

## OPSMPEm Resource

---

**From:** Harrington, Holly  
**Sent:** Thursday, December 01, 2011 12:21 PM  
**To:** OPSMPEm Resource  
**Cc:** Leong, Edwin; WebContractor Resource  
**Subject:** NRC Public Blog -- October through November 2011  
**Attachments:** blog-published-2011-12-01.pdf

Holly Harrington  
Office of Public Affairs  
U.S. NRC

**Hearing Identifier:** NRC\_OfficialPresenceSocialMedia\_Public  
**Email Number:** 7

**Mail Envelope Properties** (65FB43187ED87C46B3F00CB97D081E604EEA22E368)

**Subject:** NRC Public Blog -- October through November 2011  
**Sent Date:** 12/1/2011 12:21:06 PM  
**Received Date:** 12/1/2011 12:21:12 PM  
**From:** Harrington, Holly

**Created By:** Holly.Harrington@nrc.gov

**Recipients:**

"Leong, Edwin" <Edwin.Leong@nrc.gov>

Tracking Status: None

"WebContractor Resource" <WebContractor.Resource@nrc.gov>

Tracking Status: None

"OPSMPEm Resource" <OPSMPEm.Resource@nrc.gov>

Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	68	12/1/2011 12:21:12 PM
blog-published-2011-12-01.pdf	2409678	

**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

# U.S. NRC Blog

Archive file prepared by NRC

---

## Under the magnifying glass: Davis-Besse's Reactor Vessel Head Replacement

posted on Mon, 03 Oct 2011 16:42:07 +0000



[Davis-Besse](#) is getting a brand new reactor vessel head this fall -- its third since 2002. And we're going to invest more than 400 inspection hours to make sure the replacement is done right, and safely, for the workers and the public. New reactor heads have been installed at 36 out of 69 pressurized water reactors in the U.S. This head replacement, however, is a major milestone because of the history at Davis-Besse. This is the location where, in 2002, a football-sized cavity was discovered in the reactor vessel head. Because of corrosion found on the head, only a thin stainless steel liner remained between the reactor and the containment building. The NRC responded to this event by completely overhauling its regulations to require more rigorous examinations of reactor vessel heads. The damaged head was replaced with a similar head manufactured for another plant that never started operating. It went into service in 2004, after the NRC allowed Davis-Besse to restart. The replacement was a temporary measure. (A brand new head made from a different metal that is much less susceptible to corrosion was originally supposed to be installed in 2014.) However, the first replacement head developed several small cracks in an unexpectedly short period of time. The cracks were discovered during NRC-required inspections in 2010. Unlike the degradation found in 2002, these cracks did not challenge the overall integrity of the head and demonstrated that the NRC's new inspection program worked to identify cracks before they could result in significant head degradation or leakage. The cracks in the replacement head were repaired. But the NRC and the plant's owner, FirstEnergy, had extensive discussions about how long the repaired head could remain in service given the uncertainties associated with the unexpected cracking. As a result, FirstEnergy decided to replace the reactor vessel head in October 2011. This brings us to this brand new reactor vessel head manufactured in France from an alloy that is much less susceptible to corrosion than the two previous heads. The process to install this new head began this week after the reactor shut down on October 1. The NRC will be there every step of the way. In fact, our reviews started in July, when we began out inspections to verify that the new reactor vessel head was made in accordance with our standards and requirements. NRC resident inspectors at the plant and specialists in metallurgy, health physics, security, and other areas from the NRC Region III Office in Lisle, Ill., are reviewing calculations, procedures and work plans and will directly observe the most significant activities associated with head replacement and post-installation testing. The results of these inspection activities will be documented in the Resident Inspector Quarterly Inspection Report. Tomorrow, I'll outline describe how the 180-ton head is actually replaced -- no small feat -- and how the NRC will conduct its inspections.

*Viktoria Mitlyng  
Sr. Public Affairs Officer  
NRC Region III*

### Comments

comment #2613 posted on 2011-10-12 21:21:21 by Robert

From what I know of Davis-Besse, the reactor vessel head is only the tip of the iceberg. This piece of garbage should have been shut down permanently back in 2002 for all the stuff found and documented in the System Health Readiness Reviews (SHRR) and Latent Issue Reviews (LIR) completed by the system engineers during the two-year enforced shutdown. A good number of the issues documented on Condition Reports about deficiencies found on the plant's primary safety systems were stuck in the plant's Corrective Action Program, and to this day are probably still there - tracked and binned, but no action taken. There was an extreme amount of pressure from the upper management to get the plant back on line, because, "Davis-Besse was not going to be the black hole of FirstEnergy". I should know. I was one of the system engineers that wasted my time working at that plant for nearly four years.

comment #2626 posted on 2011-10-14 14:17:40 by Moderator in response to comment #2609

The head that is being installed is brand new, unlike the first replacement head which had been manufactured for a plant that never went into operation. This head was in storage for a number of years before going into service at Davis-Besse in 2004. The new head and its nozzles are made from material that is known to be far more resistant to corrosion and cracking that affected the previous reactor vessel heads. NRC inspectors have reviewed the manufacturing records for the new head to make sure it was made in accordance with requirements. As it is a brand new head it does not have any corrosion. Further, when the new head is installed, it will be tested for leakage before the plant returns to service. Finally, the new reactor vessel head will be subject to the stringent inspection requirements for reactor vessel heads that went into effect following the discovery of the cavity in the reactor vessel head in 2002. This new inspection regime demonstrated its effectiveness when minor cracks were identified in the replacement reactor vessel head in 2010 long before they could cause a safety concern. Ultimately, this discovery led to the expedited installation of the brand new head which is currently taking place. Viktoria Mitlyng

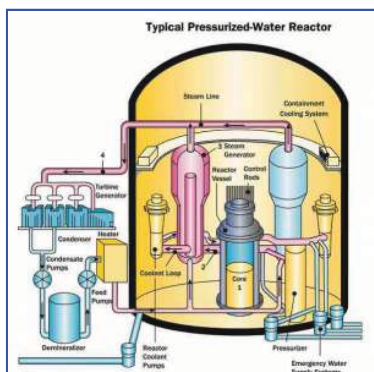
comment #2609 posted on 2011-10-12 11:57:38 by Dennis

How do you know that the replacement head that was manufactured in France will react any differently than the previous heads? Was it tested for corrosion? Was it tested under pressure for cracks? I think the only way to test them is by installing them in a reactor and this is putting the public in danger. What if it fails?

---

## How the Davis-Besse Reactor Head Replacement Will Be Reviewed

posted on Tue, 04 Oct 2011 15:04:09 +0000



As I wrote on yesterday's post, installing a 180-ton reactor head at the Davis-Besse plant in Ohio is no small feat for the power company that owns the plant and for the NRC, which is monitoring and verifying the safety of the installation. First, NRC inspectors are reviewing the calculations necessary to make sure that a 180-ton reactor head can be moved safely to the reactor building, that the cranes are qualified to bear this tonnage and that the floor in the area of containment where the head will stand before being placed on the reactor vessel can withstand such weight. To get the old head out and the new head into containment, a hole will be cut in the containment and shield buildings after all the fuel is removed from the reactor. NRC inspectors will be observing major steps of this operation to make sure that structural and safety issues are properly handled. A runway system and transfer cart will be installed through this opening and cranes positioned to transfer the heads. NRC inspectors will monitor the actual transport of the old head out and the new head into containment. NRC inspectors will review radiological controls to make sure workers and the public are safe as the old head is transported from containment to a special storage facility on plant property. They will verify that appropriate security measures are taken throughout the entire process. Inspectors will verify that the shield building, which is designed to protect the containment building against potentially damaging flying debris, is properly restored. In addition, they will closely monitor post-installation tests to verify that the plant can operate safely when it is returned to service. The coolant system will be tested for leaks; the control rod drive mechanisms will be tested to make sure they can drop into the core to shut down the reactor within a specified amount of time; a pressure test will be performed to verify the containment building does not leak and x-rays taken to test the welds that close the opening. Inspectors will verify that the shield building, which is designed to protect the containment building against external hazards, is properly restored so it can perform this function after the opening is closed. After NRC inspectors are satisfied that the reactor can be returned to service safely and the plant resumes operations, the reactor vessel will be subject to the NRC head inspection regime in place. The NRC will continue to review inspection results to ensure the continued safe operation of the Davis-Besse plant.

*Viktoria Mityng*  
Sr. Public Affairs Officer  
Region III

#### Comments

### How Long Will the NRC Keep North Anna Shut Down?

posted on Thu, 06 Oct 2011 19:32:07 +0000



The short answer is: The North Anna nuclear power plant in Virginia will remain shut down until the NRC is satisfied the plant's operator, Dominion, has proven the plant's two reactors can operate safely. The NRC's been examining both the plant itself and Dominion's response to the Aug. 23 quake ever since the event itself – one of the agency's resident inspectors was in the plant's control room when the quake hit. We supplemented our residents with an Augmented Inspection Team the following week, and that team discussed its preliminary findings Oct. 3 at the plant. The team concluded North Anna shut down safely after the quake, despite the plant having faced stronger shaking than what was anticipated during its licensing. The team examined Dominion's work and conducted its own inspections, all of which showed only minimal damage to a few of the plant's systems. Another group of agency experts from the agency's headquarters and Region II office in Atlanta will continue the North Anna inspection effort next week. In order to most effectively review the information on North Anna, the NRC's Office of Nuclear Reactor

Regulation has set aside headquarters staff to focus on the issue of plant restart. The NRC met with Dominion Sept. 8 (see the meeting's [webcast](#)), where the company laid out its rationale for restart and the NRC staff asked questions in several technical areas related to restart safety. Dominion started to answer those questions with information on Sept. 17 and 27, but there's more work to do. In particular, the NRC wants to ensure Dominion has done an extensive set of inspections – a lesson learned from experience at a Japanese reactor damaged by a 2007 earthquake. The NRC also wants to ensure Dominion has appropriate plans for monitoring the plant during and after restart. Once all the NRC inspections are done, the staff's questions are properly answered and we're satisfied it's safe for the plant to restart, the NRC will write up a safety evaluation documenting why it's appropriate for North Anna to restart. The agency expects this entire process will continue past Oct. 21, when the Commissioners will hold a [public meeting](#) to discuss the North Anna situation.

*Scott Burnell*  
Public Affairs Officer

#### Comments

comment #2522 posted on 2011-10-07 10:55:36 by Moderator in response to comment #2495

North Anna is built to a Westinghouse design, therefore the GE control rod issue does not apply there. All GE-design plants in the U.S. have already compensated for the condition GE described and their control rod systems will work properly if an earthquake occurs.

comment #2513 posted on 2011-10-07 02:47:12 by Aladar Stolmar

Only lessons learned in 2007? Would not it be time to consider the sudden ignition and firestorm in the core of the zirconium-steam reaction? Or there is still a question that this is the key process, causing the final state of nuclear reactor fuel in the TMI-2 reactor accident, Chernobyl-4 reactor accident, Paks-2 washing vessel incident and in the Fukushima Daiichi 1, 2, 3 reactor accidents?

comment #2521 posted on 2011-10-07 10:55:05 by Moderator in response to comment #2497

Since North Anna is the first operating U.S. nuclear power plant to experience stronger shaking than what was anticipated during its licensing, the NRC is ensuring Dominion's actions are appropriate. The "first of its kind" factor, combined with the experience of a Japanese reactor requiring extensive inspections to determine its earthquake damage in 2007, calls for a proper examination of North Anna to ensure the plant is safe to operate.

comment #2519 posted on 2011-10-07 09:21:48 by transfertsuper8

Did you prepare really versus natural accidents such as Fukushima Tsunami ? For exampl, how long would it resist a major earthquake ?

comment #2520 posted on 2011-10-07 10:54:32 by Moderator in response to comment #2498

North Anna is the first operating U.S. nuclear power plant to experience stronger shaking than what was anticipated during its licensing. In 1986 the Perry plant in Ohio exceeded its "design basis earthquake" while under construction but was found acceptable for operation before its license was issued. In 1979 the Summer plant in South Carolina exceeded its operating basis earthquake (half of the design basis) while under construction but was found acceptable for operation before its license was issued.

comment #2495 posted on 2011-10-06 16:17:12 by Nancy

In response to this article that warns that there could be a shift in the alignment of the shaft used for control rods inserted to shut down a reactor in an emergency such as the earthquake North Anna experienced what is the NRC's solution for this problem?  
[http://www.nj.com/business/index.ssf/2011/10/ge\\_warns\\_nuclear\\_reactors\\_coul.html](http://www.nj.com/business/index.ssf/2011/10/ge_warns_nuclear_reactors_coul.html)

comment #2555 posted on 2011-10-09 18:45:33 by Clement M. Llewellyn

At the North Anna VA reactor of Dominion Power how many inspections of foundation materials made during construction phase of the reactor silo's for seismic disturbance?

comment #2537 posted on 2011-10-08 09:26:16 by Garry Morgan

Were there any fractures in the concrete of the containment structures or floors of the facility? Is the underground piping infrastructure being examined for damage, if so has any damage been noted? Has there been any damage to the reactor facility which has been discovered as a result of the earthquake? Your answers will be appreciated, thank you.

comment #2496 posted on 2011-10-06 16:36:18 by Sarah Alexander

Is there a publically available transcript or archived video of the AIT public exit meeting held on October 3?

comment #2497 posted on 2011-10-06 17:03:04 by Jim Greenidge

Excessively P.R. Picky or stalling and stroking nuke frets and misgivings? Really, how long would've feds taken to get a similiarly "damaged" oil or gas facility back on line? Didn't Diablo Canyon jump back on the grid while other conventional plants were still picking themselves up after their last quake? James Greenidge Queens NY

comment #2498 posted on 2011-10-06 18:23:22 by Joffan (@Joffan7)

Is this the first instance of a US nuclear power reactor experiencing a quake of greater intensity than its design basis? If not, when was the previous occasion?

comment #2570 posted on 2011-10-10 12:22:44 by Chris in response to comment #2522

@Moderator - Please tell us what the North Anna Unit 2 Reactor Trip Root Cause Analysis concluded. Although the condition described in the GE Control Blade-Seismic issue is not applicable to North Anna, I am very interested in what exactly tripped the North Anna Units. Since Unit 2 is/was removing its reactor vessel head for refueling, I would hope they have a chance to examine the Gripper Extension shafts for signs that some of the control assemblies "shook" loose during the quake. Two or more control assemblies of high rodworth falling into the core, would be enough to actuate the Power Range NI, 5% Negative SUR trip (5% in 2 seconds if my memory serves me). The extension shafts are inside their housing which are attached to the top of the reactor head. Perhaps some shaking on these somewhat unsupported columns have allowed enough play to allow the holding gripper to open. Just a thought . . . Thank you for your consideration!

comment #2616 posted on 2011-10-13 12:08:19 by Chris

Look at it this way: it will take less time to make sure the plant is safe than to clean up after a meltdown!

comment #3009 posted on 2011-11-03 09:42:23 by Chris in response to comment #2522

Unit 1 fuel needs to be inspected too.

comment #3018 posted on 2011-11-03 13:56:46 by Moderator in response to comment #2496

My apologies for the delay in a response. There are at least two videos of North Anna briefings to the Commission available on this

page: <http://video.nrc.gov/> from Oct. 11 and Oct. 21. I'm afraid I do not see a video in the archive for the date you cite, however.

comment #3017 posted on 2011-11-03 13:53:41 by Moderator in response to comment #2522

Dominion's inspections of structures inside the Unit 2 reactor, as well as a significant sampling of Unit 2 fuel assemblies, provided enough information to conclude the Unit 1 fuel would be in the same condition as Unit 2's fuel.

---

## NRC Chairman Tours TVA's Browns Ferry Nuclear Site

posted on Tue, 11 Oct 2011 14:26:18 +0000



Recently the NRC put Unit 1 at the Tennessee Valley Authority's [Browns Ferry](#) complex of three reactors in north Alabama west of Huntsville into its most stringent category of regulatory oversight. Chairman Gregory Jaczko Friday, accompanied by Sen. Lamar Alexander, R-Tenn., visited the plant, talked with plant executives, rank-and-file plant employees and consulted with the four reactor expert inspectors the NRC has assigned full time to the sprawling complex flanked on the approach road by cotton and soybeans nearing harvest and the Tennessee River to the west. The tour included a look at the pump that was at the heart of the NRC's concerns, and a briefing from TVA executives about the program they have in place to remedy the shortcomings cited by the NRC inspectors. In his conversation with plant employees, Jaczko noted that among the reasons he came was the plant's heightened oversight by NRC and the fact the reactors are similar in design to those at the Fukushima Dai-ichi complex destroyed by an earthquake and tsunami. He was complimentary of the TVA employees who earlier this year kept the plant operating for a week on diesel generators after a tornado ripped away the

transmission lines that brought electricity into the plant to run plant systems. The plant's operators "managed that situation very well," he said. Jaczko also told the staffers that "safety comes down to all of you. It's not someone else's responsibility." He noted the NRC has found "performance challenges" at Browns Ferry and "part of that is because we are very conservative in what we do." Later Jaczko and Alexander talked by conference call with Tennessee and north Alabama reporters. Jaczko also toured the TVA's Bellefonte site in eastern Alabama where the TVA is seeking to complete one of two unfinished reactors at the location.

*Eliot Brenner*  
Director, NRC Office of Public Affairs

### Comments

comment #2660 posted on 2011-10-16 17:38:16 by Rob

We do need to be careful with our nuclear powerplants so we dont have a Japan repeat -Local business owner Rob

comment #2733 posted on 2011-10-21 09:59:40 by Kata Kata Mutiara

who's to know if there weren't any previous safety hazards that might have been there before the earthquake or if they could have done something more to prevent such a disaster.

comment #2657 posted on 2011-10-16 11:00:48 by Dog Tricks

Safety is definitely a concern that everybody working on a nuclear site should take personally. If we look at what happened in Japan, who's to know if there weren't any previous safety hazards that might have been there before the earthquake or if they could have done something more to prevent such a disaster. Obviously this is a harsh comparison but I want to emphasize how crucial safety is because if something goes wrong there is absolutely nothing we can do.

