

OPSMPEm Resource

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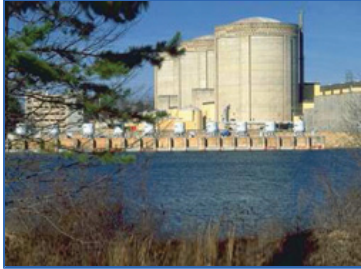
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Sparking New Conversations on Reactor Fire Safety

posted on Tue, 02 Jul 2013 15:47:44 +0000

Scott Burnell
Public Affairs Officer



This week, the NRC took [enforcement action](#) against Duke Energy Carolinas LLC for failing to meet an important deadline in improving its fire safety program at the [Oconee nuclear plant](#) in South Carolina. In a Confirmatory Order, the agency set a new timeline for Duke to make the necessary changes, including interim milestones that will each result in safety enhancements as Oconee completes the process. Fire safety is an important and evergreen topic when discussing the safety of U.S. nuclear power plants. NRC regulations include two approaches to fire protection and the issue is easily misunderstood or misrepresented, so it benefits from a refresher on everything that fits under the “fire protection” umbrella. Let’s start with the bottom line — every U.S. nuclear power plant meets the relevant NRC requirements for protecting its reactor from fire hazards. Even if a plant has an “exemption” from a part of the NRC’s least-flexible fire protection approach, called Appendix R, that plant can still shut down safely in case of a fire. Appendix R is effectively a one-size-fits-all approach for plants that are in fact custom-built projects. Newer plants tend to be built closer to Appendix R requirements, while older plants are more likely to have difficulty meeting specific mandates. When it was issued, the NRC knew that the appendix wouldn’t apply to every part of every plant, so plants would apply for exemptions where Appendix R didn’t make sense. The NRC has a well-established process for reviewing exemption requests, which must have solid technical support in order to be approved. When the federal court covering southern New York upheld the agency’s process, the ruling even noted the NRC rejects exemption requests if they’re not justified. You can see an everyday example of exemptions when you take an eye exam to get a driver’s license. Since not everyone’s vision falls in the acceptable range, regulations allow people to wear glasses or contacts. This can be considered an “exemption” from uncorrected vision requirements that’s still acceptable and compliant with the law. Even if a plant has Appendix R exemptions, the NRC inspects the plant’s overall fire protection program to ensure it maintains safety. Exemptions are sometimes confused with separate “compensatory measures” plants will put in place for specific issues until permanent solutions are in place. Exemptions are permanent in any case, and as we noted, plants must justify their requests with solid data. Compensatory measures, while they can be acceptable for extended periods of time, are not a basis for exemptions. As with exemptions, however, the NRC only accepts compensatory measures if they will provide acceptable fire protection capabilities. Compensatory measures also have an everyday example on the roads — when a traffic light is malfunctioning, a police officer normally directs traffic at the intersection. Instead of the city closing the intersection until the traffic lights are fixed, officials compensate for the degraded traffic light in an acceptable way. Bottom line: The NRC will not accept any fix for an exemption or a compensatory measure unless it’s safe. Oconee is switching to the second approach, an updated fire protection standard called NFPA 805. You can think of this standard as a way for plants to customize their fire protection based on risk information. For example, the risk of fire in an otherwise empty room with concrete walls with electrical cable trays is less than for the same room with a barrel of lubricating oil stored in a corner. Under this new standard, plants use advanced fire analysis tools to determine where their fire protection resources are most needed. Oconee was one of two plants testing the transition as pilot projects. The NRC is currently evaluating applications from several

UNDER THIS NEW STANDARD, PLANTS USE ADVANCED FIRE ANALYSIS TOOLS TO DETERMINE WHERE THEIR FIRE PROTECTION RESOURCES ARE MOST NEEDED. OCONEE WAS ONE OF TWO PLANTS TESTING THE TRANSITION AS PILOT PROJECTS.

plants to switch to the NFPA 805 standard. When plants transition to NFPA 805, their analyses can uncover new fire protection issues, and the NRC ensures those issues are appropriately handled as they’re identified. All new issues are accounted for with compensatory measures, and will either be fixed by a change to the plant or evaluated as part of the transition to NFPA 805. Since switching to the new standard is optional, the NRC uses its “enforcement discretion” in deciding whether to take action against plants that find new issues during the switch. That decision is made after the issues are identified and compensatory measures are put in place. There is no question that a fire at a nuclear

plant can be serious business. The NRC takes it very seriously. In reading stories about the NRC’s fire safety program, it is important to remember that not all fires carry the same risk, and the risk depends on the size and location of a fire. Also, each plant has its own fire department and trained local firefighters to call on for additional help. The NRC’s work on fire protection, as with all its efforts in overseeing U.S. nuclear power plants, is meeting its goal — ensuring the public remains safe.

Comments

comment #132246 posted on 2013-07-02 18:05:59 by Ralph Phelps

Well written concise summary of FP methodology.

comment #132272 posted on 2013-07-02 20:49:33 by richard123456columbia

Do a search ----poor safety at nuclear plant , many safety problems. Have they found a way to protect nuclear plants when the next

Carington effect happens?

comment #133978 posted on 2013-07-08 23:54:37 by richard123456columbia

The info supplied is side stepping the power plant safety, the info is about spent fuel pools. What about the lose of power to the reactor, generators, back up generators that come on line, battery back up and damages to most equipment. From reports of the Carington event large transformers melted down and voltages so high it jumped switches, to save money I would expect that the switches do not have a fuse in series with them, with out fuses, breakers and switches will weld shut and lock up the on switches till replaced (would take many days like Fuku....) . Is there reports on the highest voltage and current influx the plant can handle safely. Info you gave seems low 10% high or low of normal operation not like Carington with two or many times more. Please give quantitative info on the maximum surges they can handle.?

comment #141586 posted on 2013-08-12 01:21:02 by Evan

Great Article on Fire Safety!

comment #133761 posted on 2013-07-08 10:09:20 by Moderator in response to comment #132272

In much the same way as with fire protection, the NRC gets regular questions about how U.S. reactors can safely handle solar flares and electromagnetic pulses. We had a blog item on this subject in 2011: <http://public-blog.nrc-gateway.gov/2011/10/31/keeping-u-s-reactors-safe-from-power-pulses/> Late last year, the NRC partially accepted a petition asking to improve the rules that requiring U.S. reactors to remain safe after solar flares: <http://pbadupws.nrc.gov/docs/ML1235/ML12353A410.pdf> The NRC will examine the basis for such a rule change if we determine ongoing post-Fukushima efforts fall short of satisfying the petition's basic concern. Scott Burnell

comment #132405 posted on 2013-07-03 09:18:45 by Garry Morgan

The NRC has created fire safety problems due to lax enforcement, enforcement discretion and exemptions which benefit the nuclear industry. NRC actions regarding nuclear plant fire safety does not protect public safety. You are increasing the risk of a catastrophic accident due to fire because of your lackluster history of fire regulation enforcement. At this point, the NRC is not protecting the public, you are protecting the nuclear industry's bottom line. TVA's Browns Ferry is an example of a plant which has had fires, and you still do not require fire safety standards to be met, 38 years later. The NRC utilizes enforcement discretion and exemptions to allow the nuclear industry to not comply with fire safety standards. There were lessons learned as a result of the Browns Ferry fire. Unfortunately, one of the lessons not learned was the necessity to enforce of fire regulations. Stringently enforce NFPA 805, stop discretionary enforcement of the fire code and stop your exemptions. The public must be protected, not the nuclear industry's bottom line. Exemptions from the fire safety codes are not safe actions. There is a rather large difference between a nuclear reactor and a traffic light - your analogy reeks of propaganda instead of conveying truth to the public about the NRC's problem regarding lack luster fire safety enforcement.

Happy July 4th

posted on Wed, 03 Jul 2013 17:11:48 +0000



The U.S. Nuclear Regulatory Commission extends best wishes to everyone for a safe and happy Independence Day. Our business offices will be closed on July 4th, for the federal holiday, but will reopen on July 5th.

Comments

Tuesday's Chat: The NRC's Executive Director for Operations

posted on Mon, 08 Jul 2013 13:36:31 +0000

Holly Harrington
Senior Advisor



There have been eight Executive Directors of Operations in the NRC's history. They act as de-facto Chief Operating

Officers, managing the staff and reporting to the Chairman. The first, Lee Gossick, was a Major General in the Air Force and a WWII fighter pilot before he assumed the presumably less dangerous office at the NRC. The latest EDO, Bill Borchardt, is retiring after 30 years with the NRC. He's held positions focusing on everything from new reactors to reactor inspection to security policy and planning. He'll be the topic of tomorrow's [Chat](#), from 2 to 3 p.m. Eastern. [caption id="attachment_4329" align="alignleft" width="300"]



EDO Bill Borchardt briefs the Commission in 2012.[/caption] He has agreed to talk about his time with the NRC, what he thinks of current challenges facing the agency, and maybe make a few predictions about the future. We might even learn a few “behind the scenes” things about the outgoing EDO. However, we doubt that he, like former-EDO Victor Stello, ever dresses up like Santa Claus to deliver candy canes to kids in his neighborhood. You can submit your questions ahead of time to opa.resource@nrc.gov. We hope you can join us. Note: Thanks to those who joined this Chat. For those who could not, here is the [link](#) to the archive of the session.

Comments

comment #133787 posted on 2013-07-08 12:49:52 by Moderator in response to comment #133774

Thanks for the question. We'll put it in the queue for tomorrow. We prefer questions be submitted via email, though, to: opa.resource@nrc.gov. Holly Harrington

comment #133774 posted on 2013-07-08 10:53:04 by Mike Mulligan

EDO Bill Borchardt questions: “NRC didn't buy any of what it labeled TVA's poor methodology and "unvalidated assumptions and calculations." Instead, NRC in a "final significance determination" in May of 2011 said TVA was at fault for inadequate testing of its own equipment. It also concluded the valve would never have opened. Johnson said it took two men with a jack hammer two days to free the valve.” Why didn't you charge these employees and contractors with falsification of federal documents? Could you explain the NRC's take on filling out complete and accurate documents? Does the industry have a hired wild west gunslinger atmosphere... contractual professional engineering service providers who will say anything for money? They will clearly lie or be inaccurate in the ends of collecting money from a utility? Thanks, Mike Mulligan Hinsdale, NH

The Davy Crockett Weapons System, the Cold War and the NRC

posted on Wed, 10 Jul 2013 13:24:54 +0000

Michael Norato
Chief of the Materials Decommissioning Branch

The Davy Crockett weapons system – a Cold War-era recoilless rifle – never actually saw battle. But there are remnants of it at several former training sites around the country, including two in Hawaii. How does that involve the NRC? A part of this system, the spotting



round, contained depleted uranium (DU). The NRC is now reviewing the Army's application to possess and manage these spotting rounds in Hawaii. The Atomic Energy Commission, the NRC's predecessor, gave the Army a license to fabricate and distribute the spotting rounds. These low-speed projectiles helped to ensure accurate targeting. They emitted a puff of white smoke on impact. They did not explode, but they made it possible to see if aiming adjustments were needed. In 2005, the Army found tail assemblies from the spotting rounds at the Schofield Barracks on Oahu. That discovery prompted a review of all sites where the Army trained with the system. The Army found DU at other sites, including the Pohakuloa Training Area on the big island of Hawaii. The Army has enough DU at these sites that, under NRC regulations, it is required to have a possession license. The Army applied for an NRC license in November 2008. Natural uranium is made up of three “isotopes”—forms with different numbers of neutrons and distinct physical properties: U-234, U-235 and U-238. “Depleted” uranium has had U-234 and U-235 removed, increasing the percentage of U-238. Only slightly radioactive, DU can be toxic to the kidneys if ingested, such as by inhaling dust or drinking contaminated water. DU is about twice as dense as lead, making it useful in commercial and military applications. An Army information booklet said the DU is in large fragments, not small dust particles. It is on operational ranges that are not accessible to the public. Data the Army collected and analyzed show there is no immediate health risk to people who work at the ranges or live nearby. The high density and large fragment size mean the DU cannot easily become airborne or move

off-site. The NRC asked the Army to provide plans for environmental radiation monitoring and security. The Army initially provided two plans that could apply to any of the sites where it used Davy Crockett spotting rounds. It later provided specific plans for the two sites in Hawaii. The NRC is continuing to work with the Army to issue a license. As an NRC licensee, the Army must follow NRC regulations and standards for protecting the public and the environment. These may include monitoring radiation in the air and plants and further controlling access to the sites. The NRC will oversee that monitoring through periodic inspections and reviews. The Army will be able to amend its license to add other sites where it has found DU from the Davy Crockett system. The license and the Army's monitoring and access control programs will support future site cleanup. More information on DU is available on the Health Physics Society's [website](#).



Comments

comment #134461 posted on 2013-07-10 16:33:36 by Stephen Burns

It's five years on and still no license? While I don't suggest there's a safety hazard, it's hard to understand what takes so long. This issue was on our plate when I left NRC in 2012, and given the relative simplicity, it is hard to understand what takes so long.

comment #135095 posted on 2013-07-13 00:43:17 by john bowers

This appears to be good. What I have wondered since learning about DU is how many ranges in the US where A-10s were practicing, were shot up with DU?

comment #134415 posted on 2013-07-10 11:58:59 by Jeff Walther

So this has been taking up time and money for five years, for objects which are in large chunks, aren't an ingestion or inhalation hazard and represent little to no radiation hazard?

comment #134394 posted on 2013-07-10 09:46:55 by

Is the NRC aware of any other military training sites located in other states where these DU containing spotting rounds were used?

comment #134576 posted on 2013-07-11 10:26:18 by Anonymous

Why is a license required? Since the fissile isotopes have been removed what interest does NRC have in this material?

comment #134601 posted on 2013-07-11 13:50:46 by Moderator in response to comment #134576

The Atomic Energy Act of 1954, as amended, gave the NRC regulatory authority over "source material," which includes any form of uranium. The Army must obtain an NRC license because it does not qualify for any exemptions from licensing provided in our source material licensing requirements (10 CFR Part 40). Michael Norato

comment #134610 posted on 2013-07-11 15:19:10 by Anonymous in response to comment #134601

OK, fair enough - NRC is enforcing the law and the regulations. But what is the rationale for the authority over the depleted uranium? And what is the basis for the exemptions listed in 10CFR40? I just scanned through them and it seems like it's simply a list of pre-existing uses (e.g., uranium in pottery glaze is OK, thorium in lantern mantles or photo lenses is OK). I'm not trying to start an argument here, I'm genuinely curious as to the rationale since (at first blush) it seems like a waste of time.

comment #134457 posted on 2013-07-10 15:57:44 by Moderator in response to comment #134394

The draft license the NRC sent to the Army May 9 names additional Army forts that contain DU. They are Forts Benning and Gordon (Georgia); Fort Campbell (Kentucky); Fort Carson (Colorado); Fort Hood (Texas); Fort Knox (Kentucky); Joint Base Lewis-McChord and the Yakima Training Center (Washington); Fort Bragg (North Carolina); Fort Polk (Louisiana); Fort Sill (Oklahoma); Fort Jackson (South Carolina); Fort Hunter Liggett (California); Fort Greeley (Alaska); Fort Dix (New Jersey); and Fort Riley (Kansas). Michael Norato

comment #134477 posted on 2013-07-10 18:50:38 by Sandra

Nice blog! Thanks

State Liaison Officers – Keys to a State-Federal Nuclear Regulatory Partnership

posted on Fri, 12 Jul 2013 15:37:33 +0000

June Cai
Senior Liaison Program Manager

The NRC knows that states have a keen interest in how nuclear activities are regulated. After all, both the NRC and the states want to



protect public health and safety and the environment. To make sure we're working together and that states are "in the loop" with NRC activities, we have a State Liaison Officer program. Under this program, every governor appoints a State Liaison Officer who works directly with the NRC's Regional State Liaison Officers. The NRC's regional liaisons work in each of our four regional offices. The NRC liaisons talk regularly with their state counterparts about materials, reactor and fuel cycle facilities and any specific topics of interest. Our liaisons also keep interested local and Tribal governments informed, on a case-by-case basis. These discussions give the NRC a chance to answer questions that state, local, and Tribal officials may have. We can make sure they know about NRC activities and the opportunities for participation. For example, we invite State Liaison Officers to observe NRC inspections so they can better understand what we look at and the questions we ask. We also participate in emergency exercises with them. These exercises allow staff at the NRC, a licensed facility, and in state and local governments to practice procedures that would be used in a real emergency. By working with the State Liaison officers, the NRC develops solid relationships with each of the states and keeps lines of communication open. Creating and maintaining these partnerships lays a firm foundation for working together on any issues that may arise. Over the years, we have learned there is no "one-size-fits-all" approach to being an effective liaison. States' interests and needs can vary widely and shape how our regional liaisons communicate with them. The regional liaison officers work hard and take great pride in building strong relationships with their state counterparts, as well as with some local and Tribal partners. We originally launched the State Liaison Officer program in 1976 at the request of some state groups, including the National Governors Association. We have a new [YouTube video](#) that highlights the unique contribution this program makes to the NRC's mission. (Note: The state liaison program is separate from the NRC's Agreement State program. Agreement States take over regulating certain types of nuclear materials within their borders after signing agreements with us. For additional information about the Agreement State program, see this [previous blog post](#).)

