OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

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ACTION OFFICE: EDO

TO: Leeds, NRR

CC: EDO
DEDMRT
DEDR
DEDCM
AO
RIV
Merke, OEDO

AUTHOR: Ace Hoffman

AFFILIATION: CA

ADDRESSEE: Chairman Resource

SUBJECT: Concerns San Onofre Nuclear Generating Station - Press Releases and restart

ACTION: Appropriate

DISTRIBUTION:

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Joosten, Sandy

From: Ace Hoffman [rhoffman@animatedsoftware.com]
Sent: Friday, November 30, 2012 6:41 PM
Subject: Press Release (Revised) 12-11-30 SCE: Don't Gamble Our Future On Probabilities & Un-Verified Data
Attachments: Press Release + 12-11-30 (Updated).docx; ATT00002.txt

11/30/2012

Dear Readers,

Here are two press releases related to today's NRC meeting regarding San Onofre Nuclear Waste Generating Station, which has been closed since January and should never reopen.

The "DAB" Safety Team's report (I am a small portion of the DAB team) is attached. Ray Lutz's Citizen's Oversight press release is below.

There are rumors that the NRC would like SCE to give up and stop trying to restart San Onofre. Ain't gonna happen. San Onofre's owners were just give over 5 billion dollars in rate hikes over the next few years by the CPUC; they're rolling in dough to fix San Onofre at a leisurely pace. Current plans are to start SanO Unit 2 at 70% power for six months starting February 2nd, which is interesting because that would mean it would be purposefully shut down right smack in the middle of the summer, when it's supposedly needed the most!

What kind of planning is THAT? Sounds propagandistic to me!

We'll find out what happens tonight at the NRC hearing. (I'll be listening to the web cast, if the NRC's technology works.)

Ace Hoffman
Carlsbad, CA

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From: Ray Lutz <raylutz@citizensoversight.org>
Subject: [ShutSanOnofre] Press Rel: NRC Mtg 6pm;
Press Conf. 4pm. TODAY on San Onofre

PRESS RELEASE AND MEDIA ADVISORY

FOR IMMEDIATE RELEASE

PUBLIC to NRC: No Restart! Shut Down San Onofre!

TODAY: Edison will propose to restart Unit 2 before failure is understood

EVENT DETAILS:

Event: NRC Public Meeting

Date/Time: Friday, November 30, 2012 / 6-9 p.m.

Location: The Hills Hotel, 25205 La Paz Rd, Laguna Hills CA

Event: Press Conference by Coalition to Decommission San Onofre

Date/Time: Friday, November 30, 2012 / 4 p.m.

Location: Outside the Hills Hotel, 25205 La Paz Rd, Laguna Hills CA

November 30, 2012 (SAN ONOFRE, CA) - A coalition of community advocacy groups opposed to the restart of the defective San Onofre Nuclear Power Plant will attend the public meeting rescheduled by the U.S. Nuclear Regulatory Commission (NRC) to consider Southern California Edison's plan to restart the defective nuclear reactor Unit 2 at San Onofre.

This will follows the March to Decommission San Onofre, led by four Buddhist Monks from the Dana Point Harbor parking lot this morning to the pier. The original plans to go by the San Onofre plant were scuttled when high levels of radiation were measured near the replaced steam generator on the road.

Our Coalition stands by our Core Message delivered at the NRC's public meeting in Dana Point on October 9, 2012:

NO RESTART! of the defective nuclear reactor Unit 2 at the San Onofre Nuclear Power Plant.

We demand a full License Amendment and Hearing and process, including evidentiary hearings with sworn testimony and cross-examination which include experts independent of the NRC, Edison and the nuclear power industry. Of course will all the facts on the table, this will likely mean there will be no restart attempted.

This public meeting tonight is NOT a substitute for this process. Given how we got to this point and the serious loss of faith by the public in the NRC and Edison as a result, we can see no reason why all five NRC Commissioners would not want this as well.

