

March 20, 2017

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RE: Response to DWR RFC

Beyond Nuclear and Don't Waste Michigan submit the following comments regarding the U.S. Department of Energy's (DOE) so-called Defense Waste Repository (DWR) Request for Comment (RFC).

Beyond Nuclear aims to educate and activate the public about the connections between nuclear power and nuclear weapons and the need to abolish both to safeguard our future. Beyond Nuclear advocates for an energy future that is sustainable, benign and democratic.

Don't Waste Michigan (DWM) is a federation of environmental organizations with a board of directors and a membership of some 50 researchers, educators, concerned citizens, and others. DWM was founded in 1987 to oppose the designation of the State of Michigan as a repository for what was misleadingly called "low-level" radioactive waste from eight states. Don't Waste Michigan's work was ultimately successful; Michigan was eliminated from consideration as a repository for the wastes. Don't Waste Michigan continues to watch-dog nuclear power and nuclear weapons risks to the people and ecosystems of the State of Michigan and the Great Lakes.

Kevin Kamps, Radioactive Waste Watchdog at Beyond Nuclear, and board of directors member of Don't Waste Michigan (representing the Lake Michigan chapter), submits these comments on behalf of both organizations.

Beyond Nuclear is honored and privileged to be an organizational member of the Alliance for Nuclear Accountability (ANA), and wholeheartedly endorses the comments submitted by ANA in this proceeding.

Beyond Nuclear also references, as if written in their entirety herein, all comments it submitted – both orally and in writing – to the Department of Energy, in the course of its so-called "Consent-Based Siting" Request for Information Proceeding that began on December 23, 2015. This is entirely appropriate, as DOE's *DWR Draft Plan for a Defense Waste Repository* (December 2016) cites the "Consent-Based Siting" Request for Information Proceeding many times. Please note, however, that the reports published by DOE regarding "Consent-Based Siting" thus far have largely to entirely failed to adequately capture the comments submitted by Beyond Nuclear, so I urge DOE to refer to – and incorporate as if written in their entirety herein – the actual comments submitted by Beyond Nuclear throughout the course of that proceeding.

(Beyond Nuclear also refers DOE to extensive comments we submitted, in December 2013, to the U.S. Nuclear Regulatory Commission (NRC), regarding its Nuclear Waste Confidence/Continued Storage of Spent Nuclear Fuel GEIS (Generic Environmental Impact Statement) public comment proceeding. Beyond Nuclear's comments are posted online here:

<http://www.beyondnuclear.org/radioactive-waste-whatsnew/2013/12/20/beyond-nuclear-meets-nrcs-nuclear-waste-confidence-dgeis-pub.html>.

Beyond Nuclear also endorsed environmental coalition comments, posted online here:

<http://www.beyondnuclear.org/radioactive-waste-whatsnew/2013/12/20/environmental-coalition-meets-nrcs-nuclear-waste-confidence.html>

We urge DOE to consider all relevant comments from the NRC Nuclear Waste Confidence/Continued Storage of Spent Nuclear Fuel GEIS (Generic Environmental Impact Statement) public comment proceeding. Again, NRC's inclusion and treatment of these public comments in its final GEIS was woefully inadequate, so we refer DOE to our actual comments themselves.)

In addition to the above, we provide the following comments in response to cited passages in the DOE's *DWR Draft Plan for a Defense Waste Repository* (December 2016). Please note that the page numbers (such as p.7/50) refers to the page number as designated on the PDF counter associated with the DOE's *DWR Draft Plan for a Defense Waste Repository* (December 2016).

A general comment: DOE's statement that this *DWR Draft Plan for a Defense Waste Repository* (December 2016) focuses on technical, rather than regulatory or policy, considerations, seems a departure from, or violation of, rule of law principles. Regulations and policies are the rules by which technical matters are dealt with, while protecting public health, safety, and the environment.

At p.7/50, DOE states: *HLW and SNF of commercial origin are not candidates for disposal in this repository.*

We are concerned that this could turn out to be a bait and switch – at some point, just a simple change of policy, as by a new presidential administration, could reverse this. This would then allow for commercial wastes to be dumped in a DWR. In fact, DOE mentioned more than once in this *DWR Draft Plan for a Defense Waste Repository* (December 2016) that future policy changes could significantly impact this proposal.