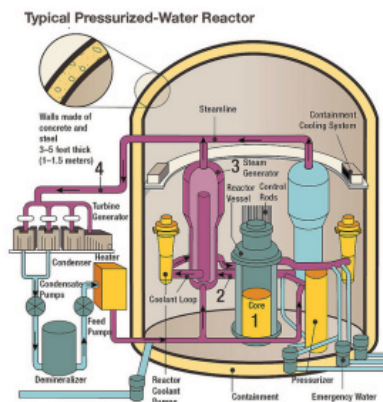
Comments

Where There's Steam, There's ... a Steam Generator

posted on Tue, 16 Jul 2013 14:51:34 +0000

*Kenneth Karwoski
Senior Advisor for Steam Generators*

News articles recently brought the phrase "steam generators" into the national conversation, but we're not talking about teakettles.



Steam generators provide vital technical and safety functions at many U.S. nuclear power plants.

In the United States, steam generators are only found in 65 pressurized-water reactors, one of the two types of U.S. reactors. There can be two to four steam generators for each reactor unit. The generators mark the spot where two closed loops of piping meet. The first loop sends water past the reactor core to carry away heat, and this loop is at such high pressure that the water never boils. The second loop is at a lower pressure, so the water in this loop turns to steam and runs the plant's turbine to generate electricity. The steam generator's main technical job is to let the first loop pass its heat to the second loop as easily as possible. To do this, a steam generator packs thousands of main tubes closely together, allowing the maximum area for heat to pass through the tubes and into the second loop's water. At the same time, the steam generators provide an important safety barrier – the first loop can contain radioactive material, so the tubes must keep the two loops of water separate. NRC rules require plants to closely monitor the second loop and immediately shut the reactor down if a tube leak exceeds very strict limits. The NRC's rules for inspections, maintenance and repair of steam generator tubes help ensure the tubes continue providing the safety

barrier. If an inspection shows a tube is starting to get too thin, the plant will repair or even plug a tube to maintain safety. Steam generator tube material has improved over time. The first steam generators had tubes made from a type of stainless steel that experience showed could be corroded by the chemicals, temperatures and pressures in the first and second loop. Over time, plants have replaced those steam generators with ones using more advanced alloys that are less likely to corrode. Steam generator replacement only happens when the reactor is shut down for refueling, and plant owners bring in hundreds of specialized workers to safely remove the old generators and install the new ones. The old generators have to be safely disposed of as low-level radioactive waste.

Comments

comment #136736 posted on 2013-07-18 16:34:34 by renodeano in response to comment #136569

I was referring to the picture in the original post and "it:s" color coding. The color coding shows primary & secondary fluids mixing! Your experts evidently need a refresher course in PWR primary and secondary systems.

comment #136353 posted on 2013-07-17 03:41:50 by Rod Adams (@Atomicrod)

I completely disagree with CaptD. What people really should be told is that the operators at San Onofre correctly shut down Unit 3 when they received an indication that there was a tiny leak in one of the tubes of the generator that turned out to be just 1/2 of the "very strict limits" that the NRC imposes to require a unit shut down. The action was correct because tube leaks tend to grow rather rapidly, but they do not tend to spread to other tubes. The small diameter of each tube prevents leakage from ever getting very large, even in the case of a complete rupture. The nature of primary coolant in a reactor where fuel rod cladding is intact makes primary to secondary leakage more of a nuisance than a safety issue - after all, the coolant is almost pure water containing tiny quantities of radioactive material with half lives longer than a few seconds. The most exposed person would have received a radiation dose of about 5.2E-5 millirem (5.2E-7 mSv) in a world where the average annual dose is about 300 millirem (3 mSv) from background radiation. After inspecting and plugging damaged tubes, both units 2 and 3 should have been restarted, probably no later than March or April 2012. Everyone should remember that steam generators are only a design choice - 1/3 of all of the reactors in the US don't even bother to try to separate primary from secondary water. Pressurized water reactors with isolated primary systems were the right choice for their initial application - producing power inside sealed submarines full of people. I lay the blame for the destruction of 1500 jobs and the capacity to produce about 14 billion kilowatt-hours of emission free electricity every year solidly on overly conservative decision-making and political action designed to force California to burn more natural gas.

comment #136160 posted on 2013-07-16 12:28:03 by CaptD

Kenneth Karwoski Your blog post does a disservice to all those that spent countless hours writing technical articles about the replacement steam generator (RSG) debacle at San Onofre that lead to it being shut down permanently and costing ratepayers Billions, all because SCE's in-house RSG design team failed to get a CFR 50.59 review of their RSG design! Here is a listing of the DAB Safety Teams "papers" about San Onofre's RSG and other safety issues: <https://drive.google.com/?authuser=0&pli=1#folders/0BweZ3c0aFXcFZGpvrlo4aXJCT2s> Posted 06-08-13 N ♣ San Onofre Gate First, a salute to all of San Onofre's loyal workers at that have or will lose their jobs because of SCE Managements poor engineering decisions, everyone feels sorry for both you and your families, there is no good time to be laid off. We also feel sorry for all the local businesses and families that live in the neighborhoods located near San Onofre that will feel the effects of these job losses. Hopefully as many as possible of you can remain here by getting retrained by SCE, so that you can be retained or re-hired (along with many others) to decommission San Onofre a big job that we now know will last for many years and cost billions of dollars which will hopefully help jumpstart the entire southern California economy! To all those that are now upset, angry and/or worried about the future because San Onofre is being decommissioned, I urge all you to not focus your frustration upon those who protested by publicizing the many actual safety concerns at San Onofre but join with them and together lets all demand to learn much more about why San Onofre had to be decommissioned. We all deserve to know exactly who at SCE was responsible for their decisions to use unproven radical designed RSG's at San Onofre that not only failed so quickly after being put into service but leaked radioactivity into the air we breathe, putting everyone in southern California at risk! Because of this Corporate engineering debacle*, recently laid off employees, present employees soon to be laid off and all the ratepayers are now suffering while those that are responsible are simply going to change their retirement packages and/or enjoy their golden parachutes; they are the only ones that should be held responsible! The US Government, the NRC, the CPUC and the State of California Attorney General must complete all of their investigations into San Onofre, so that those that are responsible can be identified and we all receive the maximum financial relief possible from them. SCE, SDG&E, the CPUC and MHI must be instructed ASAP not to shred any documents relating to San Onofre; the public will not accept a San Onofre Gate cover up. No longer can SCE or MHI claim that they must restrict any "proprietary information" on any company documents relating to San Onofre since they are now going to be decommissioning it, along with its new unsafe Replacement Steam Generators that contain so many major design flaws. In hindsight, Southern California had a nuclear near miss on 01/31/12 and if we were not just plain lucky we could have suffered a nuclear accident just like Fukushima, because of the dangerous Replacement Steam Generators that were in use at San Onofre. We now also have another major problem, which is to determine where both our Federal and State Regulatory Systems of checks and balances failed, in order to make sure that something like this never happens again because the USA cannot afford a trillion dollar Eco-disaster. To do that, it is vital that we insure that all the investigations mentioned above are done publicly and not behind closed doors so that all of us can better understand exactly how San Onofre's debacle occurred, the names of those that are responsible for it and exactly who we should hold responsible for the restitution of all our financial losses. *San Onofre will be remembered as both a nuclear near miss, and as an engineering debacle of epic proportions like the Tacoma Narrows Bridge. <http://www.youtube.com/watch?v=j-zczJXSxnw>

comment #138016 posted on 2013-07-25 17:52:39 by Disgusted in response to comment #137601

No, I was asking questions about *your* professional expertise. If you have any, then we know that it might possibly be worth listening to what you say. However, I very much doubt it since you have repeatedly demonstrated your inability to put the supposed risks in any kind of factual and numerate engineering context. Likening the SONGS events to a Fukushima near-miss is so over-the-

top ridiculous to any practising engineer who knows anything about the case that it quite gives you away.

comment #137601 posted on 2013-07-23 08:50:45 by Disgusted in response to comment #136160

And who are you, CaptD? What professional expertise, what actual standing do you have, in presuming to lecture all these hardworking professional staff who've just lost their jobs due in no small part to the relentless flood of disinformation from antinukes like you?

comment #136230 posted on 2013-07-16 18:34:39 by renodeano

Your color coding of the reactor coolant & steam generator loops appear to show co-mingling of fluids?

comment #137868 posted on 2013-07-24 21:39:40 by CaptD in response to comment #137601

Lets be clear, the replacement steam generator design debacle was responsible for closing down San Onofre, so if you want to ask expertise questions I suggest that you ask who at SCE approved the designs and then used their CA licenses "chop" to sign off on the designs as meeting approved steam generator standards! They are the folks that caused the debacle, so I suggest that you question them, and the other professionals at the NRC that allowed the "like for like" replacement. BTW: Good luck finding out, since SCE has redacted its documentation to eliminate their employee's names, to prevent them from being called to testify at the CA Public Utilities Commission (CPUC) investigation that is ongoing!

comment #136567 posted on 2013-07-17 21:36:05 by CaptD in response to comment #136353

Rod Adams, you of all people, need to get up to speed on what really was going on with San Onofre's replacement steam generators (RSG) instead of just trying to down play what happened by saying that they should have been restarted! Expect to see SCE get ordered to pay a multi-Billion dollar rebate to ratepayers because of their debacle! Note: even the NRC realized that SCE's in-house design had major flaws and proved that multiple tube failures could occur, rather than the single tube failure that up until now had been the worse case used in the NRC calculations! Here is a 5 part factual review (one of many) that might help you stop living in denial or spreading Profitganda* Part 1 First Part (Rejecting Intertek's Operational Assessment)
<https://docs.google.com/folder/d/0BweZ3c0aFXcFZGpvrlo4aXJCT2s/edit?docId=1GcDu00NvUdBBRVqCinM3Gr9bhmsJDCIbOg65rwdtjBY> * <http://www.urbandictionary.com/define.php?term=Profitganda>
Profitganda is the use of phony "feel good" information to sell an idea, product or concept to the masses.

comment #136569 posted on 2013-07-17 21:42:04 by CaptD in response to comment #136230

Check out this Awesome Animation by Ace Hoffman: Dangerous San Onofre Generators:
<http://decommission.sanonofre.com/2013/02/awesome-animation-dangerous-san-onofre.html> It has been reviewed by many steam generator experts... Note: by moving your cursor over different areas different information is presented!

comment #136571 posted on 2013-07-17 21:49:01 by CaptD

Here is Nuclear Power Plant Basics, by the DAB SAFETY TEAM
<https://docs.google.com/folder/d/0BweZ3c0aFXcFZGpvrlo4aXJCT2s/edit?docId=0BweZ3c0aFXcFZDZJZWdESWJMYms> snip
SCE's claims that SONGS Unit 2 Steam Generators are Safe for Restart are Erroneous because they can create a Fukushima-type nuclear meltdown in Southern California Nuclear Power Accidents Nuclear power plant accidents include Three Mile Island (1979), Chernobyl (1986), Fukushima Daiichi (2011), and San Onofre Nuclear Generating Station (SONGS) Unit 3's near miss nuclear disaster (2012). After the SONGS 3 Replacement Steam Generators (RSG's) tube leakage, additional testing found that 8 tubes failed in-situ testing and could not sustain their structural integrity during a main steam line break (MSLB). Additionally, one RSG tube was discovered with 90% through wall wear in Unit 2 and the structural integrity of thousands of damaged tubes in both SONGS Units 3 and 2 RSG's has been termed by NRC as a "very serious" safety issue. Now the safety of SCE's RSG design is being questioned by the public because these almost new SONGS RSG's now have more damaged and/or plugged tubes than all the rest of the US power plants combined, which is unprecedented in the history of the U.S. Operating Nuclear Fleet. Credit: sanonofresafety.org; • Unit 3: 1 Tube leaked core coolant/radiation, 8 Tubes then failed in-situ testing, 1600 tubes damaged, 807 tubes plugged - WORST US Record! • Unit 2: 1 tube found with 90% wear, (almost core coolant/radiation leak/failure), 510 tubes plugged all tubes still not fully examined! 2nd WORST US Record!

comment #136693 posted on 2013-07-18 11:59:15 by DJH in response to comment #136688

What I'm saying is, that, while mistakes were most certainly made, a lot of good hard working professional people got hosed by this administration, which has speaks a good nuclear out of one side of their face, but sticks the shiv when the opportunity at every opportunity and continues on like nothing happened. The only positive thing that this administration has done for nuclear was to guarantee loans - which they have not made good on. As per my previous post - the Obama nuclear score card: Barbara Boxer now oversees the NRC, and the NRC is now chaired by the second concurrent avowed anti-nuke that this administration has appointed. Several decades worth of research and development on used nuclear fuel storage have been abandoned and Yucca closed for purely political reasons. A moratorium has been placed on both new licenses and license extensions based on the lack of waste confidence. The shrinking budget for new license reviews has been claimed under the guise of austerity for an agency that bills the recipients of their reviews at a rate of \$274 per bureaucrat hour. And, you can add the premature closure of San Onofre to the list...I'm sure the administration has.

comment #136684 posted on 2013-07-18 11:31:32 by DJH in response to comment #136571

No snip, your fears are erroneous. Faulty tubes can be plugged and the plant run at powers proportional to the heat transfer lost. PWR steam generator technology has come a long way over the years and the criterion for continued operation and the technology for detecting and preventing leaks is light years beyond what it was years ago. Back in the eighties, many of the older plants that used single pass straight tube generators were fitted with many tubes, (30,000 for example), and would plug hundreds of leaking tubes at each outage as they failed until they had 10,000 plugged and then would change out steam generators. No activity was ever released to the public. Note, as per your own provided data that technology (eddy current testing) now allows the industry to detect failing tubes even before they leak. Even today, it is not uncommon for older plants to plug or "stake" dozens of tubes during an outage. Yes, there were mistakes made at San Onofre - very much so based on the expectations for new steam generators NOT to have failing tubes right out of the gate. But the presumption that San Onofre is too dangerous to run is just flat wrong. Keep in mind that Barbara Boxer now oversees the NRC, and that the NRC is now chaired by the second concurrent avowed anti-nuke that this administration has appointed, and that several decades worth of research and development on used nuclear fuel storage have been abandoned, and that a moratorium has been placed on both new licenses and license extensions based on the lack of waste confidence, and that the shrinking budget for new license reviews has been claimed under the guise of austerity for an agency that bills the recipients of their reviews at a rate of \$274 per bureaucrat hour and you might be getting closer to determining what really happened at San Onofre.

comment #136688 posted on 2013-07-18 11:47:19 by DJH in response to comment #136353