---

## Blogging about Blogging

posted on Thu, 13 Oct 2011 19:34:50 +0000



In recent days the NRC broke what for us is new ground on the social media front. In cooperative efforts with two organizations, we hosted two webinar sessions for bloggers with Nuclear Regulatory Chairman Gregory Jaczko. As communications methods evolve, so too is the way the NRC is communicating. This blog started at the end of January and now has in the vicinity of 140,000 views. We have begun using [Twitter](#) and more recently gotten in to the [YouTube](#) arena. Each has its own benefits. This summer the Chairman asked the NRC Public Affairs Office to help him connect with bloggers. The week of Oct. 3 we were able to have two sessions, one of 90 minutes and the other of about 75 minutes. Two groups – the American Nuclear Society (ANS) and Physicians for Social Responsibility (PSR), provided organizational assistance, getting the word out into the various communities of bloggers and others interested in nuclear policy issues. Daniel Yurman, representing ANS, and Michele Boyd, representing PSR, graciously agreed to act as facilitators. The facilitators took all the questions submitted directly to them and their organizations, and those submitted to two NRC email addresses set up for the occasion, merged them into questions that logically flowed from one to another and then hosted the discussions. The choice of questions was theirs and theirs alone. It was a freewheeling conversation with the Chairman. NRC's only role was to provide the facilities and

technology, and offer some assistance in outreach. We're combing the questions submitted to see if there are any major topic areas that were missed and could be addressed here on the blog. Collectively the sessions had nearly 80 participants. The first session focused on those with industry ties, and the second on those in the public interest/watchdog sector. The "metrics" of the sessions tell us almost everyone was tuned in the entire time. The questions were across the spectrum: Fukushima and associated NRC actions, an Inspector General's report, Yucca Mountain, spent fuel storage, seismic matters, new reactors and so on. Both sessions were videotaped and transcribed and that material is now available on the NRC website's [video page](#). In fact, in keeping with our expanded use of social media in NRC communications, bits of both sessions are being posted to [YouTube](#). Participant comments we have seen describe it as worthwhile and productive outreach. The chairman came away excited about the chance to spend time with bloggers. Schedules permitting, we look forward to doing this again at some point in the future. Thanks to the ANS and PSR for their assistance, and to all who took time to participate.

*Eliot Brenner  
Director, Office of Public Affairs*

#### Comments

comment #2841 posted on 2011-10-26 14:09:44 by Faiz Ahamed

1) I'm not sure I agree with the premise of the question for reasons too long to detail in a single reply (but which may make for an excellent blog post), 2) You're going to have to make this question a ton more concise if you expect it to be answered by Jaczko, and 3) Jaczko has been one of the folks pushing to jam through new nuclear regulations in light of Fukushima without any chance for scientific review...

comment #2620 posted on 2011-10-13 21:06:27 by Bruce Behrhorst

Nice outreach by ANS & NRC. Ok, so when do NRC bloggers get to vote on official licensing applications by the NRC?

comment #2617 posted on 2011-10-13 15:50:01 by Mayor Bongo

Let there not be any confusion, Chairman Jaczko (right) is talking to Dan Yurman (left) a member of the American Nuclear Society who serves on the organization's public information committee

---

### New Data Set Focuses on Nuclear Reactor Oversight

posted on Mon, 17 Oct 2011 13:59:10 +0000



As forecast in our previous blog post on the NRC's continuing commitment to Open Government, the agency has just published another key set of data – [commercial nuclear power plant performance indicators](#) -- to the [Data.gov](#) website. Part of the agency's [Reactor Oversight Process](#) (ROP), these [performance indicators](#) are directly linked to the NRC's mission. The ROP includes seven [cornerstones of safety](#) that focus on the licensee's ability to operate the plant safely, to respond promptly and appropriately to emergencies, to protect plant workers and the communities and to protect against the design-basis threat of radiological sabotage. Within each cornerstone, a broad sample of data on which to assess licensee performance is gathered from performance indicator (PI) data submitted by licensees and from the NRC's inspections. The PIs are not intended to provide complete coverage of every aspect of plant design and operation, but are intended to be an indicator of performance within the related cornerstone. Data submitted by each licensee is used by the NRC to calculate PI values. These values are then compared to objective thresholds to determine the performance band associated with those values. The bands are color coded. Plant data for a PI that falls within the "green" band indicates licensee performance is within the expected range. The "white" band indicates that performance is outside of the expected range and can be characterized as of low to moderate safety significance, but performance remains acceptable. Performance in the "yellow" band indicates a more significant decline in performance and can be characterized as being of substantial significance. Performance is considered acceptable, but a reduction in safety margin exists. Performance in the "red" band indicates a very significant decline in performance. Changes can be characterized as being of high safety significance. Performance may be acceptable with a significant reduction in safety margin or may be unacceptable. PIs are a way of obtaining performance information in each of the cornerstone areas. They provide an indication of problems that, if uncorrected, may increase the probability and/or the consequences of an "off-normal" event. Since not all aspects of licensee performance can be monitored by PIs, some safety significant areas are assessed through inspection. Reporting of PI data to the NRC is a voluntary program in which all operating reactor plants participate. Once the data is confirmed by the NRC, they are entered into the Reactor Program of quarterly machine-readable data beginning in the third quarter of 2009 through the second quarter of 2011. New data will be published quarterly in the month following the close of each quarter.

*Bill Cartwright  
Technical Assistant  
Office of Nuclear Reactor Regulation*

#### Comments

comment #2700 posted on 2011-10-18 23:51:16 by

"Reporting of PI data to the NRC is a voluntary program in which all operating reactor plants participate." Why is the reporting NOT mandatory?

comment #2712 posted on 2011-10-19 14:01:56 by Moderator

In establishing the ROP, site specific performance indicators (PIs) were identified as potential sources of information for the reactor oversight process. Licensees committed to providing these indicators (voluntarily) to the NRC in lieu of a regulatory requirement. This was a more efficient way of getting more data from licensees than through the regulatory rulemaking process. The NRC does inspect licensee programs to validate that the PI data provided is accurate. If licensees do not submit the PI data, the NRC has the option to increase inspections and oversight activities to compensate for information not provided.

---

## Resolving Disputes the NRC Way

posted on Mon, 17 Oct 2011 20:15:26 +0000

Did you know that you may have consented to arbitrate a dispute -- if one comes up -- when you agreed to the terms for a credit card? One of the main reasons companies have turned to Alternative Dispute Resolution (ADR), is that it provides an alternative to more costly and time-consuming court hearings and litigation. And, because it is a less complex process, it is generally viewed as beneficial to both parties. Other advantages of using ADR include that practical solutions can be tailored to the parties' interests and needs, that agreements are durable, that some level of confidentiality is assured, and finally, that relationships can be preserved. The NRC's Office of Enforcement (OE) has an [ADR Program](#). The ADR Program is made up of two different sub-programs: "Early ADR" and "Post-Investigation ADR." Early ADR is an informal and voluntary process between an individual and his or her employer (or former employer) in which a trained mediator works with the parties to help them settle their dispute. Early resolution of discrimination allegations tends to preserve relationships and generally promotes a safety conscious work environment by facilitating timely and amicable resolution of discrimination concerns without resorting to prolonged litigation and unnecessary expenses. Post-Investigation ADR may produce more timely and effective outcomes for the NRC and an entity, such as an NRC licensee, certificate holder, or contractor of an NRC licensee or certificate holder. Participation in either early or post-investigation ADR is voluntary. The parties involved may withdraw from the mediation process at any time. If mediation is unsuccessful in the case of early ADR, OE may initiate an investigation into the allegation of discrimination; while, in the case of post-investigation ADR, OE may proceed with an enforcement action. Because ADR is regularly used in the NRC's enforcement program, the NRC is holding a public meeting on November 8, to solicit stakeholder input to ensure that the program provides timely and economical resolution of issues while achieving more effective outcomes and improved relations. We welcome your attendance at this meeting or in providing comments to some of the issues that will be discussed at this meeting. Information on how to do either is in this [Federal Register notice](#). We look forward to meeting you or, if you are unable to attend, hearing from you.

*Maria Schwartz*  
Office of Enforcement

### Comments

comment #2687 posted on 2011-10-18 08:50:23 by Referencement

Very good article !

comment #3161 posted on 2011-11-12 17:33:14 by Task Tasker

Seems to me it is a world wide problem that is being handled in a variety of ways. Ultimately the preservation of relationships of any kind comes down to communication and trust. What do you think?

---

## NRC Gets Thumbs Up from Washingtonian Magazine

posted on Thu, 20 Oct 2011 14:55:33 +0000

The Washingtonian magazine has identified the NRC as one of the region's 50 top companies to work for. The biennial "Great Places to Work" assessment includes a mix of trade associations, government agencies, nonprofits, law firms, information-technology companies, and government contractors. Winners were chosen by a panel of editors and writers that reviewed more than 200 companies and about 13,000 employee surveys, including the Office of Personnel Management survey. This year's winning workplaces were chosen on the basis of such measures as challenging and interesting work, great work/life balance, good pay and benefits, opportunities to learn and grow, financial stability, commitment to charity and community, and the recognition and respect given to employees. We are pleased about this latest recognition of our efforts to provide a meaningful workplace for our employees. It's their job to carry out our important mission to protect people and the environment by regulating the nuclear industry. Attracting and keeping talented staff helps us realize that mission. The November issue of the Washingtonian magazine is now on news stands.

*Beth Hayden*  
Office of Public Affairs

### Comments

comment #3071 posted on 2011-11-07 17:06:45 by Amberoz

I am retired from the NRC. While it did not always seem to be one of the 50 while I was working in retrospect it does not look all that bad. :) Congrats on making the list!

comment #2966 posted on 2011-11-01 15:47:13 by beautiful

Many many heartiest congrats to NRC team members and authorities for achieving this rank in the regional companies. Once again congratulations.

comment #3262 posted on 2011-11-16 12:56:08 by Floyd

I want to thank the NRC team for all of their accomplishments and deserve to be ranked.

comment #3264 posted on 2011-11-16 19:17:12 by Josh Groban

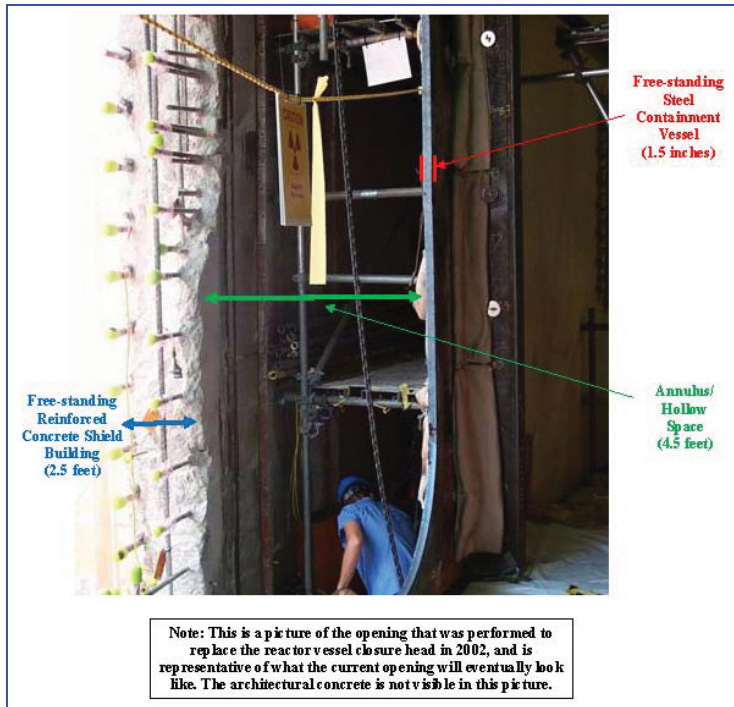
Congrats to the NRC team! Seems like you guys weren't just boasting after all. :)

---



## There Are No Cracks in Davis-Besse's Containment

posted on Mon, 24 Oct 2011 20:10:04 +0000



The NRC was informed by FirstEnergy on

October 10 that it had identified what looked like a crack in the concrete shield building of the [Davis-Besse](#) nuclear power plant in Oak Harbor, Ohio. The plant had been shut down and workers were starting to cut a hole in the side of the building in order to move and replace the reactor head when they found the crack. The shield building is made of about three feet of concrete reinforced with two to three-inch steel rods. It's important to emphasize that the shield building at Davis-Besse is not the reactor containment vessel. That vessel is made of one-inch thick welded steel and sits inside of the shield building separated by about four and a half feet of hollow space. The shield building's primary function is to protect the containment building against external hazards. The steel vessel is designed to keep the radiation inside the reactor from reaching the environment. Because the plant is currently shut down there is no threat to public health and safety. Furthermore, this issue did not meet the NRC's reporting requirements because it did not constitute an immediate safety concern. Nevertheless, the NRC immediately sent a concrete material expert to the plant. In addition, there were already two resident inspectors and specialists from the Region III office in Lisle, Ill., on the site monitoring the reactor head replacement activities. They are now also conducting an independent assessment of this new issue and are reviewing the utility's efforts to understand the issue and any potential safety significance. If there are any challenges identified with the design function of the shield building the NRC will expect the utility to resolve them before restarting. Comparisons have been made between the cracks found at Davis-Besse and cracks in the containment structure at the Crystal River nuclear plant in Florida. However, there are significant differences between the two plants. Crystal River's containment vessel is attached to the shield building serving as a single structure to prevent radiation from reaching the environment whereas at Davis-Besse, the free-standing steel containment vessel, which is separate from the shield building, serves that function. Because of this difference, the cracks identified in the containment structure at Crystal River in 2009 challenge its safety and that is why the plant is currently shut down.

*Viktoria Mitlyng  
Region III Public Affairs*

### Comments

comment #2973 posted on 2011-11-01 22:14:07 by Hank Webber

I'm happy to see we are proactive in this country to make sure our important nuclear plants are safe.

comment #3045 posted on 2011-11-05 02:33:57 by OPSEC

I'd have to agree to an extent- the designers and builders do a great job in protecting our extremely important nuclear facilities. However, they're still vulnerable to the oft-reported poor security practices and procedures.

comment #3265 posted on 2011-11-16 19:18:57 by Floyd

Security is the number 1 most important thing. They need to find a way to cover the crack for the safety of the nuclear power plants.

---

## On the Road With the Regulators

posted on Tue, 25 Oct 2011 20:26:46 +0000



Last week the Society of Environmental Journalists (SEJ) held its 21st annual convention in Miami which, for the first time in a couple of years, included a day-trip with a nuclear focus. The trip started with a visit to a National Park Service solar project on an island at

the outer reaches of the Biscayne National Park. Two houses on Adams Key operate entirely with solar power, though, like nuclear plants, there is a backup diesel generator as a backstop. (Reactors generally have two or more units each the size of a locomotive.) The boat to Adams Key, which has its own interesting history, went past the Turkey Point power plant where a Florida firm operates two reactors. Several years ago the NRC issued a 20-year extension to the original 40-year licenses, and the company wants to put two more reactors on the site. In addition, the firm has asked the NRC for permission to get a bit more power out of the two existing reactors. The site also has three non-nuclear units. Senior NRC official Jack Grobe, most recently a member of the team of NRC veterans who developed recommendations to enhance reactor safety in this country after the Fukushima accident, and myself, accompanied about 40 environmental journalists on the day trip. It was our job to provide information about NRC activities, and later Jack participated in a panel discussion on nuclear issues. Reaching out to journalists and editorial writers, and by extension their audiences, is one of the ways the NRC works to inform the public about what it does. Our message was short and simple – we have one job, and that is to protect people and the environment. On a bus between tour stops, I offered a summary of “who we are and what we do,” and Jack and I took questions – no small feat while standing at the front of a bouncing bus. With one hand on a support and the other holding a microphone, it was a bit like surfing and trying to carry on a conversation. Jack took the question about the work of the NRC inspectors assigned to each of the 104 reactors in this country. As deputy director of the NRC office that oversees the cadre of highly trained experts with that job, he provided a look at the areas of inspection, inspection cycles and what we do if an inspector spots something unusual. The subsequent roundtable discussion got a tad esoteric and delved into some very nuanced issues. It was there that Jack described the NRC Fukushima recommendations, which had been endorsed as an action plan for the agency in an announcement just hours before he spoke. The bus ride question and answer session was fun for us and hopefully educational for reporters and editors, and at the roundtable it as interesting to hear so many different perspectives in one place at one time. Thanks to the SEJ for the opportunity.

*Eliot Brenner*  
Public Affairs Director

#### Comments

comment #2874 posted on 2011-10-27 10:49:40 by Moderator in response to comment #2830

Thank you. We corrected the information in the post.

comment #2830 posted on 2011-10-25 22:42:14 by Merrill

Correction: The non nuclear Turkey Point unites are 2x 400MW oil/gas fired and 1x 1150MW gas combined cycle power plants.

comment #2840 posted on 2011-10-26 13:09:06 by Faiz Ahamed

This was a HUGE MEDIA opportunity to get our message and any other environmental/clean energy group's message out. Approximately 700 environmental journalists are expected. This is the only time we will ever have this kind of easy access to 700 environmental journalists. Quite frankly every enviro/clean energy group in South Florida and beyond can raise awareness, and perhaps receive some media/print coverage...it's a win win.

comment #2853 posted on 2011-10-27 03:48:17 by Henry

I was on this trip too and it certainly was a very educational and interesting trip. Nice to meet all of you. Best regards, Henry

---

### Streamlining Service Delivery and Improving Customer Service

posted on Thu, 27 Oct 2011 13:42:48 +0000

Are you a customer of the NRC? We frequently interact with licensees, industry groups, other federal agencies, states and the general public. Some of these groups (licensees for example) do not fit the traditional definition of a “customer.” Nonetheless, consistent with the basic intent of [Executive Order \(EO\) 13571](#), “Streamlining Service Delivery and Improving Customer Service,” dated April 27, 2011, and subsequent [guidance](#) from the Office of Management and Budget (OMB), the NRC has developed a [Customer Service Plan](#). The plan, posted at our website this week, describes several initiatives we’ve undertaken to streamline our interactions and transactions with key stakeholder groups. In particular, we are focusing on enhancing licensing operations and critical interactions with licensees, and public access to regulatory documents. As part of its guidance, OMB asked each agency to include in its plan three to five key customer service areas and to include a “signature initiative” demonstrating the use of technology to improve the customer experience. The NRC chose online licensing for radioactive material license applications as its signature initiative. Under this initiative, our [web-based licensing system](#) will provide an online platform for individuals and organizations to apply for a new license, renew a license, or amend an existing license for the use of radioactive materials. It will also provide an opportunity for [Agreement States](#) to use the same licensing platform. Additionally, the system will provide a current, nationwide repository for official radioactive materials licenses that will provide an authoritative source that federal and state regulatory agencies can use to verify the validity of a license. Our plan also • Streamlines the process for criminal history background checks • Increases public engagement through improved information access using quick response codes and smartphone technology. • Makes it easier for hearing participants to use our electronic hearing docket (through which the NRC provides access to docket materials related to [High Level Waste and Reactors, Materials, and Other Hearings](#)). • Improves customer service with a new Web-based tool to solicit customer feedback about the [NRC Public Document Room](#). We hope you’ll take the time to read out plan. We welcome your comments on our planned initiatives and any other ideas you may have for streamlining and improving the way we interact with our stakeholders.