At p.8/50, DOE states:

*These stakeholders include but are not limited to governmental bodies in jurisdictions in which the wastes are currently stored **and jurisdictions potentially affected by transportation**; organizations of tribal, state, and local governments; and stakeholder groups interested in radioactive waste management.*

I commend DOE for including transportation corridor communities and states. This is a welcome departure from DOE Office of Nuclear Energy's John Kotek, for example, who at the Dec. 23, 2015 "Consent-Based Siting" public comment proceeding "Kick-Off Meeting" in Washington, D.C., stated that consent was not being sought from transport corridor communities, a position he maintained throughout the proceeding (until he left the DOE in early 2017, to go work as a senior executive at the Nuclear Energy Institute, the nuclear power industry's PR and lobbying HQ).

The inapplicability of NWPA requirements (such as EIS requirements, as referenced in footnote 2 on p.9/50) is very concerning. The most stringent requirements should always be applied, to protect public health, safety, and the environment against the high risks of HLRW and SNF (high-level radioactive waste and spent nuclear fuel, also known as irradiated nuclear fuel).

Along these lines, see, for example, DOE's statement on p.13/50:

In developing a Defense HLW Repository, the Secretary would be subject to U.S.

Nuclear Regulatory Commission (NRC) licensing authority, but would not be subject to the NWPA's siting provisions, apart from the State and tribal participation provisions specified in Section 101 of the NWPA" (DOE 2015, p. 2).

Similarly, at p.14/50, DOE states:

In developing a Defense HLW Repository, the Secretary would be subject to U.S. Nuclear Regulatory Commission (NRC) licensing authority, but would not be subject to the NWPA's siting provisions, apart from the State and tribal participation provisions specified in Section 101 of the NWPA (DOE 2015, p. 2).

Despite DOE's statements above, DOE should never be exempted from the most stringent and protective standards and regulations, regardless of whether commercial HLRW and SNF, or "defense"-related HLRW and SNF, are under consideration. After all, artificial radioactivity (as in SNF and HLRW) is harmful to human health, regardless of its origin, whether military, research, or commercial.

At p.13/50, in footnote 3, it is important to acknowledge that among the commercial SNF at INL are the damaged, melted down irradiated nuclear fuel assemblies from infamous nuclear power disasters, such as happened at Fermi 1 in Monroe County, Michigan on October 5, 1966, and at Three Mile Island Unit 2 near Harrisburg, Pennsylvania on March 28, 1979.

At p.13/50, DOE states:

Additional support for the DOE's 2015 report was provided in a 2014 DOE Assessment of Disposal Options for DOE-Managed High-Level Radioactive Waste and Spent Fuel

(DOE 2014) that evaluated technical options for the permanent disposal of HLW and SNF managed by the DOE. [Footnote 3] Specifically, the 2014 report considered whether DOE-managed HLW and SNF should be disposed of with commercial SNF and HLW in one geologic repository or whether there were advantages to developing separate geologic disposal pathways for some DOE-managed HLW and SNF. The 2014 DOE report (DOE 2014, p. ES-1) recommended that "DOE pursue options for disposal of DOE-managed HLW from defense activities and some thermally cooler DOE-managed SNF, potentially including cooler naval SNF, separately from disposal of commercial SNF and HLW. Other DOE-managed HLW and SNF, including HLW and SNF of commercial origin and naval SNF with relatively higher heat output, would be disposed of with commercial SNF and HLW. This report also recommend[ed] that DOE retain the flexibility to consider options for disposal of smaller DOE-managed waste forms in deep boreholes rather than in a mined geologic repository."

This DOE statement ignored numerous public comments to the Blue Ribbon Commission on America's Nuclear Future, expressing skepticism and outright opposition to the "un-co-mingling" of commercial and military HLRW and SNF. Such skepticism and opposition was expressed at various points during the March 2010 to January 2012 BRC public comment proceeding. This is all the more disconcerting, in that DOE's Office of Nuclear Energy hosted the BRC throughout the proceeding, and so should have been familiar with public comments made, in good faith, and in large quantities, throughout the entire proceeding (whether or not the BRC Final Report reflected or captured those public comments – again, DOE should refer to the comments themselves, as many were essentially disregarded or ignored by the BRC).