There is an ongoing NRC adjudicatory proceeding to consider whether the matter of steam generator replacement should have been subject to a license amendment rather than "self-approved" under 10 CFR 50.59. For laymen, this means, we're going to shut you down because you think you should have asked us to change your steam generators, but didn't. Also, while the NRC historically has no legal standing in a utility restarting a nuke following a tube leak (and Jaczko confirmed so in the case of San Onofre), the NRC got San Onofre to voluntarily commit to NRC approval prior to restart and then issued a CAL, turning it into an obligation. Then the NRC tied the restart to public hearings via an Atomic Safety and Licensing Board. In the mean time there was a full press being applied by Barbara Boxer (chair of the Senate Environment and Public Works Committee, which has oversight of the NRC) who was pursuing criminal investigations of SCE leaders, and who held up Macfarlane's confirmation until San Onofre was closed in a delaying tactic designed to extend the time that the NRC had to make decisions on the restart. Notably, Jaczko wrote to Boxer on March 13 2012, that SCE did not need NRC approval to restart San Onofre, then issued the CAL on March 27 requiring NRC approval of the restart, and suddenly resigned on May 21. <http://ansnuclearcafe.org/2013/07/02/dont-blame-nrc-uncertainty-for-san-onofre-retirement/>

Fort Calhoun: Progress but Scrutiny Continues

posted on Thu, 18 Jul 2013 11:47:35 +0000

Lara Uselding
Public Affairs Officer, Region IV

Here are some of the latest statistics related to the ongoing shutdown of the [Ft. Calhoun nuclear power plant](#) in Nebraska: • 27 months being shutdown • Seven separate NRC team inspections on site in 2013 • About 40 NRC inspectors on site this year • 15 restart checklist items left



to be evaluated and resolved by the plant owner before restart. What does this add up to? A nuclear power plant still being scrutinized by the NRC since a 2011 refueling outage followed by record Missouri river floods, a breaker fire and additional restart complications. Yesterday, the NRC issued the results of a restart readiness inspection at the plant, which is, operated by the Omaha Public Power District (OPPD). The inspection report is a lengthy document detailing 36 findings by NRC inspectors. A majority of the findings have to do with the plant operator not thoroughly or consistently evaluating and resolving problems within the Corrective Action program. Some of the other findings deal with not following procedures as outlined by plant documents known as technical specifications. Based on the results of the inspections, the NRC has concluded that five areas on the [Confirmatory Action Letter Restart Checklist](#) were adequately addressed by the licensee and will be closed. That means that NRC believes OPPD has appropriately addressed third-party safety culture assessment, quality assurance, integrated organizational effectiveness, human performance, and their review of licensing commitments. A second report issued last week also closes out the area of emergency preparedness. This means plant's officials have made improvements in areas that led to their performance decline. For example, OPPD completed a third-party safety culture assessment that gave them a better understanding of human performance, problem identification and resolution, and decision-making deficiencies that led to their performance decline. They have implemented short term actions and are developing long-term action plans to address future performance improvements. In addition, the NRC has determined that OPPD has successfully addressed the area of organizational effectiveness that translates to improvements in management oversight of facility activities. NRC has announced the next public meeting will be held in Omaha on July 24. At this meeting, we will present a status of our inspection activities and OPPD will provide an update on their actions. The NRC will later conduct follow-up inspections to look at the remaining open performance areas and to see if plant personnel, equipment, and processes are ready to support the safe restart.

Comments

comment #138954 posted on 2013-07-30 17:36:35 by Rich Andrews

I am impressed with the breadth and thoroughness of the NRC Fort Calhoun inspection efforts. I have a 20/20 hindsight question though. In light of the operability determination (OD) deficiencies identified since the plant has been out of service by the NRC, should the plant have been operated at 100% power during 2010 with all the flood protection deficiencies identified first by the NRC

and then by the licensee? Were documented ODs made when a number of serious flood protection deficiencies were first identified? Typically, ODs are written when individual deficiencies are identified to ensure the plant can be operated safely while corrective actions are put in place. Considering the number, extent, and variety of the flood protection deficiencies, was an overall OD made that it was safe to operate the plant until its scheduled refueling outage in April 2011? And finally were these ODs sufficiently rigorous to justify continued operation?

comment #137446 posted on 2013-07-22 12:41:50 by Jack Coupal in response to comment #136672

Hyperbole is becoming an endangered species, so you may have to eat your corn flakes straight.

comment #144676 posted on 2013-08-25 09:20:51 by Rich Andrews in response to comment #138954

I am sorry but I have to respond to myself. I did have a restart concern relative to the Fort Calhoun Station that I thought was already on this blog but I no longer can find it. I will try and reconstruct it. Some time ago the NRC mandated that Fort Calhoun and some other plants re-evaluate the adequacy of their site flood protection measures assuming upstream dams on the Missouri River fail. This analysis was to be completed by March of next year. Based on the unprecedented flooding that occurred at Fort Calhoun in 2011 without upstream dam failure, this mandated re-evaluation should be completed before the plant is allowed to restart.

comment #137827 posted on 2013-07-24 15:09:00 by search engine optimization seo company

Also looking at the pic can you think of a better place to build a nuke plant? <http://www.omaha.com/article/20110626/NE...>

comment #138004 posted on 2013-07-25 16:48:36 by john bowers in response to comment #137827

I don't think it's worth the risk having one located in a place like the Corn Belt, one of the critical breadbaskets of this country and the world. Was Chernobyl not in the Ukrainian breadbasket? But then, having NPPS located in population dense areas, among millions of people, such as farther north and east, is similarly in my opinion not worth the risk.

comment #137769 posted on 2013-07-24 08:08:15 by Steve Swarthout in response to comment #136668

Make that mid-20th century technology.

comment #136668 posted on 2013-07-18 09:28:51 by Jack Coupal

Fascinating recent history! If that station started operation shortly after its operating license was issued in 1973, that's a long period of power generation by a site built with late 20th century technology.

comment #136672 posted on 2013-07-18 09:46:50 by Dan Williamson

That's all great, but I need to hear CaptD's official determination on the unit's fitness for restart. My corn flakes go down better with a side order of hyperbole.

comment #136680 posted on 2013-07-18 11:08:50 by richard123456columbia

What have they done to protect against the up stream dam break in 2017.

Let's Chat about Waste Confidence

posted on Mon, 22 Jul 2013 13:55:46 +0000

*Andy Imboden
Chief of the Communications, Planning, and Rulemaking Branch
Waste Confidence Directorate*

Update: My name is Keith McConnell and I am the Director of the Waste Confidence Directorate. Unfortunately, Andy Imboden, who was scheduled to moderate today's [Chat](#), can't be here so I'll 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. Also, we've just posted a new [YouTube Video](#) -- NRC Q&As Series: Three Minutes with Waste Confidence Directorate. Please give it a look. On June 8, 2012, a U.S. Court of Appeals struck down the NRC's Waste Confidence Rule. That rule contained the NRC's determination that the environmental impacts of storing spent nuclear fuel after the end of a nuclear power plant's license are not significant. The Waste Confidence ruling affected commercial nuclear power plant license reviews and spent-fuel storage reviews.



Tomorrow, from 2 to 3 p.m. EDT, I'll respond to your questions during a [Chat](#) about NRC's ongoing efforts to develop an updated Waste Confidence Rule. As you can imagine, many policy, legal, and technical issues will affect the rule. By way of background, the [Department of Energy](#) is the federal agency with responsibility for the final disposal of the spent fuel in a deep geologic repository; the NRC's role is to evaluate the application submitted to license the construction and operation of a repository. What the NRC is addressing currently (and in the Chat tomorrow) is how we'll address the environmental impacts of the spent fuel after the nuclear power plant that generated it has stopped operating, but before it's moved to permanent disposal elsewhere. In the coming months, the NRC will release both a proposed new Waste Confidence rule and a draft generic environmental impact statement for public review and comment. But before we have that official comment period, I'm looking forward to answering your questions about proposed Waste Confidence Rule and the draft generic environmental impact statement. We want you to have as much information as possible so you can fully participate in the official comment process. Prior to our Chat, you can visit NRC's [Waste Confidence website](#) for more information. If you have any questions before tomorrow's Chat, you can submit them to OPA.Resource@nrc.gov. I'm looking forward to your questions and comments. Just one note, though, this Chat is informal and your comments will not be included in our official comment process. I look forward to hearing from you on July 23d.

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Comments

comment #137487 posted on 2013-07-22 18:11:46 by Jeff Walther in response to comment #137432

Yeah, good luck with that, given that the current and former NRC Chairpeople are Reid's minions and they both helped in the murder of the perfectly good Yucca depository -- not to mention wasting \$15 billion of the public's money by making unusable a perfectly good facility. How many man lives of labor was that wasted for the hubris of one man and his corrupt minions?

comment #137432 posted on 2013-07-22 10:36:37 by Bob

Generally, courts do not know much about technical, environmental and terrorist issues, but they hit the nail on the head with this ruling. Storing spent nuclear fuel at local high level nuclear waste dumps scattered around the country (and world) is not acceptable! The place to store it is in secured and properly engineered facilities in Yucca Mountain, Nevada, as soon as Harry Reid gets smart or is voted out of office!

comment #137790 posted on 2013-07-24 11:18:53 by richard123456columbia in response to comment #137656

Statement: The risk of a radioactive release due to trying to transfer more fuel, along with the radiation the workers would be exposed to while trying to "correct" the issue after the fact is not worth it. Personally, and I am a nuclear professional, I would rather fuel stay in a cask once its there, because the more you take it in and out, the greater your risk of an accident occurring. There is no risk to leaving the fuel in the current configuration. Yet apparently the exposure to workers handling the fuel when storing it is acceptable but not when moving it, it looks like the same O, same O when it is dollars/safety. So lesson learned is store casks regardless because there is no extra penalties. They test the fuel before handling to protect workers so must have known the state of the fuel before storage but put it in place. Where any worker over exposed when placing fuel in cask. I have a hard time believing the event described, there has to be more to this than is told.

comment #137468 posted on 2013-07-22 16:19:42 by npiercephd@aol.com

Couldn't help but notice that your announcement of a "chat" includes no info on how to participate, only how to submit questions and how to be informed beforehand. Is there a site for the "chat"; is there somewhere on a site that one clicks onto? N Pierce

comment #137474 posted on 2013-07-22 16:42:46 by richard123456columbia

Putting waste in one location is a risk that if a biblical event happens it will be compounded by so much fuel at hand to spur the disaster on. The risk of a space object natural or man made hitting the site is low but the out come if it hits is far to risky and with cheap drones delivering weapons of mass destruction a head of a strike force is high. Like two disasters already we know it can bankrupt a wealthy nation. If a smaller country is the choice to put the fuel, who will clean up the mess, not a smaller country then the top five countries, Chernobyl is still sitting with a temporary shell falling apart over it that Russia can not afford to make any safer, it is still a huge problem.

comment #137821 posted on 2013-07-24 14:41:58 by drewpleasant

Courts always take their decision according to their law but some times they don't care about humanity it is really very unexpected.

comment #137813 posted on 2013-07-24 13:50:03 by hiddencamper in response to comment #137656

Putting it in the cask in the first place is an operational requirement due to limitations in spent fuel pool capacity. It would have to be

moved ONCE to either a permanent facility or ISFSI. Adding another unload and reload is an INCREASE in the risk compared to doing a single loading, which was already completed. "I have a hard time believing the event described, there has to be more to this than is told." You could try reading what happened, and the exemption to the license. They misunderstood the chart with regards to heat loads in the cask. They thought they were loading the casks correctly from a heat load perspective, but they did not, but it still happened to be within the safety capacity of the casks, AND heat loads have dropped to within the tolerances of the license. This was an ex post facto correction of the license, not an exemption to allow them to continue going forward out of compliance. But again, what do I know? I only read the document.

comment #137829 posted on 2013-07-24 15:59:06 by richard123456columbia in response to comment #137634

Chernobyl was covered with a low budget covering designed for a 25 year life till they raise enough money to properly cover it, after many years they are asking for financial help, parts have already caved in and patched up. How long is temporary, they claimed that they stopped the fuel from descending so it is sitting close to the surface. Who knows what can happen if a storm causes the covering to collapse and stir the pot. If this is not a serious problem then why don't they blow it down and seal it. Tell these people at this site and the thousands that are effected from what they were exposed to, that their health is fine.
<http://no2nuclearpower.blogspot.ca/2011/11/chernobyl-disaster-in-1986-ukraine.html>

comment #137634 posted on 2013-07-23 12:14:12 by Jeff Walther in response to comment #137474

No, Chernobyl is not a huge problem. The people who refused to evacuate are healthier and have experienced longer life expectancies than the folks who did evacuate. The unoccupied land is a thriving natural wildlife preserve. The wrecked power plant just sits there, becoming less radioactive every day. How exactly is it a "huge problem"? What imminent threat to life or health does it present, just sitting there? As to attacks on a waste depository. Educate yourself a bit on how difficult it is to actually effect anything underground with explosives from above. And if you do manage to affect the underground, the result is just to bury it, not to spread it. However, given the toughness of dry cask storage, as demonstrated by real world tests, as opposed to wild speculation by anti-nuke evangelists, they could be left sitting out in the open at every nuclear reactor in the country and not present a vulnerability. The explosives that a drone can carry might clean off the outer surface a bit, but it won't break those casks. And even if one did break, the contents would just lay on the ground in chunks. It's not like the casks are filled with dust ready to be atomized into the atmosphere. It's solid chunks which just won't spread. Your fears are unfounded.

comment #137637 posted on 2013-07-23 12:30:30 by Moderator in response to comment #137620

The Chat will not end until 3 p.m. Moderator

comment #137620 posted on 2013-07-23 10:31:48 by

I'm hoping to attend meeting but can't until around 2:30. I hope the NRC doesn't decide to end it early as they have done in past public meetings. The industry knows the dangers of the pools being over loaded, yet has dragged it's feet in removing and placing in dry cask storage on site. (The NRC has allowed it) This would be the safest thing to do for now. What is the reason? Perhaps the company does not want to spend the money? I was told at a meeting that the utility couldn't even get but so many ordered a year? The idea of shipping this waste around the country on our roads, waterways, and by train as a solution is absurd. The NRC and the nuclear industry needs to prove they can safely remove and store it on site. Dominion's North Anna got an exemption last year when they improperly stored the spent fuel in the dry casks. But claimed it would be expensive and expose people to radiation if they were to fix. This exemption would allow the licensee to continue to store seven DSCs (loaded with spent nuclear fuel assemblies having decay heat exceeding the limits required by CoC No. 1030, Amendment No. 0, at the time of loading) in their as-loaded configuration at the North Anna Power Station ISFSI. The provisions in 10 CFR Part 72 from which Dominion is requesting an exemption, require the licensee to comply with the terms, conditions, and specifications of the CoC for the approved cask model that it uses.
<https://www.federalregister.gov/articles/2012/04/24/2012-9803/virginia-electric-and-power-company-north-anna-power-station-units-1-and-2-independent-spent-fuel> I have NO confidence at this time, as we already have a huge leaking problem at Hanford...Lessons learned from the ongoing disaster in Fukushima, have not fully been understood, nor any measures other than "proposed" rules/action have been taken. Mountain of Nuclear Waste 70 Years High: A Conversation with Kevin Kamps: http://www.youtube.com/watch?feature=player_detailpage&v=5TeWrLQuhlQ#t=9s

comment #137656 posted on 2013-07-23 15:40:28 by hiddencamper in response to comment #137620

