

OPSMPEm Resource

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NRC Chat

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Small Modular Reactors - This Chat is Closed

posted on Fri, 07 Jun 2013 16:15:26 +0000



My name is Anna Hajduk Bradford. I am the Chief of the Small Modular Reactor Licensing Branch 2 in the Division of Advanced Reactors and Rulemaking here at NRC Headquarters. My division is the lead for the project management of work related to small modular reactors, which right now is focused mainly on pre-application interactions with potential applicants. I've been at the agency for almost 13 years and prior to that worked for an engineering consulting firm on nuclear-related projects. I have a master's degree in Environmental Engineering from Johns Hopkins University and a bachelor's degree in Mechanical Engineering from Virginia Tech.

Comments

comment #289 posted on 2013-06-18 14:01:13 by Moderator

We will be answering questions as quickly as possible. We already have several questions from e-mail and our blog post this morning, so we'll deal with those first. We expect there might be a few bugs along the way, though, so we ask for your patience and understanding. Please remember to refresh regularly. And if you're replying to a comment or response, please use the reply link on the post rather than the comment box at the bottom of the Chat. That way your response is "linked" to the comment you're responding to. If you have a question or comment unrelated to small modular reactors, please post it here: <http://public-blog.nrc-gateway.gov/category/open-forum/> AB

comment #290 posted on 2013-06-18 14:02:48 by Moderator

Here's a question Abdul Khan submitted via our blog post earlier today: "What are the advantages of SMRs as compared to large one - (technically and cost wise)?" Our answer -- According to panel discussions at our Regulatory Information Conference, many groups feel SMRs may offer advantages in scalability and siting flexibility at locations unable to accommodate more traditional larger reactors. These discussions also suggest SMRs' small size and potential below-ground construction could enhance safety and security. AB

comment #291 posted on 2013-06-18 14:04:57 by Moderator

Here's a question Mike Derivan submitted via e-mail: "What is the specific technical basis for the NRC's decision (and current published policy) to allow SMR vendors to submit an exemption request to 10.CFR50.54(m) Licensed Operator staffing levels along with their design certification proposal, rather than complying with the regulation?" Our answer -- Any applicant or licensee must appropriately justify an exemption request before we could consider granting it, and we'll certainly consider whether the exemption would help protect public health and safety. The general topic of control room staffing is part of the ongoing discussions between the NRC and the various SMR vendors. I would note that none of the SMR vendors have yet told us what their plans are for control room staffing. Once we have that information we'll be able to come to our conclusions about what staffing levels are appropriate. AB

comment #292 posted on 2013-06-18 14:07:10 by Moderator

Here's another question from Abdul Khan: "If we need say, 1000 MWe power, why we should select 5 SMRs of 200 MWe each compared to one 1000 MWe nuclear plant?" Our answer -- Some users may decide that they prefer to ramp up their power production capability rather than building it all at one time. For example, maybe they want 200 megawatts electric, or MWe, for the first two years and then want to add another 200 MWe every two years after that. It's also possible that the transmission grid in a particular location can't handle 1,000 MWe at once. AB

comment #293 posted on 2013-06-18 14:07:33 by Mohsen Khatib-Rahbar

What is the expected application submission dates for various SMRs? Also, are there any "advanced" reactors that NRC expects to receive DC applications

comment #294 posted on 2013-06-18 14:08:01 by Henry Lynn

Could you give an update on TVA's work on SMRs at the old Breeder Reactor site? Ultimately what is TVA's goal at that site?

comment #295 posted on 2013-06-18 14:08:40 by Moderator

Here's a question Tom Clements submitted via e-mail: "As the economics of SMRs is very shaky at best and given that funding for construction of SMRs does not appear to exist, why should the NRC place serious resources into reviewing reactor design and licensing when it is very likely that no SMR will actually move to construction? The NRC should be very cautious in getting caught up in the continuous and exaggerated hype by the SMR companies about the viability of their imaginary products, right?" Our answer – The NRC regularly prioritizes available resources, and our budget and planned activities are reviewed and approved by Congress. At this point in working with SMR vendors, we generally hold technical meetings at their request when they are ready to have detailed discussions about specific topics. We also sometimes review technical reports that they develop and submit to us so that we can provide feedback. In other words, our activities are based on potential applicants' detailed technical activities, rather than their marketing activities. The Department of Energy has a program to assist SMR vendors, although the NRC plays no role in determining which vendors get that support. AB

comment #296 posted on 2013-06-18 14:11:06 by Henry Lynn in response to comment #292

Could a user also ramp down their power production capability at a site? In other words, once an SMR is put into place, is it feasible to remove it to another site?

comment #297 posted on 2013-06-18 14:12:39 by Robert Steinhaus

Is there an economic case for SMRs? Recently, fully paid for legacy 500 MWe Kewaunee Power Plant was shuttered because the utility operating it felt that it could no longer compete with natural gas fired power plants economically. How will small SMR reactors, loaded with debt, that are more expensive per MW generated, compete when legacy reactors like Kewanee could not?

comment #298 posted on 2013-06-18 14:13:28 by Moderator in response to comment #293

Westinghouse expects to submit a design certification application in the second quarter of 2014. B&W expects to submit a design certification application in the third quarter of 2014. The Tennessee Valley Authority expects to submit a construction permit application for the B&W design in the second quarter of 2015. Ameren expects to submit a Combined License application for the Westinghouse design in the third quarter of 2015. NuScale expects to submit a design certification application also in the third quarter of 2015. Holtec expects to submit a design certification application in the fourth quarter of 2016.

comment #299 posted on 2013-06-18 14:14:16 by Mike Derivan in response to comment #295

It is my understanding that the NRC has a regulatory responsibility (under the Energy Policy Act of '05?) to assist DOE in determining which designs might appear promising. Is this not true? This appears to be an NRC "role".

comment #301 posted on 2013-06-18 14:17:07 by Robert Steinhaus

Are you. Anna Hajduk Bradford, related to Peter Bradford, former NRC Commissioner at NRC under the Carter Administration?

comment #302 posted on 2013-06-18 14:17:49 by Moderator in response to comment #293

As for "advanced" reactors, the NRC has been told STL expects to submit a thorium-based SMR design in 2016. The Next-Generation Nuclear Plant Industry Alliance expects to submit a gas-cooled SMR construction permit application between 2016 and 2018.,

comment #303 posted on 2013-06-18 14:18:09 by Moderator

Here's another question from Abdul Khan: "Are SMRs of pressurized type or boiling water type or something else?" Our answer -- The designs currently being discussed with the NRC are pressurized water designs. Looking further into the future, some SMR concepts include gas-cooled or liquid metal-cooled designs. AB

comment #304 posted on 2013-06-18 14:18:14 by Mohsen Khatib-Rahbar

Which contractors (including national labs) are currently supporting NRC's review activities, and what are their specific areas of support?

comment #305 posted on 2013-06-18 14:19:00 by Moderator in response to comment #301

No, I am not, but I get asked that a lot. AB

comment #306 posted on 2013-06-18 14:22:40 by Moderator in response to comment #296

SMRs are not "portable," once they're installed and the fuel added they're in place for the life of the plant. If we approved a plant with several modules, however, not all of them would need to run at the same time. This also means one module could be down for maintenance or refueling while the rest of the plant runs. AB

comment #307 posted on 2013-06-18 14:22:51 by Robert Steinhaus

Where are plans to create a SMR friendly licensing path through NRC in order to get more SMR reactors built? Will SMRs have to go through the same licensing path as larger nuclear reactors? Will licensing fees be the same for SMRs as for larger nuclear power plants? Will yearly fees for operating SMRs be the same as for larger nuclear reactors?