NRC proceedings regarding San Onofre should be conducted in the area most impacted by the decisions of these proceedings and should accommodate the more than 1,000 concerned citizens who are expected to attend - as they have consistently shown this year.

A growing number of Southern California City Councils have added their voice to our call for an adjudicated License Amendment and hearing process prior to restart of the crippled San Onofre Nuclear Power Plant in defense of their residents and businesses, including:

Del Mar

Encinitas

Irvine

Laguna Beach

Mission Viejo

Santa Monica, and

Solana Beach.

The cities of San Clemente and Vista have joined in Senators Boxer's and Feinstein's call for the NRC to modify its policies and procedures in light of the Fukushima meltdowns, to further protect their residents and businesses.

On November 8, 2012, the five Nuclear Regulatory Commissioners ruled on petitions filed by Friends of the Earth in June of this year calling for the foregoing. Specifically, the Commission:

Referred to the Atomic Safety & Licensing Board (ASLB) whether the current Confirmatory Action Letter (CAL) process is a de facto license amendment process, requiring an adjudicatory public hearing;

Referred to the Executive Director of Operations (EDO) whether Edison should have sought a license amendment, with attendant adjudicatory hearings, when it installed the defective steam generators in 2010-11;

Offered to reconsider convening an adjudicatory hearing if the ASLB denies FoE's request;

Offered to reconsider staying the restart of the idled reactors if restart becomes "imminent" before the completion of the processes ordered above.

The Coalition to Decommission San Onofre is comprised of community-based, grassroots organizations in San Diego and Orange Counties concerned for the safety of 8.5 million residents living within 50 miles of the crippled San Onofre Nuclear Power Plant, and for the economy of Southern California. We continue to hold the five members of the Nuclear Regulatory Commission accountable.

Additional Key Information:

Southern California Edison wants to restart one of their broken nuclear reactors without fixing it first.1 The plant has been off-line since 1/31/2012 due to radiation leaks and excessive tube wear in newly replaced steam generators2 that are the worst in the nation. See Tubes Plugged Chart3 and Fairewinds Associates report: San Onofre's Steam Generators: Significantly Worse than all Others Nationwide.4 The NRC says design changes in these steam generators are flawed,5 making the reactors unsafe.

California has excess power without California's unreliable nuclear power plants, even during peak summer months, according to California government documents6. And the California ISO's electricity grid Transmission Plan7 says there will be no grid stability concerns with San Onofre shut down.

CONTACTS:

Citizens' Oversight: Ray Lutz / RayLutz@CitizensOversight.org / 619-820-5321

Peace Resource Center of San Diego: Carol Jahnkow / caroljahnkow@gmail.com / 760-390-0775

Residents Organizing for a Safe Environment: Gene Stone / genston@sbcglobal.net / 949-233-7724

San Clemente Green: Gary Headrick / gary@sanclementegreen.org / 949-218-4051

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1 http://sanonofresafety.org/2012/10/14/union-of-concerned-scientists-questions-restart-of-san-onofre-unit-2-nuclear-reactor/

2 http://sanonofresafety.org/category/steam-generator/

3 http://sanonofresafety.files.wordpress.com/2011/11/pluggedtubesbyage2012-10-10.pdf

4 http://fairewinds.org/content/san-onofre%E2%80%99s-steam-generators-significantly-worse-all-others-nationwide

5 http://sanonofresafety.files.wordpress.com/2011/11/badvibrations2012-06-28.pdf

6 http://sanonofresafety.org/energy-options/

7 http://sanonofresafety.org/energy-options/

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Ray Lutz
Citizens' Oversight
CitizensOversight.org
619-820-5321

PRESS RELEASE

The DAB Safety Team: November 30, 2012

Media Contact: Don Leichtling (619) 296-9928 or Ace Hoffman (760) 720-7261

Don't Gamble Our Future On Probabilities & Un-Verified Data

SCE erroneous claims about Westinghouse and AREVA Operational Analysis (OA) as being Deterministic Analysis are misleading, confusing and controversial. These OA's are Actually Possibilistic Analysis, (PA) which is nothing more than Profitganda, the use of phony "feel good" information to sell an idea, product or concept to the masses.