Upon reading about the dominion dry cask event, I think you are misrepresenting it a little bit. It is true, the loading at the time was not in compliance with the cask CoC. However, at the time of discovery, the entire system was in compliance with the CoC, and at no time was there a safety issue, particularly when the mistake was identified. Because they are now again in compliance, I don't see the reason that they would need to make a change to the casks. Compliance TODAY was restored due to decay time. They asked for the exemption to clear up the past violation of their license, as there were no safety hazards and it was within the public interest. The risk of a radioactive release due to trying to transfer more fuel, along with the radiation the workers would be exposed to while trying to "correct" the issue after the fact is not worth it. Personally, and I am a nuclear professional, I would rather fuel stay in a cask once its there, because the more you take it in and out, the greater your risk of an accident occurring. There is no risk to leaving the fuel in the current configuration. your post seems to be ignoring the fact that the Dominion casks ARE in compliance now. You also mention Hanford which isn't regulated by the NRC for its waste disposal, to somehow try and make the waste issue seem worse than it is. Directly from your link: "Currently, the twelve affected fuel assemblies have been in storage for a minimum of 1.3 years and have decayed to meet the required decay heat limits of the CoC."

comment #137602 posted on 2013-07-23 08:53:08 by Moderator in response to comment #137468

There is a link to the Chat's URL within the post. But here is the link information again: <http://chat.nrc-gateway.gov/> . Hope you can

Keeping Fort Calhoun's Tornado Analysis Up To Date

posted on Wed, 24 Jul 2013 13:32:25 +0000

Scott Burnell
Public Affairs Officer

When someone mentions the [Fort Calhoun plant](#) in Nebraska, flooding issues are probably what comes to mind these days. But the



plant has to withstand everything that Mother Nature can throw at it and tornadoes, obviously, are in the mix. Fort Calhoun's been doing some work recently that has the plant operator asking the NRC for permission to revise how its license specifies how to determine tornado effects. Fort Calhoun's request fits into its ongoing efforts to resolve the issues that have kept the plant shut down since early 2011. The plant, about 19 miles north of Omaha, Neb., has already reinforced several areas of the site against potential tornado damage based on analysis with an NRC-approved method. That method uses more realistic criteria related to the impact of flying debris in a tornado. While that tornado analysis method is approved, Fort Calhoun's license still reflects older information, so the plant needs to formally bring the license into line with the analysis method's criteria. Fort Calhoun's owner, the Omaha Public Power District, believes their proposed license change won't affect the plant's overall risk of an accident, and the company's asked the NRC to review the request using a faster process. If we agree a quicker review is appropriate, we could come to a decision on the license change within a couple of days and then offer an opportunity for a public hearing after the change. More information on Fort Calhoun's request is available on the NRC's [website](#), and we have a notice in the local paper as well. Our public meeting in Omaha tonight will discuss our inspection activities and the overall progress Fort Calhoun has made in addressing agency concerns, as well as this most recent request.

Comments

comment #144704 posted on 2013-08-25 15:06:57 by Rich Andrews

The NRC is obviously not a neutral watchdog over the commercial nuclear power plant industry. The piece on plants being designed to withstand anything Mother Nature throws at them is pure pro-nuclear propaganda. Putting a positive spin on anything nuclear is already the mainstay of nuke plant owners and their industry cohorts. You talk about Mother Nature but what of Father Terrorism?! Nuke plants are still very vulnerable to both. Who is really looking out for the public in all this, we're OK you're OK, regulatory environment. This attitude breeds nothing but complacency and a cavalier approach to safety issues. These NRC blogs are just one-sided pro-nuclear propaganda. Never are real problems or technical issues addressed.

comment #139118 posted on 2013-07-31 11:50:41 by Moderator in response to comment #138925

We'll be putting video from the meeting on the agency's [Fort Calhoun special oversight](#) Web page as soon as the video's been captioned for the hearing-impaired. *Scott Burnell Public Affairs Officer*

comment #138925 posted on 2013-07-30 13:48:53 by Paveway III

Love to hear how the OPPD meeting went, Mr. Burnell. Nothing like asking a local population economically dependent on the plant for their opinions on anything which speeds up plant reopening. I'm sure everyone is relieved to know that the main plant structures are adequately protected from the threat of flying cars in skinny tornadoes. OPPD is watching their opportunity for a couple of billion in (relatively) cheap bond refinancing disappearing in their rear-view mirror. They have tolerated Region IV's safety inspection dog-and-pony show long enough. Everyone in the industry knows how and when this will end. Two billion in bond refinancing needed before the end of this year trumps whatever further PR value NRC can possibly attain from the ongoing questionable inspections.

comment #139204 posted on 2013-07-31 20:15:04 by Paveway III in response to comment #139118

Thanks - I'll watch for it. Honestly, the NRC should just let them reopen as soon as possible. The faster they're allowed to restart, the faster they can start the management bonus program to hide problems from the NRC (just like Cooper's brilliantly successful program) and the faster they can resume their internal witch-hunt for any budding nuclear safety squealers. No news is good news. Bond holders will be happy, the NEI will be happy, Ft. Calhoun employees will be happy (at least until they see how OPPD stole their pension funds). Nebraska will have the other half of it's safe, cheap nuclear power once again. Rainbows and unicorns everywhere. The NRC inspection team did a seriously impressive job, but some plants will just never get it - mostly by their own management's design. Nobody can say you guys didn't *really* try on this one, but Ft. Calhoun has that TEPCO thing nailed perfectly. Which will make their eventual acquisition by TEPCO go that much smoother.

comment #143658 posted on 2013-08-19 13:53:48 by Rich Andrews

So we go from flood protection (or lack of it) to tornado protection. How about earthquake protection? The NRC I believe is looking into that for all nukes. Big question though with regard to nukes along the Missouri River, Fort Calhoun and Cooper Stations. Upstream are those earthen dams on the mighty Mo. A tsunami would occur if any one of these dams failed. The nuke plants are designed to endure a so-called Design Basis Earthquake (DBE). Are the upstream dams designed to withstand the same DBE?

comment #143663 posted on 2013-08-19 14:56:19 by Rich Andrews in response to comment #143658

Update: I have learned that the NRC has required Fort Calhoun and Cooper Stations, among other plants, to reevaluate their flood hazard reports by March 12, 2014. This reevaluation must take into account flooding due to multiple upstream dam failures. Intuitively, it seems that multiple upstream dam failures are a much worse prospect than the record recent Missouri river flooding that occurred with no failure of the upstream dams. Therefore, until these additional flood analyses are completed, Fort Calhoun should remain shutdown and Cooper should be shutdown.

Astounding Facts about the NRC and Radioactive Materials: Part II

posted on Fri, 26 Jul 2013 18:06:05 +0000

Brenda Akstulewicz
Regulatory Information Conference Assistant

As promised, here are some more interesting bits of information about the NRC and nuclear history and science. • The indicator lights in early appliances — such as clothes washers and dryers, coffeemakers, and stereos — used Krypton-85, a radioactive isotope. • The Office of Federal and State Materials and Environmental Management Programs consults with 31 federally recognized Native American tribes on proposed new uranium recovery projects in Wyoming, South Dakota and Nebraska. • The NRC performs classified reviews of new Naval Reactor submarine and aircraft carrier reactor plants and provides advice to the Navy on the designs. This practice was initiated by President Kennedy in the 1960s.



• Three women, including the current chairman, Allison Macfarlane have held the title of Chairman, Nuclear Regulatory Commission. The other two are Shirley Jackson and Greta Dicus. • From 2007 to 2012, NRC received 68 petitions for rulemaking. Of those, 21 were denied and 17 were either fully considered or partially considered in the rulemaking process. The remaining 30 are under staff review. • In the past five years, the Office of Nuclear Regulatory Research has issued 244 new or revised regulatory guides, withdrawn 43 guides, and determined another 48 guides to be acceptable as written. • Glenn T. Seaborg, the scientist who discovered plutonium, was also a chairman of the Atomic Energy Commission — the predecessor of the NRC. • In 1992 Hurricane Andrew struck the Turkey Point nuclear power plant in Southern Florida, which prompted the NRC and FEMA to enter into a “Memorandum of Understanding” regarding emergency preparedness. • NRC’s longest serving commissioner was Commissioner Edward McGaffigan. He served 11 years (from 1996-2007) after appointments twice by President Clinton and once by President Bush. He died while still serving on the Commission. • There



are 438 nuclear power reactors operating worldwide. • Tritium gas is used to illuminate exit signs in buildings so they will function without power. Promethium-147 and Krypton-85 are approved by the NRC for use in exits signs. • On average, NRC expends 6,160 hours of inspection effort at each operating reactor site each year.

Comments

comment #138711 posted on 2013-07-29 13:48:54 by Dean Chaney

Since you mentioned Glen Seaborg, why not the first and only woman to lead the AEC - Dixie Lee Ray?

comment #140815 posted on 2013-08-08 12:22:40 by in response to comment #138868

Printed circuit boards not the chemical.

comment #138173 posted on 2013-07-26 18:28:30 by Rufus Warren

The NRC needs staff to audit measurements to specifications for PCBs used to control nuclear reactors.

comment #138835 posted on 2013-07-30 03:58:07 by Pigi kosmetika

Yes it surely need.

comment #138868 posted on 2013-07-30 07:11:29 by Dan Williamson in response to comment #138173

PCBs control nuclear reactors??

SONGS Next Steps: The Move to Decommission

posted on Thu, 01 Aug 2013 19:14:41 +0000

Victor Dricks
Senior Public Affairs Officer
Region IV

Southern California Edison Co. has sent the NRC letters certifying that it has permanently removed all of the fuel from its Unit 2 and 3 reactors at the San Onofre nuclear power plant in Southern California.

Southern California Edison Co. has sent the NRC letters certifying that it has permanently removed all of the fuel from its Unit 2 and 3 reactors at the [San Onofre](#) nuclear power plant in Southern California. These letters are the company's second certification – following its June 12 notification that it had permanently ceased operation – and officially move San Onofre into the [decommissioning](#) process. Under NRC rules, Edison's letters permanently end the utility's authorization to operate those reactors. In addition, the NRC has [notified](#) Edison that the Confirmatory Action Letter of March 27, 2012, is no longer applicable. The NRC has terminated its inspection and review of all of the activities specified in the letter, which set forth terms and conditions necessary to prepare the reactors for restart. Greg Warnick, the NRC's Senior Resident Inspector, in the near term will continue onsite inspections of activities associated with decommissioning, site staffing levels and plant security and safety. The facility will remain subject to NRC oversight throughout the decommissioning process. Meanwhile, we expect Edison to request several changes to both units' licenses to reflect the transition to decommissioning, while still meeting the relevant requirements for safety, security and emergency preparedness now that San Onofre is no longer operating. Planning is currently underway for an orderly transfer of regulatory responsibility from the NRC's Office of Nuclear Reactor Regulation to the NRC's Office of Federal and State Materials and Environmental Management Programs, which oversees decommissioning nuclear plants. Planning is also underway for the NRC to hold a public meeting in the vicinity of the plant in early fall to explain the decommissioning process. Edison is now drafting its decommissioning plan, which they must submit to the NRC by June 12, 2015, two years after they formally shut down the plant.

Comments

comment #139854 posted on 2013-08-03 11:37:26 by CaptD

Attorney generals fight for public access in Nuclear issues <http://spoonsenergymatters.wordpress.com/2013/07/30/attorney-generals-fight-for-public-access-in-nuclear-issues/> snip The Attorney Generals of New York and Vermont have joined the fight against California's San Onofre Nuclear power plant in an effort to stop federal regulators from erasing all record of a judicial ruling that the public has a right to intervene before major amendments are granted to an operating license. ... "The Commission has stated that it is not bound by judicial practice, including that of the United States Supreme Court," stated Schneiderman and Sorrell in a brief filed June 24 with the NRC challenging the staff request.

comment #139762 posted on 2013-08-02 21:04:53 by CaptD

SCE's replacement steam generator debacle caused San Onofre to be shut down, now instead of being even fined by the NRC, they get to continue to milk ratepayers during the decommissioning process, which I'm sure they will stretch out as long as possible. This is yet another reason that we cannot afford using nuclear reactors any longer, they reward the Utilities instead of protecting the ratepayers if anything goes wrong. Also left unsaid is the 3/4 Billion Dollars that still remains to be collected for the estimated cost to decommission San Onofre, because it got shut down "early," guess who will be stuck with that bill? The NRC needs to do much better!

comment #140234 posted on 2013-08-05 14:56:25 by in response to comment #139854

In the case of San Onofre is clear NRC staff lost and are poor losers. Rather than play by the rule of law (Case Law) they want to "vacate" or erase this loss from case law and act like outside of San Onofre nothing has changed. If the NRC commission can ignore or even thinks they can ignore any "judicial practice" including the "United States Supreme Court" then they are a rouge government organization in need of overhaul.

The Electric Grid, Energy Demands and Nuclear Power Plants

posted on Fri, 02 Aug 2013 13:40:25 +0000

Neil Sheehan
Public Affairs Officer, Region I

A question we receive with some frequency from reporters involves how the grid copes with the power loss when a large baseload electricity

producer such as a nuclear power plant suddenly goes off-line. Put another way, what keeps the lights on, the coffee-maker brewing and the refrigerator humming along when a reactor in their area isn't in operation? This question takes on greater urgency during peak energy



demand seasons, summer being number one in this regard thanks to all of the air-conditioners merrily cranking away as temperatures creep up. The simple answer is that the various grid operators, like the Boy Scouts, always strive to be prepared. They do this by maintaining power reserves, though the amounts available can vary by region. So-called "peaker" power plants can be called into service when necessary to help maintain sufficient electricity flows. Of course, since nuclear power provides about 20 percent of the electricity used in the U.S., close tabs are kept on the status of the nation's reactors, especially during times of peak demand. The NRC makes that [information](#) available to the public on its website each day. Here is a handy [graphic](#) compiled by the U.S. Energy Information Administration (EIA) that provides a good summary of reserve margins for the various grid operators around the country. As the EIA so succinctly states, "The electricity industry uses a simple strategy for maintaining reliability: always have more generating and transmission capacity available than may be required,

taking into account unexpectedly high demand or the possibility of unplanned outages of generators or a major transmission line." The good news is the reserves are projected to be sufficient as the summer of 2013 rolls on. In addition to the EIA, another good source of information on U.S. power reserves is the [North American Electric Reliability Corp.](#)

Comments

comment #142244 posted on 2013-08-14 14:34:07 by Shawn Ovenden in response to comment #142238

A great book on the truth and the myths of renewable energy "Power Hungry" http://www.textbooks.com/BooksDescription.php?BKN=1127834&kpid=9781586489533M&utm_medium=cpc&utm_term=9781586489533M&utm_source=googleshopping&kenshu=49318a8e-038c-6b08-6a0f-000074cc8474&gclid=COXp5v3I_bgCFRgi4AodxIUA6Q

comment #139680 posted on 2013-08-02 12:33:09 by CapD

Left unsaid in the above NRC statement is the fact that some states like California for example, now have EXCESS energy capacity and can function without ANY nuclear energy generation. Here is a chart that illustrates the amount of spare capacity in California and it clearly illustrates that not only is ZERO nuclear generation needed but since additional Solar (of all flavors) is being added daily, future needs will require ever less fossil fuel provided energy!
<http://sanonofresafety.files.wordpress.com/2011/11/excessenergywonukechart2.pdf> What is holding the USA back from racing Germany to become the first major country to be solar powered ASAP is our politically powerful Energy Utilities and the politicians that support them, which are now struggling to maintain their market share by keeping US as their customers (think energy slavery). The Germans are leading the world and here is what they say: The Future of Nuclear and fossil fuels: Only for Back-up for renewables <http://wp.me/p26pKF-2Ff> snip The two largest electricity utilities in Germany – E.ON and RWE – have declared they will build no more fossil fuel generation plants because they are not needed, challenging a widespread belief that the phasing out of nuclear in Europe's most industrialized economy will require more coal-fired generation to be built. Both E.ON and RWE say the rapid expansion of renewable energy, particularly solar but also wind, would make up for the loss of capacity from nuclear. "We won't be building any more gas and coal power generation plants in western Europe, because the market does not need them," a spokesman for E.ON told reporters at a briefing at the group's headquarters on Friday. RWE made a similar statement a week earlier. A third major operator, Vattenfall, agreed that the market in Western Europe is oversupplied but said some limited capacity may be needed in the southern part of Germany. + An important article about why Solar is such a threat to all US Utilities, which I think of as a Fiscal/Energy War for market share: Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business <http://www.eei.org/ourissues/finance/Documents/disruptivechallenges.pdf> and Energy Expert Predicts Solar Could Upend Major Utility in California on Price <http://www.renewableenergyworld.com/rea/blog/post/2013/05/energy-expert-predicts-solar-could-upend-major-utility-in-california-on-price>

comment #140633 posted on 2013-08-07 15:18:57 by Paul Lindsey in response to comment #139680

