

Holtec-CISFEISCEm Resource

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Sent: Tuesday, May 8, 2018 1:27 AM
To: Holtec-CISFEIS Resource
Cc: Nuclear Watch/Scott Kovac; CCNS/Joni Arends; Janet Greenwald/CARD; Don Hancock; Eileen Shaughnessy; Eric Nuttall; Bill_Woldman@tomudall.senate.gov
Subject: [External_Sender] HOLTEC Comments by Citizen Action New Mexico
Attachments: HOLTEC.Citizen Action.Comments.5.07.2018.docx

ibMay 8, 2018

Office of Administration

Mail Stop: TWFN-7-A60M

U.S. Nuclear Regulatory Commission

Washington, DC 20555-0001

Re: Docket id NRC-2018-0052 – HOLTECS INTERNATIONAL’S HI-STORE

Consolidated Interim Spent Fuel Storage Facility Project (CISFSF) for Spent Nuclear Fuel, Lea County, New Mexico

REQUEST FOR PUBLIC HEARING, PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT, AND PROJECT DENIAL

Nuclear Regulatory Commission:

The application of HOLTEC for a license to store 100,000 metric tons of spent irradiated nuclear fuel from commercial nuclear power plants at a Lea County dump site in southern New Mexico is wholly deficient. A full Environmental Impact Statement is required prior to issuance of a license. Current law does not allow a private corporation to store spent nuclear fuel in the manner proposed by HOLTEC. There is no financial guarantee for bankruptcy and mismanagement. Once the nuclear waste is emplaced, there is no guarantee that it will ever be removed, and permanent storage must be analyzed along with human health effects for the long-term release of radiation. No permanent waste site exists to later receive the “temporarily” stored high level spent fuel. The rail routes and effects of public demonstrations, vehicle collisions, deferred maintenance, and terrorism along those unknown routes is not discussed. The possibility of heavy casks falling irretrievably off high bridges into aquatic systems is not considered. The slow train speed necessary to safely transport extremely heavy containers over an aged rail system and the effect of slow travel for greater irradiation of the public is not discussed. It is unknown if adequate rail lines even exist or are planned and with allocated, budgeted funding.

Alternatives to New Mexico storage/disposal are not discussed. The plan is nothing more than a continuation of environmental injustice and the racist policy of toxic dumping in an impoverished state with a large Native American and Hispanic population. New Mexico has no nuclear energy production and has not created the nuclear wastes intended for disposal.

NRC is holding meetings only in southern New Mexico to avoid hearing from people in Albuquerque or Santa Fe as to how most of the public feels about more dumping of nuclear waste in New Mexico. It’s a rigged and dishonest approach by NRC. Politicians in Lea County are not representative of the larger community of New Mexico that is opposed to the dump.

Nuclear power production is a dead-end technology and the CISFS is an attempt to breathe life back into a corpse. Less costly, environmentally friendly forms of energy production—solar, wind, bio-technology, make more sense. Other energy forms have begun and are superseding nuclear generation without extreme construction costs, generating long-lived waste and the associated health, political and economic problems with operation and disposal. Western Germany is phasing out nuclear power reactors by 2020. Recent events in Fukushima and past events at Three Mile Island and Chernobyl underscore the danger

of nuclear power spreading long-lived radionuclides over air, ocean and land. You can't buy an ocean fish that hasn't been poisoned with radiation. The problem of nuclear waste has turned into a serious dilemma for generators, regulators, and consumers. Cancer rates near nuclear power plants are higher. The nuclear energy industry employs more than 100,000 people in high quality, career-long jobs.^[1] American wind power supported a record 88,000 jobs at the start of 2016—an increase of 20 percent in a year—according to the *U.S. Wind Industry Annual Market Report, Year Ending 2015*. The U.S. solar industry employed 260,077 workers in 2016, a nearly 25% increase in the number of jobs from 2015. The workers aren't dying of brain cancer from their jobs like Cold War era nuclear workers costing at least \$60,000,000 in payments annually on the Employee Emergency Occupational Illness Program Act (EEOICPA). Studies also show that 98% of radiation induced cancers in nuclear workers occurred at radiation levels less than the existing maximum "safe" levels.