Safety analysis can be characterized as Probabilistic, Deterministic or a combination of both known as Possibilistic Analysis. Deterministic Analysis Definition: Analysis of a deterministic problem, without taking the probabilities of different event sequences into account. [Source: Businessdictionary.com]

1. **Attachment 6 - Steam Generator Operational Assessment- 3.6 Summary of All OAs** - The OAs (See Table 3-1) summarized in Sections 3.1 and 3.2 conclude the SIPC and AILPC are satisfied.

Table 3-1: Edison OA Approach and Results Comparison

OA Description	OA for Degradation Mechanisms Other Than TTW	TTW OA With No Effective AVB Supports	"Traditional" Probabilistic OA Prepared for TTW	Deterministic TTW OA
Reference Attachment 6 Appendix	Appendix A AREVA	Appendix B AREVA	Appendix C Intertek APTECH	Appendix D Westinghouse
Edison Claim	Probabilistic	Deterministic	Probabilistic	Deterministic
DAB Safety Team Analysis	Probabilistic	Possibilistic (Alarming)	Probabilistic	Possibilistic (Alarming)

2. AREVA Attachment 6 – Appendix B: SONGS U2C17 - Steam Generator Operational Assessment for Tube-to-Tube Wear – page 20 - 4.2 - Operational Assessment Strategy: The nominal distance between extrados and intrados locations of neighboring U-bends in the same plane ranges from 0.25 inches to 0.325 inches due to the tube indexing. There are 36 U-bends in Unit 2 SG E-088 and 34 in SG E-089 with a separation less than or equal to 0.050 inches (Design 0.25 inches, Arkansans Nuclear One Unit 2 0.35-0.50 inches). The U-bends with the smaller separation distances are much better candidates for wear by rubbing yet do not exhibit TTW. Contact forces, as deteriorated by tube wear at support locations over time, will be calculated using advanced computational techniques. This will be combined with calculations of stability ratios to develop the probability of the onset of in-plane fluid-elastic instability (*an alarming statement because a Main Steam Line Break (MSLB) accident has no time line*), both as a function of operating power level and operating time. The operating power and operating time will be adjusted to provide a probability of occurrence of instability 0.05. This probability is based on considerations and requirements described in the EPRI SG Integrity Assessment Guidelines. Without the development of TTW, the Structural Integrity Performance Criteria, SIPC, is automatically satisfied to a probability greater than 0.95.

DAB Safety team Comment: This is claimed to be a Deterministic OA but is using Probabilities. This is projecting possibilities using probabilities. Hence this is an (**Alarming**) **Possibilistic** OA and not a Deterministic OA as claimed by SCE.

3. **Westinghouse Attachment 6 – Appendix D: Operational Assessment of Wear Indications In the U-bend Region of San Onofre Unit 2 Replacement Steam Generators**, Page 5, Section 1-Introduction: For the SONGS application, the resulting wear distribution after a cycle of operation is known, or can be inferred from existing ECT data, but for any given tube, there are many parameters that resulted in the wear distribution that are unknown. It can be assumed that the tube and AVB surfaces will not have significant run-in effects for the first cycle of operation, but even this assumption involves a potential error of several hundred percent. Most importantly, the tube/AVB geometry is expected to be different than the original design intent, but all that can be inferred with the available information is the minimum length of the dominant tube vibration span. In the largest sense, the answer (wear distribution) is known, but the inputs are unknown.

Foot Note 4, Page 101: Westinghouse does not have access to the assembly procedures. The 0.12 to 0.14 dimensions are anecdotal without verification. NOTE: Anecdotal: Based on personal observation, case study reports, or random investigations rather than systematic scientific evaluation. [Source: dictionary.reference.com]

Foot Note 5, Page 102: Westinghouse does not have access to final manufacturing or inspection details, but anecdotal input indicates that six-pound weights were allowed and used during AVB inspection for consistency with AVB drawing tolerances.