Really, we have excess power supply in CA? Then why am I seeing daily ads on TV about FlexAlert? In one of your recent comments, you stated that the losers in the SONGS shutdown were the SONGS employees. Today's post demonstrates your hypocrisy. You don't care a wit for the employees. Your real goal is nuclear power shutdown. I wish I had the time to analyze your attached chart, Its data is probably as fallacious as statements that describe wind farms by their nameplate capacity. Here's a link to real-time BPA wind farm output, nameplated at 4,515MW but producing far, far less than that. <http://transmission.bpa.gov/Business/Operations/Wind/baltwg3.aspx> Can you run electric trains on wind farm output? Would you ride an elevator that says, "powered by wind"?

comment #140218 posted on 2013-08-05 12:53:55 by hiddencamper in response to comment #139680

I'd prefer we focus on removing carbon emitting power plants, than no emissions plants like nuclear power plants.

comment #142238 posted on 2013-08-14 14:26:30 by Shawn Ovenden

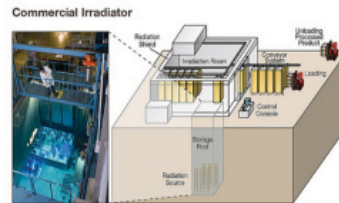
CapD is correct sort of. Claiming that renewables can replace nuclear and fossil fuels is simply not true. Renewables have their place but they are not a consistent source of energy. The demands of the public, commerce, and industry demand a consistent reliable source of energy. Ask the folks running the power companies. Renewable sources of power have their place in the industry ans a secondary source of power. People, commerce, and industry require a consistent and reliable source of power. You reference a surplus of power in California. Though a surplus may be available there a factors that limit the effective use of this surplus. One is the ability of the grid to get the power from source to consumer. The other is the timing of the surplus. The power cannot be stored so if it cannot be used at the time of production that surplus is gone. In other words if there is a surplus of power at 6 pm on the west coast but peak demand is gone on the east coast by that time then there is no way to move or use that surplus.

One Tool for Safe Food: Commercial Irradiators

posted on Tue, 06 Aug 2013 16:29:53 +0000

Maureen Conley
Public Affairs Officer

Foodborne Pathogen Sickens Many This headline appears far too often. While the U.S. food supply is among the safest in the world, there are an estimated 48 million food-borne illnesses here annually, according to the Food and Drug Administration. That translates into one in six



Americans falling ill every year. Of those, 128,000 are hospitalized and 3,000 die. One important tool in the fight against foodborne illnesses may surprise you. Exposing food to radiation can eliminate pathogens—bacteria, viruses and parasites. Much like pasteurizing milk or canning produce, irradiation makes food safer and extends its shelf life. The FDA has overseen the safe irradiation of food for more than 30 years. Other U.S. and world organizations, including the Centers for Disease Control and Prevention, the U.S. Department of Agriculture, and the World Health Organization, have all agreed that food irradiation is safe. The NRC plays a role too. The NRC licenses, inspects and oversees the operation of commercial irradiators. It is important to understand that irradiated food does not become radioactive. The nutritional quality is unaffected and the process does not change the taste, texture or appearance of the food. Consumers will know their food has been treated this way only by its label. All irradiated food must have a label that



states it has been treated with radiation. The label must also carry the international symbol for irradiation. For more information on the NRC's role in licensing and overseeing irradiators, see our newly updated [backgrounder](#) on commercial irradiators.

Comments

comment #142903 posted on 2013-08-16 08:19:41 by Moderator in response to comment #142236

This is really more FDA's territory. Their website says irradiation does not compromise the nutritional quality of food. The NRC's role is to ensure the public is protected from the use of nuclear materials. Maureen Conley

comment #141382 posted on 2013-08-11 01:46:21 by scottt66 in response to comment #140481

But you microwave your food right? That is radiation too. Microwaves kill some of the germs after about 3 minutes of irradiation. Gamma rays kill 98% of the germs after only a few seconds and without the heat. Big companies are taking financial shortcuts with food safety all the time and are exposing us to too many germs. With the political push to limit government intervention in big business the food poisonings will only get worse and worse without something like this to protect us.

comment #141379 posted on 2013-08-11 01:38:42 by scottt66 in response to comment #140947

Radiation is energy. Sunlight is an example of radiation. The energy passes through the food killing the germs. Contamination is invisible radioactive dust. The food is NOT contaminated as there is no contamination to be found. The food is irradiated meaning the energy is passed through it. As safe as if the sunlight touched the food.

comment #141497 posted on 2013-08-11 13:46:53 by profnkata

i just wonder if exposing food to radiation wont make it radioactive, has enough research been done by independent experts coz what if they are wrong

comment #140947 posted on 2013-08-09 03:43:36 by Tanie Ulotki

Is it really safe? Sounds scary, but I hope we can trust our scientists...

comment #142347 posted on 2013-08-14 23:32:22 by Derek Bass

Great article but clarification is needed with regard to radiation levels used. 1. Food irradiation uses very high levels of radiation to

make it easier for companies that operate in more than one state. States have different motives for becoming agreement states. The biggest reason is a desire by the state to have a single program that regulates all sources of radiation. Every state already has some responsibility to regulate machine-produced radiation. The office and staff that already exist can expand to include other nuclear materials. Some states see additional value in having regulators who are closer to materials users, being able to review license applications more quickly and at a lower cost than federal regulators can, and ensuring that state officials are in the loop about the nuclear materials being used within their borders. Most states set their fees to allow them to cover their costs. Duncan White

comment #141469 posted on 2013-08-11 10:16:57 by Jack Coupal

Paveway III appears to claim that a large bureaucracy far away functions much better for the little people than a small bureaucracy close by. As one of Paveway's "little people", I often feel safer and more secure with regulators who are near and also more likely to personally share in any local catastrophic events and disruptions occurring on their watch. Congress in 1959 made a wise decision for the Atomic Energy Commission to delegate lesser regulatory responsibilities to state authorities, always subject to federal oversight, as described by our Moderator here. Recent actions by the large bureaucracies in DC and its environs show me that important decisions made far away from our little people can actually do more harm.

comment #140906 posted on 2013-08-08 23:24:32 by Paveway III

Delegating parts of regulation to the states may work out well for the NRC, but its probably the worst thing you can do from a PR standpoint. Little people have no idea what the state regulators are doing because everything is a secret from the peons and especially so with the states. Getting any real information from them is an exercise in futility. If there ever is a significant accident and people are kept in the dark, some politician is going to point their finger at the NRC and demand to know why there wasn't a specific requirement for transparency and real-time information (even though it wouldn't help - you can't mandate common sense). I'm pretty sure how you will respond to such a question, Mr. White. Looking at the fiasco in Japan, I would also venture to guess who gets thrown under the bus no matter how well-reasoned the answer. States may be following the terms of your regulatory agreements to a 't', but they are the last place you want the public to end up when they need information. Canned reassurances from state DHS and health departments won't cut it. I don't know specifically what the Agreements branch can do, but the risk is really to the reputation of the entire NRC. Fukushima bureaucrats that failed the public still have their jobs today - the former national regulators were not so lucky. Why would anything be different in the U.S.?

comment #146558 posted on 2013-09-03 23:17:04 by in response to comment #141469

My reply, Jack, wasn't so much about the administration or bureaucracy of the program. It's how likely that licensees will be inspected (if they are at all) and having problems reported through the system. It's some matter of public health concern if someone is driving around fresh F isotopes in the wrong shipping containers and delivering them too early or if long-haul drivers are unknowingly exposed to serious levels of radiation during a cross-country trip but never given a dosimeter badge. I want some evidence that these are treated as serious incidents for the individuals involved and followed through with corrective action. States are closer, but less consistent than the NRC. Even the timelines for making reports is excessive when it involved overexposure or exceeding DOT approved levels on public highways. I don't care which level of government does it, as long as regulation, licensing and oversight functions as it should and doesn't degrade to a mere report-filing requirement by the state. I'm looking for the same approach as the generator side: find the root cause(s), put mechanisms in place to prevent the same thing from happening again.

comment #141036 posted on 2013-08-09 11:47:44 by Moderator in response to comment #140906

Agreement States are required to notify the NRC of events involving state-licensed nuclear materials. The NRC publishes these notifications each weekday on our website. The information is also archived. Event reports dating back to 1999 are available here: <http://www.nrc.gov/reading-rm/doc-collections/event-status/event/>. Just to be clear, Agreement States do not regulate nuclear reactors within their state. Only the NRC regulates reactors and the response to events at reactors is the NRC's responsibility. NRC staff is in regular contact with state officials about these materials events until they are resolved. In our experience, the state regulatory offices take very seriously their obligation to respond to the events to protect their citizens and keep the public informed. They may issue news releases, coordinate with local responders and provide regular updates until an event is resolved. Duncan White

comment #143653 posted on 2013-08-19 13:18:56 by Paveway III

How does this work for a company that operates in several states like Cardinal Health, Mr. White? I understand they operate some parts of their business under a master license and are not licensed in the individual states. Nothing special about Cardinal - I ask because they're the only 'big' company name that I recognize. What motivates the individual states to take on their role as agreement states? Is it primarily for the licensing fees? I can see the benefit of handling material licensing at the state level for everyone, but can't imagine they do this 'for free'.

Dealing with the Possibility: Nuclear Power Plants and Earthquakes

posted on Mon, 12 Aug 2013 15:41:59 +0000

*Roger Hannah
Senior Public Affairs Officer
Region II, Atlanta*



The NRC requires all nuclear power plants to consider the effects of possible earthquakes in their area – designing, operating and maintaining safety-related structures and equipment to ensure that they can endure a seismic event and still function. Two events in 2011 only a few months apart highlighted the importance of the NRC’s seismic regulations. In March 2011, a strong earthquake off the coast of Japan caused a tsunami that disabled power supplies and cooling to several nuclear reactors at the Fukushima Daiichi nuclear station. Important safety structures and equipment were largely undamaged by the earthquake’s ground motion,



but flooding created major problems. Months later, In August 2011, a much smaller earthquake occurred near Mineral, Va., close to the [North Anna](#) nuclear station. The quake exceeded some levels for which the plant was designed and licensed, but detailed reviews and inspections by Dominion, the plant operator, and the NRC confirmed there was no damage to safety equipment. Both North Anna units remained offline until November of that year when the NRC was certain they could be restarted safely. NRC seismologists have worked closely with NRC inspectors, license reviewers and others within the agency to apply the real-world lessons of Fukushima and North Anna to all other U.S. nuclear plants. The NRC is working to ensure potential earthquake hazard information for each nuclear plant site accurately reflects what might be expected, and the agency is requiring nuclear plants to reanalyze those risks over the next several years. Fortunately, the seismic risk for most U.S. nuclear plants is very low, but the NRC continues to examine information from actual earthquakes, review

improved predictive models and inspect plants to be certain that people living near U.S. nuclear plants are adequately protected if an earthquake does occur in that area. We'll be posting a new [YouTube video](#) on the subject soon, and please join our [Chat](#), tomorrow, with NRC seismic expert Dr. Annie Kammerer. She'll be “chatting” about how the NRC makes sure plants can withstand any earthquakes they may experience. She can also talk about the Mineral, Va., earthquake but won't be able to address specific questions about designs or risk at other sites. Note: The Chat is now closed. To view the archive, go here: <http://chat.nrc-gateway.gov/2013/07/31/earthquakes-and-nuclear-power-plants-this-chat-is-closed/>

Comments

comment #141739 posted on 2013-08-12 15:33:03 by SeniorD in response to comment #141708

Then after the dam water "tsunami", there would little to no water for cooling and that could spell DISASTER, if emergency electrical generation was lost...

comment #141738 posted on 2013-08-12 15:29:40 by CaptD

RE: Fortunately, the seismic risk for most U.S. nuclear plants is very low... They said that about Fukushima, until 3/11/11 happened now they have a Trillion Dollar Eco-Disaster! FACT: A once in a hundred year or even a thousand year event is just as likely to happen tomorrow as many years in the future; then what? This is where the NRC and the nuclear Industry fails the public trust because they live in Nuclear Denial* because they believe nothing BAD will happen to any Nuclear Power Plants (NPP's). Example: French Nuclear Disaster Scenario Was So Bad The Government Kept It Secret <http://www.businessinsider.com/potential-cost-of-a-nuclear-accident-so-high-its-a-secret-2013-3> via @bi contributors snip Catastrophic nuclear accidents, like Chernobyl in 1986 or Fukushima No. 1 in 2011, are, we're incessantly told, very rare, and their probability of occurring infinitesimal. But when they do occur, they get costly. So costly that the French government, when it came up with cost estimates for an accident in France, kept them secret. But now the report was leaked to the French magazine, Le Journal de Dimanche. Turns out, the upper end of the cost spectrum of an accident at the nuclear power plant at Dampierre, in the Department of Loiret in north-central France, amounted to over three times the country's GDP. * <http://is.gd/XPjMd0> The illogical belief that Nature cannot destroy any land based nuclear reactor, any place anytime 24/7/365!

comment #141708 posted on 2013-08-12 12:33:13 by Rich Andrews

Are dams upstream of nuclear power plants analyzed for earthquake protection adequacy? An example would be those dams along the Missouri River upstream the Fort Calhoun and Cooper nuclear stations. A catastrophic failure of these dams would result in a tsunami for these plants.

comment #142341 posted on 2013-08-14 22:58:46 by john bowers

I read that cooling pipes were broken by the quake even before the tsunamis hit. I also want to say that In a simple odds-versus-stakes analysis, the reactors at Fort Calhoun and Cooper should never have been built. If the odds of something are very low, but the stakes are the Corn Belt, then the stakes are too high for the bet.

Introducing Modern Uranium Recovery: Improved Regulations Make the Difference

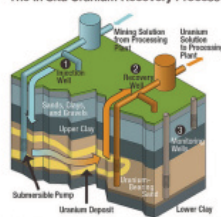
posted on Thu, 15 Aug 2013 20:37:53 +0000

John Saxton
Project Manager

Uranium Recovery Branch

Production began this month at the first new U.S. uranium recovery site to open in 30 years, after the NRC authorized Ur-Energy to begin operations at its Lost Creek site in central Wyoming. This milestone is important because of improvements in technology and environmental protection that make uranium recovery much safer than it was during the Cold War. [Uranium recovery](#) is the first step in the

The In Situ Uranium Recovery Process



Injection wells (1) pump a chemical solution—typically groundwater mixed with sodium bicarbonate, hydrogen peroxide, and oxygen—into the layer of earth-containing uranium ore. The solution dissolves the uranium from the deposit in the ground and is then pumped back to the surface through recovery wells (2) and sent to the processing plant to be processed into uranium yellowcake. Monitoring wells (3) are checked regularly to ensure that uranium and chemicals are not escaping from the drilling area.

complex process of turning uranium from raw, underground ore into fuel for nuclear reactors. The NRC granted a license to Ur-Energy in 2011, but additional state and federal approvals were needed before uranium recovery could begin. The company received its final permit from the U.S. Bureau of Land Management last fall. Then NRC inspectors traveled to the site to certify the facility was ready. Once we were satisfied and gave our OK, Ur-Energy started extracting uranium. The new facility uses the in situ recovery process to bring uranium out of the ground. While traditional mining is regulated by the states, the in situ process requires NRC approval because it changes the chemical form of the uranium. The process involves drilling wells into rock formations that contain uranium.

