuel transfer nearly caused one of these canisters to fall 18 feet. This could have resulted in a radiation leak, but the public did not receive information about the incident from the plant's owner, Southern California Edison.

Our families deserve basic answers to basic questions about what's happening near our neighborhoods. It is imperative that Edison protect residents by communicating openly as it safely decommissions the plant.

Originally, the San Onofre Nuclear Generating Station was comprised of three nuclear generators. The first was decommissioned in the early 1990s. The second and third have not been operational since June 2013 due to malfunctions in the cooling rods of the steam generator system — a design error that potentially could have threatened the safety of our communities.

As Edison decommissions the two remaining generators, it has a responsibility to earn public trust by communicating transparently with the 8.3 million residents who live within 50 miles of these structures.

Edison must put the public first with three commonsense measures: openly engaging with the community, reporting radiation incidents, and protecting our coastline. To its credit, Edison created a community engagement panel to represent the public in the decommission process. This panel has no authority and is based on a model promulgated by the Nuclear Regulatory Commission. The panel is the minimum of what Edison should be doing to address public concerns.

To start, Edison is taking a step in the right direction by hosting meetings specifically to educate residents. This month, the meetings will address basic topics including risks of radiation and what to do in case of an emergency.

Edison must prioritize more initiatives like this. Edison should develop and distribute educational materials to respond to questions from the public. By making its emergency protocols public, Edison can prepare our community and give residents peace of mind.

Second, our families deserve reliable data about nuclear fuel near our coastline and neighborhoods. According to NRC law, spent fuel will be stored on the SONGS site for the foreseeable future, at least until 2035, or when an appropriate long-term storage option becomes available.

Edison must install live-time radiation monitors at the fuel storage site and share that data with the first-responder agencies that will coordinate public safety in an emergency. Monitoring data should be publicly available, so our families can take proper precautions.

Finally, Edison must protect our community by investing in programs to keep our coastline safe and healthy for generations to come.

If Edison intends to leave buried debris behind, it should pay a mitigation fee to compensate for its impact on the environment and ratepayers. These fees could be invested in local restoration projects to create a safer environment by improving the waters where our families swim, surf and fish.

We call on Edison to take community members' concerns seriously. Robust and open communication with the public is essential to earn their trust and keep our community's peace of mind.

Garry Brown is founder and president of Orange County Coastkeeper and member of the SONGS Community Engagement Panel.

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment
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Event Notification Report for October 04, 2018

U.S. Nuclear Regulatory Commission
Operations Center

Event Reports For
10/3/2018 - 10/4/2018

** EVENT NUMBERS **

53616 53620 53621 53624 53642

TOP

Power Reactor

Facility: SAN ONOFRE
Region: 4 State: CA
Unit: [] [2] [3]
RX Type: [1] W-3-LP,[2] CE,[3] CE
NRC Notified By: CHRIS DIMENTO
HQ OPS Officer: BETHANY CECERE

Emergency Class: NON EMERGENCY
10 CFR Section:
26.719 - FITNESS FOR DUTY

Event Number: 53642

Notification Date: 10/03/2018
Notification Time: 19:39 [ET]
Event Date: 10/03/2018
Event Time: 00:00 [PDT]
Last Update Date: 10/03/2018

Person (Organization):
THOMAS FARNHOLTZ (R4DO)
FFD GROUP (EMAIL)

Unit	SCRAM Code	RX Crit	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
2	N	N	0	Defueled	0	Defueled
3	N	N	0	Defueled	0	Defueled

Event Text

FITNESS FOR DUTY - SUPERVISOR TESTS POSITIVE

"At 1135 PDT on October 3, 2018, Southern California Edison (SCE) determined a SCE supervisor failed a random breathalyzer test for alcohol during a random Fitness-for-Duty (FFD) test. The employee's unescorted access to San Onofre Nuclear Power Plant has been suspended."

Page Last Reviewed/Updated Thursday, October 04, 2018