DOE's statements on p.16/60 prompted me to wonder, is Yucca Mountain, Nevada under consideration for the DWR? This is a non-starter. Nevada, as well as the Western Shoshone Indian Nation, on whose treaty lands Yucca Mountain is located, do not consent to being a radioactive waste dump for HLRW and SNF. In addition to that, the site is not scientifically suitable – if HLRW and SNF (whether military or commercial) is ever buried there, it will leak massively into the atmosphere and groundwater. This would be a severe violation of environmental justice. In fact, it would be radioactive racism. The Timbisha Shoshone, for example, live downstream from Yucca Mountain, and drink its groundwater.

Additional DOE statements on this page brought to my mind "Regulation-Free Zone," or "Wild West of Radioactive Waste Dumping," or "DOE making it up as it goes along."

DOE's passages at p.17/50 brought to mind DOE's own extraordinarily bad history at Yucca Mountain, as well as its demonstrable disregard of public comment and concern during both the BRC and "Consent-Based Siting" proceedings themselves.

At p.18/50, DOE states:

Opportunities for potentially interested host communities to obtain grants to support their acquisition of sufficient knowledge of the implications of hosting a DWR and allow them to evaluate their interest in going further. Provisions of the NWPA applicable to a DWR already authorize funding to states, Tribes, and affected local governments during the site characterization phase and possibly as soon as a site has been identified as potentially acceptable. A program for providing grants to potentially interested host jurisdictions at the initial phase of site exploration, similar to the one previously established under the NWPA to support the efforts of the U.S. Nuclear Waste Negotiator to find a host for a storage facility, may also be used.

In a very real sense, this can be seen as bribe money to low income and/or people of color communities. U.S. Senator Risch (Republican-Idaho) made thinly veiled jokes out loud, at an Energy and Natural Resources Committee hearing regarding proposed legislation to implement BRC Final Report recommendations, in summer 2013. He scoffed at notions of "consent-based siting," urging that the discussion simply move to "incentives" – essentially, legalized bribes, for "hosting" forever deadly HLRWs and SNF. Such bad attitudes raise very serious environmental justice and radioactive racism concerns.

At p.19/50, DOE stated:

Development of a licensing strategy for phased DWR development under existing NRC generic repository regulations and identification of regulatory modifications that could facilitate such development including possible regulatory interactions about updates of the regulations.

Why do I get the sinking feeling these will be rollbacks of regulations, and weakening of public health, safety, and environmental protections?

Also at p.19/50, DOE states:

This draft plan also recognizes that, as discussed below, there could be significant benefits in terms of reducing the total number of waste packages and simplifying operations if larger, higher-thermal-load packages can be shown to be disposable at the DWR after initial operation has begun. Such packages could be used in a subsequent phase of operations, with consent of the host Tribe/state/community and appropriate regulatory approval.

DOE should not “push the limit” or “push the envelope” at the expense of public health, safety, and the environment.

Re: DOE’s statements on p.21/50, this schedule optimism should be compared to DOE’s actual Yucca Mountain, and Hanford vit plant, schedule performance – which has been, of course, a horrendous failure.

Re: DOE’s statements on p.23/50, in Section 3.5, this should be compared to Yuca Mountain cost and schedule realities, and other DOE infamously huge cost overruns, such as at the white elephant MOX Fuel Fabrication Facility

At p.25/50, DOE states:

...maintaining close coordination with the regulator.

Collusion between DOE and NRC should be avoided at all costs. Collusion was cited by the Japanese Parliament, after a year-long independent investigation, as the root cause of the Fukushima Daiichi nuclear catastrophe. Such collusion between DOE and NRC could lead to a radioactive catastrophe involving the proposed DWR.

At p.26/50, DOE states:

INL

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Sodium-bearing waste after treatment by fluidized bed steam reforming...