Then a solution is injected to dissolve the uranium. The solution is usually a mix of water, oxygen, hydrogen peroxide and sodium bicarbonate (commonly known as baking soda). The uranium solution is pumped back out and into a processing plant. There, it is separated, concentrated and solidified into a powder known as “yellowcake.” One of the most important features of an in situ recovery operation is the program for monitoring and restoring groundwater. Operators control the solution by pumping more out of the ground than is injected. They also monitor to confirm these controls are working. When the operations are complete, groundwater must be restored. The goal is to leave the groundwater as safe as it was before the operation began. Cold War uranium operations did not have these controls and did not have to meet NRC regulatory requirements. Many of these “legacy” sites require extensive cleanup and monitoring. Improved regulations and controls are key to protecting public health and the environment.

Comments

comment #144857 posted on 2013-08-26 14:54:31 by Moderator in response to comment #144662

I've taken the liberty of separating out your various questions. Q. If you are injecting a liquid mix and taking out more volume of a liquid than what is injected, then does it mean that the extra volume of the liquid is supplied by ground water? Yes, the extra volume is native groundwater. Any excess groundwater/liquid is primarily used in other areas of the operation or discharged to a permitted disposal area. All groundwater/liquid must be treated to meet radiation protection standards before it can be released back into the environment. Q. If such is the case then does ground water get in touch with the dissolved Plutonium? No, this system is used to recover naturally occurring uranium. Plutonium is a man-made substance created when uranium fissions in reactors. Because of the lack of fissioning, plutonium does not enter the picture for this process. Groundwater in the subsurface is never in contact with the liquid injected (except for that being extracted), so the process does not increase the levels in groundwater. As stated above, any groundwater/liquid produced by the activities that contain dissolved uranium or its daughter products must be treated before it can be released. Q. So the danger from the Plutonium excavation remains but is marginally decreased? For ISR facility, the bulk source material (rock) is not excavated as in a conventional mill. Furthermore, plutonium is not produced by the either conventional mill or ISR operation. Q. Do you have any statistics showing the level of contamination in ground water for both the processes for an equal time period? I'm not sure what two processes you mean. The blog post talks about opening the first in situ uranium recovery facility in the U.S. in 30 years. The facility uses modern technology and meets more rigorous requirements than any uranium recovery project that has ever operated in the U.S. As stated in the post, the goal is for groundwater to be as safe at the end of facility operations as it was before the facility opened. John Saxton

comment #144975 posted on 2013-08-27 06:02:41 by Karen in response to comment #144857

Hi John, Thanks for the detailed reply. It beautifully answers the doubts that I had regarding the process of extraction. Let the world be a better place with more greener technologies coming up. Thanks once again for answering my queries so patiently.

comment #144662 posted on 2013-08-25 07:28:41 by Karen

If you are injecting a liquid mix and taking out more volume of a liquid than what is injected, then does it mean that the extra volume of the liquid is supplied by ground water? If such is the case then does ground water get in touch with the dissolved Plutonium? So the danger from the Plutonium excavation remains but is marginally decreased? Do you have any statistics showing the level of contamination in ground water for both the processes for an equal time period?

Indian Point's Timely Renewal: The Background

posted on Tue, 20 Aug 2013 19:19:26 +0000

Diane Screnzi
Senior Public Affairs Officer
Region I

On Sept. 29, 2013, [Indian Point 2](#) will enter what's called the period of “[timely renewal](#),” while the NRC continues its consideration of



Energy's application to renew the unit's operating license. The NRC's timely renewal regulation implements a provision of the Administrative Procedure Act passed by Congress. Under that regulation, if a licensee requests a renewed license at least five years before expiration of its current license, the request is considered "timely" and the facility is allowed to continue to operate under its existing license until the NRC completes its review and reaches a decision on the license renewal request. During the period of timely renewal, Energy will have to continue to meet all of the regulations and license conditions that currently apply. In addition, in a [May 1 letter](#) to the NRC, Energy voluntarily committed to update its Final Safety Analysis Report to include the aging management programs, and to implement the commitments it has made, for a renewed license. Indian Point 2 will continue to operate under its current license with these modifications, to assure continued safe operation during the timely renewal period, until the NRC reaches a decision on whether to approve the license renewal application. Energy submitted a license renewal application for Indian Point 2 and 3 in April 2007. The current operating license for Indian Point 2 expires at midnight September 28th; Unit 3's license expires two years later, in December 2015. Typically, the NRC staff takes about 18 to 24 months to review a reactor license renewal application. If there's a hearing on the application, the process may take about 30 months to complete. In the Indian Point case, the hearing has taken longer than projected, in part due to the large number of contentions the parties have raised in the proceeding. In addition, a decision on the Indian Point license renewal application has been deferred pending further Commission action involving the Waste Confidence Decision. In its Waste Confidence Decision and Temporary Storage Rule, updated in 2010, the Commission made a generic determination that spent nuclear fuel can be stored safely and without significant environmental impacts for a certain period of time after a nuclear plant permanently shuts down. In June of last year, the D.C. Circuit Court of Appeals found that some aspects of the 2010 Waste Confidence rule update did not satisfy the NRC's obligations under the National Environmental Policy Act and vacated that rule. In response, the Commission decided to defer all final licensing decisions that rely on the Waste Confidence Decision while it takes steps to address the court's decision. This applies to various license applications, including the Indian Point 2 license renewal application. The NRC will continue to provide oversight of activities at both Indian Point 2 and 3 during the period of timely renewal. Last year, we conducted 11,000 hours of inspection at the two units. We'll devote a similar number of inspection hours this year. Some of that includes inspection of the licensee's commitments and aging management programs related to license renewal. In short, even though a final decision hasn't been reached on the renewal of the Indian Point 2 license, NRC will continue to assure that it operates safely during the period of timely renewal.

Comments

comment #144721 posted on 2013-08-25 18:00:21 by Apu Mridha

great article.Thanks for sharing! :D

comment #144900 posted on 2013-08-26 21:50:49 by Stephen Hearne

Informative article- I trust the NRC to perform due diligence on this-

New OIG Report Issued on NRC's Compliance with its National Environmental Policy Act (NEPA) Regulations

posted on Wed, 21 Aug 2013 20:05:27 +0000



Stephen Dingbaum

Assistant Inspector General for Audits

An Office of the Inspector General [audit](#) that looked at the NRC's compliance with its regulations related to preparing environmental impact statements went public today. The audit – formally titled Audit of NRC's Compliance With 10 CFR Part 51 Relative to Environmental Impact Statements -- set out to determine whether the NRC complies with its regulations. The OIG identified areas of noncompliance with 10 CFR Part 51 related to disclosure and public involvement, specifically, publishing a record of decision, the format of environmental impact

statements, and completing all scoping requirements for all environmental impact statements. While NRC management officials stated they believe the agency's NEPA implementation activities have been fully compliant with the relevant regulations, management also stated it will consider OIG's recommendations as part of the agency's continuous improvement efforts. The NRC's [OIG](#) is an independent, objective office tasked with auditing NRC programs and operations with a focus on — among other things — detecting fraud, waste, abuse and mismanagement.

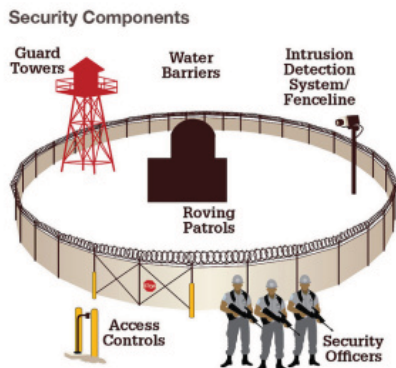
Comments

Security and Nuclear Power Plants: Robust and Significant

posted on Fri, 23 Aug 2013 16:15:56 +0000

Robert Lewis
Director of Preparedness and Response

Security of the nation's commercial nuclear facilities is a critical part of the NRC's mission. In response to recent media stories about security



at nuclear power plants, we want to reassure you that U.S. nuclear power plants are adequately protected against potential terrorist attacks. In fact, they are among the best-protected sector of our national infrastructure. In the decade since the 2001 terrorist attacks, the NRC, and its licensed operators, acted to [enhance security](#) at the nation's nuclear plants. While the plants are secure, robust structures designed and built to withstand a variety of natural and man-made enemies, we ordered additional measures. For example, we strengthened requirements related to physical barriers, access controls, and intrusion detection and surveillance systems, as well as the existing well-trained and armed [security officers](#). Specific security measures are considered "safeguards information" (a type of unclassified, yet sensitive information) and are not made public, for obvious reasons. The NRC can, however, describe these enhancements in general terms. Each plant's security plan is based on a Design Basis Threat, or DBT, set by the NRC. This is the maximum threat a private-sector entity can be expected to defend against. Details of the DBT are not public, but our regulations spell out the types of threats our licensees must prepare for. These include an assault by one or more determined and capable adversary forces attacking by land or water, truck bombs, boat bombs, insider threats and cyber attacks. The NRC requires each plant to test its security force annually, and the NRC also tests the security forces at each plant every three years in a sophisticated force-on-force inspection. Security doesn't stop at a plant's boundary. The NRC requires licensees to coordinate with local law enforcement and [emergency responders](#) who can assist in the unlikely event of an attack. The NRC itself continuously coordinates with other federal agencies to assess the current terrorist threat and take whatever actions might be necessary to bolster security at nuclear plants. We work with the Federal Aviation Administration, Department of Homeland Security and North American Aerospace Defense Command to guard against September 11-style air attacks. A recent report published by the Nuclear Proliferation Prevention Project (NPPP) at the University of Texas used non-sensitive "open-source" information to assess the protections in place to counter terrorist threats to nuclear facilities in the United States, including potential threats to commercial nuclear power plants. As an agency committed to the security of our nation's nuclear power plants, we welcome recommendations for strengthening our oversight. However, we need to correct the record on two key points made in NPPP's report. First, both new and existing reactors must mitigate against potential attacks using commercial aircraft; in fact our Aircraft Impact Assessment Rule requires design features for new plants to mitigate the effects of an airplane crash, and the NRC's post-September 11 orders require existing plants to implement similar mitigating measures. Second, NRC regulations, based upon the DBT, do in fact require licensees to guard against waterborne attacks or explosives.

Comments

comment #144364 posted on 2013-08-23 14:01:21 by joy cash in response to comment #144361

And explain to us NRC's security against aerial attacks.

comment #144361 posted on 2013-08-23 13:54:46 by Moderator in response to comment #144348

Moderator Note: The incident to which you refer occurred at a facility storing nuclear weapons material, a Department of Energy controlled facility. It was not at an NRC-licensed site.

comment #144394 posted on 2013-08-23 19:36:44 by joy cash in response to comment #144372

Sounds like mopping up a probable radiation mess after aerial attack would be quite an ordeal.

comment #144357 posted on 2013-08-23 13:33:48 by Rich Andrews

Being somewhat familiar with the extensive nuke plant security measures in place more than a decade ago, I can only imagine what they must be like today. Trouble is all these measures protect the plant site only. No such security measures are in place for earthen dams on the Missouri River. The failure of these dams due to terrorist attack would be devastating for nuke plants downstream, Fort Calhoun and Cooper Stations. A tsunami would result that would vastly exceed the existing flood protection measures in place at these sites. Ironically, the only "security" measure at these vulnerable upstream dams are signs. These signs are huge and display a warning required under international law. They say that these dams are off-limit targets during a war. I feel better already.

comment #144358 posted on 2013-08-23 13:46:41 by Jeff Walther

You folks should just come right out and state that the NPPP report was poorly written, based on incomplete information, even compared to what is readily publicly available, poorly researched, and the author and her sponsoring professor should be ashamed of themselves for letting such a travesty of inadequate research ever see the light of day, much less to have publicly distributed it. However, it's fairly apparent that the paper was not intended as a supportable scholarly work, but as a piece of propaganda, and it served that purpose well for its author and her sponsor and her sponsor's patrons. They should all be utterly ashamed of themselves. They are information vandals, spewing falsehoods into the public eye, and thus stealing the public's ability and it's right to make rational choices based on accurate information.

comment #144861 posted on 2013-08-26 15:29:11 by Rich Andrews in response to comment #144847

Dear Hiddencamper, You make a good point! What is your take on the potential consequences of an airplane crash directly on a fully-loaded, re-racked spent fuel pool?

comment #144852 posted on 2013-08-26 14:16:02 by Moderator in response to comment #144750

I am responding to your comment on behalf of Rob Lewis. A report by the Union of Concerned Scientists characterized safety issues requiring NRC special inspections as "near misses." None involved aerial attacks on nuclear power plants. The NRC has stated we disagree with the report's characterization. Special Inspections, rather than representing disaster narrowly averted, represent the NRC acting to resolve safety issues long before they become substantial threats to the safe operation of a reactor. David McIntyre

comment #144535 posted on 2013-08-24 13:45:05 by Rich Andrews in response to comment #144379

Yes I am replying to myself so please excuse me but I have to add this. NUKE PLANT POISON Aircraft can be poison for nuclear power plants. An aircraft crash on a nuke site could cause a disaster akin to Chernobyl or Fukushima. The amount of highly radioactive fuel now stored at U.S. nuke plant sites far exceeds that stored at nuke plants in most other countries. These countries have provided for safe storage of their used fuel off-site in safe repositories. This makes our nuke sites an even more tempting terrorist target. An aircraft crashing into our overloaded on-site spent fuel pools would cause an immediate and on-going release of huge amounts of radioactivity into the atmosphere. These spent fuel pools have a typical construction grade roof which would offer little protection from an aircraft crash. In fact an aircraft crash even into the re-enforced containment building surrounding the plant's reactor would result in direct damage to the reactor itself. It is high time to at least acknowledge the fact that an aircraft crash on-site could result in a Japan/Russian-type nuclear catastrophe. Currently there are established no-fly zones around our nuke plants which I am sure terrorists will respect.

comment #146425 posted on 2013-09-03 11:42:59 by Rich Andrews

Regarding the Aircraft Impact Assessment Rule, when are nuclear plants covered by the rule required to: 1. Complete the analysis & 2. Implement any necessary improvements?

comment #146423 posted on 2013-09-03 11:40:17 by Rich Andrews

Mr. Moderator, Your introduction to security at nuclear plants mentions a so-called "Aircraft Impact Assessment Rule" and references 10 CFR 50.150. It is very difficult for the layman to understand which US nuclear plants are required to do this important assessment as the rule's applicability section is long and very confusing. Please assure us that all US nuclear sites with nuclear fuel on-site are required to do this analysis. Thanks.

comment #144750 posted on 2013-08-25 23:19:15 by Fred Stender

There are probably 20 ways to send a reactor and or fuel pool into melt down using less than \$50,000 When you are living in a glass house, with the most dangerous thing on the planet, you can't stop all the stones, esp. insider stones. Sheesh, 11 near misses in 2011/12 and that was without any evil intent! Come on guys, put down the plutonium, and stop pretending that humans and mother nature can cooperate to make this "too cheap to meter" energy.

comment #145016 posted on 2013-08-27 14:16:13 by Joyce D Agresta in response to comment #145002

A major nuclear attack if successful would ofcourse have a greater magnatude than thousands. Much as when we have a military attack it would more likely be a barrage . We could all take more responsibility. Short of building underground habitats to shelter in place for 600-10000 years theres no practical solution to multi melt down scenerio. Meltdowns are not readily remedeid.Perhaps the moderator has a solution what would be a remedy for meltdown of say just 25 % of Nuclear Power Plants happening at once ?What is our individual responsibilty to increase our odds of survival ? I know in the past "meltdown" wasn't an acceptable world . But now we all accept that is a possible reality.It happened the whole world is taking about it. Pointing fingers of blame and offering no solution.