DAB Safety team Comment: When you start using the words unknown, assumed, inputs are unknown, anecdotal without verification and this assumption involves a potential error of several hundred percent, then this Deterministic OA is using unknown Probabilities and un-validated (**Alarming**) Possibilities. Hence this is a **Possibilistic** OA and not a Deterministic OA as claimed by Edison.

4. Enclosure 2 San Onofre Nuclear Generating Station Unit 2 Return to Service Report - Section 5.2.2 Probabilistic Risk Assessment: The differential pressure across the SG tubes necessary to cause a rupture will not occur if operators prevent RCS re-pressurization in accordance with Emergency Operating Instructions.

The DAB Safety Team Comment: Do Southern Californians really want to live at the **mercy** of SCE's plant operators, who will be put in the very difficult position of operating defective steam generators that already have thousands of damaged tubes, just so SCE can profit (See SONGS Union Leader's letter that the SONGS workforce thinks a restart is not safe)? Even an Ex-Plant Shift Manager said, "He was not going to put his license on line and risk public lives because SCE Management wants to make money by restarting a defective reactor." The question is, how bad do these steam generators have to be before the NRC tells SCE to pulls the plug?

The DAB Safety Team believes that SCE's own data proves beyond a doubt, that these already heavily damaged replacement steam generators (RSG) should never be restarted.

Guessing On Nuclear Safety Caused A Trillion Dollar Radioactive Eco-Disaster At Fukushima!

Joosten, Sandy

From: Ace Hoffman [rhoffman@animatedsoftware.com]
Sent: Saturday, December 01, 2012 10:29 PM
Subject: This plant must never be restarted...

12/1/2012

Dear Readers,

If you know ANYONE that works in the nuclear industry, ask them to quit their job -- TODAY!

And ask them not to pour anti-freeze in the fuel oil tank for the Emergency Diesel Generators on the way out, as apparently some sod did at San Onofre last month, and the FBI have been called in to "investigate," which I presume means looking at old security videos and interviewing people to see who holds a grudge (that apparently won't narrow it down very much), who had access to the area (ditto), who acts nervous during the interview (...), and who had a bad hair day (me). Since the area was unsecured and hundreds of employees had access, I doubt they'll catch the guy.

With a third of the work force -- 730 people -- having been laid off recently at San Onofre, there was bound to be some animosity at the plant during the layoff period. I don't understand why SCE couldn't have offered all their employees (except the guy that poured anti-freeze in the EDG) jobs in their renewable energy division. Then there probably wouldn't have been ANY animosity at all -- here's SCE's claim:

"SCE leads the nation in renewable energy, delivering approximately 15.5 billion kilowatt-hours of renewable energy to customers in 2011. This constitutes about 21.1 percent of the energy we deliver to customers.

"In 2011 SCE signed 15 contracts for 920 megawatts of renewable power. These contracts have the potential of providing 2.4 billion kilowatt-hours of electricity - enough for more than 364,000 average-sized homes for a year."

(from: www.sce.com)

In a chart on the same web page, SCE claims to have a renewable "capacity" of over 4,000 megawatts -- double San Onofre's output.

But besides wondering why SCE treats their employees so poorly, surely everyone has to wonder -- the public, the NRC, and the employees that are left -- whether or not 2/3rds of the previous work force is enough for safely run one reactor while simultaneously trying to figure out and fix what went wrong with the other one.

Below are my tweets from listening to last night's NRC hearing. I took advantage of the NRC's webcast, which seemed to have been produced with outdated software. What a surprise.

Southern California Edison is playing a very slick game, gaming the NRC in this case, and duping the public with technospeak. But the short story seems to be this:

Everything that is the least bit different between Unit 2 and Unit 3 is being used to "prove" that SCE can operate Unit 2 safely somehow because it's not like Unit 3. At the same time everything that is similar between the two units can provide valuable data to prove that at 70% power, Unit 2 won't act like Unit 3.