And at footnote 4, on p.27/50, DOE states:

The total volume of treated sodium bonded fuel treated includes Fermi-1 sodium bonded blanket fuel for which alternative treatments are under consideration (65 FR 56565), and which may not be included in wastes considered for disposal under this plan.

But this is the text associated with footnote 4:

INL--Electrometallurgically Treated HLW

No explanation is given, as to what the connection is between sodium-bonded, highly radioactive waste, and electrometallurgical treatment. (Although Section 3.6.1.6 touches on it to some extent.)

I recall once reading – likely in a DOE or NRC document -- that Fermi 1 meltdown SNF waste must have its own separate repository, given the corrosive chemistry of the sodium—it would risk breaching any neighboring waste containers, if mixed in with other waste streams. It is a very volatile category of HLRW and/or SNF.

At first read, on p.26/50, I have questions about the figures DOE cites.

Re: SRS, 8,210 does not equal 6,957. Compare the text in the paragraph to graph/table figure.

Similarly, Hanford figures don't seem to match, between the paragraph text and the graph/table.

At p.26-27/50, 3,361 does not equal 4,400 – so likewise, such disconnects between figures apply to INL calcine HLRW.

What accounts for these discrepancies in the figures?

At p.27/50, DOE states:

A final decision regarding the disposition path for this waste has not been made (75 FR 137).

It is poignant, profound, and perplexing, that many decades have passed, and we still don't know what to do with the first cupfuls of SNF and HLRW.

Also at p.27/50, DOE states:

Cesium and Strontium Capsules at Hanford...contain approximately one third of the total radioactivity (in curies) at the Hanford Site (SNL 2014).

This waste stream appears, presently anyway, bound for deep borehole disposal; although this disposal method is not mentioned here, it was above. It is significant to mention, as well, that deep borehole disposal has proven very controversial. Even test deep borehole proposals have been widely opposed by enraged local citizens – as in the Dakotas in previous months and years. Current proposals for deep borehole tests, in New Mexico, South Dakota, and Texas, are again proving ever more controversial.

At p.29/50, DOE states:

*Sodium-bonded SNF consists of a relatively small quantity (about 56 MTHM) of sodium-bonded fuels from **research activities at the Fermi 1 reactor, the Hanford Site, and INL.** These fuels are grouped separately from others because of the chemically reactive nature of the waste form, **and they represent the only group of DOE-managed HLW and SNF for which information is insufficient to identify a***

disposal option for the waste form as it exists today, without further treatment (SNL 2014). Because sodium-bonded fuels are expected to be treated prior to disposal these wastes are also discussed in Section 3.6.1.6. (emphasis added)

But describing Fermi 1 as research reactor is a stretch. Fermi 1 was originally proposed as a source of privately-generated, for-profit nuclear weapons material (Pu-239), or even radiological dirty bomb material. After Eisenhower's "Atoms for Peace" speech, Fermi 1 couldn't get away with such military purposes, so its mission ended up being as a commercial electricity generator. But it is telling that DOE refers to Fermi 1 as a research reactor. It was indeed a grand, dangerous nuclear experiment on the Great Lakes shore. As John G. Fuller put it in his book title of 1975, and as Gil Scott-Heron put it in his song title some years later, *We Almost Lost Detroit*.

Re: p. 30/50, the Draft Consent-Based Siting Plan has been delayed--how are we supposed to comment on DWR, when an integral component is not yet published?

Re: p. 31/50, new waste forms would be allowed to be dumped in the DWR, by simply getting an amendment? This raises the specter of a dangerous game of make-it-up-as-you-go, and taking advantage of momentum and earlier rubber-stamped approvals (thinking along the lines of "the dump exists, so we might as well use it"). Of course, this is very risky for public health, safety, and the environment.

At p.32/50, in Section 4.4.1, I was prompted to ask, what had been the likelihood of a triple meltdown, before it happened in mid-March 2011 at Fukushima Daiichi, Japan? Arnie Gundersen, Chief Engineer of Fairewinds Energy Education, has ballparked the previously acknowledged risk as one in one million per reactor year. So the likelihood of a triple-meltdown was 1×10^{-18} , a.k.a. one in one-quintillion. And yet it happened!