comment #308 posted on 2013-06-18 14:23:21 by Moderator

Here's a question from our blog, submitted by "richard123456columbia": "Are these plants fail safe, walk away when any problems occur. If not they are a time bomb." Our answer – Our policy on advanced designs is that we expect new designs to achieve greater levels of safety. SMR vendors have not yet submitted full and detailed designs for the NRC to review, so at this point we're still waiting to assess how the designs will perform during an accident. In general, SMR designers have said they'll likely rely on advanced technologies and passive systems, such as emergency cooling water fed by gravity, to help keep the plants safe. Before we could approve any SMRs, we'll perform in-depth reviews of those proposals to ensure they can protect public health and safety and the environment under both normal and accident scenarios. AB

comment #309 posted on 2013-06-18 14:24:48 by Susan

I had heard about these smaller Nuclear Reactors...very exciting technology!

comment #310 posted on 2013-06-18 14:26:10 by Moderator in response to comment #294

TVA is in the best position to discuss their ultimate goals, but in their latest letter to us, they reaffirmed their plans to build up to four mPower modules at the Clinch River site. We mentioned TVA's expected application for the first module in an earlier answer. AB

comment #311 posted on 2013-06-18 14:28:16 by Henry Lynn in response to comment #290

Could you please elaborate on how below ground construction could enhance safety?

comment #312 posted on 2013-06-18 14:28:21 by Robert Steinhaus

Is any planning being given to nuclear fusion SMRs? Will NRC have jurisdiction on SMRs powered by nuclear fusion? If fusion reactors are intrinsically safer, will they have regulation appropriate to the technology and their intrinsic safety?

comment #313 posted on 2013-06-18 14:29:00 by Mike Derivan in response to comment #295

When SMR vendors request a meeting with NRC are they billed for the NRC time at the normal per hour rate (like a nuke plant is charged), or does the cost of the meeting/review come out of the normal NRC operating budget (at tax payer expense)?

comment #314 posted on 2013-06-18 14:31:13 by Moderator in response to comment #297

The NRC's role is to ensure reactor designs are safe. Apart from our requirements that a reactor owner run a plant safely and put aside money for decommissioning, questions about economics and profitability are for the utility to address. AB

comment #315 posted on 2013-06-18 14:31:38 by Tom Tramm

Which parts of a multi-unit SMR plant would get certified? The Nuclear Steam Supply System, of course. How about the auxiliary systems: ECCS, fuel handling, radwaste, electrical distribution, emergency power, ...? How much of the plant will be standardized in the design certification?

comment #316 posted on 2013-06-18 14:32:45 by Jasmin

How much engagement has NRC had with advanced reactor developers, some of which have designs that would classify as SMRs? In terms of NRC prioritizing its resources, how much focus is being put on these non-LWR designs? Or is the agency mainly geared toward looking at LWR designs for the time being?

comment #317 posted on 2013-06-18 14:34:56 by Moderator in response to comment #299

The Energy Policy Act directed the NRC to work with the Dept. of Energy regarding the licensing strategy for the Next-Generation

Nuclear Plant. We issued a report on that work in 2008: http://www.ne.doe.gov/pdfFiles/NGNP_reporttoCongress.pdf AB

comment #318 posted on 2013-06-18 14:35:19 by Eric Freeman

Do small modular reactors present any new and unique safety or security concerns for the NRC? If so, has the NRC identified any that require additional review or analysis?

comment #319 posted on 2013-06-18 14:39:23 by Moderator in response to comment #304

We're not currently reviewing any SMR designs or related applications. The NRC has broad contracts with multiple national laboratories, including Oak Ridge and Brookhaven, to help develop the guidance for future reviews. The contracts include provisions to ensure no conflicts of interest with other national lab activities. AB

comment #320 posted on 2013-06-18 14:40:10 by Moderator

Thanks for your interest in the Chat. I'm getting to your questions, and there are plenty of them! AB

comment #321 posted on 2013-06-18 14:45:48 by Moderator in response to comment #307

The NRC's basic requirements are the same for SMRs as for large reactors; how SMRs meet those requirements could be different. We will use our design-specific review process for unique SMR features or approaches. The NRC recently published its design-specific review standards for our staff to use during the application review for the B&W SMR design. These standards are open for public comment until the middle of August. They can be found here: <http://www.nrc.gov/reactors/advanced/mpower/dsrs.html> We continue to examine the questions of how our fee structure will apply to SMRs, and we expect this will be resolved through a rulemaking process. AB

comment #322 posted on 2013-06-18 14:47:22 by Moderator in response to comment #309

Thanks for your comment -- we encourage public participation, so please stay involved as this process continues. AB

comment #323 posted on 2013-06-18 14:48:56 by Moderator in response to comment #311

We haven't seen detailed design approaches yet, but an underground facility could potentially be better protected from severe natural events or manmade threats. AB

comment #324 posted on 2013-06-18 14:49:59 by Robert Steinhaus

If, as many both within and without the nuclear industry predict that there will be a general phase out of commercial nuclear power generation in the United States by mid-century, mostly because regulatory obstacles, and availability of licenses precluded the building of new nuclear reactors to replace the existing legacy nuclear plants will 1) the nation actually be safer as a result of giving up/regulating out of existence nuclear technology which actually has a better safety record than any other energy sector over the last 50 years? 2) will NRC, who is expected by Congress to raise 90% of the funds required to run the agency from license application fees and yearly reactor operation fees, be able to raise the funds necessary to run the agency, or will NRC gradually have to shrink and shed good staff members as the industry they have regulated (into non-existence) shrinks?

comment #325 posted on 2013-06-18 14:51:14 by Moderator in response to comment #312

The NRC doesn't expect any fusion-based SMR design applications in the foreseeable future, although the NRC would have jurisdiction over that kind of reactor. AB

comment #326 posted on 2013-06-18 14:52:06 by Moderator

The Chat ends at 3 p.m., but if you get in your question before that, I will answer it. Remember, the Chat will be archived. AB

comment #327 posted on 2013-06-18 14:53:19 by Moderator in response to comment #313

SMR vendors are billed for meetings with NRC staff at the existing per-hour rate in our Fee Rule. AB

comment #328 posted on 2013-06-18 14:54:39 by Mike Derivan in response to comment #291

You said " I would note that none of the SMR vendors have yet told us what their plans are for control room staffing." Just so I understand the NRC position on this, is it the NRC position that until a formal design certification is submitted that you haven't really been told anything official? You have seen the same control room design proposals that are available in the PDR that I have seen, and I know what some SMR vendors are publicly stating. Their control room staffing plans seem clear, it is being advertised as a clear SMR advantage. I don't understand this statement, unless as I described the official NRC position. And further, if such "informal" info

tells you nothing to comment on, why waste time and money with the "informal" discussions/reviews? My honest opinion is the NRC at least informally knows what the staffing plans are for some SMR designs.

comment #329 posted on 2013-06-18 14:57:01 by Moderator in response to comment #315

The scope of our SMR reviews will be the same as for large reactors -- the complete design must meet our safety requirements. AB

comment #330 posted on 2013-06-18 14:59:57 by Moderator

We've got several questions in the queue, so we'll close the chat at this point and post our answers to the submitted questions shortly. Please check back here and on Twitter for information on our next chat. Thanks for participating! AB

comment #331 posted on 2013-06-18 15:05:20 by Moderator in response to comment #316

We've been talking to SMR vendors at various levels of effort since 2008. The applications expected in the near term are all light-water designs. We've been thinking about how we'd handle non-light-water designs for several years, and we updated Congress on what we're planning in August 2012: <http://pbadupws.nrc.gov/docs/ML1215/ML12153A014.pdf> At this point, the vast majority of the agency's SMR resources are focused on light-water designs. AB

comment #332 posted on 2013-06-18 15:07:57 by Moderator in response to comment #318

While we don't yet have any designs to review, our discussions with SMR vendors up to now have touched on several issues, such as security requirements, emergency planning, licensing multiple modules at once, and insurance and liability considerations. AB

comment #333 posted on 2013-06-18 15:12:02 by Moderator in response to comment #324

Thank you for your question, but that lies far outside the scope of this SMR discussion. Congress would be a better venue for questions of where the nation will obtain its energy and how the NRC will be funded. AB

comment #334 posted on 2013-06-18 15:17:53 by Moderator in response to comment #328