*Francine F. Goldberg*  
Co-Chair, Open Government Advisory Group

#### Comments

comment #3248 posted on 2011-11-15 15:53:30 by Moderator in response to comment #2885

Thanks very much for taking the time to comment. I’ve passed your suggestions along to the staff who run our public-facing applications, which include the ones mentioned in the plan and several others. You might be interested to know that our public site uses the Forsee Results tool to solicit feedback and we have found it very useful. Fran Goldberg Co-Chair, NRC Open Government Advisory Group

comment #2941 posted on 2011-10-31 13:02:28 by A Health Physicist

I just submitted a license amendment. The process was made more complicated because I received contradictory from a NUREG and a licensing reviewer. As part of this process you need to update the application form also. I will be happy to be a beta reviewer for this endeavor.

comment #2885 posted on 2011-10-27 17:44:46 by English songs Free Download

I agree that citizens' expectations of government are increasing and I think having focus on energy on the topic is really important. Well, There is a lot of examples/ideas for agencies out there across government. I would like to share a couple of ideas here.. 1.Tools to solicit feedback - there are actually a ton of tools here from Foresee Results surveys to RightNow to ideation sites like UserVoice, Ideascale, Get Satisfaction. Key is to embed the solicitation in the experience of the citizen (for example, right after a transaction....without proper promotion these feedback solutions usually fail) 2.Live Chat - My favorite thing for customer service. I hate when I have to call customer service. Love when there is a live chat box. A few government agencies have this - they all should. 3.Create internal/external FAQ and make it search friendly- What's the first thing you do when needing customer service? You Google the problem. Government agencies should build strong FAQ but more importantly enable the communities sited in example #3 to build a robust library of information. If they organize this information with basic SEO (friendly with search techniques), you will decrease inbound requests as folks will have found the information needed.

comment #3015 posted on 2011-11-03 12:54:08 by atencion a clientes en linea

i agree the live chat is the best form for you give a good service costumer because the poeple only whit see the page have a lot question so the service whit live chat that is the best

comment #3310 posted on 2011-11-20 02:24:36 by Android apps

A prime example is standing up one-stop shop contact centers to make finding information easier. We focus a lot on web and other social media, which is terrific, but the digital divide in this country is huge and many of the people that rely on government just don't have access to these channels. Almost everyone has a phone. When standing up a contact center, it's important to establish and streamline your business case first, then apply the technology. This is true for any automation (see previous blog post). A contact center must have strong quality control and measure both the quantity (number of calls per person per hour) and quality of calls (technical accuracy and customer experience). Contact centers in government are not the same as private sector, and special attention needs to be paid to this delicate balancing act. A final note on government contact centers. Often staff who were trained to do something else (i.e. social workers) are moved to staff the new contact center. It's extremely important to have a strong organizational change and transition component to help people adapt to the new environment and expectations. In short, a contact center is a great focal point for streamlining and improving service. Pay attention to the People, Process and Procedures and driving the Technology and you will see success.

---

## Keeping U.S. Reactors Safe from Power Pulses

posted on Mon, 31 Oct 2011 13:23:08 +0000



The NRC requires U.S. nuclear power plants to be able to shut down safely in the face of many extreme events – tornados, hurricanes and earthquakes. But the NRC also takes into account far more unusual events, like solar flares and electromagnetic pulse (EMP) caused by a certain type of nuclear weapon. Both can affect generators, transformers and other parts of the electric grid – which in turn could affect nuclear power plants. The NRC has been examining these issues for more than 30 years, starting in the late 1970s when the agency studied how EMP could affect nuclear power plant safe-shutdown systems. In February 1983 the NRC issued the study's conclusion: nuclear power plants' safety systems can do their jobs after an EMP event. The agency revisited the issue in 2007 to account for the increasing use of digital computer systems in nuclear plants, which potentially could be more susceptible to EMP. The agency continued to conclude as recently as two years ago that nuclear power plants can safely shut down following an EMP event. The NRC has also examined potential "solar storms" and their potential to damage the electric grid. A strong geomagnetic storm on March 13, 1989, for example, severely disrupted electrical power equipment in Canada, Scandinavia, and the United States. After studying the event the NRC issued an [Information Notice](#) in June 1990, to ensure nuclear power plants understood how severe solar activity could affect transmission systems and other components of the power grid. Additional research in 2010 analyzed and compared solar or geomagnetically-induced current events to those of the EMP events previously analyzed. This work led to the same conclusion as the EMP studies – U.S. nuclear power plants can safely shut down if a solar storm disrupts the grid. The edge of the NRC's authority lies in a nuclear power plant's electric switchyard, where our rules mesh with those of the Federal Energy Regulatory Commission, which oversees the nation's electric grids. Another body, the North American Electric Reliability Corporation (NERC) develops and enforces grid reliability standards. The NRC works closely with FERC and NERC on grid reliability issues, including the effects of solar or geomagnetic storms and EMP. Earlier this year a citizen [petitioned](#) the NRC to revisit the issue of grid disruption, this time focusing on the spent fuel pools at U.S. nuclear power plants. The petition calls for a new rule that would require nuclear power plant spent fuel pools to have emergency systems capable of functioning for two years in the absence of an operating electric grid. The NRC is currently analyzing dozens of public comments on the petition, and the agency expects to issue a decision on the petition in the middle of next year. If you're interested in more details, look at the [letter](#) the NRC sent Congress last month.

*Scott Burnell*  
*Public Affairs Officer*

### Comments

comment #3060 posted on 2011-11-07 08:31:35 by Thomas Levi

I agree with the poster above. The NRC says that it has contracts with local fuel suppliers to get more fuel to emergency generators if

on site supplies are exhausted. That is very troubling considering the plant in Nebraska that was flooded was 88 hours from spent fuel pool boil when it lost power, and the temperature in the pool rose 3 degrees in under an hour. How long do you think those fuel contracts will be honored in the event an attack or disaster destroys large parts of the power grid? Once the power is out all bets are off. After the power has been off two weeks and someone shows up at the fuel company with a bucket of corn (\$3000 in today's money) for a gallon of the nuclear plant's gas who do you think is getting the fuel? I hope this never comes to pass but it is defiantly in the realm of high probability. Hindsight is 20/20 but it boggles my mind how these plants were ever constructed if they can't survive being without power. The NRC must force the power companies to install technologies that will allow SFP cooling until the spent fuel is cool enough that it will not cause a boil. These fixes must be onsite, anything else is futile!

comment #3058 posted on 2011-11-07 05:48:09 by Vomino

It is important to keep nuclear reactors over protected. It is a good thing the NRC is closely looking at this problem. Thank you for this article

comment #2965 posted on 2011-11-01 15:18:16 by Trent

I am very pleased to see the NRC seems to be taking this issue seriously. While, the disruption of the power grid is something that is very disturbing for most people to contemplate, most studies suggest that US power infrastructure is HIGHLY vulnerable to disruption due to power surges and cyber attack. Most government/scientific studies indicate that the US will experience a powerful, possibly grid destroying, solar storm with-in the expected life cycle of our current nuclear reactors. This is completely independent of the threats of cyber attack or intentional nuclear EMP attack. Several nations are known to have these capabilities; all that is lacking is the will to use them. All US nuclear plants must be able to withstand extended power outages with NO RESUPPLY OF FUEL to emergency generators. You stress that the NRC's authority ends at the transmission lines going into the plants. However, you are responsible for the safety of the public from nuclear plants. You admit that you cannot control what happens to the electric grid, therefore, you must institute technologies ONSITE at plants that will allow them to withstand extended blackouts with no resupply of fuel or outside assistance. If you cannot guarantee outside power then you must assure that your plants can withstand such an occurrence. If your "extensive study" of EMP effects have focused on what can be expected in wider society during such an event you should realize outside assistance is doubtful. Most authorities won't even think about your plants till they start getting reports that the spent fuel pools have boiled off and are on fire. It is good to see that you are seriously considering the Popik Petition that you link too. I noticed that all of the comments, nearly 100 of them, on the petition were positive.....except for the one from the nuclear industry "trade" organization (cough, cough, corporate front group) the Nuclear Energy Institute. I hope that you will give the same consideration to the public comments, many of them from nuclear workers, which you give to the one negative corporate comment. I'm sure you are aware of the accusation that the NRC is a "captured" agency under the control of the corporations that you are suppose to regulate. The revolving door between NRC regulators and the nuclear industry seems to support this claim. However, I'm sure that it is just co-incidence and the NRC will use common sense and require these changes be made even in light of nuclear industry opposition. It is troubling that the nuclear industry seems to put costs above public safety, but then when you consider that their liability is limited in the event of an accident it is no surprise. In closing, I strongly urge the NRC to make all of its plants able to survive extended (up to two year) power outages. Whether they are caused by solar flare, EMP, or cyber attack, the results will be the same no power to cooling systems and SFP's. Here are before and after photos from a cyber "accident" at a power generating station in Russia. The plant was off line and a technician 500 miles away restarted it remotely over the internet. I leave this for your consideration. <http://www.washingtontimes.com/news/2011/sep/13/computer-based-attacks-emerge-as-threat-of-future-/?page=all>  
[http://www.boston.com/bigpicture/2009/09/the\\_sayanoshushenskaya\\_dam\\_acc.html](http://www.boston.com/bigpicture/2009/09/the_sayanoshushenskaya_dam_acc.html)

## Taking Out The "Gov Speak"

posted on Wed, 02 Nov 2011 15:04:56 +0000



Writing government information in "plain language" doesn't sound that difficult. But avoiding jargon and "government speak" takes extra effort and attention. The NRC recently rewarded one of its own, Information Technology Specialist Laura Metzgar, in the agency's first annual Plain Writing Contest. Laura set her sights on improving a section of the Congressional Budget Justification. This document provides details and explanations for our annual funding requests to Congress, but since it's written by committee it often isn't as understandable as it could be. Laura took on the challenge of turning the following paragraph into clear, concise English while still conveying all the same information. Original Text: The budgetary resources will enable the NRC to continue licensing and regulatory activities to ensure the safe and secure operation of these civilian nuclear reactors. The NRC has organized Operating Reactors Business Line activities into product lines that best support safety and security strategies that impact strategic outcomes as they relate to existing civilian reactors. The resources requested support the Operating Reactors Business Line within the following seven product lines: Licensing, Oversight,

Rulemaking, Research, International Activities, Generic Homeland Security, and Event Response. The outputs of these product line activities contribute to the scoring of the NRC Safety and Security Performance Measures and their contribution to achievement of the desired Strategic Outcomes. The original paragraph is 111 words. Note that the second sentence alone is 30 words, and has four verbs! Laura rewrote the section. Revised Text The Operating Reactors business line consists of seven product lines that represent the licensing and regulatory activities to ensure the safe and secure operation of civilian nuclear reactors. The product lines are Licensing, Oversight, Rulemaking, Research, International Activities, Generic Homeland Security, and Event Response. The performance scores for these product lines contribute to the overall score for the agency's Strategic Outcomes. The revised paragraph is 61 words. The original text has a Flesch-Kincaid Grade Level rating of 20.2—basically requiring 20 years of education to understand the text. The grade level score of the rewrite is 17.1. A definite improvement! The NRC is continuing to look to ways to improve the clarity of its writing for the public. You can make suggestions on how we can do that in the comments section below. For more information, visit the new [Plain Writing section](#) of the NRC's website.

*Glenn Ellmers*  
*NRC Plain Writing Chairman*

### Comments

comment #3068 posted on 2011-11-07 12:55:07 by Seth Jared

Bravo! Now if we could only apply this to Congressional legislation. On the other hand, lawyers and politicians have long used complex language to mask the truth meaning of government rules and laws to the average person. What will happen when the average

person can make sense of these things?

comment #3016 posted on 2011-11-03 13:12:02 by atencion a clientes en linea

we need talk whit the government because they hide a lot thing for our welfare

comment #2995 posted on 2011-11-02 13:20:56 by Jane Swanson, Mothers for Peace

Can Plain Writing be included in Federal Register Notices?

---

## Setting the Record Straight

posted on Wed, 02 Nov 2011 18:22:45 +0000



At 2:32 p.m. Pacific Time on Nov. 1, workers at the [San Onofre Nuclear Generating Station](#) in California smelled ammonia in the south end of the Unit 3 turbine building. The leakage was traced to a storage tank adjacent to the turbine building. The leak was reported to the control room and announcements were made over the site's public address system advising workers to stay clear of the turbine building. NRC inspectors performing baseline radiation safety inspections responded to the Main Control Room and Technical Support Center. John Reynoso, the resident inspector, was offsite and responded to the site to monitor the scene of the leak near the Unit 3 turbine building. (Resident inspectors are assigned to all nuclear power plants so that the NRC has "ears and eyes" on the ground.) Within minutes, the station manager declared an "Alert," because some vital areas within the turbine building had become inaccessible. An Alert is the second of four emergency declaration levels and is declared, according to NRC regulations, when events could involve an actual or potential decline in the level of plant safety. Further investigation revealed the storage tank was leaking ammonia at the rate of about one gallon every ten minutes. Workers were able to stop the leak by 5 p.m. The Alert was terminated shortly after 6 p.m. Both units remained stable and operating at full power. No radiation was released. There were no personnel injuries reported, and all leakage was contained onsite. But it was the first Alert declared at San Onofre since 1999, when a suspected pipe bomb was found on the freeway nearby. As might be expected, it generated intense media interest, with coverage in 473 different venues overnight, according to a Google news search. The NRC resident inspectors will review the licensee's response to the event, including the promptness of their efforts to stop the spill and corrective actions taken to prevent recurrence.

*Victor Dricks  
Region IV Public Affairs Officer*

### Comments

comment #3001 posted on 2011-11-02 21:19:05 by Bob Connor

Why would a nuclear plant have ammonia? The only reason I could think of would be refrigeration of something but could that not be something else. Unless this happened in a janitor's closet. Actually, the media does report ammonia leaks. In our area, we have a fish market called Wholey's. About every 2 years they have an ammonia leak because the place is old and they use it as a refrigerant. They often have to evacuate the area around Wholey's but the next day, everything is fine.

comment #3000 posted on 2011-11-02 19:26:02 by SteveK9 in response to comment #2997

I think it is less a 'green agenda' than simply a way to make money. Sensational stories generate revenue. If/when the public ever comes to view these with a yawn, they will disappear as stories. I think the NRC review of what happened definitely puts it into perspective. I just don't know how much of this reaches the public.

comment #3014 posted on 2011-11-03 12:31:40 by Moderator in response to comment #3001

Ammonia is used to clean filters that help purify water before it is sent to the plant's steam generators. These produce steam used to turn the blades of turbine generators, producing electricity.

comment #2999 posted on 2011-11-02 17:33:12 by English songs

Incredible. Its a toxic chemical. Its 25 gallons. They moved everyone away from the area as a precaution. There is nothing more to this story. I don't see people getting up in arms every other time a few gallons of any toxic chemical get spilled. Other than this happening on a nuclear site, this has nothing to do with nuclear anything. Please, in all fairness, I want everyone here to report to the world every time they spill some Windex, or bleach, or their AC in the home or car leaks. Don't forget to report when the oil pan in your car starts leaking to the EPA. Regulations are there to protect the public and the environment, not to cause a panic every time some ammonia spills. SONGS followed procedure and reported the spill. I am amazed people don't have more heart attacks based on how worked up they get over inconsequential events.

comment #2997 posted on 2011-11-02 15:40:21 by James Greenidge

These kind of peripheral non-nuclear related mechanical events can't much reassure the (media-generated) public perception that all nuclear reactors just can't wait to pop a leak like a balloon and "blow". Why can't the NRC and the atomic industry proclaim these sort of "obvious" non-reactor related incidents as "Non-nuclear Incidents" from the get-go? It's a good bet that if it's happening in the turbine building or the cafeteria that the reactor itself is not the guilty party. You KNOW the media can't wait to jump even at a

reactor worker sneezing to alarm a jittery scientifically unenlightened public (for their own "green agenda reasons") that "something's the 'matter with the nuke". James Greenidge Queens NY

---

## The Role of a Meteorologist at the NRC

posted on Fri, 04 Nov 2011 12:55:19 +0000



Most of us rely on meteorologists to tell us what the weather will be like on the weekend or if a hurricane will hit our town or how many inches of snow we might expect. But meteorologists at the NRC play a different – and very important – role in this country. We help determine how weather conditions can influence the design and location of new nuclear power plants. Specifically, meteorologists from the agency's Office of New Reactors assist in reviewing license applications for new plants, selecting sites for possible future plants, and assessing new plant designs. For example, meteorologists such as myself determine whether the new plant may affect areas close to the site through the release of heated water vapor from the cooling towers. We also model the effects of the plant using local site data to determine if there will be any changes in local or regional air quality conditions. Equally important to our work is reviewing how the weather affects the plant. This includes studying how different types of severe weather, such as large amounts of rain and snow, hurricanes, tornadoes, and high and low temperatures can affect how the plant is designed and operates. All of these conditions are examined to ensure the plant

stays safe during severe weather conditions. Each new plant site has a weather station that measures wind speed, wind direction, temperature, and rain. We visit these weather stations to ensure that they are providing accurate weather data. The weather data are reviewed by the meteorologists and processed by computer programs so that the NRC health physicists can use the results to study how well the plant is protecting people and the environment. Although the weather is generally unpredictable more than a few days in advance, we use all available resources to help ensure any new nuclear plant can operate safely during its lifetime!

