WCS_CISFEISCEm Resource

From: Gwen DuBois <gdubois@jhsph.edu>
Sent: Monday, November 19, 2018 12:08 PM
To: WCS_CISFEIS Resource
Cc: Tim Whitehouse
Subject: [External_Sender] NRC Docket 72-1050 NRC 2016-0231 NRC - WCS EIS 2018
Attachments: eisandrews.docx

Subject: NRC Docket 72-1050 NRC 2016-0231
NRC - WCS EIS 2018
Email:WCS_CISF_EIS@nrc.gov

November 19, 2018 Regarding WCS/ISP proposal for consolidated waste storage near Andrews, Texas

On behalf of Chesapeake Physicians for Social Responsibility, an organization in the state of Maryland with 300 dues paying members and over 1000 activists, we urge you to reject the proposal to consolidate irradiated fuel by WCS/Interim Storage Partners in Andrews County for many reasons. Firstly, it is illegal, under federal law until there is a permanent repository operating. Transferring ownership of waste to taxpayers before there is a permanent high-level waste repository violates the Nuclear Policy Waste Act. In addition, there are proliferative risks from theft of plutonium in sites not well secured., Over time, the amount of bomb grade plutonium in nuclear waste becomes more accessible as the shorter-lived isotopes disappear.

But, should NRC proceed, the application should be published in Spanish so residents in the region can review. Andrews Texas is a community with an environmental injustice profile: over 75th percentile compared to US for size of its minority population, for being linguistically isolated, , , for not having a high school education and for having a population under 5 (under 5 population puts it in the 87th percentile compared to the rest of the US).. This EJ profile puts this community at risk for bad outcomes from this environmentally dangerous facility should there be leaks to the groundwater or unplanned venting to the air. Regarding pollution exposure, this community already exceeds the 70th per centile for exposure to fine particulate matter, ozone levels (89th) , air-toxics cancer risk, respiratory hazard index, traffic proximity ,lead paint indicator and hazardous waste proximity..[1] This community with a high percentage of children under 5 are a group more likely to have asthma, abnormal lung development and the community as a whole is at higher risk for early respiratory mortality EVEN BEFORE THIS FACILITY IS COMPLETED They should not be asked to bare the risks of still another potentially dangerous facility .

IN addition, the EIS must look at the impact on existing sustainable part of the economic engine in the Andrews county region, including the potential impact of a severe transport accident and release. The impacts on small stores, industry, lower income residents and on

people with lifestyles closer to the land is exponentially greater than on those that have more resources and connections to compensate or relocate.

We do not believe that the United States has found a long -term safe way to store nuclear waste which will have to last for centuries beyond the time that governments and nations as we know now are likely to still exist. How to we communicate to civilizations so far in advance to "stay away" and "danger." We believe that nuclear waste should be stored in hardened on-site storage casks until the time that a permanent reasonable safe deep repository can be found for perpetuity. In the meantime, we should stop producing this waste that we do not have a place to store safely. That being said, this EIS should be as comprehensive as possible and should include transportation-related safety and environmental issues. Nuclear waste canisters are 1/2 inch-thick unlike the > than 10inch canisters/ cask system in use in Europe. How thoroughly have the thin canisters been tested for transport? How does the 1/2 inch thickness increase the vulnerability for cracks in canisters within casks that can't be seen in transport nor storage ? There is no way presently to detect early cracks in these canisters. What about transport of high burnup fuel and safety? What about the possibility that cladding has been made more brittle and will shatter? What about the problems using aluminum baskets not allowed in Japan after lessons learned from Fukushima? What is the risk of criticality being reached if assemblies crash into each other during transport due to faulty aluminum baskets?

Since accidents happen on the highways an average of 2.5-4.5 per million vehicle miles[2] (for the railways, 2.28 accidents would be expected per 1,000,000 miles of travel[3][4]) how many trips and miles are going to be required and what would be the expected number of accidents? Accidents involving fires? Will these estimates take into consideration travel through urban areas? Bad weather conditions? Increased traffic in the future? How about for trips over 20 years? More than 20 years?