We have had informal discussions, and control room staffing is among the ideas that have evolved over time. Both the vendors and NRC staff have benefitted from those talks. Until an SMR vendor locks down its ideas in a design application, the NRC is not going to spend significant resources evaluating proposals that may or may not come to pass. AB

comment #335 posted on 2013-06-18 15:37:09 by Moderator

Here's a comment Daryl Leon submitted via e-mail: "It is very unlikely that SMR companies will actually move to construction by reason of the lengthy and extremely expensive licensing process required by the US NRC. Even if funding was present for construction, the financial licensing burden would wipe this out in a heartbeat for any financial advantage the SMR would have obtained otherwise. Look at Galena, AK as an example." Our answer – The considerations of whether an SMR is financially advantageous are for an applicant to consider. The NRC's review process and licensing fee structure are publicly available for potential applicants to consider. Given the number of applications the NRC currently expects to receive, it appears the industry plans to move forward with SMRs. AB Here's a comment Daryl Leon submitted via e-mail: "Is there a cost difference in licensing small reactors compared to large reactors? If small reactors are safer, what are some of the things that can be done to make it easier to license or certify such designs?" Our answer – Since we haven't yet completed an SMR review, we don't yet have enough information on SMR licensing costs to compare that to existing reactor licensing. As we said earlier in the chat, the NRC's basic requirements are the same for SMRs as for large reactors; how SMRs meet those requirements could be different. AB Here's a comment Matt Bandyk submitted via e-mail: "In the licensing process will any preferences be given to applicants that have received the award from the DOE's funding opportunity?" Our answer – When prioritizing our work in the future we will certainly take into consideration which designs have received awards through the DOE program. AB Thanks again to everyone who participated!

Tell us Your Thoughts on NRC Chat!

posted on Fri, 07 Jun 2013 16:15:26 +0000



Click [here](#) to leave a comment.

We launched this new platform– Let's Chat – in April. We wanted to feature real-time discussions on specific issues with NRC experts responding to your questions. So far, we've held six Chats – on the history of nuclear power in the U.S., on the Japan Lessons Learned

Directorate and its activities, the role of the resident inspector, severe weather preparedness, small modular reactors, and a conversation with our Executive Director for Operations. We appreciate everyone who has stopped by and sent us questions. (By the way, they are archived on this [site](#).) Our next session is July 23 from 2 to 3 p.m. Eastern on Waste Confidence. Now we'd like some feedback from you. What did you think? Are the times and days of the week convenient? We also like to hear your topic suggestions. We do have some [limitations](#) on topics for the Chat. It's not the place for regulatory issues currently before the Commission or likely to come to the Commission, for example, or actively being adjudicated. But if you suggest a topic and we can make it work, we'll put it on the schedule. Thanks for your input!

Comments

A Conversation with the Outgoing Executive Director for Operations - This Chat is Closed

posted on Tue, 18 Jun 2013 20:38:41 +0000



My name is Bill Borchardt and I am the Executive Director for Operations at the U.S. Nuclear Regulatory Commission, but I am often referred to as the EDO. It is my job to carry out the operational and administrative functions necessary for the day-to-day operations at the agency. Some of my responsibilities are supervising and coordinating policy development, agency operational activities and implementation of Commission policy directives. Since joining the NRC in 1983, I have held many different positions including resident inspector at the Hope Creek Plant in New Jersey and inspector at other nuclear plants in New England, and I have had a number of leadership positions at NRC headquarters. Prior to joining the NRC, I was an officer in the U.S. Navy's Nuclear Power Program. I look forward to hearing from you and taking your questions.

Comments

comment #336 posted on 2013-07-09 14:04:06 by Moderator

Good Afternoon! We will be answering questions as quickly as possible and posting some "fun facts" throughout. We already have several questions from e-mail and our blog post this morning, so we'll deal with those first. Please remember to refresh regularly to see new content (with some browsers). And if you're replying to a comment or response, please use the reply link on the post rather than the comment box at the bottom of the Chat. That way your response is "linked" to the comment you're responding to. Unrelated questions or comments can be posted here: <http://public-blog.nrc-gateway.gov/category/open-forum/> BB

comment #337 posted on 2013-07-09 14:06:08 by Moderator

My question is: What do you consider your best achievement(s) during your time at the NRC? Richard S. Scheirer Contract Administrative Assistant NRC In every position, there have been a great number of opportunities – from being a resident inspector to starting up the Office of New Reactors. As EDO, I'm most proud of my accomplishments related to creating a positive work environment for employees so they can do their jobs better. I've emphasized an open and collaborative work environment, which focuses on NRC values and fosters good working relationships among the staff. BB

comment #338 posted on 2013-07-09 14:06:43 by Dan Cronin

Thank you Mr. Borchardt for your many years of service. I'd like to hear your perspective on the NRC role as it applies to allowing for widespread research and development within the non-power reactor community. Thank you.

comment #339 posted on 2013-07-09 14:09:22 by Moderator

Questions to Bill Borchardt: (1) If I happen to land on your position, what documents do I consult to give me the pace or fast-tracked to meet the challenges that go with the position? (2) If you were to start all over again in the position, what would you like to be done different? (3) How would you restructure the operations of the US NRC if you had to? There is no document or play book! The 25 years of experience I had in the NRC in a variety of different positions was invaluable for me to do the EDO job. One of the most important factors was that time in the agency gave me a deep-founded sense of what the Commission is and a trust in the people here. I really understood the work of the agency here. The resident inspector job really did give me a good boots on the ground view. I don't think I'd have done anything differently when taking on the EDO job. As far as restructuring the NRC, in almost 40 years we've adapted numerous times to the realities of the changing environment, most recently in 2005 with the creation of two new offices. I expect we'll continue to do that in the future. BB

comment #340 posted on 2013-07-09 14:10:57 by Moderator

Fun Fact: The Executive Director for Operations is basically the NRC's chief operating officer. The EDO manages the day-to-day

operations of the agency, including responsibility for implementing Commission policy directives.

comment #341 posted on 2013-07-09 14:11:28 by Moderator in response to comment #338

I'm not sure what you're asking. If your question is about new designs for research reactors, that's But more appropriate for the Department of Energy. We do acknowledge the valuable role that existing research and test reactors play in the educational system and in the many advanced research programs in this country. We have a highly knowledgeable staff in HQ who provide oversight of those reactors. BB

comment #342 posted on 2013-07-09 14:12:11 by Rob Bunch

What was the most rewarding or interesting outreach you have been a part of in relation to our international missions?

comment #343 posted on 2013-07-09 14:12:39 by Moderator

Question: What advice would you have for next EDO regarding appearance of interactions with NEI. Some folks think NEI has too much influence. Is it out of line for NRC to occasionally stick its thumb in NEI's eye? We value the input of all stakeholders. NEI is but one of a wide range that we need to interact with. Being an independent regulator doesn't mean that we should be isolated. We're always conscious of keeping an arm's length between us and the regulated community. BB

comment #344 posted on 2013-07-09 14:15:11 by Jim Coyle

Given that SMRs may be more of the future in power generation than new large-scale reactors, do you have any sense of what concerns could arise from people who would be in close proximity to the SMRs and who may be resistant to such reactors?

comment #345 posted on 2013-07-09 14:15:14 by Dan Cronin in response to comment #341

I'm referring in a general sense to the AEA Section 104(c) which is unique to the NPR community and which provides a constraint on the NRC's oversight of NPRs.

comment #346 posted on 2013-07-09 14:15:26 by Moderator

Question: Could the EDO address the latest on the consolidation of NRC offices to the White Flint North area? Will RES staff move back to White Flint North area or stay in Church Street building? As some of you may know, we have a new third building in our headquarters complex in Rockville, MD, that we've just started moving folks into. It's still a dynamic situation and the details of which offices will go where are still being worked on. BB

comment #347 posted on 2013-07-09 14:15:57 by Moderator in response to comment #342