The back end of the fuel cycle so far is a problem without a solution. Yucca Mountain has been a failure to date. The Waste Isolation Pilot Plant (WIPP) in New Mexico already has experienced fire and explosion(s) spreading a cloud of Plutonium and Americium over several states and injuring workers with contamination and resulting in a three-year shutdown. The Department of Energy low-level radioactive waste dump at Beatty, Nevada erupted in explosions and fires raging for a day shutting down major highways and sending a radioactive cloud over Las Vegas, St. George, Utah, and into Idaho. We have genius at making nuclear waste and idiocy when it comes to accident prevention and cleanup.

NRC can't be bothered or trusted to enforce its own regulations against unlicensed disposal. Why should NRC be trusted to license and regulate 100,000 tons of commercial spent fuel from around the U.S. when it is unwilling to address existing illegal spent fuel dumping in New Mexico from nuclear reactor meltdown experiments performed in New Mexico? By labelling "interim" for what will become de facto disposal in New Mexico, NRC dodges its own legal requirements that high level spent fuel be disposed of in a deep geologic repository.

The Nuclear Regulatory Commission is so irresponsible toward New Mexico that it refused to take jurisdiction or do anything about the more than 70 spent fuel elements irresponsibly **dumped** in the Sandia National Laboratories Mixed Waste Landfill (MWL is an unlined dump) that has no license for shallow waste disposal of spent fuel and Transuranic waste. Many of the disposed MWL spent fuel pins/rods are from nuclear reactor meltdown tests performed by Sandia Labs for the NRC severe accident program (nuclear reactor meltdown experiments), performed after the 3MI accident. MWL meltdown experiment canisters hold irradiated fuel melted together with metallic sodium. Metallic sodium was the source of the explosions at Beatty, Nevada in October 2015. NRC refuses to accept responsibility for review of the unlicensed, illegal disposal of the MWL spent fuel and Transuranic waste. There is no plan for where spent reactor fuel should or will go next for posterity. New Mexico apparently is assumed to be the future permanent repository for the high level radioactive waste after some indefinite time of temporary storage. Promised military TRU nuclear waste removal from states such as Idaho, New Mexico, and Washington and spent fuel from all states has fallen far behind projected timelines. Why would HOLTEC be any different for timely removal of "interim" stored waste?

Let's all be perfectly honest about this proposed HOLTEC nuclear dump site. It doesn't matter to NRC if the "Interim" Site is opposed by most of the public in New Mexico for the sanest reasons in the world. The game is about political and economic pressures on NRC and for the applicant to trot out experts who will always be believed by the NRC over anything the public or their experts have to say. The amount of money backing the nuclear zombies is phenomenal. The corrupt politicians, who will claim public support for the Interim Site, are already lined up to testify. The money flows to their campaign coffers. The NRC holds phony public hearings, decides that everything is OK, and claims that the community approves. It's a disgusting pro forma process performed over and over that elevates absurdity over reason to the endangerment of public health and the environment.

New Mexico already has experienced the testing of a nuclear weapon and the completely irresponsible treatment of its citizens to suffering the exposure of nuclear fallout and ensuing cancer and diseases without warning, compensation and medical treatment. The Nuclear Regulatory Commission is part of

the nuclear mafia of serial killers that approves the siting of these monstrous, immoral projects that cannot be protective of the public over time, thinking it is doing the New Mexico public a favor with its faux safety concerns. NRC allowed a Diablo Canyon reactor to operate after it was built backwards on an eroding sea cliff in an area of tsunamis. NRC allowed the spent nuclear fuel at San Onofre, California to be placed next to the ocean in an area for tsunamis and rising ocean levels. NRC allowed the Trojan Nuclear Reactor in Oregon to expand spent fuel storage on the Columbia River without allowing geologic evidence to be presented that an earthquake could occur that would be twice the strength the reactor was built to withstand. NRC fails to consider hydrogen explosions for US reactors such as occurred at Fukushima. What the storage of reactor waste in New Mexico will lead to is: the continuing operation of unsafe reactors and the production of more nuclear waste while the NRC merrily churns out more unjustifiable reactor license extensions until we have another 3 Mile Island meltdown.

The public is always underfunded to bring forth its perspective and experts that may be in opposition. Why aren't NGOs paid a few million dollars to mount a reasonable response to the NRC's plans for toxic waste disposal?