SCE claimed that FEI occurred in Unit 3 because the void fraction was too high (that is, the steam was too dry), and the velocity of the steam was too fast, and Unit 3 was slightly different in design and fabrication (they ignored the operational differences). Some numbers had been entered wrong into a computer program. Also, retainer bars near the U-bends at the top weren't designed correctly. Anti-vibration bars had too large a gap between the bars and the tubes so they didn't dampen the "in-plane" vibrations enough, while the tube support plates had too small a gap, so liquids could not get through, further drying out the steam.

It sounded interesting, but it was mostly guesswork and they even admitted it several times in one way or another, saying, after prodding by the NRC, that various presumptions were based on "newly developed risk models and assumptions" based on looking at Unit 3 and guessing that what went wrong with Unit 3 provides a good enough benchmark to know how FEI will behave if it happens in Unit 2. But that's not a whole lot of data to risk the entire value -- well over a trillion dollars -- of Southern California over!

SCE mentioned a Main Steam Line Break once or twice (it's a "Design Basis Accident" so they have to plan for it), but for all intents and purposes, they completely ignored that issue all night, on the assumption that Fluid Elastic Instability takes a long time to damage the tubes if it happens, just because they think it took a long time (11 months; that's not so long!) in Unit 3. SCE assumes Unit 3's tubes were vibrating from FEI right from the start, but that might not be a valid assumption and might not matter anyway as an indication of how Unit 2's degraded tubes will behave. SCE admitted during the night that tube-to-tube degradation can be "unpredictable and rapid" but they want to risk it anyway!

The tweets shown below are in reverse chronological order, so I recommend reading them from the bottom up.

Sincerely,

Ace Hoffman
Carlsbad, CA

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AceHoffmanNov 30, 9:35pm via HootSuite

NRC says they have "significant work to do" to evaluate SCE's claims & "have a number of significant questions that need to be answered."
1 retweets
AceHoffmanNov 30, 9:33pm via HootSuite

#nukefreecal NRC's Region IV Deputy Regional Administrator closes by saying the NRC will be forming an oversight panel, charter to come...
AceHoffmanNov 30, 9:31pm via HootSuite

#nukefreecal Roger Johnson asks why we're not talking about public health &safety -- cancer, for example. He wants epidemiologists present.
1 retweets
AceHoffmanNov 30, 9:28pm via HootSuite

#nukefreecal Next a teacher and mother asks SCE not to experiment with a 5% chance of Fluid Elastic Instability.
1 retweets
AceHoffmanNov 30, 9:25pm via HootSuite

#nukefreecal Dietrich assures us SCE knows why there was FEI, namely that the models were wrong (ignoring design and ops problems).

AceHoffmanNov 30, 9:23pm via HootSuite

#nukefreecal Martha Sullivan asks why they are even thinking of restarting when they don't completely understand what caused the problem?
AceHoffmanNov 30, 9:22pm via HootSuite

#nukefreecal Nancy Nolan asks if we have to wait for a leak to know there's a problem? Other than "predicting," yes, that's the only way.
1 retweets
AceHoffmanNov 30, 9:19pm via HootSuite

Still playing at: nrc.granicus.com/MediaPlayer.ph… AceHoffmanNov 30, 9:16pm via HootSuite

#nukefreecal Hey? Where did my audio go??? The event ended online at 9:15! I am disgusted with NRC's inability to handle a webcast!
2 retweets
AceHoffmanNov 30, 9:14pm via HootSuite

#nukefreecal Joe Holtzman asks Mr. Dietrich: "Why wasn't effective failure mode analysis done before?" And points out U2 & U3 are similar.
1 retweets
AceHoffmanNov 30, 9:12pm via HootSuite

#nukefreecal Tube-To-Tube-Wear is "very sobering" to SCE. "Any entity involved" needs to look at this "sobering" problem. That's all PWRs!
AceHoffmanNov 30, 9:11pm via HootSuite