I really enjoyed my role as Vice President of the Convention on Nuclear Safety review meeting in Vienna that focused on Fukushima lessons learned (in 2011). It reaffirmed the NRC's and US leadership role throughout the world, and was a valuable opportunity to share lessons learned and regulatory and plant improvements that are underway. I also really enjoyed being team leader on several integrated regulatory review service missions that assessed other regulatory agencies around the world -- in U.K. and South Korea. BB

comment #348 posted on 2013-07-09 14:16:52 by Moderator

Fun Fact: The first EDO, Lee Gossick, was a Major General in the Air Force and a fighter pilot in WWII.

comment #349 posted on 2013-07-09 14:17:49 by anon

Some people rant against regulators, saying that they hold back the economy. Others complain that NRC, FDA, etc. are far too cozy with the regulated industries and strive too hard to accommodate them. How does NRC walk that tightrope?

comment #350 posted on 2013-07-09 14:18:50 by Moderator in response to comment #344

Any Small Modular Reactor that gets licensed would get a thorough review that includes public input, inspections, etc. At that time, we'll hear what the concerns might be. BB

comment #351 posted on 2013-07-09 14:19:18 by Moderator

Question: Could you explain what you mean in your enforcement policy of...basically we ignore little document falsifications and we only enforce big falsifications. What is the NRC definition of an enforceable document falsification and a venial documentation falsification that is ignored? Mike In determining the appropriate enforcement response to violations involving submissions of materially inaccurate information (or omissions of material information), the NRC considers a variety of factors, including the

potential (or actual) safety significance, whether the violation was the product of willful action, and the level or responsibility of those involved. So the appropriate enforcement response is dependent upon the circumstances involved with a particular violation. Not all violations involving falsification will be handled in the same way. While the agency does not "ignore" falsification issues, some violations of the inaccurate and incomplete rule may be considered minor. Violations of a minor significance are not normally documented; however, they are expected to be corrected. BB

comment #352 posted on 2013-07-09 14:21:42 by Moderator in response to comment #345

I'm not intimately involved in that and would need to study the matter more. BB

comment #353 posted on 2013-07-09 14:21:44 by Thomas Wellock

In the last several decades, what has been the NRC's greatest achievement? Greatest mistake?

comment #354 posted on 2013-07-09 14:23:40 by Moderator in response to comment #349

Thank you for that question. It comes up a lot. We have to remind ourselves what our mission is -- we protect the public, their health and safety, and the environment. We aspire to that in the most fact-based, even-handed way possible. Over my 30 years as a regulator, I'm every day reminded that this is not a popularity contest. BB

comment #355 posted on 2013-07-09 14:25:08 by Moderator

Question: Hi, We have been following the story about the dropped lift at ANO a few months back that resulted in a worker fatality. We are hoping to gain insights into our own nuclear grade critical lifts from a lessons learned perspective. Does NRC have the lead on the accident investigation, or OSHA? From what we have seen this seems to have been a tragic industrial accident, so we are assuming OSHA has the lead, presumably with NRC functioning in a monitor and assist role to OSHA. Is that a correct assumption? Do you have any idea when the accident investigation report might be completed and released? Thank you, W. Don Seaborg, PE, PMP, STSM National Nuclear Security Administration/Nevada Field Office/Assistant Manager for Site Operations Senior Technical Advisor The NRC is not involved in the investigation into the circumstances surrounding the accident; that is solely OSHA's responsibility. So we don't know when it will be completed. As part of our Augmented Inspection, though, we looked at the licensee's response to the event. Our report was made public about a month ago. BB

comment #356 posted on 2013-07-09 14:26:08 by Moderator in response to comment #353

Greatest achievement? Almost 40 years of the safe use of nuclear materials in this country (not just reactors, but materials as well.) Greatest mistake? The Davis-Besse reactor head issue. It was a short-coming of omission on the part on the NRC. We missed early signs of corrosion that should have been seen and mitigated promptly. BB

comment #357 posted on 2013-07-09 14:27:32 by Bret Leslie

Regarding being a best place to work in the Federal Government ... what advice (e.g., top three ideas or topics) can you provide to leaders in Federal Agencies that will help them achieve the success NRC had, and are those topics any different than the issues NRC needs to address to get back on top

comment #358 posted on 2013-07-09 14:28:09 by Moderator

Fun Fact: The average term for an EDO is 5 to 6 years; the longest was Jim Taylor with 7 years, the shortest Joe Callen with less than two years.

comment #359 posted on 2013-07-09 14:30:39 by Dan Cronin in response to comment #345

AEA 104(c) imposes a unique constraint requiring the "minimum amount of regulation" for non-power reactors and states that the NRC will "permit the conduct of widespread research and development". In his farewell speech, Chair Jazcko stated (paraphrasing) that the NRC would ensure the health and safety of the public regardless of the impact on the licensee. No mention was made of the non-power reactor community in this speech. Chair Jazcko's comment seems to be in conflict with 104(c). To my knowledge, Chair MacFarland hasn't implemented any course changes with regards to NPR oversight that would contradict the Chair Jazcko statement. Given this background information, how does the NRC ensure compliance with 104(c)?

comment #360 posted on 2013-07-09 14:31:30 by Moderator

Question: should the federal gov. provide funds for nuclear waste why or why not I'm not sure what you're asking. But by way of background --the Nuclear Waste Policy Act of 1982 (as amended) requires nuclear utilities to pay a fee into the Nuclear Waste Fund based on the nuclear power they generate and sell. The amount of the fee was set by Congress at one mil (one-tenth of one cent) per kilowatt-hour. The utilities collect this fee from their customers. Congress established this fund to pay the cost of disposing of the spent fuel from commercial nuclear reactors. Congress also decides how much to spend each year from this fund. Any change to that system would require additional action in Congress. BB

comment #361 posted on 2013-07-09 14:32:18 by Moderator in response to comment #357

I think the three most important things are: being clear about the mission of the agency, defining the organizational values and expected behaviors, and a focus on people. We really emphasize our people -- we communicate with them, keep them well informed and engaged and make sure they have the information to do their jobs, and that they feel valued. We use feedback from our employees to make this the best place to work. The surveys this is based on gives us information that we reflect on and act on, as appropriate. Continuous improvement is part of what we do all the time here. BB

comment #362 posted on 2013-07-09 14:35:35 by Moderator

Fun Fact: There have been eight EDOs in the NRC's history -- including three named Bill.

comment #363 posted on 2013-07-09 14:36:35 by Moderator in response to comment #359

We regulate all facilities for public health and safety. The requirements that we impose are based upon the risk the facility presents to the public. Research and test reactors have a much lower source term than power reactors and therefore have a commensurate set of regulatory requirements. Beyond that, I have no further comment. BB

comment #364 posted on 2013-07-09 14:37:53 by Moderator

Question: i have a question, would it be a good or bad thing if the government quit funding for nuclear energy??? why? I have to write an essay on government funding nuclear energy. The NRC is an independent, regulatory body. We don't promote nuclear energy or make decisions related to energy policy for the country (that is done by the Department of Energy and the White House). What we do is this: if the country wants nuclear power, we'll make sure it's done safely and securely. So we don't have an opinion one way or another about nuclear power in the U.S. Good luck on your essay! BB

comment #365 posted on 2013-07-09 14:40:06 by Moderator

Fun Fact: One EDO, Victor Stello used to dress up like Santa Claus and deliver candy canes to kids in his neighborhood.

comment #366 posted on 2013-07-09 14:40:56 by Mike Derivan

It seems to me that most of the really tough policy decisions the Commission has to make are based on judgements rather than hard science. The NRC staff provides input to the Commission decision process. What is your estimate of the amount of agreement between the staff input and the Commission final policy? e.g. most, half, less than half agreement.