*Kevin Quinlan*  
*Meteorologist*

### Comments

comment #3064 posted on 2011-11-07 10:42:53 by Ade

I wonder what there doing in Japan in regards to this with the recent episodes.

comment #3059 posted on 2011-11-07 06:03:26 by Vomino

I didn't know the NRC had meteorologist... Thank to this article i do fully understand why they are so important to improve nuclear plants locations. Do the NRC have other specialists more than meteorologist and architects to find the right places to build a nuclear plant? Thank you for these useful informations.

comment #3065 posted on 2011-11-07 11:17:52 by Susan Sterrett

You wrote: "Equally important to our work is reviewing how the weather affects the plant. This includes studying how different types of severe weather, such as large amounts of rain and snow, hurricanes, tornadoes, and high and low temperatures can affect how the plant is designed and operates. All of these conditions are examined to ensure the plant stays safe during severe weather conditions." I can't help but notice that you did not mention the effect of heat radiation: that the sun radiates heat to surfaces when it is shining, and that surfaces radiate heat back to the night sky when it is not. The effect on objects of all sorts varies not only with time of day, but with season of year and with the latitude of the location of the plant. The effect can depend upon how many consecutive days of elevated or low temperatures have occurred, too.

comment #3035 posted on 2011-11-04 11:20:07 by James Greenidge

I'm not being facetious, but is 70% of this almost picky attention to micro-details to weather (in this case alone) really just regulatory overkill to placate nuclear jittery communities and assuage anti-nuclear lobbyists? Try as I might, I just can't find any mentions of on-site "weather stations" or construction weather considerations regarding gas or oil or -- even more worrisome, chemical plants that aren't protected from the elements by several meters thick of reinforced concrete yet, unlike nuclear power for almost fifty years, have had sorry occasional track records at killing off hundreds and thousands of lives and wiping out local neighborhoods around the world at one quick swipe. In this, there seems something almost blatantly uneven and biased by demanding far more super-excessive safety demands of nuclear power than these industries when rare non-fatal/low damage incidents as TMI and Fukushima are quickly showing that meltdowns aren't the mass-killer Doomsday bogeymen that PC nightmares cracked-up to be. James Greenidge Queens NY

comment #3070 posted on 2011-11-07 15:31:20 by Peterborough Website Design Experts

Meteorology is a very important science which I think the public at large take for granted. Today they have been a small change in the world global climate pattern, only these experts can tell us, if these changes are reversible or not. Moreover meteorologist can educate all of us about the impact of our actions on the climate and on plants and nature, unfortunately for some strange reason, meteorology science always keep a low profile until a catastrophic event like a tsunami takes place, then they are brought to the front to explain what has happened. These experts need to make their voice heard before we have natural disasters.

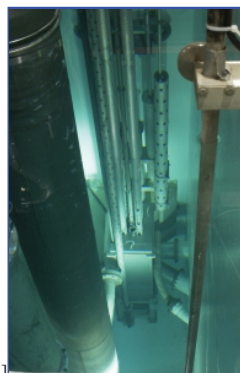
comment #3351 posted on 2011-11-23 00:32:13 by Loss Assessor

I personally think that the role of a meteorologist is very challenging but at the same time very interesting also.

---

## The Nuclear Reactors That Power Knowledge Not Light Bulbs

posted on Thu, 10 Nov 2011 14:20:26 +0000



[caption id="attachment\_1913" align="alignleft" width="195" caption="A research and test reactor"]  
In addition to regulating commercial nuclear power reactors that generate 20 percent of the nation's electricity, the NRC also regulates much smaller reactors used for research, training and development. These "research and test reactors," often called RTRs or non-power reactors, contribute to almost every field of science including physics, chemistry, biology, medicine, geology, archeology, and environmental sciences. Most are located at universities or colleges. (The NRC does not regulate research reactors run by the Department of Energy.) The most common use for these small reactors is for experiments. One widely used type of experiment is neutron scattering. Radiation from the reactor is directed at the material to be studied. The manner in which the radiation interacts and bounces off, or scatters, from the material provides information on structure and properties. Neutron scattering is an important tool in experiments dealing with superconductors, polymers, metals, and proteins. Neutron radiography is another experimental technique. It is similar to medical or dental X-rays. These experiments are used to determine structural integrity and provide quality control for aerospace, automotive and medical components. NRC experts inspect each RTR periodically to ensure they are being operated according to the agency's safety and security requirements, and the facility's own license conditions. The NRC uses a graded approach in its inspection program so there are less frequent and detailed inspections at facilities that pose a lower risk. There are two types of inspection programs for operating research and test reactors: • For reactors licensed to operate at power levels of 2 megawatts or greater, the inspection program is completed annually. • For reactors licensed to operate at power levels below 2 megawatts, the inspection program is completed every two years. Those reactors which are shut down but not actively decommissioning have an abbreviated inspection program every three years. To be licensed, research and test reactor operators must have the required knowledge, skills and abilities to control the reactor during both routine operations and emergencies. As part of the initial operator licensing process, NRC prepares and administers a comprehensive written examination and a hands-on operating test. Operators who successfully complete the exams are licensed for six years at that specific location only. Operators must also pass a comprehensive written test every two years and an annual operating test. All research and test reactors are designed to use only a limited amount of radioactive material on site, which makes them very low risk for radiological contamination or theft of nuclear material. Security requirements for these facilities vary depending on how much material they have. For more information on research and test reactors and how they are regulated, go to: <http://www.nrc.gov/reactors/non-power.html>.

*Cindy Montgomery*  
*Office of Nuclear Reactor Regulation*

#### Comments

comment #3086 posted on 2011-11-08 17:59:36 by [clarke@kratoplants.com](mailto:clarke@kratoplants.com)

I never knew that there were test nuclear reactors. Neutron scattering must have a wide application w/ many different types of materials.

comment #3268 posted on 2011-11-16 22:35:14 by Clarisa R.

This was a very interesting read. I did not know about these test reactors, and I can see why they might be very useful if not vital for future use. Scattering Neutrons, I did not know that this could be done. Thank you for informing us.

---

## Don't Stress – It's Only a Test

posted on Wed, 09 Nov 2011 13:55:02 +0000



At 2 p.m. EST today, the [Federal Emergency Management Agency](http://www.fema.gov) and the [Federal Communications Commission](http://www.fcc.gov), along with National Oceanic and Atmospheric Administration, will conduct the first nationwide test of the Emergency Alert System. The test will last about 30 seconds and be transmitted via television and radio stations. Similar to local emergency alert system tests, an audio message will interrupt television and radio programming. When the test is over, regular programming will resume. The national Emergency Alert System is an alert and warning system that can be activated by the President, if needed, to provide information to the American public during emergencies. While the system is often tested in local markets, a nationwide test is being done to further evaluate and, if necessary, improve the system. For more information about the nationwide Emergency Alert System test, go to <http://www.fema.gov> and [www.FCC.gov](http://www.fcc.gov). So don't worry if you hear the tone – it's just a test!

*Eliot Brenner*  
*Public Affairs Director*

#### Comments

comment #3509 posted on 2011-11-29 09:53:15 by ukmark

I don't think we have anything like this in the UK.

comment #3398 posted on 2011-11-25 04:39:42 by Work Schedule Maker

Executing this test is very important so that people will know that the government has a direct communication to all people whether from radio or t.v in case of emergency, also Having this kind of test is a kind of drill to the people.

comment #3427 posted on 2011-11-26 08:13:42 by live

We currently have liaison officers and Incident Management Assistance Teams in the Virgin Islands and Puerto Rico emergency operations centers, working with territory and local officials to identify needs and shortfalls impacting potential disaster response and recovery.

comment #3502 posted on 2011-11-29 03:41:39 by earl libby

It would be interesting to find out the results of this test? Hopefully it went smoothly and hopefully the real thing will not be needed.

comment #3499 posted on 2011-11-29 02:56:46 by Android apps

Wonderful timing, now all the armageddon nuts and their subjects, (Nibula planet, galactic alignment, polar shift, ad nauseum..) are all going to say, "See!! Told ya so!!". ugghhhh

comment #3214 posted on 2011-11-14 07:38:06 by Caroline Sound

Hope it went well and was of use to those trying to plan for future disaster response.

comment #3298 posted on 2011-11-18 23:35:51 by peter

Does anyone know where I could see the results of this test ?

comment #3266 posted on 2011-11-16 21:25:11 by Prabhu

The methodology of the test shows how important it is to have the emergency team with the right aptitude and attitude. Kudos America !

comment #3288 posted on 2011-11-18 02:37:13 by IT Outsourcing Philippines

It is right that they'll perform a test of the National Emergency Alert System, so that the public may know their National Emergency Alert System is still working, also I'm sure that not all people know about this, so this is a kind of introducing it to the public.. This Alert System is very important to inform people ahead of time about the future disaster..

comment #3284 posted on 2011-11-17 17:15:56 by Telemarketing Uk

Does anyone know where I could see the results of this test ?

comment #3285 posted on 2011-11-17 19:45:28 by Mark Shore

I also hope it went well. I only wish my country had a similar system.

comment #3286 posted on 2011-11-17 20:04:55 by Marketing Consultant

It would be interesting to find out the results of this test? Hopefully it went smoothly and hopefully the real thing will not be needed.

comment #3292 posted on 2011-11-18 09:40:00 by Moderator

Read what FEMA says about the test results and next steps here: <http://blog.fema.gov/2011/11/emergency-alert-system-has-been-tested.html>

---

## NRC OKs Restart of Dominion's North Anna Nuclear Power Plant

posted on Fri, 11 Nov 2011 18:32:09 +0000

The NRC is satisfied that the North Anna nuclear power plant in Virginia is safe to restart, almost three months after a nearby magnitude 5.8 earthquake forced the plant to shut down. The NRC resident inspectors were on-site when the quake occurred Aug. 23, and they monitored the plant's safe shutdown and performed initial inspections. The NRC sent additional inspectors to North Anna in September and October to gather more information on the plant's response to the quake. A team of NRC technical experts has spent the past two months examining those inspection results and additional analysis from North Anna. The team also asked the plant's operator, Dominion, for more information. The team's work covered the entire plant, from piping (including buried pipe) to nuclear fuel to pumps, valves and emergency diesel generators. The NRC's restart approval isn't the end of the story, though – NRC staff, including the resident inspectors, will be at the plant around the clock the next few days, observing Dominion's deliberate steps to bring the plant back to full power. The NRC will also monitor Dominion's efforts to meet several long-term commitments, including installing better earthquake monitoring equipment and reanalyzing the plant's ability to withstand future quakes. The NRC met with the community near North Anna on Oct. 3 to discuss the agency's first full inspection after the quake, and on Nov. 1 to discuss the restart readiness inspection findings and the staff's technical review. The NRC also held public meetings at the agency's Rockville, Md., headquarters Sept. 8 regarding Dominion's initial assessment, and on Oct. 21 to brief the Commission regarding the plant's response to the earthquake. Video from both headquarters meetings is available on the NRC's [Webcast archive](#). The NRC also has a [Virginia earthquake Web page](#) with more information about the event and the agency's response.

*Scott Burnell  
Public Affairs Officer*



## Comments

comment #3149 posted on 2011-11-11 13:48:31 by Nancy

Interesting...the Commissioner of the NRC, Jaczko, on Thursday November 10 at about 6:30 said this "...the NRC was close to deciding whether that plant (North Anna ) can restart. He said he had not yet seen the final recommendations from the NRC staff and that he could not comment further." On November 11 at about 1 PM the NRC issues a press release saying North Anna will be restarted. He must have read the final recommendations really fast. Nancy

comment #3160 posted on 2011-11-12 15:58:47 by Sam The Fire Safety Training Man

Sounds like the power plant is ready to move on from this blip. A significant amount of depth is always needed when ensuring safety standards are met for the restart to happen. We can all gain a great amount of confidence when the NRC give it's approval!

comment #3179 posted on 2011-11-13 15:22:06 by Promi

A really interesting article. Ultimately, anyway, it all comes to nuclear power, whether we like it or not. How else can such a huge demand for electricity at a cheap price also be possible otherwise? Most people lie anyway .. what a moment before they take on eco ... in another moment they relate 100% nuclear power!

comment #3340 posted on 2011-11-21 17:57:47 by Kalo

I think it will be best for everyone if we do like Germany and make plan for non-nuclear energy after let's say 10 years. We all know what disaster happened very recently in Japan and we all fear from same thing. But on other side this restart is very positive for the economy which now is not at its perfect condition.

comment #3348 posted on 2011-11-22 17:24:39 by Bill the Diesel Mechanic

Regarding NRC's of Dominion's long term efforts, I am curious what sort of protocols the NRC is looking for regarding the emergency diesel generators and upgrading that architecture to withstand earthquakes. As we saw from Japan, the diesel generators on-site don't do you much good if they get completely incapacitated during the quake...and it may not be easy or fast to bring in OTHER diesel generators and get them wired in.

---

## The Reactor Safety Study: The Birth, Death and Rebirth of PRA

posted on Tue, 15 Nov 2011 19:43:34 +0000

[caption id="attachment\_1952" align="alignright" width="244" caption="Saul Levine, above, and Norman Rasmussen directed the project."]



[[caption] It almost died at birth. The granddaddy of all probabilistic risk assessments (PRA), the 1975 Reactor Safety Study (WASH-1400), was greeted with such withering criticism that the Commission disavowed the report's executive summary -- a public humiliation that seemed to consign its work to irrelevancy. However, this accident study was rescued by a major reactor accident. WASH-1400's origins and troubles were rooted in the Atomic Energy Commission's role as a promoter of nuclear power. AEC officials wanted to convince the public that reactor accidents were very unlikely, but until the late 1960s, engineers lacked useable data and accepted risk-assessment methodologies to prove it. By 1971, NASA and aircraft manufacturers had developed "fault-tree analysis" tools that could be applied to reactor systems to calculate the probability of complex chains of equipment malfunctions. Fault trees were adept at uncovering unexpected system vulnerabilities, but the numerical odds that they produced of core meltdowns were realistic only with sufficient data and imaginative engineers who could identify the many important malfunction sequences that could lead to a meltdown. And that was a tall order for an accident that had never happened before. Nevertheless, some AEC officials wanted to use fault trees to prove reactor safety by comparing meltdown frequency and consequences to other human-made and natural catastrophes. MIT professor Norman Rasmussen and AEC staffer Saul Levine directed the \$3 million, three-year project. They improved fault-tree methodology far beyond previous efforts, but limited data made its calculations uncertain. Nevertheless the WASH-1400 team presented the very low accident probabilities in the executive summary with an assurance that belied its underlying uncertainty. Critics attacked the study's calculations with such vigor that in 1977 the NRC created an outside review committee under Professor Harold Lewis, a physicist at University of California Santa Barbara. The Lewis report praised WASH-1400's methodology but excoriated some of its "indefensible" calculations, "incoherent" language, and an executive summary whose "soothing tones" ignored the uncertainty in its probability estimates. The Commission accepted the findings and cautioned the NRC staff to apply PRA techniques with caution. Tom Murley, later the director of the Office of Nuclear Reactor Regulation, recalled the decision "had a chilling effect on the staff." PRA was dead. For two months. The 1979 Three Mile Island accident destroyed a reactor, but it saved a report. WASH-1400 had foreseen small loss-of-coolant accidents and operator error as significant contributors to a meltdown risk, as had occurred at TMI. Post-accident blue-ribbon commissions called for greater use of risk assessment, and PRA slowly returned to the regulatory conversation. By 1982, NRC Chairman Nunzio Palladino observed that PRA was important to licensing reviews, regulatory requirements, new reactor designs, and establishing priorities for research and inspections. Freed from the

promotional pressure of proving reactors the safest of all technologies, PRA could simply focus on making reactors safer – something it is still doing today.

*Tom Wellock  
NRC Historian*

#### Comments

comment #3347 posted on 2011-11-22 12:48:06 by Michael Pugh

Commissioner Apostolakis has in several of his early papers credited Professor Reg Farmer's 1967 paper (which introduced a frequency/consequences Criterion based on the release of Iodine-131) as the beginning of PRA. The Chief Engineer of the UKAEA Steam Generating Heavy Water Reactor (SGHWR) Design Office gave me a copy of this paper in April 1968 and asked me to use it to optimise his design. I found it impossible to use in its original form, and concluded that the way to do the optimisation was to complete a whole plant risk assessment. I persuaded Prof. Farmer (through intermediaries, since I was a basic grade engineer at the time.) to accept the need for a whole plant analysis, to change the slope of his Criterion to -1 from -3/2 and to define his Criterion for releases below 1,000curies on a good neighbour basis. I wrote a paper in August 1968 to tell the designers the unwelcome news that in future they would have to design each of the reactor systems to a reliability target. In this paper [TRG Report 1949(R)] I introduced diagrams (which WASH-1400 called Event Trees) to determine which accident sequences led to core damage and by knowing the initiating event frequency and the reliability target for each system (failure per demand) was able to calculate the frequency of all the end points in the sequence diagram. The whole plant risk being the sum of all sequences which cause core damage. We also adopted a lower limit on frequency where no further work was needed. This can save a lot of money. I believe the cost of WASH-1400 was reported at the time to be \$6 million not the \$3 million quoted by you. When the Lewis Committee reported at its Press Conference the spokesman said :- "...there is nothing fundamentally wrong with WASH-1400, it is, after all, only the application of logic to engineering design." I cannot totally agree with this. Had it been truly logical WASH-1400 would have put the junction points in the event trees in the middle of the columns and not on the boundary between two systems. This would have ensured that everyone would have been clear which system was failing. I once wrote to NRC asking whether my paper influenced WASH-1400, I received a polite but firm reply that his job was to promote the things NRC had done. There can be no doubt my paper was available to the WASH-1400 project, because it is misquoted in Appendix III. The author of this Appendix took the failure probability I set for a relief valve system and used it as the failure rate for a single valve. The number of people, often senior workers in PRA, who talk as though probability and frequency are interchangeable quantities always surprises me. Although my paper was written in August 1968 I was not allowed to publish it until Prof. Farmer had published a revision to the slope of his Criterion. My paper was further delayed by UKAEA editors because I wanted to criticise the AEC use of a Maximum Credible Accident (MCA) approach. This was hiding the fact that the reliability targets for most reactor safety systems are set by the less severe but more frequent accidents than the MCA. In the end I was allowed to criticise MCA but not the AEC and my paper was published in early 1969.