How much daily cesium can we handle anyhow?

comment #145002 posted on 2013-08-27 12:02:51 by joy cash in response to comment #144908

It is unthinkable to have thousands of our school children & teachers woefully unprepared for a major "nuclear event" in or around any nuclear site after an aerial attack. Since this seems to be our Achilles heel, we must have proper evacuation plans in place across the nation. I call upon school boards to take up their responsibility in protecting hundreds of thousands of our school children in planning for safe evacuation in the event of a nuclear accident of this nature. We must do so. If we can not protect our children, what is our value as human beings?

comment #144992 posted on 2013-08-27 09:21:00 by Rich Andrews

Mr Moderator, To the best of your knowledge has any US nuclear plant conducted an emergency exercise whose scenario included massive damage to spent fuel in a plant's spent fuel pool? These emergency response exercises are required to be conducted biannually at each nuke plant site. A spent fuel damage exercise would be an excellent learning experience for both on-site and off-site emergency responders.

comment #144523 posted on 2013-08-24 12:10:06 by Closedfortheday

<http://youtu.be/25vlt7swHCM>. Take look at what happens to this jet plane

comment #144608 posted on 2013-08-24 21:54:40 by Rich Andrews in response to comment #144535

Since you are taking your sweet time to even post my comments, let me talk some more to myself. Even early in the '70s one of the spent fuel pool accidents that was postulated was to see if the highly radioactive fuel located therein could be damaged by a missile. The "missile" postulated was a large piece of the last stage turbine bucket coming off the turbine generator in the plant's turbine building. Could this missile (rotating at 1800 RPM) penetrate the massive steel casing around the turbine itself, fly over the taller containment structure, and then descend thru the roof of the spent fuel building on the other side and damage the fuel stored there? This lob shot was analyzed away at the time by determining that the missile would not get thru the turbine casing in the first place. This example shows how sensitive potential spent fuel damage was even at that time. A more recent example of concerns related to spent fuel storage occurred just last year at the Fort Calhoun Nuclear Station. Well known is the fact that spent fuel is highly radioactive and must be constantly covered with water and cooled by a system designed for such a purpose. Naturally, if the so-called decay heat cannot be removed the fuel it overheats and eventually melts releasing its deadly contents to the air. At Fort Calhoun their cooling system failed for just a few hours and the NRC assessed its safety significance as a Red finding, its most serious classification. When we consider an aircraft crashing into the spent fuel pool, it makes these other concerns rather academic.

comment #145057 posted on 2013-08-27 22:25:35 by hiddencamper in response to comment #144992

Nuke worker here. I've participated in a scenario which included severe damage to the spent fuel pool and a security threat. I know it's been done before at some plants, I just don't know if it's a requirement.

comment #145059 posted on 2013-08-27 22:34:20 by hiddencamper in response to comment #144535

I know that 150 gpm of spray from the fire protection system ensures that fuel damage does not occur when fuel is loaded in configurations that are required by the b.5.b security rule following 9/11, and that plants are required to have procedures and equipment to set this up, on the fly, and have to be trained on it. The consequences depend on a lot of factors. It is unlikely you would have an immediate loss of inventory due to the design of the various pools out there (concrete pool with thick liners making 2 barriers to inventory loss, siphon breakers and piping which is at least 7 feet above the pool). What is much more likely is a loss of inventory over a short period of time (hour or two?). The biggest concern in this case would be the radiological conditions on site due to uncovered fuel, and the hindrance to the operators and their ability to deal with cooling down the reactor core post crash. At Fukushima we saw how the spent fuel pool can complicate the response to a severe plant event, especially when methods for determining the status of the pool and protecting the pool are not proceduralized or trained on. I think the post-accident/severe event SFP instrumentation is a step in the right direction, but maybe more needs to happen?

comment #145103 posted on 2013-08-28 04:39:08 by joy cash in response to comment #145016

Thank you Joyce for clarifying our current situation. Yes, the unthinkable has happened in Fukushima & Hanford plant's uncontrolled leakage w/ no end in sight. No governmental agency has come forth in preparing their citizens for consequences of these nuclear "events."

comment #144908 posted on 2013-08-26 22:32:30 by Rich Andrews

Spent Fuel Damage Due to Airplane Crash I must give a lot of credit to the nuclear industry and its regulator, the NRC, for reacting proactively to the Japanese Fukushima nuclear catastrophe. As you know not only the nuke reactors there but also their associated spent fuel pools were impaired and damaged by an earthquake followed by a tsunami. The industry has added level instrumentation to our nuke plant spent fuel pools and upgraded plant emergency plans in response to this tragedy overseas. There are four classifications of nuke plant emergencies that can be declared. In increasing order of severity they are: A Notification of Unusual Event or NOUE, An Alert, A Site Area Emergency (SAE), and finally the most serious, A General Emergency (GE). A General Emergency will be promptly declared if a "hostile action" results in damage to spent fuel in a nuke plant spent fuel pool. An aircraft crash into the spent fuel pool would be undoubtedly one of the worst hostile acts imaginable. Another change to nuke plant emergency plans, which I do not believe is nearly conservative enough, is that only an Alert will be declared if "a validated

notification from the NRC of an aircraft attack within 30 minutes of the site” is received. As time is a very important factor for any public protective measures to be initiated, 30 minutes and an Alert just does not cut the mustard. My opinion is that a GE should be declared immediately if such a validated threat is received. Public protective measures that would need to be implemented would be extensive and may reach beyond the so-called 10-mile radius Emergency Planning Zone around each of our nuke sites. Accident mitigation on-site for such an aircraft crash would be extremely difficult if not impossible. It would be like moving the chairs around on the Titanic.

comment #144917 posted on 2013-08-26 23:39:14 by Joyce D Agresta in response to comment #144852

Mr McIntire, I would wish you well in promoting safety. Your above statement reads a little bragadocious at best. At worst one might be left with the impression that the NRC is implying your team has super powers. Thank you for your honest efforts in attempting a seemingly impossible task. It is with great amazement that you have managed to resolve so many safety issues but not super natural. The Union of Concerned Scientist would seem to have less bias than your stakeholders. Its not actually the puppets that are so offensive as it is the puppeteer. Lets work together. The Union of Concerned Scientist are ready willing and able to help you provide we the people safety. Trust you need to earn and with the nature of your task that may be impossible.. Good luck & Thank you

comment #145864 posted on 2013-08-31 19:35:22 by Rich Andrews

Nuke Plant Operators Are The Best When faced with a large aircraft crash into a nuke plant’s auxiliary building (AB), plant operators and all nuke workers that support them would shine. They have already imagined the unimaginable. As we have discussed before, an aircraft crash on-site into one of our overloaded spent fuel pools would have devastating consequences on and off-site. A massive amount of radioactivity would be immediately released after a huge explosion and then a raging aviation-fueled fire in the AB surrounding the containment building. This raging fire would eventually result in a complete loss of control of the reactor inside the containment building. How would the operators and on-site nuke plant workers react? They would react with a grim resolve to do anything and everything possible to minimize the accident’s effects both on-site and off-site. Even dealt this dead-man’s hand, they would react with professionalism and courage. Why? Because they have already thought about the unthinkable and what they would do. I have had the privilege to work with some of these folks and I know their dedication to their jobs and just how sharp they are. Just what are some of the things these very capable folks would do? 1. Immediately declare a General Emergency (the most serious emergency classification) and recommend to off-site authorities public protective action measures. A minimum recommendation at this time would a so-called “keyhole” evacuation of the 10-mile emergency planning zone around the nuke plant. The recommendation would be evacuate within 2 miles in all directions around the plant and 2 to 5 miles evacuation in the downwind sectors. For all other areas of the emergency planning zone the recommendation would be in-house shelter. 2. Order an on-site evacuation of all personnel except for emergency responders. Dependent on wind direction these personnel would evacuate either the normal evacuation route or the alternate evacuation route from the site. 3. Ask emergency response personnel to report to their emergency duty stations. On-site these are the Control Room (CR) itself, an Operations Support Center (OSC), and a Technical Support Center (TSC). Certain emergency response personnel also leave the nuke site and report to an off-site emergency center called the Emergency Operations Facility (EOF). 4. While these actions are taking place, the CR operators have been very busy. Numerous alarms have sounded in the CR. Fire and smoke detector alarms; radiation monitor alarms, even seismic monitor alarms due to the shock of an airplane crash within the plant. There are so many alarms that it is not possible to acknowledge them all individually. Operators then use a master alarm shut-off switch, so they can concentrate on the key parameters to help ensure a proper plant response. 5. CR operators ensure the operating reactor(s) are immediately shutdown. 6. Operators ensure that auxiliary building ventilation is promptly secured so that fresh air does not fan the flames and smoke. This action also reduces the rate at which highly radioactive materials (gas and particulates) are vented from the AB into the environment. The operators also can remotely close air inlet and outlet dampers on individual compartments in the AB to slow the spread of the fire. The downside of securing all ventilation in the AB is that smoke and airborne radioactivity levels skyrocket in the building itself making access for plant fire-fighting and other actions outside the CR utterly impossible. 7. The CR Operators also ensure the CR ventilation system begins operating in a so-called emergency air make up mode. This not only ensures that any air drawn into the CR must pass thru a HEPA and a charcoal filter to trap airborne radioactivity, it also ensures that the CR itself is maintained at a slightly positive pressure so that any air leakage is out of the CR and not in. 8. The CR closely monitors the reactor inside the containment to ensure it remains in a safe shutdown condition. 9. As the fires spread the ability to maintain the reactor in a safe condition will be compromised. The fires start to affect instrumentation and control cables and power cables in the auxiliary building, which feed into the containment to support the reactor. When the operators see this occurring they will at some point have to do the unthinkable before they lose all control of the reactor. 10. The CR operators have to create an accident to delay a reactor core melt situation. This delaying action is critical as it takes time to initiate further public protective action measures. 11. The operators intentionally create a Loss of Coolant Accident (LOCA) in the containment building. They open a power-operated relief valve on the Reactor Cooling System causing a reactor coolant leak. Soon after this action the safety systems at the plant automatically kick in to pump water into the reactor to make up for this loss. This makeup water comes from a large tank in the auxiliary building. 12. Eventually, the large tank is emptied and the operators ensure that reactor cooling is accomplished by a so-called recirculation system. The water that has been intentionally dumped into the containment building builds up in the building’s basement. The recirculation mode allows this collected reactor coolant to be cooled and then recycled into the reactor. This process will go on automatically until the AB fire gradually fries the electrical cables that make it all possible. 13. The CR operators and other nuke plant workers will undoubtedly and voluntarily take emergency levels of radiation dose to help make sure all this happens. Delaying the inevitable will buy more time to protect the public. All you could ever expect from these brave warriors.

comment #146739 posted on 2013-09-04 13:38:01 by Moderator

In response to Rich Andrews' questions: The Aircraft Impact Assessment rule only applies to new nuclear power reactor designs. The assessment can either be done as part of the design certification process if the design has not been certified as a rule in the NRC’s regulations, or as part of the licensing process for a new reactor license application using a design that is already certified in the NRC’s regulations. In either case, all new reactors must have performed the aircraft impact assessment before it receives a license to construct the plant. Any improvements to the plant design that may be identified during the assessment would be included with the

final reactor design to be certified or licensed. The Aircraft Impact Assessment rule does not apply to existing nuclear power reactors. The Commission determined in the AIA rulemaking that existing plants need not comply. However, as part of the Power Reactor Security rulemaking that the NRC promulgated in the 2009, all nuclear power reactors must have strategies for dealing with a loss of large areas of the plant due to fires or explosions. These strategies were originally required by Orders in the months after 9/11. So while existing plants are not covered under the Aircraft Impact Assessment rule, they have taken measures to address the potential consequences of an aircraft impact. Dave McIntyre

comment #146743 posted on 2013-09-04 13:49:32 by Rich Andrews in response to comment #146739

Thanks for the feedback.

comment #145156 posted on 2013-08-28 11:58:27 by Rich Andrews in response to comment #144992

Once again I am replying to myself. More on an aircraft crash into a nuke plant's spent fuel cooling pool. Here goes... Aircraft Crash Into A Spent Fuel Pool In a previous blog I asked if any nuke plant had used a massive spent fuel damage accident as one of its biannual emergency exercises. Let me take a shot at answering that question. I would be quite surprised if any nuke plant has ever conducted such an emergency exercise. I have worked on preparing nuke plant scenarios for emergency exercises and have worked with emergency planners who create such scenarios. We call massive damage to a spent fuel pool as a no-win scenario. No matter what operators and emergency responders do they will not be successful in mitigating the impact of the accident. In most scenarios planners have to simulate breaking so much plant equipment to even get a release of radioactivity to occur, that emergency responders believe the scenario is unrealistic. An aircraft crash, although unlikely, has devastating and unmanageable consequences. In addition a devastating fire driven by aviation fuel in the spent fuel pool spreads quickly throughout the entire auxiliary building surrounding the large containment building. The containment building is a super-sized building with re-enforced concrete walls over 3- foot thick. The containment building houses the operating reactor itself. Even a raging auxiliary building fire would not affect anything inside the containment building itself. So the reactor is safe, right. I wish it were so. To operate and monitor the reactor inside the containment there are a massive amount of instrumentation and power cables that must feed into the containment thru the auxiliary building. A raging fire in the aux. building will eventually destroy these important electrical cables. It leaves control room operators totally blind as to what is going on inside the reactor in the containment. They have lost control of the plant due to a hostile action. They can no longer maintain the reactor in a safe shutdown condition. It is only a matter of time until the reactor is no longer properly cooled and the reactor core melts. Which makes matters even worse is that the fire has spread highly radioactive materials not only off-site but also within the plant itself making any fire-fighting efforts or any outside the control room plant recovery efforts utterly impossible. Let's talk about off-site consequences. Public protective action measures for the entire ten-mile radius emergency planning zone around the reactor (called among nuke plant emergency planners the "wheel of death") would be either stay indoors or run like hell (evacuate). At the Fort Calhoun Station (northwest of Omaha, NE) the prevailing winds are from the NW to the SE. Any radioactive release will then most likely head toward the Omaha metro area, which includes Council Bluffs, Iowa. A busy large airport is located just outside the wheel of death. Assume an aircraft is hijacked by terrorists and flown directly to the Fort Calhoun site at only 200 mph. The trip to the plant only takes a little over 3 minutes. There is absolutely no time for anyone to do anything to intercept the plane. As they crudely say in the Navy, not even time enough to kiss your sweet ass goodbye.

comment #144372 posted on 2013-08-23 15:01:26 by Moderator in response to comment #144364

The NRC's post-9/11 Orders and rules require existing commercial nuclear power plants to have additional resources available to keep safety systems running after an explosion and fire, such as those that might occur with an aircraft crash. The NRC's post-Fukushima requirements are enhancing these additional resources. New reactor designs have to assess where they could add functions or features that are equivalent to what existing plants have put in place. Also, the NRC requires each licensee to develop procedures to enhance their capabilities to communicate with the federal government and mitigate any potential imminent aircraft impact. Robert Lewis

comment #144379 posted on 2013-08-23 16:49:49 by Rich Andrews

I am sorry Mr Moderator but your answer to Joy is woefully misleading. While the information you provide is true you are as they say not giving us the whole truth. Say you are right and at least a train of safety equipment is available to cover and cool the reactor. But what if the reactor is already badly damaged by a fully fueled aircraft loaded with high explosive?! Pouring water on a badly damaged reactor core is not going to help much especially with all barriers to a radioactive release to the public breached. As you are aware the licensing bases, especially for older nukes, does not take into account a terrorist attack by aircraft of today's size and capabilities. The crash of an old 707 or a tornado-borne telephone pole into the containment structure was an original design bases. Even with that design bases the aircraft breached the wall of the containment structure and was just stopped short of the reactor itself by the reactor shield walls. Mr Moderator tell us straight. Can you assure us that the reactor core of any licensed nuke plant will not be directly damaged by a fully fueled, explosive-laded large aircraft?

comment #144348 posted on 2013-08-23 12:36:48 by joy cash

Am remembering that 80+yr. old nun penetrating security at one of our nuclear plants to alert us all that these "security efforts" are not providing any sense of security against terrorists intent on creating serious damage to our nuclear plants. Our current plans described here do not address aerial attacks.

comment #144847 posted on 2013-08-26 13:55:51 by hiddencamper in response to comment #144535

With regards to ft. calhoun, this was classified as a red finding because design and installation errors caused a common mode failure potential of both divisions of safety related power. The fire and loss of decay heat removal in and of themselves did not constitute a red finding, but contributed to the overall assessment. (That's how i read the inspection report)

comment #145337 posted on 2013-08-29 10:14:30 by Rich Andrews in response to comment #145057

And by the way what were the postulated off-site consequences?

comment #145336 posted on 2013-08-29 10:12:08 by Rich Andrews in response to comment #145057

Good to hear that you and perhaps other plants have participated in such a scenario. What were the challenges to you, others of the operating staff, and other responders to your spent fuel damage scenario? Did the scenario postulate an aircraft crash into the spent fuel pool?