comment #367 posted on 2013-07-09 14:41:36 by Moderator

Question: Since you are the outgoing EDO perhaps are you "freer" than most would be to answer the following questions and/or give us your personal opinion/insights on the following items: It is my understanding that the Yucca Mountain Safety Evaluation by the NRC was perhaps only a month or two from being finalized when the project was halted... (correct this assumption if it was wrong) ... 1) Do you believe this review should still be completed (even if Yucca Mt is not selected as the site or in the running for future consideration)? 2) Do we know an estimate of how much more time and money it would cost at this point to complete this review... if it were restarted? 3) Would the NRC have the ability to shift its budget money to complete this review... or would it be have to be refunded by Congress? 4) Would any decision in this area require a Commission vote to start it back up again at this point? Would you care to speculate on what the current Commission vote would be X- X (you don't have to say how each would vote)? 5) Have the courts ruled yet whether we have violated the law and our responsibility in this area yet?... How will this court decision play into our ability to finish this review?... especially if congress refuses to appropriate the money to complete the review. What happens then? 6) As an "independent federal agency" do you feel we have become too politicized in the recent past...and is there anything that the agency itself can do to reduce this politicization going forward... or is that just the new norm and it should be expected given the current nature of politics in our country... and having political appointees for the Commission? By the way - thanks in advance for answering the question above that you can...it's been good working with you (when you were in NRR several years ago) and please know that I ...and the all the agency personnel wish you the best in your retirement and your future endeavors. Also know that you did a great job dealing with Fukushima in front of Congress / public meetings, etc. -- thanks for all you have done to serve the NRC. You will be missed. Sincerely, Mark First, thank you for your kind words. Secondly, you've got a lot of questions there, most of which are too complicated in this setting. But overall, this is my view about the Yucca Mountain situation: We've answered many of your questions in previous Congressional testimony and correspondence. I agree with the answers we've provided in the past. I'm looking forward to a Court decision that resolves this one way or another. As for perceptions of politicization: I'm confident the NRC staff has and will continue to make our technical decisions based on technical facts and science. That's fundamentally our job. What the policy makers do with that input is up to them. BB

comment #368 posted on 2013-07-09 14:45:16 by Moderator in response to comment #366

That's an interesting question. My sense is there is a high degree of agreement on the vast majority of issues that come before the agency. What might be misleading at times is that we tend to focus on whatever differences do exist. That might give the impression there is a lot of disagreement. But we don't all have to agree on every detail. Even when there's disagreement, we agree on the most

fundamental, important things. BB

comment #369 posted on 2013-07-09 14:45:21 by Moderator

Please remember to refresh regularly. And if you're replying to a comment or response, please use the reply link on the post rather than the comment box at the bottom of the Chat. That way your response is "linked" to the comment you're responding to.

comment #370 posted on 2013-07-09 14:48:13 by Moderator

Fun fact: Former EDO Bill Travers became the head of the first nuclear regulatory agency in the United Arab Emirates after retiring from the NRC.

comment #371 posted on 2013-07-09 14:49:28 by Dan Cronin in response to comment #363

Again, thank you for your time today and for your service. Best of luck to you in your future endeavors.

comment #372 posted on 2013-07-09 14:50:52 by Moderator in response to comment #371

Thank you! BB

comment #373 posted on 2013-07-09 14:52:19 by Moderator

The Chat ends at 3 p.m. I really appreciate your interest and have tried to get to most of your questions. Thanks for joining us today!
BB

comment #374 posted on 2013-07-09 14:55:25 by Moderator

Our next chat is scheduled for July 23, when we'll be discussing the Waste Confidence Rule.

comment #375 posted on 2013-07-09 14:56:26 by Moderator

Fun Fact: Before he became EDO, Bill Borchardt was the first Director of the Office of New Reactors, when that office was created in August 2006.

comment #376 posted on 2013-07-09 14:57:39 by Mike Derivan in response to comment #356

I find it interesting that you put the DB head issue ahead of the DB stuck open PORV pre-TMI event. DB head issue was caught before anything happened. Can you elaborate on your choice?

comment #377 posted on 2013-07-09 14:57:58 by harold in response to comment #362

I've worked for all of them

comment #378 posted on 2013-07-09 14:59:21 by Moderator in response to comment #376

It came to my mind first because the Davis-Bess head issue occurred while I was at the NRC. BB

comment #379 posted on 2013-07-09 14:59:57 by Moderator

My original plan, after coming off a submarine, was to spend two years at the NRC and use that as an opportunity to see what other jobs were out there. That plan didn't work out. I really enjoyed my jobs at the NRC and enjoyed the people I worked with, and I just stayed around. There's no way to overstate the value of being able to work in an agency of people who are truly committed to the important work they do. The NRC has been ahead of its time as far as being a model place to work and establishing healthy working relationships. It's been a great 30 years. Thanks for joining this Chat. BB

Waste Confidence - This Chat is Closed

posted on Mon, 15 Jul 2013 18:58:23 +0000



My name is Keith McConnell and I am the Director of the Waste Confidence Directorate. Unfortunately, Andy Imboden, who was scheduled to moderate this Chat, could not be here today, so I will be answering your questions. I have been at the NRC since 1986, bringing my background and expertise as a geologist to various projects, including waste management, decommissioning and uranium recovery, as well as other positions. I have also served three NRC chairmen and in the Office of General Counsel. I have a Bachelor's degree in Geology from Clemson, a Master's in Geological Sciences from Virginia Tech and a Ph.D. in Geological Sciences from the University of South Carolina. "Waste Confidence" refers to the Commission's determination on the environmental impacts of storing spent nuclear fuel from the time a reactor's license expires until final disposal of the fuel. This is an area with many political, legal, and technical issues. The Directorate is currently developing a generic environmental impact statement to support an updated Waste Confidence rule. More information about Waste Confidence, public involvement opportunities, and links to relevant documents is available on the NRC's [Waste Confidence website](#). You can also check out this [video](#) on our NRC YouTube channel. We've kept you up to date on our progress through several blog posts and regular teleconferences. Currently, the Commissioners are evaluating the draft generic environmental impact statement and proposed rule. We hope – with their approval – to publish them soon for a 75-day public comment period. We are also planning 10 public meetings to receive public comments – two here at NRC headquarters and 8 around the country. I hope we can discuss how you can participate in this extensive public outreach effort during this NRC Chat. As this will be an informal discussion, anything you submit in the Chat will not be considered as an official comment on the rule or the generic environmental impact statement. Be sure to submit your comments once the public comment period is announced. I look forward to your questions about the Waste Confidence process, status and upcoming opportunities for public participation.

Comments

comment #380 posted on 2013-07-23 14:00:10 by Moderator

Good Afternoon! We will be answering questions as quickly as possible and posting some "fun facts" throughout. We already have a couple of questions from e-mail and our blog post this morning, so we'll answer those first. Please remember to refresh regularly to see new content (with some browsers). And if you're replying to a comment or response, please use the reply link on the post rather than the comment box at the bottom of the Chat. That way your response is "linked" to the comment you're responding to. Unrelated questions or comments can be posted here: <http://public-blog.nrc-gateway.gov/category/open-forum/> KM

comment #381 posted on 2013-07-23 14:01:45 by Moderator

Here's a question we received via e-mail: Grace Adams: The question I want to submit in advance of the CHAT is: Since US Navy has the world's best safety record on nuclear power and as part of our national government is working for all citizens of the United States of America, I feel we can trust US Navy more than any for profit corporation which by definition works only for its stockholders. I believe that if we ask US Navy to figure out what is the safest and what is the most cost-effective way of dealing with all the spent fuel rods from our civilian nuclear power industry?, then US Navy can figure out both what is the safest way and what is the most cost-effective way to deal with all our nuclear wastes. If I am not mistaken, we also have a problem with some plutonium left over from our nuclear weapons program. US Navy can probably also figure out what to do about that. Further, I believe that if asked US Navy can also do whatever they figure out for us is both safest and most cost/effective. So PLEASE, can we just dump the whole problem in US Navy's lap and trust that they will be willing and able to both decide and do whatever is the safest and most cost/effective plan of action for dealing with nuclear waste? Please at least ask US Navy their opinion on how to most safely and most cost-effectively to deal with radioactive wastes. Since they have the world's best safety record on nuclear power and are part of our national government working for the benefit of all our citizens, I trust them, both to decide how to manage radioactive wastes and if they are willing, to execute whatever plan they recommend. Response: Thank you for your question. I noticed that you raised concerns about radioactive waste from nuclear power plants as well as from nuclear weapons programs. I will respond to your question as it relates to nuclear power plants, but because wastes from the nuclear weapons program are not under the NRC's authority and are not at issue in this rulemaking, I cannot address them here. That said, the current policy for disposing of spent fuel from commercial nuclear power reactors was established by Congress in the Nuclear Waste Policy Act of 1982 (as amended). The Nuclear Waste Policy Act assigned specific duties to several agencies of the federal government with regard to spent-fuel disposal. It designated the Department of Energy to locate, build, operate, and close a repository for spent fuel and for high-level nuclear waste. It also assigned to NRC the responsibility to establish regulations governing the construction, operation, and closure of the repository, consistent with environmental standards established by the U.S. Environmental Protection Agency. This means, among other things, that for-profit corporations are not responsible for ultimate disposal of spent fuel. Any changes to this current policy—such as designating the U.S. Navy as responsible for disposing of spent fuel—would have to be approved by Congress. KM

comment #382 posted on 2013-07-23 14:02:37 by Dirk in response to comment #380

The GEIS does not appear to have evaluated the level of degradation to the spent fuel pool concrete from direct accumulative radiation exposure. Was that analysis done, and is there a report on the results?