---

#### Free Doughnuts -- NOT

posted on Fri, 18 Nov 2011 15:32:29 +0000



If we could send doughnuts electronically, we would, but we haven't figured out how to do that to entice you to help us shape our agency to be more open. We need to hear from you on the following: • How well are we doing on transparency, participation and collaboration? What are the strengths, weaknesses, opportunities, and challenges? • How can we help more people to participate in our regulatory process? • What new initiatives should we pursue in our Open Government Plan over the next two years? • Has our work to date been useful to you? Take a look at our [Open Government Accomplishments in 2010 – 2011](#), the [High-Value Datasets](#) we've published, and the goals in our [Flagship Initiative](#) and let us know if you think we've been working on the right things. • How can we better serve the public? The NRC's Open Government Advisory Council is reaching out by hosting an event— What: A public webinar When: December 6, 10:00 am to 12 noon (Eastern time) How: See the [meeting notice](#) Can't make December 6? Send us your thoughts at [open@nrc.gov](mailto:open@nrc.gov). Your voice is important for our next update of our Open Government Plan.

*Francine F. Goldberg  
CoChair, NRC Open Government Advisory Council*

#### Comments

comment #3385 posted on 2011-11-24 14:15:24 by Franc

Tsk, really disappointing! I was expecting to get some delicious doughnuts.

comment #3336 posted on 2011-11-21 14:12:00 by Alex Esteban in response to comment #3293

I agree. I can't even find it.

comment #3337 posted on 2011-11-21 15:00:24 by Moderator in response to comment #3294

Yes, Data.gov does require you to create a user account to suggest a dataset. As an alternative, you can use the Online Comment Forum at <http://www.nrc.gov/public-involve/open/contactus/contact-form.html> on our public Web site and select "Opinions about what additional datasets the NRC should publish" as the "Type of Input."

comment #3338 posted on 2011-11-21 16:15:55 by Moderator

Our phone directory is on our "Contact Us" page here: <http://www.nrc.gov/about-nrc/contactus.html> . The Contact Us link can be found at the top of each page, above the masthead.

comment #3324 posted on 2011-11-21 02:03:43 by David Bueford

Live feeds of meetings and blog casts are always helpful especially since more people have smartphones.

comment #3294 posted on 2011-11-18 12:51:16 by asparagusutter

IN an effort to submit a data set as NRC suggested, my efforts encountered a requirement to establish a Socrata account Thanks for your thick transparency.

comment #3293 posted on 2011-11-18 10:48:01 by Leon Whitney

It is hard to find the NRC staff phone directory from the NRC web home page. I had to do a search on "phone directory" rather than drill down from the home page.

---

## An Open Forum Now Available

posted on Sun, 20 Nov 2011 21:03:45 +0000



The NRC welcomes comments on the topics we're blogging about. But we realize there are other topics you might want to talk about. This post serves as the Open Forum section of the NRC Blog. You may post comments here on any topic relevant to the role and mission of the NRC. Comments here are still moderated and must adhere to the Comment Guidelines. If we determine a comment on another post is more appropriate here, we'll move it over. This post will stay open for comments and not be subject to the 30-day comment period of other posts. You can always find this post by clicking on the Open Forum category on the side bar.

*Holly Harrington*  
NRC Blog Moderator

### Comments

comment #282 posted on 2011-03-10 12:22:26 by Peter Van der Does

Thank you for the opportunity to comment. In a few days the NRC will likely give Vermont Yankee another license period. This is the same plant which has had a cooling tower collapse , a two story transformer fire ,unaccounted for missing fuel rods , cracks in the steam dryer and Tritium , Cobalt 60 and Ziinc 55 found in the groundwater test wells nearby and I won't repeat the earlier post about Strontium 90 in the fish in the nearby river. In a recent NRC report ( 2009 ? ) the estimate for a severe accident was every 1 million hours of man-operations. That works out to every 114 years. I suppose "severe accident" is a euphemism for a meltdown. Great research guys ! The 4 partial meltdowns we've had in the US were all within 15 years of starting operations : Simi Valley , Idaho SL-1 , Enrico Fermi and TMI. Your Radioprotection Health Officer , a nice woman who I've met , would be interested to know that a health study was done and the 6 towns surrounding Vermont Yankee were found to have a slightly higher incidence of Leukemia in comparison with the rest of the county. Please forward this comment to your chairman. Thanks.

comment #203 posted on 2011-02-25 10:27:15 by Moderator in response to comment #95

It's not clear what reviews or reports you're referring to, but here are some links that might be helpful: How the NRC reviews new plant designs: <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/new-nuc-plant-des-bg.html> How the NRC reviews new reactor applications: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0298/> How the NRC reviews reactor license renewals: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0291/> Moderator

comment #286 posted on 2011-03-11 10:32:12 by Dan

Is the NRC staff following the recent news from the earthquake in Japan? Can you post some reliable technical information regarding the impact of the earthquake on Japanes nuclear facilities? What is the significance of the evacuations that have been ordered due to "failure of backup generators"?

comment #71 posted on 2011-02-07 16:01:35 by Moderator in response to comment #69

You can learn more about the NRC's license renewal process for existing nuclear power plants here: <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/license-renewal-bg.html> .

comment #51 posted on 2011-02-04 16:15:57 by Moderator

Thank you for the opportunity to speak out. The NRC allowed Vermont Yankee to forgo the ASME 10 year welds exam scheduled for 2010 and replace it with their own welds exam while Vermont Yankee has had the same internal radioactive leaks due to old welds in the same area two years running !?! The Connecticut river now has Strontium 90 found in the fish in proximity to the Vermont Yankee nuclear power plant. Strontium 90 which the EPA says on their website causes Leukemia and bone cancer. Strontium 90 which has a half-life of 27.8 years and was produced at Vermont Yankee as effluents in 2002 , 2003 and 2004. We can collectively thank the NRC for contributing to the health of the American people. Peter Van der Does Moderator: This comment has been moved here from a different post.

comment #52 posted on 2011-02-04 16:17:30 by Moderator

When will the NRC be releasing SER, Volume 3? What is the rationale for holding it up and how does this support the commission's commitment to openness and transparency? Frank Moderator: This comment has been moved here from a different post.

comment #53 posted on 2011-02-04 16:18:47 by Moderator

I am concerned about the aging nuclear reactors in the US. Recently there have been multiple incidents — scrams — that indicate less than secure conditions. I believe the public is being kept in the dark about the danger they are in because of the lack of repairs and continued use of aging nuclear reactors. I would like to see them all shut down, and replaced by solar and wind systems. Kathryn Barnes Moderator: This comment has been moved here from a different post.

comment #54 posted on 2011-02-04 16:20:13 by Moderator

The NRC Chairman's recent actions regarding suspension of Yucca Mountain staff review of the license application is a disgrace to the NRC as an agency. If one person, chairman or not, can stop a licensing proceeding the stability of the NRC licensing process is undermined. NRC's only job should be nuclear safety — not political favoritism. Not allowing the Commission vote on the Yucca Mountain CAB ruling is nothing short of a coverup. So much for openness in government. Joe Ziegler Moderator: This comment has been moved here from a different post.

comment #55 posted on 2011-02-04 16:26:52 by Moderator

Public Participation Wondering if you will make this a separate NRC blog issue? (The point I make, is public participation fun for the NRC, they don't take it as a serious business. NRC "having fun" over Vermont Yankee 2.206 So I am on the phone bridge this morning Feb 3, 2011 at 9am, I identify myself to the mechanical voice message system, then I am just kind of waiting around in silence on the phone waiting for them to push the button to join the conference. I assume there are people on the voice bridge, and then there are NRC officials in one or more rooms on a speaker phone device. All of a sudden I hear a click, I hear the snippet "and have a little fun", then I hear the talking of all the NRC officials, then the "welcome to this is a 2.206 petition...". All the background chatter of the officials stops... then we are off to the races with the 2.206 processes. From this point on everything is recorded in the NRC ops center and it is transcribed for addition into the public record. They do the introduction, then they give me the microphone so to speak. I say I got to get this down on the record. I just heard a snippet of "and have a little fun" when I first came into the meeting, when I was connected to the phone bridge... what did you mean by this? It was a male voice talking to a female. I am thinking two NRC officials were talking about outside activities, but you never can tell what is behind it. I said to myself too, they just might be talking about have having a little fun with me in the meeting. The chairman of the petition board pops up explaining on my phone, "I was introducing a new NRC official to the petition board and I was telling her to have a little fun as she participates and listens to your review board" concerning tritium and root cause analyze issues at Vermont Yankee. I want to force a shutdown of VY and remove the licenses of all the Entergy nuclear plants, or at least get peoples attention... Can you imagine a 2.206 petition meeting chairman indoctrinating a new NRC official into the petition process by saying have a little fun with it. Are they all laughing and making faces behind my back as I am stuttering and fumbling my way through my speech. Are they laughing and having a little fun over us all? Mike Mulligan Moderator: This comment has been moved here from a different post.

comment #56 posted on 2011-02-04 19:15:15 by James E. Foster

Since at least 1982, NRC Office of Investigations (OI) personnel at grade levels of GS-12 - 14, and GS-15 have been misclassified as series 1811, "Criminal Investigator." To be classified in this series, an individual must meet most of the "frontline law enforcement" factors, and have them largely constitute the position duties: 1. Perform investigations (long-term, complicated reviews); 2. Investigate individuals suspected of or convicted of violating criminal laws of the United States (employing agency must have criminal investigation authority); 3. Have the authority to carry weapons; 4. Have the authority to arrest, seize evidence, give Miranda warnings, and execute search warrants; 5. Have a "rigorous" position which includes unusual physical hazards due to frequent contacts with criminals and suspected criminals, working for long periods without a break, and being in on-call status 24 hours a day. For LEO retirement credit, one must show that the primary duties of the position are the investigation, apprehension, and detention of criminals or suspects. The most important factors, are: 1) frequently pursuing or detaining criminals; 2) an early mandatory retirement age; 3) a youthful maximum entry age; 4) the job is physically demanding requiring a youthful workforce; and 5) exposure to hazard or danger. The factors (above) may also be considered as appropriate. OI duties and authorities do not match these criteria, especially since NRC lacks statutory authority for performing criminal investigations. They lack arrest responsibilities, agency authority to carry firearms or other weapons, do not perform undercover work, do not execute search or seizure warrants, do not give Miranda warnings, and are not exposed to hazardous conditions nor inclement weather. Most work takes place in an office setting, and is not "rigorous." OI investigations do not involve felonies, but violations of the regulations contained in 10 Code of Federal Regulations (Energy). None of their work is "frontline law enforcement work, entailing unusual physical demands and hazards." In March 2007, the Director of OI admitted that OI personnel have never performed a single arrest. When OI was created, a proposed desk audit of investigative positions to determine the correct job classification was cancelled. OI personnel have indicated that "NRC is the best-kept secret on the 1811 circuit!" Letters from the NRC to the Civil Service Commission or Office of Personnel Management (OPM) regarding 1811 classifications and law enforcement retirement contained vague, erroneous, or misleading and false information. These letters indicated high percentages of criminal investigations, or investigations involving "matters of potential criminality covering a wide spectrum of violations." The position of "Investigation Specialist," later "Investigator," began with the Atomic Energy Commission (AEC). These positions were series 1810, located in the Division of Compliance, and the investigation reports issued were titled "Compliance Investigations." These positions were clearly originally established to conduct civil investigations to determine compliance with the regulations found in 10 Code of Federal Regulations (Energy). OI investigative personnel actually perform the duties and responsibilities of the series 1801 or 1810 classifications, and meet the 1801 or 1810 position classification guidelines and qualification requirements. Personnel classified in series 1801 or 1810 do not receive early retirement nor availability premium pay. The 1801 series guide, for example, specifically speaks to positions where investigations relate to violations of regulations and criminal matters are referred to another agency for criminal investigation. The result of the misclassification is that the NRC has unnecessarily paid OI investigators early retirement and premium pay (Administratively Uncontrollable Overtime [AUO] or "availability pay" of 25% of their salary), amounting to hundreds of thousands of dollars per year, and totaling millions of dollars during the period 1982-2010. The 25% availability pay is included in the OI investigators' basic pay, and therefore raises the "high three" salary years utilized to determine retirement pay. Also, a more beneficial percentage is used to calculate retirement benefits. A very conservative analysis indicates that the overpayments greatly exceed \$700,000 per year (the effect on Thrift Savings Plan agency contributions and retirement benefits of an additional 25% during an employee's "high three" years was not calculated). OI Investigations largely consist of interviews with a court reporter present, and document reviews. Between 7% - 30% of the cases are referred to the Department of Justice (DOJ) for prosecutorial review, but very few are accepted for further investigation, and even fewer result in convictions. In extremely rare cases, the OI investigator may provide assistance to the DOJ in its review or investigation, and may provide testimony in court or before a Grand Jury. In vanishingly rare cases, the investigator may assist in obtaining and executing a search warrant (accompanying the primary law enforcement officers), or collecting physical evidence. A chronology of events indicates that NRC senior management was well aware that NRC did not have the authority to conduct criminal

investigations, had not given such authority to OI, and that OI did not perform criminal investigations. In the early years, OI did not even directly interface with the DOJ, but passed their investigations to the Office of Inspector and Auditor for referral to DOJ. Of central importance is a memorandum dated October 15, 1982 in which the NRC Deputy General Counsel advised that, lacking statutory authority, NRC personnel should not conduct criminal investigations under any circumstances. Subsequently, numerous submittals were made to OPM, claiming that all OI investigations were criminal investigations. Perhaps as importantly, on April 9, 1984, the full NRC Commission received a Briefing on Criminal versus Civil Investigations. A draft document giving OI the authority to conduct criminal investigations was discussed, with the Commission strongly objecting to and directing removal of the term "conduct" and substitution of the word "assist." Quotes: "we believe that the Commission – and OGC has taken this position in the past – that the Commission does not have independent authority to conduct criminal investigations." "Yes, our policy is to first serve our civil purpose and then help DOJ." This briefing led to a commission paper used as guidance in negotiating a Memorandum of Understanding with the Department of Justice.

comment #57 posted on 2011-02-05 01:08:01 by Andrew Williams

An issue which the NRC very much needs to address is the matter of the Yucca Mountain Nuclear Waste Repository. NRC Chairman Gregory Jaczko's actions regarding this matter have been extremely disturbing. Last year, the NRC's Atomic Safety and Licensing Board ruled that the Energy Department does not have the authority to withdraw its application to build the Yucca Mountain site. This decision is now appealed to the full NRC commission of which Gregory Jaczko is the chairman. In what took the ASLB 39 days to decide, the NRC commission is still deciding and has been doing so for over 200 days. It is quite obvious to everyone involved as well as the public that the decision is being delayed for political reasons. Of five NRC commissioners, two oppose Yucca mountain (Jaczko and Magwood), two support Yucca mountain (Ostendorff and Svinicki), and one recused himself from voting (Apostolakis). If the decision on whether to uphold the ASLB decision was made now, the vote would end in a tie meaning the ASLB decision would stand. This scenario is obviously untenable to Gregory Jaczko so he has delayed the commission's vote for over 200 days. It is worth noting, at this point, that George Apostolakis, the commissioner who recused himself from voting on this issue, did so because he earlier worked on the DOE license application for the Yucca project. Ironically, Gregory Jaczko, who was senate majority leader Harry Reid's science advisor and who helped Reid frame arguments against Yucca mountain, has NOT recused himself. In this blatantly political action, Jaczko has made it clear that he will use any means at his disposal to stop Yucca Mountain from going forward. Jaczko has already delayed a commission ruling for over 200 days and I have no doubt that he will delay further. In fact, I believe he will delay the decision until William Ostendorff's term as NRC commissioner expires in June of this year. This will give him free reign to decide the matter how he wishes. Gregory Jaczko has turned the once apolitical Nuclear Regulatory Commission into a political tool for Harry Reid to exert control over America's nuclear policy. He refuses to allow a vote to occur to decide the fate of the Yucca Repository until he can control the outcome. The NRC has lost credibility and will continue to lose credibility in the eyes of the American people until a decision is made by the commission. Gregory Jaczko is delaying a legal proceeding for political gain and should resign immediately from his position, as he has lost the confidence of the public. I also find it abhorrent that on this blog an NRC moderator said "The decision to cancel the Yucca Mountain Project was made by the White House and the Department of Energy, not the NRC." The decision on whether or not to cancel Yucca Mountain is still in review! Furthermore, the NRC ultimately WILL decide on whether or not the project will go forward or not based on the commission's ruling.

