

## **WCS\_CISFEISCEm Resource**

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UNITED STATES OF AMERICA  
BEFORE THE NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF: )  
) Docket No. 72-1050  
WASTE CONTROL SPECIALISTS LLC )  
CONSOLIDATED INTERIM SPENT )  
FUEL STORAGE FACILITY PROJECT )

**SIERRA CLUB COMMENTS ON SCOPING PROCESS FOR ENVIRONMENTAL  
IMPACT STATEMENT**

Waste Control Specialists (WCS) proposes to construct a consolidated "interim" storage (CIS) facility in Andrews County, Texas. The Nuclear Regulatory Commission (NRC) has given notice that it will prepare an environmental impact statement (EIS) for the CIS project. The following are Sierra Club's comments on the proper scope of the EIS.

The Sierra Club is the nation's largest grassroots environmental organization with over 700,000 members. The Sierra Club supports sustainable energy alternatives (renewable energy and energy efficiency) that do not harm the environment. The Sierra Club opposes nuclear power because its fuel cycle from uranium mining to spent radioactive fuel poses grave dangers to public health and the environment. In addition, reliance on nuclear power unjustifiably delays beneficial transition to clean and renewable energy sources.

The storage and disposal of spent radioactive fuel from nuclear reactors is a problem that has no good solution. The Sierra Club believes that the least bad solution is to store the waste at or near the reactor site with hardened on-site storage (HOSS) in containers that can be inspected, maintained, repaired and monitored to prevent radioactive releases; and meets Nuclear Waste Policy Act requirements for monitored retrievable fuel storage. CIS poses unnecessary dangers and risks that must be avoided.

PURPOSE AND NEED

The WCS environmental report, under purpose and need, claims that CIS is safer and more secure than storing the waste at the reactor site. The EIS must document and confirm whether or not it is actually safer and more secure

to store the waste at a CIS rather than each reactor site, including the supporting data.

Furthermore, WCS's contention that CIS is safer and more secure than on-site storage flies in the face of the NRC's Continued Storage Rule, which concludes that highly radioactive spent fuel can be safely stored at the reactor site indefinitely. The EIS must include, as part of the purpose and need section, a discussion of the purpose and need for this CIS project in light of the Continued Storage Rule.

There is also the added danger of transportation of the radioactive waste from the reactor site to the CIS. This risk must also be discussed and evaluated in the EIS. This discussion would include potential routes and consequences of releases, emergency response capabilities, preparation, training and equipment impacts from accidents and deliberate attacks along transport routes in and near cities, farmland and other locations. The EIS should also include consideration of the deteriorating infrastructure - bridges, tunnels, roads, rails and transfer stations. The EIS must also analyze all potential impacts to people, land, water, real estate, food supply and the absence of insurance to cover the costs of such impacts.

The WCS environmental report states that waste would be stored at the CIS facility for 60-100 years until a permanent repository is found. There is no assurance, however, that a permanent repository will ever be found. That was the basis for the decision of the Court of Appeals in New York v. NRC, 681 F.3d 471 (D.C. Cir. 2012). In that case, the court held that the NRC, in preparing an EIS for the storage of spent radioactive fuel, must address the alternative of a permanent repository never being developed. That same analysis applies in this case. In other words, will the WCS CIS facility become a permanent repository without the protections of a permanent repository? The EIS for the WCS site must address the purpose and need for this site as a permanent repository. The EIS cannot evade that analysis. And of course, there is no way this site can serve as a permanent repository.

#### ALTERNATIVES

Only two alternatives are discussed in the WCS environmental report: no action and the proposed action.

The no action alternative would mean that the radioactive waste would be stored at the reactor site. The EIS must analyze the no action alternative in light of the Continued Storage Rule that claims it is safe to store the waste at the reactor site and in light of the consequences of transport of the waste to the WCS CIS site. This analysis would also include consideration of HOSS at the reactor site. The EIS must show the evidence regarding the comparison of licensing the WCS site versus continued on site storage and HOSS. In other words, in light of all of those considerations, on site storage would be preferable to licensing the WCS site.

The WCS environmental report, section 2.3.3, lists 15 criteria WCS claims it evaluated in choosing the proposed site for the CIS facility. The EIS should evaluate these criteria and how WCS addressed them. Many of these criteria are not even relevant to the environmental issues that must be addressed in an EIS.

#### THE AFFECTED AREA

The WCS environmental report indicates that rail access is necessary both at the reactor site and at the CIS facility. There is no indication, however, why the waste must be shipped by rail. The EIS must examine this question. The EIS must also verify that there is rail access to the WCS site.

The environmental report says dual purpose canisters will be used to store and transport the waste from the reactor site to the CIS facility. The EIS must analyze the canisters and storage containers to be used at the WCS site. The analysis would be a thorough technical review of the design of and materials used for the containers, and a comparison of the safety of these containers with other types of containers.

Existing dual purpose canister systems were designed for short-term temporary storage. The materials are subject to aging, including cracking and other material corrosion. Currently, there is no current method to detect or repair canister cracks in loaded canisters. NUREG-1927 Revision 1 requires aging canisters to be monitored and maintained and replaced if they have significant cracks. The EIS should identify how this can possibly be done and not make

assumptions or decisions based on hope and promises of future solutions. Currently, there is no early warning monitoring system that can detect problems to avoid radioactive releases in these canisters. This must be considered in the EIS.

The EIS must address the presence of both damaged fuel and high burn-up fuel (>45 GWd/MY), including but not limited to the impact on zircaloy and zirconium cladding.

The EIS must consider the realistic potential, or lack thereof, for managing leaking canisters. In the scoping meetings it was reported that casks would be tested by helium tests upon arrival at the CIS facility for potential leaks, but no clear path is planned for how to handle one that does not pass the test or the potential amount of radionuclide gases that may be released. The EIS must address these issues.