comment #383 posted on 2013-07-23 14:03:18 by Bill Kinsella

Thanks for organizing this chat Here is a question that I'd like to see addressed -- You mentioned in your announcement that the earlier NRC determination, now struck down, was that "environmental impacts of storing spent nuclear fuel after the end of a nuclear power plant's license are not significant." Was that determination based on the assumption that there would be no radiological releases due to accidents, attacks, or other unplanned failures to contain radionuclides? If so, what were the risk analysis basis and legal basis for that assumption? Most importantly for purposes of this question, will such potential releases be considered within the scope of the new drafts of the Waste Confidence rule and the new generic EIS? Thanks for considering this question, and I look forward to the chat,

comment #384 posted on 2013-07-23 14:04:49 by Moderator in response to comment #383

In the 2010 update to the Waste Confidence Rule, the finding of no significant impact was based, in part, on consideration of the risk of environmental impacts resulting from postulated accidents and successful terrorist attacks. While the consequences of such events can be large, the probability of such events is very low, which makes the risk low. Postulated accidents and terrorism remain in scope and will be addressed in the draft Generic Environmental Impact Statement and proposed rule. KM

comment #385 posted on 2013-07-23 14:06:04 by Louis Zeller

Mr McConnell, will the NRC abide by the regulations established by the US EPA for a nuclear waste dump?

comment #386 posted on 2013-07-23 14:06:19 by Stephanie Cooke

Through the process of reassessing the waste confidence rule is the NRC re-examing the question of whether dry cask storage might be a safer option than spent fuel pools. What is being done to address the issue of crowded spent fuel pools? Stephanie Cooke, Editor, Nuclear Intelligence Weekly

comment #387 posted on 2013-07-23 14:08:31 by Bill Kinsella

I'm glad to hear that accidents and terrorist attacks remain in scope. I presume natural disasters as well--is that correct? Accordingly, what lessons learned from Fukushima will be incorporated into the risk analysis--especially regarding "black swan" events?

comment #388 posted on 2013-07-23 14:09:30 by Moderator in response to comment #382

You're correct, it's not explicitly considered in the GEIS. It would be part of the aging management process and part of license renewal on a site specific basis. It is an issue dealt with outside of waste confidence. KM

comment #390 posted on 2013-07-23 14:10:52 by Moderator in response to comment #385

A geologic repository is outside of the scope of Waste Confidence, which deals with continued storage of spent fuel between the end of the operating life of a reactor and disposal. KM

comment #391 posted on 2013-07-23 14:11:55 by Louis Zeller in response to comment #385

...and further, if the EPA regulations were to be challenged, for example by licensees or industry groups, would NRC use its legal resources to support the stricter regulations promulgated by the EPA, or not?

comment #392 posted on 2013-07-23 14:12:58 by Moderator in response to comment #386

Waste confidence is looking at the current system in place for storage of spent fuel, including both wet and dry storage. Other parts of the NRC are evaluating expediting transfer of spent fuel to dry casks. KM

comment #393 posted on 2013-07-23 14:14:05 by Dirk in response to comment #388

The existing data set used for such evaluations suggests that aggregate gamma doses exceeding 10^{10} rad lead to progressive degradation of concrete. The predicted dose to many reactor and basin locations appear to exceed this after the 40 year design life. How is relegating this to an aging program adequate, when this is a generic issue that all such locations will face? Also, this data set (four data points) is for concrete that was continuously wetted. The lined spent fuel pools more likely act as dry concrete. There is an additional limited data set of perhaps a dozen data points from the Oak Ridge Shield Reactor and one additional data point from the Temekin PWR, which suggest at least that the level at which degradation begins is as much as 2,000 times lower in aggregate dose, with severe damage occurring withing the range of dose expected in the normal operational life of the reactors. Would this not be most appropriately analyzed as an existing condition in the GEIS?

comment #394 posted on 2013-07-23 14:14:38 by Louis Zeller in response to comment #390

Even with onsite storage the only consideration, EPA and state regulations still apply. So, would NRC use its resources, legal and

otherwise, to support state and federal environmental rules?

comment #395 posted on 2013-07-23 14:15:22 by Moderator in response to comment #387

Yes, natural disasters are part of the waste confidence scope. Lessons learned from Fukushima are being incorporated into site-specific licensing actions. We're aware of those actions and incorporating the information to the extent that it relates to the continued storage of spent fuel. KM

comment #396 posted on 2013-07-23 14:15:42 by Moderator

We update the Waste Confidence website (<http://www.nrc.gov/waste/spent-fuel-storage/wcd.html>) regularly with the latest information and Waste Confidence activity updates, including links to related documents, frequently asked questions and opportunities for public involvement. You can register with GovDelivery to be notified any time a change is made to this website by going here: <https://public.govdelivery.com/accounts/USNRC/subscriber/new?> KM

comment #397 posted on 2013-07-23 14:17:10 by Moderator in response to comment #391

Your question is about disposal in a geologic repository, so that's outside the scope of what we do here in terms of the Waste Confidence rulemaking. KM

comment #398 posted on 2013-07-23 14:17:11 by Yamabara Shinzo

You have said that public meetings on Waste Confidence are planned for Maryland, New York, Massachusetts, Colorado, Southern California, Central California, Minnesota, Ohio, and North Carolina. Possible sites for waste storage (interim or otherwise) include Nevada, Washington, South Carolina, Illinois, and Idaho. Can you please explain these discrepancies? Why hold public meetings in communities not affected by waste while avoiding those with the most to gain from the public involvement process? Thank you for you considered answer.

comment #399 posted on 2013-07-23 14:19:39 by Moderator in response to comment #394

Sorry, your question continues to be outside of our scope. We're not going to speculate about site specific licensing proceedings. KM

comment #400 posted on 2013-07-23 14:20:05 by Moderator in response to comment #393

Please feel free to submit your comments on concrete degradation when the agency publishes its proposed Waste Confidence rule later this year. KM

comment #402 posted on 2013-07-23 14:20:40 by Julius Kerr in response to comment #396

Why have you chosen this format to communicate? It sure leaves out those who cannot join through internet and/or type easily.

comment #403 posted on 2013-07-23 14:22:56 by Dirk in response to comment #400

In advance of that, I am looking for any information the NRC may have on the degradation of concrete from aggregate exposure to high radiation doses (both wet and dry) to be able to make meaningful comment. I am also interested in any report on what the aggregate doses may be for representative or bounding cases for spent fuel pools. Does such information exist? Is it available? How might I locate it?

comment #404 posted on 2013-07-23 14:23:07 by Marvin Lewis

1, why is it so difficult to find out how to join this chat? 2. With our money problems at city level, we will never be able to meet our obligations for any emergency, evacuation or anything! Help us!

comment #405 posted on 2013-07-23 14:23:23 by Louis Zeller in response to comment #399

Are you saying that both the national nuclear waste repository and the 67 waste sites at nuclear power plants are outside of the scope of the WCD?