comment #58 posted on 2011-02-05 08:06:49 by Tom Clements

The NRC has a regulatory role related to DOE's program seeking utilities to use weapons-grade plutonium fuel (MOX) in commercial nuclear reactors. After Duke Energy withdrew from a failed test of MOX fuel in 2008, DOE was left with no utilities which even had interest in MOX. Now, DOE has turned to the TVA and Energy Northwest (Richland, WA), and is attempting to convince them to use weapons-grade MOX, which has never been used on a commercial scale and never even tested in a BWR. But any use in BWRs or PWRs will need a full three cycles of testing, licensed by the NRC, to see if "batch" use of MOX can be licensed by the NRC. As DOE, Energy Northwest (EN) and TVA, which has a MOU with EN (see that in documents linked below) failed to provide information to the public about the interest in MOX by EN, that has been done by Friends of the Earth, in the public interest: "Secret Plan Exposed to Use Surplus Weapons Plutonium in Washington State Nuclear Reactor" - see: <http://www.foe.org/secret-plan-exposed-use-surplus-weapons-plutonium-washington-state-nuclear-reactor>

comment #61 posted on 2011-02-05 09:43:01 by Rod Clemetson

Part Two ==> China has grand plans to build enough nuclear power plants to supply 200 gigawatts by 2030, and do it with a modified (Gen-III) Westinghouse AP 1000 design. Now they've included TFMSR's in the plans, which may eliminate the need for the much more expensive Westinghouse LWR's. Their nuclear capacity is already replacing coal-fired plants amounting to 60 gigawatts since 2006. China has 13 nuclear plants in operation today, another 25 under construction, and 200+ more on the drawing boards. They aren't waiting around to sign any pollution reduction treaties, they're just \*DOING\* it! Now they're siezing the fantastic opportunity to leap straight ahead to Gen-IV designs, such as TFMSR and Liquid Fluoride Thorium Reactors (LFTR's). Please google "Energy From Thorium" and "Thorium Energy Alliance". I promise you'll be amazed. By the way, the United States is preparing to destroy (i.e., down-blend and bury) one thousand kilograms of Uranium 233 (currently classified as toxic nuclear waste). U233 can be used to produce many beneficial medical and industrial isotopes, and is an ideal "starter" fuel for TFMSR's. It's going to cost several hundred million dollars to destroy this valuable stockpile of U233. The United States could proceed with the destruction plans -- which would make the Chinese TFMSR success more difficult -- or, we could develop our own TFMSR program and beat the Chinese to the patent office. The latter notion gets my vote. So here's a new challenge for the NRC: adopt and adapt regulations to take into account the concept of liquid fueled reactors that can operate at atmospheric pressure and passively shut down in an emergency. The SCRAM process for a liquid fuel reactor will manually or automatically drain the molten core into holding tanks where the fuel solidifies and traps all the radioactive materials. What a concept!

comment #66 posted on 2011-02-07 09:09:06 by Mike Mulligan in response to comment #55

This is my test drive of the new car. If this is the new NRC...it is something? This transparency is powerful stuff...having people see events in their near immediacy...having people all see the information at the same time, or at least letting people see individuals interpretation of events, not just the bureaucrats' and licensee interpretation of events. ...It is transformational. Congratulations to the NRC!

comment #67 posted on 2011-02-07 12:08:23 by Moderator

I have read that the American military has more freedom to do research labs. If the military wanted to start developing their own

Generation 4 reactor is there any reason they need to consult with the NRC? Moderator: This comment has been moved here from a different post.

comment #68 posted on 2011-02-07 12:11:53 by Moderator in response to comment #67

The NRC has jurisdiction over all civilian (e.g., non-weapon) uses of nuclear materials in the United States. For example, the NRC regulates a research reactor operated by the Armed Forces Radiobiology Research Institute, while Congress has directed DOE to seek NRC licensing for the Next-Generation Nuclear Plant, a Generation IV project. The White House can designate specific facilities as being under the self-regulation of either the Department of Energy or the Department of Defense. DOE self-regulates a few of its own research reactors under this authority. The NRC, DOE and DOD have been discussing other small modular reactor concepts, some meeting the Generation IV definition. Both DOE and DOD have indicated they will seek NRC licensing for any small modular reactor projects at their respective facilities.

comment #69 posted on 2011-02-07 14:18:48 by Raphael

I remember seeing "The China Syndrome" as a kid and it kind of freaked me out. I have always wondered how realistic was that movie in terms of what Jack Lemmon's character was freaked out about. Forty years later and I do not recall any big snafus, which makes me wonder about the comment above regarding nuclear infrastructure as "aging". Any insights on this?

comment #74 posted on 2011-02-07 22:13:44 by Billy in response to comment #54

since you did not include my earlier post it is obvious you are censoring posts you don't like. NRC is living a culture of corruption. Jaczko must go.

comment #79 posted on 2011-02-08 15:54:16 by Moderator in response to comment #74

Posts that do not adhere to our Comment Guidelines cannot be posted. The full guidelines are available here: <http://public-blog-nrc-gateway.gov/nrc-public-blog-guidelines/>.

comment #99 posted on 2011-02-11 18:35:19 by A concerned citizen

I have been told by NRC staff that Chairman Jaczko has been directing the staff to take various policy positions in papers being sent to the Commission either for information or for a vote. Recent examples would be the paper on Yucca Mountain and the paper on Waste Confidence which is close to being delivered to the Commission. If this allegation is true, it is quite disturbing. Openness demands that the public know what the professional staff's views are before the Commission acts. If the staff's views are modified by the Chairman before policy papers are delivered, how will the public ever know the staff's real views?

comment #95 posted on 2011-02-11 15:50:37 by Moderator

I would like to know more about your review process. Many people are confused about the long periods of time that are invested in providing a report on requests. For instance is their a research team that needs to study the technology being reviewed? Is there a consultation with the professionals about their processes? Your role is a complex one to understand so any information that can explain why some reports can take years and not just months. Moderator: This comment has been moved here from a different post.

comment #196 posted on 2011-02-24 21:25:31 by Hamilton

I think it an important step in the right direction to put up this blog site. Collaboration and Communication is essential for projects of the magnitude as energy. Energy project affect everyone and everyone should know how things are going. Thanks.

comment #85 posted on 2011-02-09 10:41:26 by Mike Mulligan in response to comment #66

Official Transcript of Proceedings NUCLEAR REGULATORY COMMISSION Title: 10 CFR 2.206 Petition Review Board RE Vermont Yankee Thursday, February 3, 2011 CHAIRMAN QUAY: At this point I would like to turn it over to Mr. Mulligan. Mr. Mulligan: Hello. I've got to get this on the record. When you first pushed the button when I came on the phone, I heard a snippet of information and the snippet of information was, "Let's have a little fun." What was that about? CHAIRMAN QUAY: That was me. I was welcoming a new Board member. She hasn't been here before and I said, "This will be fun for you." The reason I said that is it's a new experience. It's an experience which all of us need to have is interacting and learning how to interact with the public. MR. MULLIGAN: Who is this? CHAIRMAN QUAY: This is Ted Quay. MR. MULLIGAN: Okay. CHAIRMAN QUAY: Okay? MR. MULLIGAN: Thank you

comment #88 posted on 2011-02-09 11:22:20 by Moderator

As of recent, the NRC is becoming more dependant on industry's ghost stories, basically unsubstantiation stories and events dressed up as fact. They and the industry are increasingly representing a filament or fragments of the facts, partial and incomplete evidence and truth in documents and testimony. The examples I would give is the engineering, design, licensing bases and UFAR of the VY AOG piping radiological containment system. A developing problem is a factual understanding of the technical meaning of environmental LLD...the standards of how long a sample stays in a scintillation counter that gives us a LLD...what is the minimum level of detection of tritium and what constitutes a indication of a radioactive leak? Don't give me it is 2000 picocuries per liter... Vermont establishes it at 670 to 700 picocuries. Has the NRC in their deeds and actions...in their hearts... been gaming the first emergent indication of a radiological leak at the nuclear plants? We are getting a lot engineering ghost stories out of the agency recently...the facts are so thin it is like translucent ghost and just fragments of the truth floating all around us. There was a lot of ghost floating around in the part 26 commissioner meeting yesterday, did you see them...in LERs, the ROP and the inspection reports...its like Halloween all time and all year long. The NRC is just becoming a "not facts" based agency! Mike Mulligan Moderator: This comment has been moved here from a different post.

comment #104 posted on 2011-02-13 00:49:53 by Kaye Swain

Thank you for a very informative article, along with interesting comments. It is rather disconcerting to consider all these issues with

old and newer reactors, particularly for those of us caring for elderly parents who live far from us but near an older reactor. One more issue for those of us in the Sandwich Generation to have to take into consideration. I appreciate this website to keep us updated and informed.

comment #270 posted on 2011-03-07 18:23:05 by AMA Nation

Its great NCR have this open forum. And it's a good way of communication with the agency through people concerns.

comment #287 posted on 2011-03-11 12:47:51 by Moderator in response to comment #286

Yes, the NRC is following the impact of the earthquake in Japan and the resulting tsunami. Please see our latest blog post outlining NRC actions. However, we cannot speak for the Japanese government on their actions nor on the specifics of their plants. Holly Harrington Blog Moderator

comment #264 posted on 2011-03-05 05:13:49 by Paul Christopher Anzalone

Howdy from Missouri! Just would like to post that NRC.GOV is my home page on my personal home computer. That's all. Sincerely, Paul Christopher Anzalone

comment #391 posted on 2011-03-16 17:49:41 by mapsurfer

OK, I wonder who's bright idea it was to build a nuclear plant on a subduction plate. Even if we survived this catastrophe, what happens down the road when this planet gets into the ring of fire? We might not have a planet left to talk about. Hillary Clinton said on CNN that we didn't have the foresight to see this catastrophe, but I disagree with that.

comment #403 posted on 2011-03-16 21:23:01 by Art

I've done several searches via your NUREG page and the ADAMS interface for NUREG 0408 and other documents applicable to the Mark I containment and Mark I containment short and long term programs from the 1970s and 1980s. Why are these not available?

comment #705 posted on 2011-04-15 10:37:37 by Moderator

This comment has been moved to this page by the moderator: Hello, Recent Congressional correspondence related to Yucca Mountain SER was made publically available through several websites. They included a letter from Chairman Jaczko as well as another letter signed by four Commissioners. Read together, it appears that the Chairman is not following the will of the Commission as a whole in sending policy views to Congress. If true, this is a major breach of existing protocol and calls into question whether the NRC has a Commission or a sole Administrator. What's really going on? Thank you. Here's a link to one of the stories. <http://www.nucleartownhall.com/blog/rebellion-at-the-nrc-jaczko-outvoted-4-1-on-release-of-safety-report/>

comment #707 posted on 2011-04-15 11:04:07 by Moderator in response to comment #403

Unfortunately, many older documents that pre-date our electronic database have not been scanned and made available online, but you can still get them. For help, contact our Public Document Room. Contact information can be found here: <http://www.nrc.gov/reading-rm/contact-pdr.html>

comment #851 posted on 2011-04-29 22:58:56 by Kyle

Reg guide 1.8 outlines the training requirements for SRO's and will be looked at on a case by case basis. If an individual without a bachelorette degree had a technical background in quality control would they be considered for the instant SRO program if they have three level III's from the American Society of Nondestructive Testing, a CWI from American Welding Society and over ten years of nuclear experience?

comment #1642 posted on 2011-07-26 13:39:26 by Moderator

As much as nuclear energy proves effective on large scale production, a simple breach could be very catastrophic, solar and wind energy is the only safe way out. Lets embrace safe green energy. [festow32@gmail.com](mailto:festow32@gmail.com) Moved to Open Forum by the moderator

comment #693 posted on 2011-04-14 10:07:43 by TrueNorthist in response to comment #391

Non sequitur. This is a typically overwrought and hysterical response. The resulting effects from the earthquake and subsequent tsunami on the power station in Fukushima will in all likelihood result in a statistically insignificant number of casualties *of any kind*. The facilities in Japan performed extremely well considering the magnitude of the event, and the operators and authorities there have responded in a most timely and effective manner. I would suggest that the preceding posters' angst would be more effectively directed at banning walking outdoors, as the risk of injury and death from that engaging in that activity is exponentially higher.

comment #829 posted on 2011-04-26 03:11:27 by bestcarins

I agree with The resulting effects from the earthquake and subsequent tsunami on the power station in Fukushima will in all likelihood result in a statistically insignificant number of casualties of any kind

comment #980 posted on 2011-05-22 14:08:25 by Nancy Allen

Nancy Allen May 22, 2011 at 1:56 pm Your comment is awaiting moderation. I want to add my concerns about the dangers of station blackout and loss of cooling accident. The disaster in Japan showed everyone that emergency safety protocols must be updated in the US. The present emergency response cannot be considered adequate to address all events that would cut power to the reactors for an extended period of time. There is a need for power generation other than just back up diesel generators and the 4-8 hour back up batteries. There should be an immediate effort by the NRC to have a power supply available for all natural catastrophic events including large magnitude earthquakes, tsunamis, tornadoes, hurricanes and more. If there is no emergency design criteria that can

anticipate and fully prepare for this no new plants should be built and old ones relicensed only if they meet stringent NRC safety regulations with a back up alternative energy supply like wind, solar, geothermal and more.

comment #1021 posted on 2011-05-29 20:31:52 by wiwik

I agree with this I want to add my concerns about the dangers of station blackout and loss of cooling accident. The disaster in Japan showed everyone that emergency safety protocols must be updated in the US.

comment #1600 posted on 2011-07-22 16:40:55 by Moderator

Moved by the Moderator to Open Forum: At the heart of the problem is the fact that safety upgrades will impact the bottom lines for a significant portion of the U.S. reactor fleet. Reactor operators face significant capital expenses such as making SNF pools nuclear safety-rated, movement away from high density SNF storage, repair/replacement of degraded piping, hydrogen mitigation measures, etc. For instance, According to EPRI, the additional per-reactor costs of placing SNF greater than five years of age into dry storage ranges between \$573 million (BWRs) to \$760 million (PWRs). Plus there is the potential for loss of revenue from the closure of aging reactors, that are no longer economical with these additional expense and/or are under siege by a growing number of states – especially BWR Mark I units, reactors in high-risk seismic areas, or those too close to major population centers (ie Indian Point). This is a big problem for those reactor owners operating in a de-regulated environment, notably Exelon with close ties to Obama, which don't have a captive rate-base to recover these expenses

comment #1279 posted on 2011-06-25 12:24:50 by Alister Wm Macintyre in response to comment #980

I share Nancy concerns. Remember Katrina - it was 3 days before serious help could arrive, other than Coast Guard helicopters, which were kept very busy. In fact FEMA has some guidelines how many days supplies people should try to have, because of how long until National Guard can get there, so similar thinking is needed for how long a power plant may be without aid, if there is a regional disaster like Japan, causing reduced capacity to respond to individual events among the thousands, and delays to provide aid, due to damage to transportation infrastructure. There can also be disruption to telecommunications, delaying SOS getting out. In anticipation of this, critical infrastructure ought to have satellite phone available, in case cell towers and land lines go down. Regional homeland security should know what are critical infrastructure, check in with them when regional disaster, to make sure their needs not neglected. There needs to be availability of helicopters and marine landing craft for search and rescue forces along flooded areas. Fukushima plant design has spent pools above containment, and no way to vent hydrogen, leading to holes in roof, radiation escaping, problem managing radioactive water. My understanding is that US design has spent pools closer to ground level, stored longer time period. I sure hope those buildings are earthquake resistant, well protected against flood waters.

comment #1301 posted on 2011-06-27 12:42:03 by Art in response to comment #1295

You might be looking directly for this, John. <http://pbadupws.nrc.gov/docs/ML1116/ML11167A114.pdf>

comment #1298 posted on 2011-06-27 12:18:32 by Moderator in response to comment #1295

Yes, it is available through our ADAMS system. Here is the link: [http://wba.nrc.gov:8080/ves/view\\_contents.jsp](http://wba.nrc.gov:8080/ves/view_contents.jsp)

comment #1295 posted on 2011-06-27 10:00:11 by john

Nrc, Do you have a link to a transcript of the 6-8-2011 meeting with the group Beyond Nuclear where the petition to close the GE mark 1 plants in the US was discussed? Thanks

comment #1332 posted on 2011-06-30 06:25:17 by john in response to comment #1301

Thanks Art and moderator for helping with those links. Yes that's what I was looking for Art.

comment #1333 posted on 2011-06-30 06:32:56 by john

NRC, I have a question this event notification was from 6-8-2011. It seems to say that the Prairie Island plant's emergency generators were off line because of excessive outside heat. Am I reading this correctly? If so is this something that affects all nuclear plant backup generators or is it site specific? Thanks "BOTH EMERGENCY DIESEL GENERATORS DECLARED INOPERABLE DUE TO EXCESS OUTSIDE AMBIENT AIR TEMPERATURE "Outside ambient air temperature exceeded the maximum analytical value for operability for Unit 1 D1 and D2 Diesel Generators at 1349 CDT. The calculated limiting outside air temperature needed for equipment in the D1 and D2 rooms to meet their temperature limits is 100.5°F. Outside ambient temperature exceeded this limiting value and both Unit 1 safeguards diesel generators were declared inoperable at 1349 CDT on 6/7/2011. If outside ambient air temperature is above the maximum analytical value, components within the D1 and D2 diesel rooms may not be able to perform their required functions thus preventing them from fulfilling their safety function needed to mitigate the consequences of an accident (10 CFR 50.72 (b)(3)(v)(D)). "Unit 1 is currently in Mode 3, Hot Standby. Ambient outside air temperatures are at or near peak values for the day and expected to decrease approximately 1 to 2 degrees per hour which will restore ambient conditions to less than the maximum analytical value. "The NRC Resident Inspector has been notified." The outside air temperature has peaked at 101.4°F which is unusually high for this location and is expected to drop below the 100.5°F limit shortly. The licensee does not anticipate that this condition will be repeated again any time soon."

comment #1323 posted on 2011-06-29 08:40:40 by Dolly in response to comment #1279

Yes, well it was 3 days before serious help could arrive because FEMA prevented people (regular folk you know, not "experts") from helping their fellows. I don't think I want the National Guard "protecting" me. These so-called homeland security agencies seem good at taking tax money but not so good on the protection end. I think we need protection FROM them. What did gun confiscation during Katrina have to do with protecting people from flood waters? Let us not forget that levees (thanks to the core of engineers) are blown to flood certain areas so that other "more important" areas are more protected from damage. Who decides? And on what criteria? Who among us is less or more important? I guess that's left up to the actuaries and the insurance companies.

comment #1347 posted on 2011-07-01 11:16:51 by Moderator in response to comment #1333