DOE's statement, on p.33/50, re: DOE's oft-cited notions of "phased" and "adaptive" SNF and HLRW management and disposal approaches, sounds disconcertingly like illegal "segmentation" under NEPA. Allowing the camel's nose under the tent as a sneak move to get around NEPA's required "hard look" is not acceptable. In a similar way, DOE cannot divide up surface and sub-surface, radiological and non-radiological, in a way that comprises illegal segmentation under NEPA.

At p.34/50, DOE states:

*Wet Handling Facility (potentially not needed **if** all SNF is placed in sealed canisters before shipment) (emphasis added)*

If? That's a big ***if!*** This is comparable to DOE's make-it-up-as-you-go approach at Yucca Mountain. At one point in the Yucca Mountain saga, DOE proposed a massively large cooling pool at the surface at Yucca Mountain. But when penetrating, critical questions were raised at a public meeting by State of Nevada

officials, DOE officials hurriedly called a break in the meeting. Some 15 minutes later, when DOE reconvened the meeting, DOE officials announced there would be no more cooling pool at the surface. Such make-it-up-as-you-go approaches are dangerous and unacceptable.

At p.34/50, DOE referred to a *Low-Level Waste Facility*.

In a March 6, 2017 power point presentation, Robert Alvarez of Institute for Policy Studies (formerly a senior advisor to the Energy Secretary) warned about the significant quantity of so-called Low Level Radioactive Waste that would be generated, due to repackaging of commercial SNF, in order to prepare it for transport, centralized interim storage, deep geologic disposal, etc. The same concept applies to military SNF and HLRW, as it does to commercial. Alvarez's power point is posted online at:

<http://www.beyondnuclear.org/radioactive-waste-whatsnew/2017/3/6/spent-power-reactor-fuel-pre-disposal-issues.html>

At p.34/50, DOE states:

based on information for the previously considered YM repository

This is ironic. YM has been a \$10-15 billion boondoggle thus far! This would risk another \$100 billion or more, if YM is ever actually constructed and operated—not to mention the risk of a radioactive catastrophe, dumping HLRW and SNF in such a scientifically unsuitable place.

At p.35/50, DOE states:

TRANSPORTATION

The DOE would transport spent nuclear fuel and high-level radioactive waste from DOE sites to the DWR in NRC-certified transportation casks. The transportation mode is uncertain; however, the mix may include both rail and truck transport.

There is no mention of the potential for barge shipments, even though rail would mean barges might be used. 26 atomic reactors in the U.S. lack direct rail access. Therefore, if rail-sized casks are used, the only options are barge shipments to the nearest rail head, or else heavy-haul truck shipments.

Also, NRC shipping cask certification means little to nothing, in terms of safety, security, environmental protection, and public health protection. Commonwealth Edison/Exelon whistle-blower Oscar Shirani revealed the major quality assurance violations associated with the design and fabrication of Holtec shipping casks, a major NRC-approved transport container for irradiated nuclear fuel. Shirani questioned the structural integrity of Holtecs sitting still, let alone traveling 60mph

or faster on the rails. Shirani's allegations were backed up by NRC Region 3 dry cask storage inspector Dr. Ross Landsman. Landsman said that the Holtec QA violations were akin to the mistakes that led to Space Shuttles crashing to the ground.

If NRC could approve such dubious shipping containers, despite such flagrant QA violations, it calls into question NRC's competence across the board, when it comes to regulating the safety, security, environmental and health protection regarding highly radioactive waste shipments. DOE seems to rely on NRC's competence – which may be a fatal mistake.

DOE has recently gotten a green light from a federal judge to begin shipping LIQUID highly radioactive waste for the first time in North American history, from Chalk River Nuclear Lab, Ontario to SRS, SC. This unprecedented high-risk shipping campaign shows just how reckless DOE has become, in regards to transporting highly radioactive wastes.

Also, no routing for such shipments is currently known, because the DWR location is not known. So essentially this particular thought experiment is a meaningless exercise.