The inability to open Yucca Mountain has thrown all assumptions about interim storage in the wind.

Where's the permanent repository for nuclear waste? It was promised decades ago. This matter requires a Programmatic Environmental Impact Statement.

Further Contentions Regarding Plan Deficiencies

1. HOLTEC has not provided the meaning of "interim." HOLTEC has not demonstrated the existence of a detailed quality assurance program which would effectively detect and prevent defective work by contractors and manufacturers of the HOLTEC proposed spent fuel storage facility for an extended period. A one-hundred-year time frame is nothing for wastes that are lethal for millions of years even considering it's supposedly a temporary period. The following quality assurance program elements are wholly inadequate:

(1) program; (2) organization; (3) design control; (4) procurement document control; (5) instructions, procedures, and drawings; (6) document control; (7) control of purchased material, equipment, and services; (8) identification of materials, parts, and components; (9) control of special processes; (10) inspection; (11) test control; (12) control of measuring and testing equipment; (13) handling, storage, and shipping; (14) inspection, test, and operating status; (15) nonconforming items; (16) corrective actions; (17) quality assurance records; and (18) audits (19) waste acceptance criteria

2. Long-term Storage: The Licensees have failed to demonstrate that utilization of the interim storage, associated systems, and storage system, as proposed pursuant to the requested permit, is adequate to accommodate storage of spent fuel elements safely either for the length of time contemplated by its analysis or for what is reasonably likely to be a substantially longer period of time. This failure precludes a conclusion that issuance of the proposed license is not inimical to the public health and safety. The Licensees have not assessed the effect of increased corrosion, the need for chemistry and material controls, and the need for surveillance of equipment, and ongoing inspections for leakage.

3. The Licensees have not adequately analyzed corrosion and radiation damage to the fuel elements, the assemblies, and the concrete walls and flooring of the spent fuel facility due to: (a) increased radioactivity from fuel assemblies; (b) increased and uninterrupted spent fuel assembly residence time including possible residence beyond 10,000 years; and (c) increased temperatures resulting from the proposed modification.

4. The licensees have not analyzed the long-term damage to the fuel assemblies and the effect of moving them from reactor sites around the country and then removing the containers once again (perhaps thousands of years later) from the interim site to a permanent repository.

5. The Licensees have failed to adequately demonstrate that the storage of greater amounts of irradiated fuel for longer periods of time than ever anticipated and the attendant increased fission product inventory, heat load, will not: (b) result in breakage, leakage, unacceptable radioactivity and heat-induced acceleration of corrosion of the separation system for the fuel elements racks, the seismic restraint system, and the Zircaloy cladding on the stored fuel elements.