#nukefreecal Lutz also wants to know why, when SCE said it was all done right the first time, should we believe them this time?
AceHoffmanNov 30, 9:10pm via HootSuite

#nukefreecal Ray Lutz points out that all the "experts" were called "independent" but all were hired by Edison.
AceHoffmanNov 30, 9:07pm via HootSuite

#nukefreecal IBEW local 47 supports SanO restart. Asks how many fatalities in the US (since we haven't had a Fukushima yet). Chip skips it.
1 retweets
AceHoffmanNov 30, 9:03pm via HootSuite

#nukefreecal Chip discards yet another pro-nuker, then a poet sings a poem: "What part of Fukushima do you not understand?" Pete Dietrich?
AceHoffmanNov 30, 9:01pm via HootSuite

#nukefreecal NRC's Ryan says the licensee took about 8 months to come up with the analysis. The NRC says they'll need some time, too.
AceHoffmanNov 30, 9:00pm via HootSuite

#nukefreecal A senior citizen "hopes the work proceeds in a timely manner." Next a chamber of commerce pro-nuker... Time flies...
AceHoffmanNov 30, 8:58pm via HootSuite

#nukefreecal Libbe HaLevy asks, "when can OUR experts speak?" Can we have an ADJUDICATORY HEARING? A "legal environment"? Put SanO on trial!
2 retweets
AceHoffmanNov 30, 8:56pm via HootSuite

#nukefreecal NRC admits to having hired one outside expert & contracted with another. Other than that so far it's all in-house "expertise."
AceHoffmanNov 30, 8:54pm via HootSuite

#nukefreecal Antelope Valley lady asks if the NRC actually has the resources to do a full technical review? The NRC says they do. (We pay.) AceHoffmanNov 30, 8:53pm via HootSuite

#nukefreecal Gene asks this Q: HOW come SCE says they're going to be responsible considering they're not required by law to be responsible?
1 retweets
AceHoffmanNov 30, 8:51pm via HootSuite

#nukefreecal Chip tells a pro-nuke troll his Q will be treated as a comment. Gene Stone points out that the U2 and U3 flows are similar.
AceHoffmanNov 30, 8:47pm via HootSuite

#nukefreecal Gary's also pointing out that there are WAY TOO MANY OTHER PROBLEMS besides just the SGs. He's getting a loud applause.
AceHoffmanNov 30, 8:46pm via HootSuite

#nukefreecal Gary Headrick is asking first question, pointing out that even though U2 is better than U3 both are worse than industry norms.
AceHoffmanNov 30, 8:44pm via HootSuite

#nukefreecal Chip just announced they'll extend the meeting to 9:25 (about 40 minutes from now). They haven't let the public ask Qs yet!
AceHoffmanNov 30, 8:40pm via HootSuite

@Shazzamm1971 yeah, this whole idea of running at 70% is an experiment in seeing if their guesswork is reasonably accurate... or not...
Show Conversation
AceHoffmanNov 30, 8:32pm via HootSuite

Shazzamm1971Nov 30, 9:27pm via Mobile Web

@AceHoffman Is the 70% is based on the original power specs or the up rated output. So 70% may actually mean 95% of the original.

Shazzamm1971: @AceHoffman in Vibrational analysis having a baseline is everything, putting monitors on a compromised SG and op at 70% will tell nothing8:35pm, Nov 30 from Mobile Web

AceHoffman: @shazzamm1971 yeah, this whole idea of running at 70% is an experiment in seeing if their guesswork is reasonably accurate... or not...8:40pm, Nov 30 from HootSuite

Shazzamm1971: @AceHoffman Is the 70% is based on the original power specs or the up rated output. So 70% may actually mean 95% of the original.9:27pm, Nov 30 from Mobile Web
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OR until it's back at 100%. Your guess is as good as theirs as to which it will be: FEI-induced meltdown or sweet profits for Edison?
AceHoffmanNov 30, 8:30pm via HootSuite