We are left to wonder, and fear, that DOE may attempt to ship Hanford liquid HLRWs to a DWR. After all, the high-risk precedent has been set – 100 to 150 such shipments will begin rolling from Chalk River Nuclear Lab, Ontario to SRS, SC, as mentioned above. In fact, the Chalk River highly radioactive liquid wastes are four-times more concentrated in cesium content than are Hanford's infamous HLRW liquid wastes.

At p.35/50, DOE states:

it is likely that construction will proceed in conjunction with waste emplacement. Described below is a representative selection of steps required for repository operations based on information for the previously considered YM repository (DOE 2008b).

This sounds dangerous, simultaneously emplacing waste with ongoing construction nearby. WIPP comes to mind, where rock falls near workers took place last autumn, due in significant part to the complications created by the Feb. 2014 serious radioactive contamination disaster. A single barrel burst at WIPP will now cost \$2 billion to recover from!

Also, re: YM as a model to follow or emulate is misguided. YM has been an utter failure!

Re: DOE's statement on p.36/50, I wonder if re: receipt, the DWR would be like WCS CISF (the Waste Control Specialists, LLC Centralized Interim Storage Facility proposed in West Texas)? At WCS, there would not be any check for leaks till the

commercial SNF arrives at WCS – which means it could have been leaking all the way there. Then, the plan would be to return the leaking shipment, to “return to sender” – although, of course, this would mean sending a leaking container back across the country. This is wrongheaded and dangerous, of course.

Also at p.36/50, re: emplacement vehicles, this reminds me of the lack of maintenance at WIPP on an emplacement vehicles, that led to a very serious sub-surface fire: around two-dozen workers were sent to the emergency room with smoke inhalation; one was permanently disabled. Such DOE failures do not bode well for this ill-conceived DWR.

Also at p.36/50, it must be pointed out that license termination means abandonment of SNF and HLRW at that location. As Dr. Gordon Edwards of Canadian Coalition for Nuclear Responsibility has pointed out, rolling stewardship is much preferable to abandonment.

Also at p.36/50, DOE states:

field-scale testing of deep borehole disposal concepts for some smaller waste forms

As mentioned above, this has proven highly controversial. It is not gaining consent-based siting approval/support for targeted states – ND, NM, SD, TX.

At p.37/50, DOE states:

DOE will include, among other things, demonstration of a Nuclear Safety Culture with a Safety Conscious Work Environment (NRC 2004; NRC 2005; 76 FR 34773), and attention to Quality Assurance (QA). The DOE is familiar with operating in compliance with EPA and NRC requirements, based on its activities on previously proposed repository sites.

How can DOE say this with a straight face, after the WIPP incidents in Feb. 2014? And after the large number of Hanford worker exposures to vapors over the past several years?

At p.37/50, DOE states:

The license application for the previously considered YM repository constituted more than 8,000 pages, and was accompanied by more than 100 supporting technical documents.

What DOE left out was the convoluted process DOE took to arrive there. Energy Secretary Spence Abraham has recommended YM as suitable to George W. Bush, despite 300 KTIs (Key Technical Issues) remaining unresolved at the time. After Bush turned around and rubber-stamped the bad decision, it took DOE a remarkable

six long years after that, to submit that license application DOE cited above. This, even though 90 days was supposed to be the deadline, between suitability recommendation and filing of the license application (under the terms of the NWPA, as Amended). Even after that six year long grace period, the license application was still woefully half-baked.

At p.38/50, DOE mentions “...tribal...,” and states:

...U.S. Department of the Interior including its Bureaus (U.S. Fish and Wildlife Service, National Park Service, and Bureau of Land Management)...

Why isn't BIA listed? Since tribes will be targeted, explicitly, the Bureau of Indian Affairs should be listed too. Of course, as I've testified countless times – as to the BRC, to DOE on Consent-Based Siting, and now again here, this is an environmental justice violation on its face – the targeting of Native Americans for high-level radioactive waste dumps.

At p.40/50, DOE states about Consent-Based Siting meetings, that they were:

held in geographically diverse locations...