6. The proposed seismic design for the Interim Site is inadequate.
7. The Licensees have not demonstrated that the design of the spent fuel storage, especially from leaking, provides a structural integrity sufficient to store spent fuel onsite safely in the manner and for the extreme period that is not contemplated by its application. This failure precludes the conclusion that issuance of the proposed amendment is not inimical to the public health and safety.
8. The drop test for transport does not accurately reflect the internal condition of the containment in the event of an accident and whether the container will still be sent to the site or elsewhere after an accident. Worst case issues of retrievability are not considered.
9. Accidental dropping of the containers during loading and unloading has not been adequately analyzed. Repeated droppings may occur over a period of time of containers and fuel assemblies or other similar large objects into or upon the expanded storage area.
10. Speed of rail travel and the damage to tracks from heavy loading or terrorism has not been adequately analyzed. The number of derailments and other crashes and deaths of passengers on trains in the US does not give much confidence in the rail system. What is the maximum number of casks that can be knocked off a train in the worst case derailment accident? Most of the derailment accidents are caused by broken rails. "Between 2001 and 2010, of the 58,299 train accidents that occurred, 54,889 were train derailments. That's a staggering 94 percent." <https://www.scientificamerican.com/article/broken-rails-are-leading-cause-of-train-derailments/> Even if a cask can withstand derailment there are the problems of reloading it, possible damage to the fuel rods inside the cask, and the cask is a sitting duck for a terrorist attack.
11. The Licensees' analysis of potential accidents during and after loading and transport is deficient, and therefore cannot be used to support a conclusion that issuance of the proposed license would not be inimical to the public health and safety. The Licensees did not adequately discuss what provisions have been made to recover from accidents or from the longer term effects of spent fuel storage such as degradation of containment, the fuel cooling systems, or storage racks. Specifically, the Licensees have failed to demonstrate that (1) leakage can be repaired, and (2) sufficient numbers of casks are available for or can be obtained in the event of accidents to allow removal of fuel from damaged containment if such removal is necessary.
12. The Licensees' analysis of potential accidents and terrorism is deficient, and therefore cannot be used to support a conclusion that issuance of the proposed facility would not be inimical to the public health and safety. Specifically (a) the Licensees did not accurately address either the increased risks of or consequences from releases of radioactivity from or criticality that may occur due to an accident resulting from (1) the transport of spent fuel casks and other heavy objects alongside, over, and near the spent fuel pool if one is utilized; (2) projectiles generated by natural events, such as earthquakes or tornados, or by mechanical failure.
13. The Licensees' analysis of the effect of the spent fuel configuration upon criticality is deficient.
14. The Licensees have failed to demonstrate that the increased amount of spent fuel proposed to be stored will not become critical some time during the period of storage permitted under the proposed amendment.
15. A terrorist attack on a storage site or railway or trucking could result in the release of radioactive material. The overall trend of attacks against transportation is decidedly upward. The April 1995 Oklahoma City bombing, and the 2001 Twin Tower attack ought to stand out as what even a single person or group with terrorist or sabotage ambition can accomplish. Such attacks are reasonably foreseeable against nuclear transportation. <http://www.state.nv.us/nucwaste/trans/jballard.htm> Deliberate airplane crashes or trucks loaded with high explosives or using armor piercing best-available weaponry provide difficult scenarios. Even older portable armor piercing weaponry such as the Soviet RPG-7 or the American M72 can penetrate 10-14 inches of armor plate. Advanced missiles like the MILAN and Javelin could penetrate 12-30 inches. HOLTEC'S transportation casks would be no match for such weapons especially if multiple missiles were fired. Release of radioactivity would be assured. Thousands of radioactive casks travelling through the US would provide thousands of opportunities over decades for

attacks at thousands of locations using various methods and with varying outcomes. There is no assurance Licensees have adequate resources and attention for devotion to maintaining the storage facilities for releases or terrorist events that could potentially affect millions of people. The NRC should not trot out the usual claptrap defense that terrorist events cannot be publicly discussed. NRC for possible terrorism is outdated and inappropriate for contemporary use. If New Mexico is not to be the final disposal location for spent fuel, there is no analyses sense in later transportation to a second site and running all the risks inherent in transportation a second time.

16. There is sufficient space at all operating nuclear reactors to accommodate all spent nuclear fuel for the duration of the plant licenses. By the time consolidated storage could be established almost all U.S. reactor sites will have installed dry storage systems. So it does not make sense to impose the extra costs of moving the waste twice before a permanent repository is established.

17. Licensees have provided no rigorous cost estimates showing that consolidated interim storage is an economically attractive option in the face of significant delays in opening the repository.

18. There is no assurance that the costs to the government will be avoided with one or more consolidated facilities: costs of land acquisition; construction of facilities for cask receiving and handling, especially if they are designed to handle bare fuel; and construction of rail and highway spurs to the facility and improvements to existing transportation infrastructure.

19. Construction of interim storage will delay the siting and development of one or more permanent repositories as required by the Nuclear Waste Policy Act. Consolidated interim storage will become the de facto permanent solution for managing the nation's growing inventories of commercial spent fuel.

20. Given the long-term storage, Licensees have not provided assurance that underground aquifers (the Dockum, Ogallala, Pecos Valley, and Edwards-Trinity) and groundwater will be protected from deterioration and/or breakage of containers and leakage. No adequate provision for long-term ground water monitoring is made.

21. Prevention of potential episodes of criticality and emergency procedures for criticality events must be presented.

22. Licensees have not explained if Spent Fuel Pools will be used for damaged fuel, details of construction and what water and other requirements would be necessary for cooling. The handling of liquid and solid waste from any fuel pool operations needs presentation.