Browns Ferry: Improving, But Increased Oversight Continues

posted on Tue, 27 Aug 2013 12:30:33 +0000



[caption id="attachment_4574" align="alignright" width="300"] Two members of the inspection team that reviewed operations at the Browns Ferry nuclear power plant take a closer look at plant equipment. [/caption]
Roger Hannah
Senior Public Affairs Officer
Region II

The NRC issued two important documents this week that mark significant milestones in the agency’s oversight and inspection of the Tennessee Valley Authority’s [Browns Ferry](#) plant in Alabama. We sent a [confirmatory action letter](#) to TVA outlining a list of actions committed to by the utility and intended to ensure the continued improvement of the Browns Ferry nuclear plant. After those actions are completed and we’ve inspected them, we’ll reevaluate our increased oversight of the plant. The additional oversight came after a red -- or high safety significance -- inspection finding in October 2010 related to the failure of a valve in Unit 1. The NRC also issued a detailed [inspection report](#), totaling more than 400 pages, which describes the findings of a 23-person inspection team that looked at all aspects of the Browns Ferry plant’s operations. The team included inspectors from three of the NRC’s four regional offices and headquarters, and had more than 250 years of combined NRC experience. The NRC inspection team concluded the Browns Ferry plant is being operated safely and its overall performance has begun to improve, but the plant will remain under increased oversight as TVA continues with its improvement plan. The letter to TVA and the inspection plan provide valuable information to plant management, people living near the plant and others that may be interested, but it’s not the end of the story. We will conduct follow up inspections to ensure the commitments outlined in the confirmatory action letter are met and the plant’s improvement plan is implemented successfully.

Comments

comment #145565 posted on 2013-08-30 10:21:58 by Moderator in response to comment #145389

Fort Calhoun has been shut down since April 9, 2011, for a refueling outage. The outage was extended due to historic flooding along the Missouri River followed by an electrical fire that led to an “Alert” declaration (red finding) and further restart complications. There is a special Fort Calhoun website at <http://www.nrc.gov/info-finder/reactor/fcs/special-oversight.html> dedicated to the ongoing inspection activities and oversight at the plant. You can also read the history here if you’d like more details: <http://public-blog.nrc-gateway.gov/?s=Fort+Calhoun> . Lara Uselding

comment #145389 posted on 2013-08-29 16:06:12 by Ralph Phelps

Why is Browns Ferry operating (under the CAL) but Fort Calhoun is not? Fort Calhoun did not go Red.

The Vermont Yankee Announcement

posted on Wed, 28 Aug 2013 13:05:02 +0000

Neil Sheehan
Public Affairs Officer, Region I



Yesterday, [Vermont Yankee](#) became the fifth U.S. commercial nuclear power reactor since the beginning of 2013 to announce plans to permanently cease operations. Earlier closure declarations this year involved the Kewaunee nuclear power plant, in Wisconsin; the two-unit San Onofre facility, in California; and Crystal River, in Florida. Of those plants, Vermont Yankee's decision has the most in common with Kewaunee, in that a primary determining factor, according to its operator, was changes in the electricity marketplace -- particularly an abundance of low-cost natural gas -- that impacted the plant's economic competitiveness. Given the plant's satisfactory safety performance, it is currently under the normal level of oversight from the NRC. For residents of Vermont and neighboring states, one of the first questions that may come to mind is what comes next? Going forward, the NRC will continue its rigorous oversight of the Vernon, Vt., plant through the remainder of its operation and then into and through the decommissioning process. Once the final operational cycle concludes for the single-unit boiling water reactor, the facility's owner, Entergy, would have to formally notify the NRC of the permanent cessation of power production within 30 days. Subsequently, Entergy would have to formally let us know once the fuel has been removed from the reactor. There are numerous steps that would then follow in the decommissioning review process, including



holding a public meeting near the plant to discuss the company's plans. The company will outline its plans in a Post-Shutdown Decommissioning Activities Report (PSDAR), which is to be submitted within two years after the certification of permanent closure. The PSDAR would provide a description of the planned decommissioning activities, a schedule for accomplishing them, and an estimate of the expected costs. After receiving a PSDAR, the NRC publishes a notice of receipt in the Federal Register, and makes the report available for public review and comment. More information about the decommissioning process is available in an NRC [fact sheet](#) and on the agency's [web site](#).

Comments

comment #145322 posted on 2013-08-29 08:35:52 by David Andersen in response to comment #145154

While the government doesn't actually dictate, they do specify that the owners must choose one of three options.
<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html>

comment #145357 posted on 2013-08-29 12:41:58 by Moderator in response to comment #145154

NRC regulations on decommissioning are straightforward and set clear objectives that a licensee must meet. As in most of our regulations, we set performance goals and allow a licensee some flexibility in how to achieve those goals. While a plant operator sets out its own decommissioning plan, the NRC must approve it after reviewing it to determine whether it meets our requirements. Neil Sheehan

comment #145220 posted on 2013-08-28 21:23:30 by Tster

So, what's going to happen to all those people you put out of work? They have lives, kids in school, families to support. Don't care, I guess.

comment #145201 posted on 2013-08-28 18:27:55 by BobinPgh

Has the NRC ever considered having a "temporary decommissioning"? That is, shut down the reactor, place the fuel away, but not take the place apart. Do everything to "mothball" the facility for when it might be needed again? This "temporary decommission license" could maybe be renewed every 2-3 years and converted to a "full" license if the economy turns better or the nation runs out of natural gas (I know that could happen). I think it is a waste that a facility that nothing is wrong with at all is demolished just because natural gas prices are low right now. If we run out of gas, wouldn't the electric supply be less reliable?

comment #145188 posted on 2013-08-28 17:00:07 by David Andersen

It's unfortunate that there isn't a "mothballing" regulation that would allow a company to suspend its operating license and defuel the reactor for a period of time with reduced regulation until such time that it would be profitable to resume operations.

comment #145144 posted on 2013-08-28 09:51:52 by James Greenidge

Kudos to Meredith Angwin and Howard Shaffer for waging a good and noble fight at VY for Earth and sanity. What is to say but that Climate Change and pollution and Hiroshima guilt and fear won out? That's the backbone and result of this action. Shame on the media for never giving nuclear power an even break in fact and perspective and education and rebuttal. What is there to be jubilant over when Vermont's pristine historic scenic vistas are about to be razed and despoiled wholesale and the earth's climate pushed a

little bit more to peril all for the name of assuaging unfounded fear? Were governments SERIOUS about climate change they'd husband every nuclear plant around the world to keep running regardless -- yes, regardless the cost. Wouldn't climate change cost a hell-of-a-lot more? Thought we were talking human survival here. To see these nuclear plants pass on without even assistance to salvage them suggests that apparently climate change isn't the crisis we've all been led to believe. James Greenidge Queens NY

comment #145153 posted on 2013-08-28 11:32:09 by Fred Stender

Regardless of natural gas pricing, electricity pricing has NOT come down at all, so it is very curious that natty is being used as the scapegoat.

comment #145154 posted on 2013-08-28 11:33:34 by Fred Stender

"The company" determines it's decommissioning plan? Seems like this is the perfect time for the government to DICTATE what the company HAS to do.

comment #145333 posted on 2013-08-29 09:54:16 by Armando

All of the so-called "renewable" energy sources, especially wind and solar, are not "profitable" without huge subsidies. Those are the only industries that have strong-armed legislators into putting laws on the books that require their product to be purchased by users, often at outrageously inflated prices relative to the going rate for other sources. Yet the "profitability" standard is only applied to nuclear, they'd better be profitable or their facilities get bulldozed and their employees thrown out on the street while the politicians and activists cheer it on. Sounds to me like the game is rigged, a different set of rules is applied to one side and not the other.

Honeywell Modifications Mark a Victory for Public Safety

posted on Fri, 30 Aug 2013 13:01:36 +0000

*Jim Hickey
Branch Chief, Division of Fuel Facility Inspection
Region II*

Following the devastating earthquake and tsunami that caused unprecedented damage to the Fukushima Dai-ichi nuclear power station in Japan, the NRC began a special review of the U.S. facilities involved in the production of uranium and manufacture of fuel assemblies for nuclear power plants. Our traditional approach to inspections involves confirming such facilities are complying with the license requirements the NRC established to ensure safety and security. Our approach for these inspections was a little different. These inspections were designed to confirm these facilities were capable of withstanding an unlikely but credible event such as an earthquake or tornado. We determined only one facility was in need of changes to ensure safety and security prior to resuming operations. That plant was the

Major U.S. Fuel Cycle Facility Sites

Licensee	Location	Status
Uranium Hexafluoride Conversion Facility		
Honeywell International, Inc.	Metropolis, IL	active
Uranium Fuel Fabrication Facilities		
Global Nuclear Fuels-Americas, LLC	Wilmington, NC	active
Westinghouse Electric Company, LLC	Columbia, SC	active
Columbia Fuel Fabrication Facility		
Nuclear Fuel Services, Inc.	Evitts, TN	active
AREVA NP, Inc.	Lynchburg, VA	inactive, license termination pending
Mt. Airies Road Facility		
BEHR Nuclear Operations Group	Lynchburg, VA	active
AREVA NP, Inc.	Richland, WA	active
Mixed Oxide Fuel Fabrication Facility		
Shaw AREVA MOX Services, LLC	Aiken, SC	under construction (operating license under review)
Gaseous Diffusion Uranium Enrichment Facilities		
USEC Inc.	Paducah, KY	active
Gas Centrifuge Uranium Enrichment Facilities		
USEC Inc.	Plexton, OH	under construction
Louisiana Energy Services (URENCO-USA)	Earle, NM	active**
AREVA Enrichment Services LLC	Idaho Falls, ID	active**
Eagle Rock Enrichment Facilities		
Laser Separation Enrichment Facility		
GE-Hitachi	Wilmington, NC	under review
Uranium Hexafluoride Deconversion Facility		
International Isotopes	Hobbs, NM	under review

** Partially operating and producing enriched uranium while undergoing further phases of construction.
 *** NRC issued license in Oct. 2011 and construction on the facility has not begun.
 Note: The NRC regulates nine other facilities that possess significant quantities of special nuclear material (other than reactors) or process source material (other than uranium recovery facilities).
 Data as of July 2012.

Honeywell [Uranium Conversion](#) Facility, in Metropolis, Ill.

When presented with our inspection results, Honeywell agreed with our conclusions. Over the next year, the building where the uranium conversion process takes place was fortified -- imagine really big steel beams. Also, the process equipment was modified by adding supports and an automatic shutdown system that immediately stops the operation if an earthquake occurs. How simple and straightforward that description seems! Let me assure you it was far from that. First, Honeywell had to determine what forces the facility could be subjected to and then translate that into how strong the building and process equipment would need to be to withstand the event. Then, they had to figure

out how to modify the plant, where to put additional supports and how those supports would be installed. They also had to design the automatic seismic shutdown system, and then actually do the work to install the changes. For the regulatory oversight portion, we reviewed Honeywell's analysis, and asked questions until we were satisfied the answers gave us the information we needed. We reviewed and inspected the modifications. We drew a path from the initiating event earthquake or tornado to what was actually installed in the facility to ensure the changes accomplished the design goals. Our efforts crossed multiple organizational boundaries within the NRC as well as state and local agencies. It would take too much space to document all of those who contributed as it's a lengthy list. After all this, last month we granted Honeywell authorization to restart the facility. We all recognize the importance of our day-to-day efforts to ensure the safety and security of our nation's nuclear facilities, and occasionally we embark on an activity that significantly improves the safety of a facility. This was one of those times.

Comments

comment #146452 posted on 2013-09-03 13:38:46 by Anonymous in response to comment #145599

Thank you for providing no relevant information to this article. Now, please go spread your FUD elsewhere.

comment #146437 posted on 2013-09-03 12:24:14 by Robin Franke in response to comment #145599

There has never been an eco disaster of the proportion you have described. Hurricane Katrina, the Tohoku earthquake/tsunami, and even the Deepwater Horizon oil spill were an order of magnitude less than your trillion dollars you quote. Even Chernobyl was two orders of magnitude less than that. An educated or informed reader can recognize \$%^& when they see it.

comment #146432 posted on 2013-09-03 12:07:56 by in response to comment #145599

Did you REALLY just cite Urban Dictionary?

comment #145599 posted on 2013-08-30 13:13:01 by CaptD

Nuclear energy also has the potential to cause Trillion Dollar Eco-Disasters like Fukushima if something goes wrong, especially in the older Nuclear Power Plants (NPP's), which are the very same NPP's whose Utilities are seeking or have gotten uprates! Since Nature can destroy any land based nuclear reactor, any place anytime, the NRC saying that nobody needs to be concerned sounds to me like "whistling while you are passing the graveyard" since the Japanese people thought nuclear was 100% safe until until some BAD happened at Fukushima, so thinking that will not happen in the USA is faulty logic, at best. Now they have a Trillion Dollar Eco-Disaster, which will NOT be fully contained (despite that TEPCO and their Regulators claim as it being "in cold shut down") for another 40 to 100 years while at the same time, it has been and continues to leak radioactive water into the Sea of Japan (aka the Pacific Ocean) for over 2.5 years which is now spreading globally! So in reality, our US Leaders and the entire nuclear industry are just living in Nuclear Denial* claiming that US reactors are also 100% safe, which is nothing but nuclear baloney**. Nuclear Power Plants provides by far, the most RISKY power in the US (and the World). The nuclear industry for the most part denies that they need to do any real safety upgrades and complains about any NRC required safety upgrades, yet they will not insure themselves against risk, having gotten Congress to pass that risk along to the US Govt. and the people of the USA, thanks to the Price-Anderson Act. Per the NRC: Fact Sheet on Nuclear Insurance and Disaster Relief <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/funds-fs.html> In short, if there is more than \$12 Billion in damages, residents are left holding a empty radioactive bag! BTW: This is only a tiny fraction of what it will cost in Fukushima, which I estimated to be about a Trillion Dollar Eco-Disaster! What is the value of all the homes and Commercial property downwind of every nuclear power plant (NPP) in America? Probably at least several TRILLION dollars... Here is a great graphic that will help everyone visualize what is downwind of any of the US reactors! NRDC Nuclear Fallout Map: <http://www.nrdc.org/nuclear/fallout/> Just click on a reactor and zoom in... (BTW: These are conservative fallout estimates). Here is what Former Japanese PM Kan (1), Gregory Jaczko (2) the Former Chairman of the Nuclear Regulatory Commission and 2 other Nuclear Experts (3) had to say at a June 4, 2013 seminar in San Diego, CA, "Lessons for California" which was based upon what they experienced as the Leaders "in-charge" when 3/11/11 occurred: (1) http://www.youtube.com/watch?v=nAYVK8_W2h4 (2) <http://www.youtube.com/watch?v=AG1QmEQ84aY> (3) <http://www.youtube.com/watch?v=8g6mViUvHUo> Remember a nuclear accident in the USA could cost Trillions and/or bankrupt the country... * <http://is.gd/XPjMd0> ** <http://www.urbandictionary.com/define.php?term=Nuclear+Baloney>

comment #146694 posted on 2013-09-04 09:22:13 by Jess

Well done on the article. Very informative.