The plant declared both Unit 1 diesel generators inoperable based on the licensee's engineering analysis which is not only site specific: it is specific to the type of diesel generators used for Unit 1; their location; and the amount of space and ventilation available to the diesel and associated equipment. In this case, the major concern was not so much the possibility of direct damage to the diesel itself but impact on electrical and other auxiliary equipment located in the diesel room. If, in addition to the heat produced by a running diesel the ambient temperature in the diesel room is unusually high, the auxiliary equipment adjacent to the diesel may overheat and affect its operability. If Unit 1 diesel generators are not available, Unit 2 diesel generators which are of different design could be used to supply power to Unit 1 equipment. The NRC is still reviewing this issue for compliance with NRC regulations and design requirements.

comment #1429 posted on 2011-07-09 15:58:53 by Nathali

Thanks for the open debate

comment #1637 posted on 2011-07-26 09:43:34 by Moderator

hello this is biomenta from germany. as you know the time nuklear machines end in 2021 but other euopean countries like france build new machines. the question is, why can't we find a worldwide solution Moved by the Moderator to Open Forum

comment #1920 posted on 2011-08-17 16:57:52 by Micheal

I guess that is why it would be a National project. We could do it. The Atlas rocket does not cost as much as the shuttle rockets. It does not have to get to the Sun to burn up its gravity would pull it in. The amount of energy we could produce would far out weigh the cost. All the jobs it would create would be enormous. I guess it is better to have something like Japans radiation rain down on us right?

comment #1569 posted on 2011-07-21 14:07:55 by aldo in response to comment #53

I agree with you Kathryn. Why government doesn't focus on research of environment friendly power resources like solar and wind systems? Nuclear reactor incidents can kill us all. Perhaps US can prevent nuclear reactor incidents what about other country with poor standard like North Korea, Iran, or Indonesia? If something happen with their reactor its hard to prevent radio active exposure event our location far away from their reactor. In this case, I believe we still have any chance to get radio active exposure.

comment #1630 posted on 2011-07-25 20:13:01 by AstroGremlin

We tolerate risk in all other technologies for generating energy. In fact we tolerate assured depletion of finite resources, loss of miners/drillers, and release of greenhouse gases. Yet nuclear energy has to prove ahead of time that it is utterly without risk. A scientific approach, were the nation to adopt it, would be to consider the risks of traditional energy production when compared with nuclear power. Unfortunately, the emotional has trumped the rational. That an aging reactor survived a direct hit by a tsunami is a triumph of engineering. If we applied the same expectations to automobile design, we would have to drive Bradley fighting vehicles (and go broke paying for them).

comment #2039 posted on 2011-08-29 08:48:44 by Moderator

This comment has been moved by the moderator: Regarding the issue of fiery steam-cladding reaction it is not clear, why it was moved out to this environment. I hope there will be a regulatory resolution, finally accepting that this process was the key process in all major reactor accidents, like the Fukushima Daiichi Units 1, 2 and 3, Chernobyl 4 and TMI2, even the Paks 2 fuel washing accident. [PDF] 2010/11/24-Comment (3) of Aladar Stolmar, on New England ... Van, Attached for docketing is a comment on PRM-50-93/50-95 from Aladar Stolmar that I received via the regulations.gov website on 11/24/10. ... pbadupws.nrc.gov/docs/ML1033/ML103340250.pdf - 2010-12-09 It is a much overdue duty of NRC and IAEA to evaluate the evidence provided by the TMI-2 accident, Chernobyl-4 accident, Paks-2 incident, and related experiments. Evaluating this evidence, one can see that the ignition of the zirconium fire in the steam occurs at a local temperature of the fuel cladding of around 1000-1200° C, [[and that a self-feeding with steam due to the precipitation of eroded fuel pellets and zirconia reaction product from the hydrogen stream into the water pool, causes intense evaporation.]] There are insignificant differences in the progression of the firestorms that occurred in the TMI-2 reactor severe accident, Paks washing vessel incident, and Chernobyl-4 reactor accident; the later defined only by the amount of zirconium available for the reaction. At the mean time, there are significant similarities in the processes leading to the ignition of the firestorm. In all three of the compared cases, it took several hours of ill-fated actions or in-actions of the operators to cause the ignition condition. Also, there are similarities in the end result of the firestorm; namely, that the extent of the fuel damage is much less than it was predicted from any other severe fuel damage causing scenarios, introduced for explanations. Therefore the fraction of released fission products is significantly less than was anticipated from the fuel melting or a so called "steamexplosion" scenario. Also, the fiery steam-zirconium reaction results in a much higher than anticipated (from any other scenarios) rate of Hydrogen production, which in turn requires a review of containment designs. [PDF] 2010/03/24-Comment (3) of Aladar Stolmar, on PRM-50-93 ... From: Aladar Stolmar [astolmar@gmail.com] Sent: Wednesday, March 24, 2010 2:59 AM To: Rulemaking Comments Subject: Docket ID NRC-2009 ... pbadupws.nrc.gov/docs/ML1008/ML100830501.pdf - 2010-11-26 Similar destruction and relocation of nuclear reactor fuel was observed in the TMI-2 and Chernobyl-4 severe reactor accidents and in the Paks-2 refueling pond reactor fuel washing accident. The similarities in these tests and accidents are the formation of gaseous (steam) bubbles in the upper regions of fuel bundles, the ignition of Zirconium in the steam and generation of Hydrogen and zirconia (ZrO2) reaction products in a very intense fire, essentially in a firestorm. Therefore, the conservative regulation shall mandate that the owners and operators of Nuclear Reactors and Reactor Fuel Handling Facilities shall demonstrate that there will be no dry-out of the fuel bundles in any circumstances. Also, in order to prevent the exposure of the public to the harmful consequences of an accident in a reactor, the housing of the reactor (containment) shall withstand the detonation of the air-Hydrogen mixture with the amount of Hydrogen calculated from the consumption of the entire inventory of Zircaloy in the reactor core or in the entire enclosed in a vessel volume, where such bubble formation is possible. There are several reports presenting the same issue as Mark Leye. The cladding of nuclear fuel made of Zirconium alloy ignites and burns in the steam. The same process can be recognized (and should be recognized) as the common cause of the TMI-2 and Chernobyl-4 reactor severe accidents and the Paks-2 refueling pond accident. And the regulations in 10 CFR 50 series shall mandate to deal with the real issues and real processes. [PDF] 2011/06/28 - - NRC Public Blog April 2011 through May 2011 ... comment #652 posted on 2011-04-06 07:31:03 by Aladar Stolmar comment #644 posted on 2011-04-04 20:11:31 by duxx ... pbadupws.nrc.gov/docs/ML1117/ML11179A192.pdf - 2011-06-29 As I wrote in the comment to US NRC http://pbadupws.nrc.gov/docs/ML1033/ML103340250.pdf : „It is a much overdue duty of NRC and IAEA to evaluate the evidence

provided by the TMI-2 accident, Chernobyl-4 accident, Paks-2 incident, and related experiments. Evaluating this evidence, one can see that the ignition of the zirconium fire in the steam occurs at a local temperature of the fuel cladding of around 1000-1200°C, [[and that a self-feeding with steam due to the precipitation of eroded fuel pellets and zirconia reaction product from the hydrogen stream into the water pool, causes intense evaporation.]] There are insignificant differences in the progression of the firestorms that occurred in the TMI-2 reactor severe accident, Paks washing vessel incident, and Chernobyl-4 reactor accident; the later defined only by the amount of zirconium available for the reaction. At the mean time, there are significant similarities in the processes leading to the ignition of the firestorm. In all three of the compared cases, it took several hours of ill-fated actions or in-actions of the operators to cause the ignition condition. Also, there are similarities in the end result of the firestorm; namely, that the extent of the fuel damage is much less than it was predicted from any other severe fuel damage causing scenarios, introduced for explanations. Therefore the fraction of released fission products is significantly less than was anticipated from the fuel melting or a so called "steam explosion" scenario. Also, the fiery steam-zirconium reaction results in a much higher than anticipated (from any other scenarios) rate of Hydrogen production, which in turn requires a review of containment designs." I hope the gentlemen will recognize the same process in the Fukushima Daiichi 1-3 reactors as the leading, key process. I hope we will have a thorough investigation of the fiery steam-zirconium reaction and there will be issued a call for shutting down the 11 still operating Chernobyl type (RBMK) reactors in Russia [PDF] 2011/04/08 -- NRC Public Blog February 2011 through March ... comment #441 posted on 2011-03-18 13:44:34 by Diesel comment #412 posted on 2011-03-17 07:06:13 by Aladár Stoltmár ... pbadupws.nrc.gov/docs/ML1109/ML110980787.pdf – 2011-04-13 A few of us, nuclear engineers were, are fighting for lifetime for the consideration of real processes in the reactor severe accidents. As I formulated in a comment to US NRC: Consideration of the zirconium-steam reaction and the ignition and intense firestorm in nuclear reactor fuel rods is well overdue. Reevaluating the evidence provided by the TMI-2 reactor accident, Chernobyl-4 reactor accident, and Paks Unit 2 fuel washing incident, with consideration of this intense fiery process, will bring us closer to an ultimately safe nuclear power plant design. <http://pbadupws.nrc.gov/docs/ML1033/ML103340250.pdf> Also, I called two years ago for a review: If the hydrogen which is generated in the reactor core from the reaction of the steam (coolant) with the zirconium alloy (or other low neutron absorbing metal cladding and other fuel bundle elements) explodes inside the building surrounding the reactor, this detonation still will not cause a break of the pressure boundary of the containment. Thirty years after the TMI-2 accident and 23 years after the Chernobyl disaster, I feel obligated to formulate this guideline in order to protect the public from further irradiation from the use of nuclear power. The Chernobyl type reactors (RBMK), which are still operating, have to be shut down immediately because they do not satisfy this guideline. Other nuclear reactors operating and future designs shall be reviewed for compliance to this key requirement and the result of such review shall be defining for their future. <http://aladar-mychernobyl.blogspot.com/> Returning to the comment to US NRC <http://pbadupws.nrc.gov/docs/ML1033/ML103340250.pdf> : „It is a much overdue duty of NRC and IAEA to evaluate the evidence provided by the TMI-2 accident, Chernobyl-4 accident, Paks-2 incident, and related experiments. Evaluating this evidence, one can see that the ignition of the zirconium fire in the steam occurs at a local temperature of the fuel cladding of around 1000-1200°C, [[and that a self-feeding with steam due to the precipitation of eroded fuel pellets and zirconia reaction product from the hydrogen stream into the water pool, causes intense evaporation.]] There are insignificant differences in the progression of the firestorms that occurred in the TMI-2 reactor severe accident, Paks washing vessel incident, and Chernobyl-4 reactor accident; the later defined only by the amount of zirconium available for the reaction. At the mean time, there are significant similarities in the processes leading to the ignition of the firestorm. In all three of the compared cases, it took several hours of ill-fated actions or inactions of the operators to cause the ignition condition. Also, there are similarities in the end result of the firestorm; namely, that the extent of the fuel damage is much less than it was predicted from any other severe fuel damage causing scenarios, introduced for explanations. Therefore the fraction of released fission products is significantly less than was anticipated from the fuel melting or a so called "steam explosion" scenario. Also, the fiery steam-zirconium reaction results in a much higher than anticipated (from any other scenarios) rate of Hydrogen production, which in turn requires a review of containment designs." I hope You will find useful this information for the background of the Fukushima Daiichi plant recent events.

comment #1878 posted on 2011-08-12 18:10:16 by Micheal

Why can we not have a government controlled central waste disposal site from which we charge corporations for depositing nuclear waste on a one way rocket to the Sun? It would create jobs, research, in all parts of the country. Just do it.

comment #1865 posted on 2011-08-11 23:05:57 by

Why can't decay heat be harnessed and used as an energy source to safely power down/cool a nuclear reactor? I have been wondering about this since the incidents in Japan. It appeared that the Fukushima nuclear reactors survived the 5th largest recorded earthquake on earth quite well and initiated normal shutdown procedures. It was the fact that the tsunami later damaged the backup power system for cooling, which resulting in a cascade of failures and a meltdown in the reactors. I feel that nuclear energy is a clean source of power and that it can help solve our dependence on imported fossil fuels as well as provide no CO2 emissions. On the other hand, plants should be designed to withstand extreme events, even if they are of a low probability. In the Japan case, ancient stone markers warned of tsunami risk at levels above the Fukushima backup generators. As an engineer and a scientist, I hate getting information on important topics through normal news outlets that like to sensationalize and oversimplify stories. I understand that I am not a nuclear engineer so maybe this is a dumb question but I have dealt with lots of disasters including Katrina and know that failures of the power grid over an extended period could result in the loss of backup cooling due to diesel fuel running low and such. It seems something more robust and redundant should be used. It is my understanding that the typical reactor will produce between 5-7% of its rated output in decay heat due to the radioactive decay of fission byproducts after shutting down. I understand that the amount of heat generated depends on the length of time the fuel has been in use and undergoing fission so older fuel will have a larger decay heat. I understand the heat generation drops quite rapidly as the short lived isotopes decay but that longer lived isotopes continue to decay and generate heat so that cooling is needed for a very long time (5-10 years) after the spent fuel is removed from service. I looked up the operational rating of several nuclear power plants in the U.S. and most tend to range between 1000-1200 MW of power, which is quite a large number. When one of these shuts down, decay heat should be generated in an amount around 50 MW (or more) immediately after shutdown based on the 5-7% heat of operation. 50 MW is an immense amount of power and I would think this would well exceed the rated output of even the largest (or a bank of) diesel generators. My question is why this tremendous amount of energy cannot be harnessed and used to generate power that could be used to safely shut down and cool a nuclear reactor. It seems there is plenty of heat to lead to a complete core meltdown and/or fire long after the primary fission reaction is shut down. Why can't this heat be used to generate power, whether it be electrical or mechanical, in order to run pumps and such to cool the reactor during shutdown? Why couldn't one of the steam turbines be run to generate power to run the pumps? If the main turbines are too large to run on such a reduced output, could a smaller turbine be used for backup purposes? How about running the pumps directly and mechanically without any electric generation via a turbine meant just for this purpose? I like to keep things simple as there is less to go wrong so a purely mechanical pump might be in order. How about a thermocouple system? I know that radioactive decay is used to power space probes in this manner and such but don't know how it would work on such a large application. Even if decay heat cannot produce enough power, can it not provide some power and reduce dependence of batteries or diesel? If nothing else, it could reduce the rate at which batteries or diesel are used up and buy time to solve the underlying problem. As decay heat drops, potential

power generated from it also drops, but so would the cooling requirements. Pumps would not be able to be run at their maximum rating but is this a bad thing after most of the short lived isotopes have decayed? I am not an expert so maybe decay heat can remain dangerous even if it isn't enough to generate a meaningful amount of power. Is it like my electric stove. Sometimes I turn it off right before the food is done and let it cook with the residual heat. Eventually it cools off to where it can no longer cook but would still be dangerous to touch. I know this is very simple but is it a good comparison? If decay heat cannot effectively be used to shut down a nuclear reactor, why can't the reactor go down to an "idle" mode where it generates just enough power to run the emergency cooling systems? It could be run this way indefinitely and let some of the short-lived isotopes generated during full power operation decay over a period time before reducing power further or shutting down completely once enough short-lived isotopes have decayed. Why is this not done? All it takes is one unforeseen disaster to knock out external power at a nuclear plant and it seems this might be a solution or at least part of the solution to the decay heat issue. I have been reading about solar flares and their ability to fry large electrical transformers that are key to large parts of the power grid. I understand that we are entering a very active solar cycle and there is some concern one of these flares could knock out a large part of the grid for an extended period. What would happen to a nuclear plant in such a situation?

comment #1888 posted on 2011-08-14 01:00:14 by Amy Still in response to comment #1865

WASHINGTON, D.C. — August 11, 2011 — The U.S. Nuclear Regulatory Commission is legally required to slow down reactor licensing and relicensing in order to address major changes urged by the agency's own experts who have reviewed the Fukushima accident, according to 19 separate legal challenges filed today by a total of 25 public interest groups. The groups contend that under federal law, the NRC may not issue or renew a single reactor license until it has either strengthened regulations to protect the public from severe accident risks or until it has made a careful and detailed study of the environmental implications of not doing so. The groups are also pursuing a technical finding from high in the NRC that leads to upgraded safety standards. "What we've learned in the wake of Japan's nuclear disaster — and what NRC experts concluded — is that current regulations are fundamentally inadequate. They simply do not provide the level of safety required by laws including the National Environmental Policy Act and the Atomic Energy Act," said Phillip Musegaas, Hudson Program Director of Riverkeeper, Inc., which today filed a contention document related to the Indian Point reactor in New York State with the NRC. "The law requires regulators to take this information into account before issuing any licenses for reactors. Our filing today is intended to force them to do so."

comment #2076 posted on 2011-09-01 01:26:18 by Alex

I also agree, that US and other countries are using current technology, but I am not sure that we are very well protected after the Fukushima Daiichi plant recent events.

comment #1918 posted on 2011-08-17 15:40:43 by Alister Wm Macintyre in response to comment #1642

Each source of energy is limited, and many have dangerous side effects. Solar and Wind use technology whose construction is dependent on industrial commodities which the world is running out of, and of course need a volume of weather activity which is not universally available. Fossil fuels have carbon cycle implications for climate change and maybe ozone hole. Hydro-electric is great on rivers, until earthquake brings down dam, and people downstream inadequate time warning to get out of way of flood. Hydro-electric works for some coastal inlets ... get tide power coming and going, but better not mess with ocean going currents essential to other nation's climates.

comment #1919 posted on 2011-08-17 15:43:16 by Alister Wm Macintyre in response to comment #1637

We have world wide solutions through UN treaties with IAEA to develop and share best practices info on wide spectrum of nuclear power energy. Problems then are with any nations which do not choose to join the treaties.

comment #1916 posted on 2011-08-17 11:38:36 by Chris in response to comment #1878