comment #406 posted on 2013-07-23 14:23:43 by Ace Hoffman in response to comment #384

"postulated accidents and successful terrorist attacks" leaves a lot of room for inadequate protection against accidents the NRC "never saw coming" or terrorist attacks by people who think like terrorists, instead of like bureaucrats. I have no idea how you can possibly believe you are expert enough in geopolitical strategy, psychology, opportunity and attitude to know if terrorist attacks are "low probability." We lost three soldiers and an interpreter to a suicide bomber on a donkey today in Afghanistan. Why did they use a donkey? Because they figured it would work. What will they think of next? I'll wager a terrorist attack against our spent fuel is NOT a

"low probability" event but rather, an absolute certainty. Under such conditions, what is the proper procedure and how much confidence should we have while waiting for those procedures to be carried out?

comment #407 posted on 2013-07-23 14:24:18 by Kathryn Lewis

I understand that 3 timeframes were analyzed for spent fuel storage, 60 years, 160 years and indefinite. When is the first license scheduled to expire on an existing (relicensed) operating nuclear plant in the U.S.? Would safe storage be 60 years after that or 60 years after the spent fuel is removed from the pool and put into dry casks? Thank you.

comment #408 posted on 2013-07-23 14:24:29 by Stephanie Cooke

Could you explain what the new rule is on waste that you are about to issue? And when it will be issued?

comment #409 posted on 2013-07-23 14:24:47 by Moderator

More than 3,300 individuals have joined the Waste Confidence email distribution group to get information and updates on the Waste Confidence Generic Environmental Impact Statement and rule. To join them, send an email to WCO Outreach@nrc.gov. KM

comment #410 posted on 2013-07-23 14:25:38 by Moderator in response to comment #398

Your question seems to relate to centralized interim storage as described by the Blue Ribbon Commission. For the purposes of the Waste Confidence rule, we don't assume the existence of any particular interim storage site. As to our upcoming meetings -- the way we chose the locations of the public meetings was by considering the public comments we got on the issue during scoping, our experience with past meetings on other generic environmental impact statements and consideration of where people lived who expressed the most interest in the issue. It really is a national issue, so we tried to spread the meetings throughout the country. Also, two of the meetings will be nationally web cast so anyone can participate. KM

comment #411 posted on 2013-07-23 14:25:57 by Julius Kerr in response to comment #402

It is hard for a disabled vet to type on a keyboard, but I would like to know how long you expect to maintain a nuclear waste dump?

comment #412 posted on 2013-07-23 14:26:57 by Moderator in response to comment #402

Chat is just one forum. We have many meetings coming up and we're also communicating via phone calls and emails. If you need more information, visit our web site. KM

comment #414 posted on 2013-07-23 14:29:28 by Julius Kerr in response to comment #409

Well, if you would make the interaction more user friendly, you might get 33,000 or more. And not to be held during the middle of the workday for most poor hardworking citizens. I have no confidence in waste confidence.

comment #415 posted on 2013-07-23 14:29:30 by Moderator in response to comment #403

Thank you for your interest, but we're chatting today about the Waste Confidence Rule and our process for updating it. You can send general questions about research to the NRC's Office of Public Affairs at OPA.Resource@nrc.gov. KM

comment #416 posted on 2013-07-23 14:29:55 by Moderator in response to comment #405

No. We're saying that disposal is outside the scope. Inside the scope is the continued storage of the spent fuel during the time between the end of the reactor's operating license and when the fuel is removed for disposal. I hope that clarifies the matter. KM

comment #417 posted on 2013-07-23 14:30:51 by Moderator in response to comment #404

Sorry you had difficulty. But glad you found the Chat. Your question about emergency preparedness and evacuation is outside the scope of Waste Confidence. KM

comment #418 posted on 2013-07-23 14:32:02 by Ernest Martinson in response to comment #416

Does that include storage as de facto disposal due to lack of a disposal site?

comment #420 posted on 2013-07-23 14:33:59 by Moderator

Inquiring minds want to know: How long will the public comment period be and how can I comment? The comment period for the draft Generic Environmental Impact Statement and proposed Waste Confidence rule will be 75 days long. As the NRC gets closer to publication of the draft GEIS and proposed rule, we'll provide additional details through a Federal Register notice, the Waste

Confidence website, and WCO outreach@nrc.gov. KM

comment #421 posted on 2013-07-23 14:34:37 by Moderator in response to comment #406

The Waste Confidence rulemaking is generically dealing with the environmental impacts that could result from terrorist attacks. The NRC interfaces with other agencies to determine the threat, and uses that information as the basis for considering the likelihood of a terrorist attack. KM

comment #422 posted on 2013-07-23 14:35:40 by Bill Kinsella

Many of your replies take the form of "that's outside the scope...". How was the scope of Waste Confidence rulemaking established? What is the relationship between the rulemaking and the EIS? If the original rule has been thrown out by the court, then wouldn't there be a need to redo the scoping process as well? Was that done?

comment #423 posted on 2013-07-23 14:36:01 by StevenSondheim

What IS in the scope of Waste Confidence? In relation to current and future storage. What levels of confidence are you requiring?

comment #424 posted on 2013-07-23 14:36:47 by Erica Gray

I left a post prior to chat session. The idea of interim storage/ shipping spent fuel to temporary sites should be abandoned. It is not a solution to the problem and created more risks. I would like to know why the NRC has been allowing the industry/utility to drag its feet on removing the spent fuel from over crowded pools and into dry casks storage on site? Lessons learned from Fukushima proves the crowded pools pose a great danger. A Dominion rep stated they couldn't even get but so many dry casks a year....why is that? Costs, or availability?

comment #426 posted on 2013-07-23 14:36:54 by Yamabara Shinzo

Thank you for holding this chat session. My other question relates to Waste Confidence as it is affected by congress. We are discussing on site storage, possibly even HOSS, because the federal government has not yet come up with a solution to long term storage. If congress fails in the long term to come up with a centralized solution for waste storage, is on site storage a viable alternative in perpetuum? Can the industry continue to grow and thrive with a model of on site storage even with the knowledge that a permanent centralized site will never materialize?

comment #427 posted on 2013-07-23 14:37:49 by Moderator in response to comment #407

The first plant to reach the beginning of the short-term time frame in the GEIS is Dresden Unit 1. Its operating license expired in 1996. The 60 year time frame starts when the operating license expires. KM

comment #428 posted on 2013-07-23 14:38:52 by Dirk in response to comment #415

This information may also be important for analyzing the dose to concrete used in dry cask storage, and hence the relative risk comparison between pool and dry storage.

comment #429 posted on 2013-07-23 14:39:11 by Moderator in response to comment #408

The new proposed rule addresses continued storage of spent fuel. It will be issued for public comment late summer or early fall. It's currently before the Commission. It's to be completed by September 2014. KM

comment #431 posted on 2013-07-23 14:39:59 by Moderator in response to comment #411

You seem to be asking about disposal in a geologic repository. What we're looking at is storage before disposal. KM

comment #432 posted on 2013-07-23 14:40:55 by Moderator in response to comment #418

GEIS considers a scenario where spent fuel will need to be stored indefinitely. KM

comment #433 posted on 2013-07-23 14:41:19 by Moderator in response to comment #414

Thanks for the feedback. Chat is a pilot and we're looking to see if it's useful to people or not. KM

comment #434 posted on 2013-07-23 14:42:37 by StevenSondheim

What are the criteria for determining an adequate level of confidence?

comment #435 posted on 2013-07-23 14:43:00 by Erica Gray in response to comment #424

that should be "would create more risks". I wanted to add that Dominion improperly stored spent fuel last year at North Anna...the heat exceeded the casks design. Dominion ended up getting an exemption...said it would cost too much to redo and expose people to radiation. I have no confidence in radioactive waste being transported, specially if they can't even get that right.

comment #436 posted on 2013-07-23 14:43:21 by Moderator in response to comment #423

The scope is the impact on the environment of storage of spent fuel. To be clear, that means spent fuel that remains in storage after the operating life of a nuclear power plant. It does not look at permanent disposal, such as what was anticipated at Yucca Mountain. KM

comment #437 posted on 2013-07-23 14:43:28 by Ace Hoffman in response to comment #427