But as Karen Hadden of SEED Coalition has testified to DOE and NRC, no meetings were held in TX or NM, even though WCS and Eddy-Lea Energy Alliance are proposing de facto permanent high-level radioactive waste parking lot dumps in those counties (Andrews, TX and Lea, NM, respectively).

Also at p.40/50, DOE mentions

conferences and professional meetings

Of course, concerned citizens, and non-profit environmental groups, are hard-pressed to be able to afford to attend those – in that sense, these are just another opportunity for DOE and industry to collude, against the public interest, with few to no watch-dogs present.

Also at p.40/50, DOE states:

The DOE Office of Environmental Management supports, by means of grants and cooperative agreements, various national intergovernmental organizations. These organizations include the Energy Communities Alliance, the Environmental Council of States, the National Association of Attorneys General, the National Governors Association, and the National Conference of State Legislatures, and the State and Tribal Governments Working Group.

But no NGOs, nor environmental groups, are so supported, or funded, etc. This constitutes a big difference with Canada, for example, which at least has some funding support for NGOs, although it is far from adequate. Such official Canadian federal government allows certain NGO groups to take part in major licensing proceedings – such as the proposal for a Deep Geologic Repository for radioactive waste burial on the Great Lakes shore – which otherwise might not have been able to take part.

At p.41/50, DOE states:

This would be consistent with the BRC's conclusion that in the area of transportation, the DOE has done a good job of stakeholder interactions that should be emulated in the future (BRC 2012, p. 86).

I beg to differ. BRC's Chicago meeting – specifically focused on shipping risks – was called to an end, even as concerned citizens and environmental group representatives were en route to testify there. The meeting was abruptly, arbitrarily, and capriciously ended, even though promotions and announcements for the event published by BRC claimed the meeting would go for hours longer. In the end, this turned into a hugely frustrating experience for members of the public who had intended, in good faith, to take part, at BRC's invitation. It revealed the BRC's bad faith and cynicism. Such self-congratulatory pats on the back, as cited above, are entirely misplaced.

Also, DOE states:

transportation will clearly be a consideration in siting waste facilities.

This is a welcome development. This didn't seem to be the case with YM, after all. DOE was intent, for years on end, to simply railroad through YM shipping plans, despite widespread opposition nationwide.

At p.43/50, DOE states:

Quality Assurance defines the program level requirements necessary to formulate a high quality and streamlined QA program to satisfy ASME NQA-1 2015 standards that meet NRC licensing rules.

But NRC has long demonstrated its clear inability to enforce its own QA regulations. See my citation of Shirani and Landsman above. If DOE is depending on NRC for QA enforcement, we are in very serious trouble.

At p.44/50, this listed DOE reference does not work:

brc.gov/sites/default/files/documents/brc_finalreport_jan2012.pdf

This one does work, as a link to the BRC Final Report (Jan. 2012):

<https://cybercemetery.unt.edu/archive/brc/20120620211605/http://brc.gov/>

This is very ironic, that DOE has lost institutional control, that DOE has lost access to a functioning link to the BRC Final Report. We have known about this dead link for a long time. Why didn't DOE? Loss of institutional control, in real time! This is all the more disconcerting, as DOE hosted the BRC out of the Office of Nuclear Energy. And yet we are supposed to have confidence that DOE can maintain control over SNF and HLRW for a million years, when it could not keep a viable link to the BRC Final Report on this subject matter in real time?

At p.49/50, DOE states:

The estimates provided here and in Section 3.4 should be used for preliminary scoping purposes only. In the context of DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets, the plan to develop the DWR has not met the CD-0 (Approve Mission Need) threshold. New cost analyses were not performed to support these estimates, and the available source material summarized in the following sections was developed at different times for a range of disposal concepts, including significant differences in the type and quantity of waste for disposal, the chosen host rock, assumptions about the siting and licensing process. Cost estimates from other programs are presented in some cases in actual dollars at the time of expenditure, and in other cases in constant dollars reported for different years.

Cost estimates from other programs, including in particular the previously considered YM repository, may have limited relevancy for development of a DWR because of major differences in both programmatic constraints and the disposal inventory.

Thus, this is a real half-baked hodge-podge.