People periodically bring up the idea of sending waste towards the sun. If you run the calculations, you will find that this method of disposal is simply not practical from a cost standpoint, unless we all want to pay a whole lot more for our electricity. First, there are the political ramifications and risks associated with a radioactive rocket that might blow up before getting out of Earth's atmosphere. Remember the Columbia disaster? Not sure anybody wants highly radioactive material raining down from the skies over land or sea. Second, the amount of energy (and hence, fuel) it would take to do this is very large. You have to realize that we are moving in orbit around the sun. That means that any rocket we shoot into space is also moving in orbit around the sun. So shooting something to the sun is not as simple as putting a rocket into space and letting gravity take over. All you succeed in doing is putting that canister of waste in orbit around the sun as well. Orbital mechanics dictates that it takes a change in kinetic energy for a body to go from one orbit to another. To change to a closer orbit around the sun requires you to speed up the spacecraft. The closer you want the craft to get to the Sun's surface, the more and more kinetic energy you have to add to get there. The fuel it would take to do this is so enormous as to make this method of disposal simply impractical.

comment #1917 posted on 2011-08-17 15:34:55 by Alister Wm Macintyre

I agree, with respect to current technology used by NASA, USAF, other nations. However, if you take a look at the mechanics of space elevators, the cost drops from current technology to microscopic cost by comparison, to get anything out of Earth gravity field. If the waste container is sent in a direction below the Earth orbit with the Sun, that means it will spiral closer and closer to the Sun, and fall into the Sun, unless it crashes into Venus or Mercury or other stuff in transit.

comment #1947 posted on 2011-08-21 15:53:13 by Steve

Yes there are better and cheaper ways to go about it. But maybe the government has some insight.

comment #1949 posted on 2011-08-21 16:31:17 by French Translation

Time and time again have we witnessed a global accident as a result of mother natures swift hand. When will we learn that if we can build it, then it can be destroyed. Nuclear included. Are we not just filling the foundations for total man made destruction of (our) planet.?

comment #1951 posted on 2011-08-22 08:08:14 by Babu Jobs

I agree, NASA, USAF, other countries are using current technology. However, if you take a look at the mechanics of lifts, the costs will fall from the current technology on the microscopic cost comparison, stems from the gravitational field of the Earth.

comment #2802 posted on 2011-10-24 12:49:14 by dave

Re blog thread on safety culture policy posted last month, to develop the new definition, in Feb 2011 NRC assembled a panel of over a dozen "experts" and held a three day conference. I was the sole member of the public on the panel and I believe the most studied and accomplished in safety culture. I have an extensive bibliography and I have written many papers on the subject including a master's thesis. I have given a number of industry presentations a couple at the request of NRC and INPO. I was the primary safety culture advisor on an EPRI sponsored MIT project. The NRC invites input from the public, but does the NRC really "listen" the public? As a "member of the public" I felt I was continually treated as a "third class citizen". INPO and NEI being first class, nuclear industry reps second class, myself third class, even though of the panel members, I was likely the most expert in the subject. The NRC however, had very small ears for what I was saying [or trying very hard to say]. The result is that the industry got the definition it wanted, not the definition needed [or accurate or proper]. The underlying dynamics may have been similar to finance industry regulation under Greenspan: the regulation the industry liked, but not the regulation needed to properly protect the interests of the public. What kind of "core values and behaviors?" the new definition does say. Safety culture is not a "collective commitment by leaders and individuals". What Schein says is: "leaders create culture". Safety culture is it is a function of [is created by, is the responsibility of] LEADERSHIP, period. This is a CENTRAL [a sine qua non] point. Without this you fail to identify leadership as responsible for safety culture, and you cannot have effective regulation or effective licensee management of safety culture. This is such an obvious oversight, the only conclusion I reach is that the leaders of industry did not want this responsibility identified. Additionally, the phrase "to emphasize safety over competing goals" says nothing. Saying "to emphasize safety over profits" is clearer, but still tells you little about safety culture. Safety culture is an attitude that manages risk. In a HRO, it is a professional leadership attitude that protects people and the environment from the risks of a hazardous process. Like the medical profession, you must invoke the term "professionalism" but leaders of industry do not want regulators ever to hold them responsible for maintaining "professional attitudes". Politically, they do not like to clearly state that operating nuclear involves managing hazards and risks, but it does. "Nuclear Organizations" are high hazard ventures, operated by HROs, and are all about managing risk. The tool used by NRC that is central for assessing safety [PRA] focuses on assessing and managing risk. All of these including the concept of maintaining stakeholder trust are central to safety culture, but absent from the definition adopted by NRC. The new NRC definition addresses none of the problems with the old INSAG definition. This is because NRC never too the time and never made an effort to clearly understand what those problems were. Here is a proper definition of HRO safety culture [such as nuclear, process etc] if NRC had a better understanding of safety culture in Feb 2010, this would have been selected as the new NRC definition: HRO Safety Culture "In a high hazard industry or venture, professional leadership attitudes that ensure hazardous processes are managed such that risk to people and the environment is maintained as low as reasonably achievable, thereby assuring stakeholder trust."

comment #2040 posted on 2011-08-29 08:50:24 by Moderator

this comment was moved by the moderator: My son is visiting Connecticut for the first time. I have just seen there are nuclear plants all around him. I cannot believe after Japans experience America still has Nuclear power plants operating. The public will have to band together to sue power companies for exposing us with poison then maybe they will shut them down. Question there are also 2 closed plants in CT are these also dangerous in other words are there still ponds that need to be kept cool??? Is so that is 4 surrounding my son at present. Thanks America!!

comment #2286 posted on 2011-09-19 21:18:39 by Mike Saunders the car insurance cheapest quote guy

The real problem here is that we have a much better alternative to these reactors (LFTR-Liquid Fluoride Thorium Reactors) and are not pursuing it as we should be. We made a bad choice 40 years ago and are paying for it now... If we don't wake up the rest of the world (Russia, China, and India) are going to pass us by. LFTR's are much safer, cheaper, can be started and stopped easily, produce 1/30th the waste and what waste they do produce is radioactive for much less time, no proliferation danger, etc. A proven technology that we chose not to develop. For more info, see <http://www.youtube.com/watch?v=WWUeBS0EnRk>.

comment #3069 posted on 2011-11-07 13:03:25 by Jake

I applaud the NRC for at least initiating this kind of an open discussion. It should however be more public, and it's too bad such discourse wasn't available during the time when all these plants were set up in the first place.

comment #2909 posted on 2011-10-28 11:18:00 by Moderator in response to comment #2887

The development of uranium-based light-water reactors in the United States was based, at least in part, on the existence of infrastructure for enriching uranium, as well as U.S. Navy experience operating uranium-based reactors. The NRC is aware of Liquid Fluoride Thorium Reactor technology and would be the agency to approve and regulate any civilian reactor design using that technology in the United States.

comment #3247 posted on 2011-11-15 13:48:53 by Moderator

The NRC logo at the top of the blog page should be clickable to the nrc.gov homepage. -Cindy Montgomery Comment moved by the moderator

comment #2887 posted on 2011-10-27 19:56:29 by Astro Gremlin in response to comment #2286

Just saw a presentation on LFTR. No sensitive intermediate elements, waste has a short half-life, no pressurized containment required, fail-safe consists of plugs that melt upon overheating and allow vessel to drain into smaller vessels, stopping the reaction. A prototype at Oak Ridge was "turned off" every night using this multi-drain system. Research needed for commercial version. AEC wasn't interested in the 1950s and 1960s. Why? No weapons grade materials are produced in a LFTR; the very characteristic that recommends it today.

comment #3255 posted on 2011-11-16 09:19:35 by Nuevo Jordan Zapatos

Hey! Do you use Twitter? I'd like to follow you if that would be okay. I'm definitely enjoying your blog and look forward to new updates.

---

## The NRC Joins YouTube

posted on Sat, 19 Nov 2011 16:01:48 +0000



The official NRC YouTube channel went live this morning at [www.youtube.com/NRCgov](http://www.youtube.com/NRCgov). The first posted videos feature NRC employees talking about their personal 9/11 experiences and the effects of that day on their lives. (You can also get there by going to the agency website at <http://www.nrc.gov> and clicking on the YouTube icon.) Look for future videos that include portions of important Commission meetings and information on the history and role of the NRC. YouTube joins Twitter and this blog as social media tools we're using to communicate with the public in new and meaningful ways. We hope the videos will enhance the public's understanding of the agency and its mission, and give a face to the people who work hard to protect people and the environment. We won't be taking comments on YouTube, but have created a special location on this blog for comments on videos. Happy viewing!

*Eliot Brenner*  
Public Affairs Director

### Comments

comment #2187 posted on 2011-09-09 11:58:24 by Austin Cushing

It should be interesting to see what the NRC is up to - I look forward to future videos.

comment #2179 posted on 2011-09-08 18:43:40 by Ken @ Cure Yeast Infection

You put together a very touching video about the events on 9/11. Your presentation makes this sad event more personal for the rest of the country. Thanks.

comment #2423 posted on 2011-10-01 02:00:06 by Agent Corona

It seems that YouTube is becoming a part of just about every area of social networking, training, and education. Good to see NRC on board. Cameron Corona, California

comment #2171 posted on 2011-09-08 12:04:39 by Moderator in response to comment #2170

Thank you! It's been corrected.

comment #2170 posted on 2011-09-08 11:10:05 by Ryan

:Correction: Broken link. Change to <http://www.youtube.com/NRCgov>

comment #2243 posted on 2011-09-13 14:06:42 by buy youtube views cheap

Nice idea for NRC to post videos on Youtube. Waiting to see what NRC have in store.

comment #2341 posted on 2011-09-26 11:00:07 by YouTube Converter

What a great idea for the NRC to have a YouTube channel. Will go check it out right now!

comment #3212 posted on 2011-11-14 07:32:25 by Malik

A very nice video. Thanks for sharing this video.

---

## Enhancing Emergency Preparedness Requirements

posted on Tue, 22 Nov 2011 15:02:52 +0000

A significant change to emergency preparedness requirements at our nation's nuclear power plants has just been completed – after many years and much public dialogue. A large part of the final rule enhances a nuclear power plant's response to possible hostile action events by making drill and exercise programs more challenging, changing the criteria for declaring emergencies and taking additional steps to protect workers, among other new requirements. Additional changes include updating certain requirements, such as those related to public notification systems and evacuation planning. The lengthy rulemaking process was closely coordinated with the [Federal Emergency Management Agency](http://www.federalregister.gov/) (FEMA), and included input gathered from licensees, state, local, and tribal governments, and the public. In conjunction with our new regulations, FEMA has also revised its Radiological Emergency Preparedness (REP) Program Manual. The manual guides how offsite response organizations respond to radiological emergencies. The final rule and related guidance can be found in the Federal Register notice scheduled to run tomorrow. To access these documents online, visit <http://www.federalregister.gov/> But the publication of the rule is not the end. Beginning next week, the NRC and FEMA are planning to hold a series of public meetings throughout the winter to share information and answer questions about the rule and related guidance documents. These meetings will offer opportunities for licensees and response organizations, such as local police and fire departments, to talk to NRC and FEMA staff. Members of the public can observe these meetings and will have a chance to ask questions. There will be one meeting in each of the four NRC regions and near NRC headquarters, in Rockville, Md. [Public meeting notices](#) with more details about these meetings can be found on the NRC website. Meeting participants are encouraged to review the documents prior to the meetings. They all can be found in [ADAMS](#) under the following accession numbers: • NRC Headquarters Public Meeting Notice (November 29 – December 1, 2011): ML113190452 • NRC Region I Public

Meeting Notice (December 13 – 15, 2011): ML113190520 • NRC Region II Public Meeting Notice (January 31 – February 2, 2012): ML113190540 • NRC Region III Public Meeting Notice (January 10 –12, 2012): ML113190457 • NRC Region IV Public Meeting Notice (February 14 –16, 2012): ML113190565 • Quick Reference for Document Links: ML113080528  
Sara Mroz  
Emergency Preparedness Specialist

#### Comments

comment #3540 posted on 2011-11-30 10:25:53 by Holli Papke

This action for enhancing emergency preparedness is a great one. This will really help people when their are times of unwanted events like fire, earthquake, etc. Good luck and hope all people will participate and will learn in emergency awareness activities.

---

### Happy Thanksgiving Wishes

posted on Wed, 23 Nov 2011 18:55:52 +0000



This is always a meaningful time, at the very beginning of the traditional holiday season, to sit down to a special meal with friends and family -- and to remember the early years of this country and all our nation has successfully accomplished over the years. We have much to be grateful for, even amidst the challenges we face today. I am personally thankful for the talented workforce we have here at the NRC. They work hard every day to make sure this nation uses nuclear materials in a way that keeps us and our environment safe. I am especially grateful for their vigilance and dedication after the events earlier this year. The nuclear disaster at Fukushima in Japan brought out the best in them. They demonstrated a willingness to go above and beyond. Fukushima helped remind the people at the NRC why they do what they do. I am pleased to extend to you, on behalf of myself and the whole NRC family, wishes for a very Happy Thanksgiving and an enjoyable holiday season.

Gregory Jaczko  
Chairman, NRC

#### Comments

comment #3508 posted on 2011-11-29 09:49:45 by ukmark

Happy thanks giving to you all. Big love from the UK

comment #3455 posted on 2011-11-26 20:30:32 by peter

Happy Holidays from me to..... ;)

comment #3384 posted on 2011-11-24 13:36:11 by Android apps

Happy Holidays!!!!!

comment #3383 posted on 2011-11-24 12:09:54 by Agility Drills

Just surfing came across this.. I would like to wish you a a happy Thanksgiving as well Hopefully you get to spend time with the family

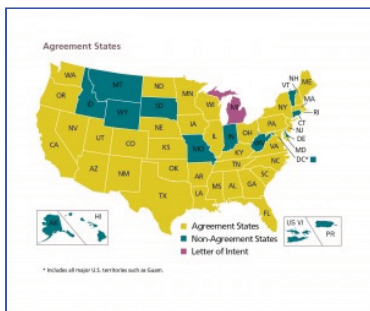
comment #3483 posted on 2011-11-27 15:27:09 by Rafal

good point with Fukushima. we could sit in warm chairs with families/wives/kids and we dont think about people on other side of Earth... Happy Holidays!

---

### Watching the watchers: NRC oversight helps ensure state materials programs hit the mark

posted on Mon, 28 Nov 2011 15:39:03 +0000



Federal law allows states to enter into agreements with the NRC which permit them to regulate the use of certain types of nuclear materials within their borders that would otherwise be overseen by the NRC. The NRC refers to these states as "[Agreement States](#)." Thirty-seven states have chosen to go this route, resulting in about 19,000 or the 22,000 material licenses nationwide falling under the jurisdiction of Agreement States. The other roughly 3,000 material licenses remain under the authority of the NRC. Even though these agreements are in place, the NRC retains an oversight role. As such, the NRC periodically assesses the Agreement State programs to determine if they are adequate to protect public health and safety and are compatible with our program. (Materials inspections performed by the NRC's Regional Offices are also subject to periodic reviews.) Toward this end, the NRC in 1994 designed and piloted a new review process for Agreement State radioactive materials programs called the Integrated Materials Performance Evaluation Program, or IMPEP. In 1996, the NRC began full implementation of IMPEP. So how exactly are these evaluations carried out? One of the first steps is to ask the Agreement State program being reviewed to respond to a questionnaire, which asks detailed questions about the program.

Another initial step entails having qualified inspections accompany the program's inspectors to assess their performance. Next, a thorough on-site examination of records and interviews of program personnel are conducted. Once the on-site review is finished, the IMPEP team -- made up of NRC staff and experts from Agreement States other than the one being evaluated -- issues a draft report of its findings to the program undergoing scrutiny for any comments on factual accuracy. Any comments received are then dispositioned and a proposed final report is issued. A public meeting of a Management Review Board (MRB), which is comprised of senior NRC managers and an Agreement

State manager who serves as a liaison, is held. At this session, the MRB reviews the proposed final IMPEP report and renders a final determination of the program's adequacy and compatibility. After this meeting is held, and the evaluation is finalized, the NRC issues a final report to the Agreement State that was reviewed. Those reports are made public in the [NRC's electronic document system](#). Each day in the United States, radioactive materials are used for purposes that include the treatment and diagnosis of diseases, making food safer and industrial applications, such as detecting oil in the ground or cracks in pipes. The Agreement States, in conjunction with the NRC, work to ensure those uses remain as safe as possible for the public and for the environment.

*Neil Sheehan*

*Region I Public Affairs Officer*

#### **Comments**

comment #3489 posted on 2011-11-28 12:43:41 by asparagusutter

Thanks for the transparent explanation!

---

### **NRC and the nuclear industry to continue dialogue on Japan Task Force recommendations**

posted on Tue, 29 Nov 2011 21:09:34 +0000

The NRC has spent several weeks laying the groundwork for carrying out several recommendations of the agency's Japan Near-Term Task Force, which looked at issues raised by the Fukushima nuclear accident in March. We've reached the point where we're ready to start discussions with industry representatives and the public on how to best implement each of the recommendations. The staff will hold its first implementation meeting this Thursday, Dec. 1, to discuss the recommendations that were subsequently categorized as "Tier 1," or those to be implemented without unnecessary delay. The meeting will be held from 9 a.m. to noon in Room T2B3 of the Two White Flint North building at 11545 Rockville Pike, Rockville, Md. Visitors must use the NRC's main entrance in the One White Flint North Building at 11555 Rockville Pike. The staff and industry representatives will discuss the general approach to implementing the "Tier 1" recommendations. The public will have the opportunity to ask the NRC staff questions about the process during the meeting, which will be [webcast](#). You can also participate by phone -- call 888-469-1349 and use passcode 2977606. The NRC will hold more meetings to lay out initial schedules and milestones for specific recommendations. The first few of these meetings have tentatively been scheduled at NRC Headquarters for Dec. 15; Jan. 5 and 19, 2012; and Feb. 2, 2012. Notices for these meetings will be posted on the NRC's [public meeting schedule](#). The task force issued its [report and recommendations](#) on July 12. The Commission directed the staff to identify which recommendations could be implemented without unnecessary delay, and the staff responded with a [proposal](#) Sept. 9. The Commission provided [direction](#) to the staff on Oct. 18 on how to carry out the proposal.

*Scott Burnell*

*Public Affairs Officer*

#### **Comments**

---