For example, what about the high-level waste which is removed from Calvert Cliffs nuclear power plant over 20-40 years. Calvert cliffs has some of the oldest thin-walled cannisters in the country and yet we have no way of knowing what shape the cannisters are in when they are transferred to the transport casks. Are there cracks that have started? Is there evidence that some of the zirconium rods are oxidized? With multiple transports on barges over the years, what are the chances that one of these casks ends up in the water? If that happened, how long before corrosion would cause a crack and compromise the integrity of the canister within? Could there be contamination of the Bay waters? What effect would that have on humans? Marine life? The seafood industry? Once on the rails, the possibility of an accident on the rails need to be multiplied by the many trips that will occur over 20 or 40 years. Plans were submitted to the NRC for 120 casks at Calvert Cliffs .[5] If the canisters in half of these casks are involved in trips on the rails the 1700 + miles to Andrews would the chance of an accident be about < 1 in 10 over that period for just our two Maryland nuclear power plant reactors and this temporary waste storage facility in Texas.. We know about fires in CSX tunnels in Baltimore where an accident 2001 led to temperatures in excess of 1400 degrees Fahrenheit. Though never tested, through modeling these containers are estimated to withstand 1400

degrees Fahrenheit for not more than 30 minutes. How long would containers remain unbreached if temperatures rose that high in a fire? How many people would be exposed? How many people would need to be evacuated and for how long? Have the risk of an accident involving nuclear waste on the waterways, railways and highways been estimated adding up all of the proposed trips over the decades needed to remove all of the nuclear power plants' waste? What about the consequences with high burn up fuel, transported over all of the years destined for WCS plant? Add in terrorist risks, highways more crowded, population centers exposed. WE know Fukushima has created over 100,000 long term refugees.[6]

The EIS should look closely into the risk of groundwater contamination and to concerns that this site sits on or near the Ogallala Aquifer.[7] The primary source of water is the Ogallala Aquifer, which is being rapidly depleted in certain areas and the supply may not be sustainable.[8] The region certainly cannot risk radioactive contamination further depleting useable water. What is the risk of radioactive contamination of drinking water and to how many people? Suppose the waste sits at that location not for 20-40 years but, as some fear, for several hundred years given that finding a permanent repository site acceptable to the whole nation is so problematic. Is the site permeable to water over what time period? What long term barriers to water seepage have been required?

The WIPP fire in New Mexico just over the border where a little mistake, using the wrong kitty litter led to fires, radioactive releases, personnel exposure to radioactivity and closed the facility [9] for nearly 3 years[10]. This illustrates that when humans are involved, things can go very wrong. What would it mean for property values if an accident were to occur. What would it mean for radiation exposure if an accident occurred? Should these people have this risk when they are already disadvantaged in their ability to cope with adversity?

What are the increased risks of leaks in Andrews with storage of high-level nuclear waste as the years pass and the storage system ages? If the waste stays at this site for forty years before a final repository is found, what happens if a storage canister develops cracks and/or is leaking? How will it be discovered before radiation contaminates the environment? How is the canister to be monitored and how often? Does the technology exist to detect small cracks and leaks before temperatures rise or radiation is detected in the environment? How will the waste be safely transferred to another container if found to be leaking? We have seen the problems with retrieving and removing nuclear waste in Fukushima but at least there are spent fuel pools into which to put waste from which it can then be transferred. How will that transfer of a failing canister be safely accomplished at WCS facility? Should the NRC require the thicker, more durable canister/cask system used in Europe that are in use at only a few npp in the U.S? Should higher standards requiring the more durable thicker canister/cask system be instituted and would this be safer as well as more cost effective, less likely to fail?. What are storage risks with high burn up fuel and brittle oxidized zirconium cladding? What are risks of storage when and if aluminum baskets fail and fuel assemblies crash into each other risking criticality? Would higher standards requiring thicker more durable canister/cask systems be safer and more cost effective for high burnup fuel? Interim storage means we will have to transfer and move nuclear waste twice. Why should we be exposing the nation to the

risks of moving radioactive waste on rails and highways in the future in aged canisters? The scoping must consider the risks of transferring and transporting waste two times if this is truly an interim plan. On the other hand, what will be the risks of this waste being stored at Andrews for more than forty years if no permanent repository is found in that time? What are the risks of waste being stolen to make plutonium bombs when the waste becomes more steal-able as shorter-lived hotter isotopes disappear? How long can the public be kept from exposure? How long can sources of drinking water be kept safe from these dangerous radioisotopes? How would storms and flooding and earthquakes effect that projection? Is there an alternative that poses less risk like leaving casks in hardened on site storage until a "final" one trip resting place has been found?