The EIS must be clear about realistic management options and theoretical procedures that have never been carried out, including re-containerizing fuel from damaged containers. The fact that there is no currently approved cask designed for overpacking or re-containerizing of damaged containers or contents should be considered in the EIS.

The EIS must analyze additional economic activities in the immediate and general area of the site, including increased oil and gas activity. Andrews County has witnessed the boom and bust cycle of oil and gas activity, but recent finds in the area, known as Wolf Camp and Alpine High, suggest that more oil and gas activity is coming both to Andrews County and to nearby counties, which will increase truck traffic, hydraulic fracturing and waste disposal.

The Sierra Club is particularly concerned that the combination of injection of large amounts of highly pressurized water, sand and other materials underground, the extraction of minerals and water and then the disposal of large amounts of wastewater will impact the hydrogeology in fissures and fractures located near the proposed CIS site. Our principal concern is about the potential for induced seismicity as well as truck traffic. Indeed, Texas has witnessed first hand an increase in induced seismicity in recent years.

Earthquakes have been reported in the area around the proposed CIS site in the last few years, primarily southwest of Odessa, Texas, and southeast of Lubbock, Texas. The preparation of the EIS must undertake an independent evaluation of the earthquake potential at the site, and not just rely on WCS's environmental report. A recent report by experts at the University of Texas at Austin and Southern Methodist University documents the earthquake hazards in the area of the WCS site. See, Frohlich, et al., A Historical Review of Induced Earthquakes in Texas, Seismological Research Letters, V. 87, No. 4, July/August 2016.

It is also well known that the area around the proposed WCS site has sinkholes and subsidence. This must be well analyzed in the EIS. Other water features, such as surface water draws, must also be analyzed.

Seismic analysis for dual-purpose canisters assumes perfectly intact canisters. Existing canisters may have partial cracks. Therefore, existing seismic claims and approvals do not apply to aging canisters. Until there is a method to inspect loaded canisters for even partial cracks, the EIS cannot assume a seismic rating.

Transport regulations require intact canisters for transport. The EIS should not assume loaded canisters have no cracks until they are inspected for cracks, which is currently not possible, according to the NRC.

The safety analysis report submitted by WCS repeatedly states that the flood plain data is incomplete or may be inaccurate. The EIS must undertake a credible review of the flood plain situation to determine the impact on the storage of the nuclear waste.

There is also the issue of groundwater impacts. The EIS needs to document conclusively whether the Ogallala Aquifer lies beneath the WCS site., and whether there are paths whereby waste could reach these aquifers even if they are not directly below the site itself. Furthermore, Section 3.4.14 of the environmental report states:

The method of storage (dry cask), the nature of the storage casks, the extremely low permeability of the red bed clay and the depth to groundwater beneath the

site preclude the possibility of groundwater contamination from the operation of the facility.

As mentioned above, the casks do not give any assurance that there will be no leaks. And the alleged low permeability of the clay and the depth of groundwater must be independently verified.

We would also note the temperature and climate extremes found in the area. Thus, high winds in the area that could impact the potential for airborne radioactive particulates, or lead to accidents, such as canister tip-overs must be properly evaluated. The analysis should also examine the impact of the high sun irradiation on the canisters and associated equipment over time.

The WCS environmental report does not indicate that there was any consultation with Native American tribes regarding cultural and archaeological sites. The EIS must assure that such consultation has taken place and that appropriate steps have been taken to address any issues resulting from that consultation.

#### ENVIRONMENTAL IMPACTS

The environmental report discusses the issue of transportation of the radioactive waste from the reactor sites to the CIS. The EIS must conduct a thorough analysis of the impacts of the transportation of the waste to accurately consider the environmental risks and impacts of transport. This would include transportation of the radioactive waste to the CIS site and also transportation of the waste to a permanent repository from the CIS site.

In November 2010 the American Public Health Association (APHA) called spent fuel transportation "a national public health threat that is largely preventable." APHA advocated for long-term fuel storage at reactors until a permanent repository is developed. In reviewing the APHA report, Amy Hagopian, a professor of global health at the University of Washington said, "The potential hazards and risks are huge, so minimizing transport makes sense. It just takes one accident, and then everyone will be pointing fingers and asking how we got to this point."

The EIS must also address the cumulative impacts of the activities ongoing at the current WCS facility and the



impacts of the proposed adjacent CIS facility. There are actually several existing, but separate, waste facilities at the current WCS site. These include the low level waste "Compact" site, a federal facility LLRW site, a hazardous waste site, an above-ground radioactive waste (by-product) site, and a waste processing site.

The EIS should also consider that while the original license only allowed some 2.3 million cubic feet of LLRW, this total was expanded through license amendment to allow up to 9 million cubic feet of LLRW at the "Compact" site. In addition, while the original license did not contemplate waste imported from states beyond those in the Texas Compact with the State of Vermont, since then, amendments to the license and legislation signed by the Governor of Texas in 2011 and 2013 have expanded the amount of waste that can be imported from other states on a yearly basis. In 2012, the license for the current WCS facility was amended to allow the importation of depleted uranium into the site.

The EIS must also evaluate the environmental impacts of the containers in which the radioactive waste will be stored.

The EIS must consider both the short range and long range consequences of waste storage, the financial qualifications for not only decommissioning but for recontainerizing the waste, as well. As stated above, the site could become a de facto permanent repository. The EIS should therefore identify both the technical and financial plans and assurance for very long term management, even beyond the 40 year license and potential renewals.

#### CONCLUSION

The NRC must make its own independent review of the environmental impacts of the WCS project and thoroughly analyze and discuss the issues presented above.

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