Wouldn't it make more sense for the storage license time frame to start when the first fuel is placed in dry casks? What is the reason for it being the cessation of waste production (ie, "operation"?) which could be decades later, with lots of degradation in the interim?

comment #438 posted on 2013-07-23 14:44:58 by Moderator

Some of the radioactive elements in spent fuel remain radioactive for many thousands of years. So plans for storage and ultimate disposal of spent fuel focus on continued safety and security of the material. The radioactivity level of spent fuel does drop over time as the more-radioactive (and thus shorter-lived) elements decay. KM

comment #439 posted on 2013-07-23 14:45:20 by Moderator in response to comment #422

GEIS is the regulatory basis for the rule. We did rescope after the decision. The scoping period was October 25, 2012, to January 2, 2013. KM

comment #441 posted on 2013-07-23 14:47:00 by Moderator in response to comment #424

Our Fukushima lessons-learned folks are considering expedited transfer of spent fuel from pools to dry cask storage. That consideration is currently underway. KM

comment #442 posted on 2013-07-23 14:47:08 by Stephanie Cooke

Could you give us a tad bit more to go on vis the specifics of this proposed rule. Do these safety rules address overcrowding in a more detailed way than existing regs? Do they require dry storage after a certain period of time? Do they set out rules for security at plants particularly once a reactor has been decommissioned?

comment #443 posted on 2013-07-23 14:48:55 by Kathryn Lewis

Also in reference to the 3 timeframes, I believe the NRC envisions/recommends that in the case of 160 yrs or indefinite storage that the ISFSI and "dry transfer system" (casks?) be replaced every 100 years. Would these activities also be overseen by the NRC with regard to safety? If so, would it require that new regulations specific to this process be developed? Thank you.

comment #444 posted on 2013-07-23 14:49:21 by Moderator in response to comment #426

The national policy still is disposal in a geologic repository. However, in response to the court's decision, we in waste confidence have considered the environmental impacts for indefinite storage. KM

comment #445 posted on 2013-07-23 14:52:03 by Ace Hoffman in response to comment #438

The greatest harm would occur if the fission products in the fuel are released early on -- by several orders of magnitude over just a few decades later. Therefore the most important time to secure the fuel properly is now, not at some later date in some "ultimate" repository, when it will be 1% or one tenth of 1% of the danger it is now: Still frightfully dangerous and in need of isolation, but damage to DNA now will cause lasting effects, so again, now is the most important time to properly protect the fuel. Ceasing operation of all nuclear power plants would be a good first step. Or is that not being considered by the NRC yet as a viable and reasonable option? When was the last time (if ever) the NRC evaluated the full scope of problems with nuclear power versus other energy choices? This is within scope of this chat because we are discussing the safest way to handle spent fuel from shut-down to permanent repository. The safest way to handle it -- the ONLY safe way -- is not to make any more of it and thus reduce the 'shorter-lived elements to nothing.

comment #446 posted on 2013-07-23 14:52:29 by Moderator in response to comment #434

We considered the experience of storing spent fuel, and that, along with consideration of the environmental impacts that result from continued storage is the basis for the waste confidence rule. KM

comment #447 posted on 2013-07-23 14:52:36 by Moderator

Congress declared, under the Nuclear Waste Policy Act of 1982 (as amended), that it is the policy of the United States to rely on a deep, geologic repository at Yucca Mountain to dispose of the nation's spent nuclear fuel. The NRC is required to perform licensing reviews and activities related to an application for such a facility. In 2010, the Department of Energy moved to withdraw its application for Yucca Mountain. The matter is now before the U.S. Court of Appeals for the District of Columbia Circuit. KM

comment #448 posted on 2013-07-23 14:52:40 by Bill Kinsella in response to comment #444

How do you do RA calculations for indefinite storage? It would seem that "indefinite" can include "forever" or "a very long time." On such time scales, high-consequence, low probability risks become more likely--eventually they become high probability. Basic math. How is this addressed in your RA?

comment #449 posted on 2013-07-23 14:52:55 by Yamabara Shinzo in response to comment #444

Where can we learn more about the environmental impacts for indefinite storage that you have described as having been 'considered' ?

comment #450 posted on 2013-07-23 14:53:45 by Ace Hoffman in response to comment #447

Can Congress dictate the laws of science? NRC seems to think so.

comment #451 posted on 2013-07-23 14:54:17 by Moderator in response to comment #437

The environmental impacts of storage in dry casks, during operation, is considered in the site-specific licensing for that facility. Waste confidence looks at the environmental impacts of storage beyond that time. Also, please be sure to take advantage of the upcoming comment period. KM

comment #452 posted on 2013-07-23 14:54:22 by Erica Gray

Why is this still awaiting moderation? Do you get to pick and choose what responses to post? I wrote earlier....that should be "would create more risks". I wanted to add that Dominion improperly stored spent fuel last year at North Anna...the heat exceeded the casks design. Dominion ended up getting an exemption...said it would cost too much to redo and expose people to radiation. I have no confidence in radioactive waste being transported, specially if they can't even get that right.

comment #453 posted on 2013-07-23 14:54:26 by Moderator

Just a reminder -- the Chat ends at 3 p.m. I really appreciate your interest and have tried to get to most of your questions. Thanks for joining us today! KM

comment #455 posted on 2013-07-23 14:57:09 by Moderator in response to comment #442

The current version of the waste confidence doesn't have a safety part to its rule, just the environmental impacts of the storage. The rule is now before the Commission. You can see the Commission review draft on the Waste Confidence Decision section of the web site at www.nrc.gov. KM

comment #457 posted on 2013-07-23 14:57:59 by Erica Gray

There is no safe place to store radioactive waste and no containers that will last that long. We should stop making more of it and secure the waste we have already made.

comment #458 posted on 2013-07-23 14:59:03 by Moderator in response to comment #443

The assumption is the NRC would have regulatory oversight over the activities of the dry transfer system. KM

comment #459 posted on 2013-07-23 15:00:33 by Moderator

Thanks for your questions. Our next chat is scheduled for Aug. 13, when we'll be discussing earthquakes and U.S. nuclear power plants. KM

comment #460 posted on 2013-07-23 15:01:25 by Yamabara Shinzo

I understand the chat is over now. I just want to thank you for answering our questions. There are many things we don't agree on, but I respect and appreciate your willingness to communicate.

comment #461 posted on 2013-07-23 15:02:12 by Moderator in response to comment #449

The Commission review draft of the draft generic environmental impact statement and its references including those related to indefinite storage are on the Waste Confidence web site at www.nrc.gov. KM

comment #462 posted on 2013-07-23 15:02:54 by Moderator in response to comment #460

Thank you very much. We appreciate that! KM

comment #463 posted on 2013-07-23 15:04:25 by Moderator in response to comment #448

We have considered that issue in the GEIS. Please look at that, and we look forward to your formal comments, during our comment period. KM

comment #464 posted on 2013-07-23 15:05:48 by Bill Kinsella in response to comment #462

Yes, thank you Mr Connell and NRC crew. I appreciate your efforts.

Earthquakes and Nuclear Power Plants - Aug.13 @ 2 p.m. EDT

posted on Wed, 24 Jul 2013 13:57:42 +0000



My name is Dr. Annie Kammerer and I am a senior seismologist and earthquake engineer at the NRC. I oversee research on a broad range of seismic topics. I also have 15 years of experience in private consulting on seismic topics, and have authored many publications, regulatory guidance, technical reports and journal articles. I hold a BS in Civil Engineering, an MS in Geotechnical Engineering and a PhD in Geotechnical Earthquake Engineering. I look forward to your questions.

Comments

To Join the Earthquake Chat...

posted on Wed, 31 Jul 2013 15:42:57 +0000

Click [here](#) between 2-3 p.m. EDT on August 13, 2013, or you can submit your questions early by sending an email to OPA.Resource@nrc.gov . Please put "Chat" in the subject.

Comments