Are we cutting corners with inferior canisters that will not be able to hold up for the prolonged consolidated interim storage proposed here.

In short, what may appear superficially to be a good solution to the nuclear waste storage problem may simply replace one set of problems with other possibly worse problems. This EIS must be carried out in a scientific, thorough, and evidenced based fashion so that public health, and environmental sustainability don't become casualties of political expedience. To make sure that it is thoroughly vetted with the public, in addition to the comments above, the comment period should be extended to 90 days.

Sincerely,

Gwen L. duBois MD, MPH

President, Chesapeake Physicians For Social Responsibility

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[1] https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22%3A-102.54666999999993%2C%22y%22%3A32.31898000000006%2C%22spatialReference%22%3A%7B%22wkid%22%3A4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&ptitle=Andrews%2C+Texas&distance=1

[2] https://www.dot.ny.gov/divisions/operating/osss/highway-repository/Average_Accident_Rates_14_15.pdf

[3] www.nrc.gov/docs/ML1108/ML110880284.pdf

[4] http://www.reuters.com/article/us-usa-energy-texas-dump-idUSBRE83Q11W20120427

[5] https://www.nrc.gov/docs/ML1409/ML14090A122.pdf.

[6] http://www.japantimes.co.jp/news/2016/03/11/national/nuclear-refugees-tell-distrust-pressure-return-fukushima/#.WKs7-dIrLcs

[7] https://www.salon.com/2018/10/26/energy-department-ready-to-approve-nuclear-waste-dumping_partner/

[8] http://www.ose.state.nm.us/Planning/RWP/Regions/16_Lea%20County/2016/Reg%2016_Section_5%20Water_Supply.pdf

[9] https://www.theguardian.com/environment/2015/mar/27/cat-litter-blamed-for-240m-radiation-leak-at-new-mexico-nuclear-waste-dump

[10] http://www.world-nuclear-news.org/WR-First-waste-emplaced-as-WIPP-reopens-1301177.html

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Comment Number: 25642

Mail Envelope Properties (CAC-89BOEtTq2vXPsOL+vSUCTOd-MSd9my296GbUCtGaNTaoHfQ)

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From: Gwen DuBois

Created By: gdubois@jhsph.edu

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Files	**Size**	**Date & Time**
MESSAGE	12727	11/19/2018 12:09:17 PM
eisandrews.docx	25808	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Subject: NRC Docket 72-1050 NRC 2016-0231
NRC - WCS EIS 2018
Email:WCS_CISF_EIS@nrc.gov

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But, should NRC proceed, the application should be published in Spanish so residents in the region can review. Andrews Texas is a community with an environmental injustice profile: over 75th percentile compared to US for size of its minority population, for being linguistically isolated, , , for not having a high school education and for having a population under 5 (under 5 population puts it in the 87th per centile compared to the rest of the US).. This EJ profile puts this community at risk for bad outcomes from this environmentally dangerous facility should there be leaks to the groundwater or unplanned venting to the air. Regarding pollution exposure, this community already exceeds the 70th per centile for exposure to fine particulate matter, ozone levels (89th) , air toxics cancer risk, respiratory hazard index, traffic proximity ,lead paint indicator and hazardous waste proximity..[1] This community with a high percentage of children under 5 are a group more likely to have asthma, abnormal lung development and the community as a whole is at higher risk for early respiratory mortality EVEN BEFORE THIS FACILITY IS COMPLETED They should not be asked to bare the risks of still another potentially dangerous facility .

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[6] http://www.japantimes.co.jp/news/2016/03/11/national/nuclear-refugees-tell-distrust-pressure-return-fukushima/#.WKs7-dIrLcs

[7] https://www.salon.com/2018/10/26/energy-department-ready-to-approve-nuclear-waste-dumping_partner/

[8] http://www.ose.state.nm.us/Planning/RWP/Regions/16_Lea%20County/2016/Reg%2016_Section_5%20Water_Supply.pdf

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