23. The HOLTEC site is located above or near some of the largest karst lands in the world where water runs underground since the surface is too porous to hold the run off. Licensees have not analyzed the risk of aquifer contamination due to the karst formation. The site lies over a shallow perched aquifer that rises and falls inexplicably (New Mexico Environment Department). Monitoring wells are often saturated. NRC is requested to hold a public hearing in Albuquerque and Santa Fe and provide scoping for an Environmental Impact Statement. Please provide a written response.

David B. McCoy, Executive Director
Citizen Action New Mexico
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Albuquerque, NM 87196
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<https://www.nei.org/Master-Document-Folder/Backgrounders/Fact-Sheets/Job-Creation-and-Economic-Benefits-of-Nuclear-Ener?feed=factsheet>

Federal Register Notice: 83FR13802
Comment Number: 4

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13. The Licensees' analysis of the effect of the spent fuel configuration upon criticality is deficient.

14. The Licensees have failed to demonstrate that the increased amount of spent fuel proposed to be stored will not become critical some time during the period of storage permitted under the proposed amendment.

15. A terrorist attack on a storage site or railway or trucking could result in the release of radioactive material. The overall trend of attacks against transportation is decidedly upward. The April 1995 Oklahoma City bombing, and the 2001 Twin Tower attack ought to stand out as what even a single person or group with terrorist or sabotage ambition can accomplish. Such attacks are reasonably foreseeable against nuclear transportation. <http://www.state.nv.us/nucwaste/trans/jballard.htm> Deliberate airplane crashes or trucks loaded with high explosives or using armor piercing best-available weaponry provide difficult scenarios. Even older portable armor piercing weaponry such as the Soviet RPG-7 or the American M72 can penetrate 10-14 inches of armor plate. Advanced missiles like the MILAN and Javelin could penetrate 12-30 inches. HOLTEC'S transportation casks would be no match for such weapons especially if multiple missiles were fired. Release of radioactivity would be assured. Thousands of radioactive casks travelling through the US would provide thousands of opportunities over decades for attacks at thousands of locations using various methods and with varying outcomes. There is no assurance Licensees have adequate resources and attention for devotion to maintaining the storage facilities for releases or terrorist events that could potentially affect millions of people. The NRC should not trot out the usual claptrap defense that terrorist events cannot be publicly discussed. NRC for possible terrorism is outdated and inappropriate for contemporary use. If New Mexico is not to be the final disposal location for spent fuel, there is no analyses sense in later transportation to a second site and running all the risks inherent in transportation a second time.

16. There is sufficient space at all operating nuclear reactors to accommodate all spent nuclear fuel for the duration of the plant licenses. By the time consolidated storage could be established almost all U.S. reactor sites will have installed dry storage systems. So it does not make sense to impose the extra costs of moving the waste twice before a permanent repository is established.

17. Licensees have provided no rigorous cost estimates showing that consolidated interim storage is an economically attractive option in the face of significant delays in opening the repository.

18. There is no assurance that the costs to the government will be avoided with one or more consolidated facilities: costs of land acquisition; construction of facilities for cask receiving and handling, especially if they are designed to handle bare fuel; and construction of rail and highway spurs to the facility and improvements to existing transportation infrastructure.

19. Construction of interim storage will delay the siting and development of one or more permanent repositories as required by the Nuclear Waste Policy Act. Consolidated interim storage will become the de facto permanent solution for managing the nation's growing inventories of commercial spent fuel.

20. Given the long-term storage, Licensees have not provided assurance that underground aquifers (the Dockum, Ogallala, Pecos Valley, and Edwards-Trinity) and groundwater will be protected from deterioration and/or breakage of containers and leakage. No adequate provision for long-term ground water monitoring is made.

21. Prevention of potential episodes of criticality and emergency procedures for criticality events must be presented.

22. Licensees have not explained if Spent Fuel Pools will be used for damaged fuel, details of construction and what water and other requirements would be necessary for cooling. The handling of liquid and solid waste from any fuel pool operations needs presentation.

23. The HOLTEC site is located above or near some of the largest karst lands in the world where water runs underground since the surface is too porous to hold the run off. Licensees have not analyzed the risk of aquifer contamination due to the karst formation. The site lies over a shallow perched aquifer that rises and falls inexplicably (New Mexico Environment Department). Monitoring wells are often saturated.

NRC is requested hold a public hearing in Albuquerque and Santa Fe and provide scoping for an Environmental Impact Statement. Please provide a written response.

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