#nukefreecal Pete Dietrich admits they plan to run unit two at higher and higher power and pressure until ... until... until it breaks.
2 retweets
AceHoffmanNov 30, 8:26pm via HootSuite

#nukefreecal SCE says it was all evaluated under 10CFR50.59. They say. SoCal's commitment is to the profits of the shareholders.
1 retweets
AceHoffmanNov 30, 8:22pm via HootSuite

#nukefreecal But if a sensor fails SCE won't shut down, AND they won't even be able to use the data collected during the five-month run.
1 retweets
AceHoffmanNov 30, 8:21pm via HootSuite

#nukefreecal Vibration monitors at the tube sheet area are located outside the SGs. They banged a hammer inside to calibrate them.
AceHoffmanNov 30, 8:19pm via HootSuite

#nukefreecal Argon-41 is more easily detected than N-16. Good to know. (N-16 can be used to detect a 5 gallon-per-day leak.) AceHoffmanNov 30, 8:13pm via HootSuite

#nukefreecal SCE once again admits that they only have probabilities to go on-that Fluid Elastic Instability is only a power transient away.
AceHoffmanNov 30, 8:10pm via HootSuite

#nukefreecal NRC sees that the AVB functions are being changed, and are asking SCE why they don't see it as a design change.
3 retweets
AceHoffmanNov 30, 8:04pm via HootSuite

#nukefreecal The calculated-over-critical stability ratio is considered safe at 75%, or anything less than 1. That's 70% power, they hope.
1 retweets
AceHoffmanNov 30, 7:59pm via HootSuite

#nukefreecal SCE's "new approach" is to give up on fixing the problem and just run at an administratively-set lower power output.
AceHoffmanNov 30, 7:54pm via HootSuite

#nukefreecal I can't imagine AREVA being able to deliver an unbiased opinion to SCE over MHI's bad SGs at SONWGS. That's just an opinion.
AceHoffmanNov 30, 7:53pm via HootSuite

#nukefreecal Now they're saying they knew years ago the void fraction was going to be very high, but they went ahead and built them anyway.
2 retweets
AceHoffmanNov 30, 7:50pm via HootSuite

#nukefreecal Velocity and void fraction are important. But so are pressure and temperature... and earthquakes and MSLBs!
AceHoffmanNov 30, 7:48pm via HootSuite

#nukefreecal SCE admits that the void fraction at 100% thermal power would be too high and unsafe. They promise not to turn up the dial.
AceHoffmanNov 30, 7:44pm via HootSuite

#nukefreecal "The paradigm at the time" (~2002) was that other dampening would prevent in-plane dampening. Now they know they didn't know.
1 retweets
AceHoffmanNov 30, 7:39pm via HootSuite

The SCE guy just admitted that running Unit 2 at 100% power would be very dangerous. But the only thing stopping that is "administrative."
4 retweets
AceHoffmanNov 30, 7:37pm via HootSuite

#nukefreecal The sum total is they might be able to run at 70% power, but if there's a MSLB or a nutcase or a power transient, then what?
AceHoffmanNov 30, 7:33pm via HootSuite

#nukefreecal Why isn't MHI required to be at this? Is it because they're way off in Japan? If so, isn't that a reason to not buy MHI parts?
3 retweets
AceHoffmanNov 30, 7:25pm via HootSuite

#nukefreecal Ah Ha! They've just admitted they want to run the reactor at 70% power to TEST THEIR WAY TO 100%. That's not safe.
3 retweets
AceHoffmanNov 30, 7:24pm via HootSuite

#nukefreecal What if the guy who poured anti-freeze in the oil of the EDG decides to crank up the power to 100%? What happens then?
2 retweets
AceHoffmanNov 30, 7:22pm via HootSuite

#nukefreecal Note how many times SCE says they're still investigating stuff! Yet they want permission to run at 70% power: Voluntarily set.
2 retweets
AceHoffmanNov 30, 7:21pm via HootSuite

#nukefreecal Comparing Unit 2 and Unit 3, the thermal hydraulics were NOT as similar as SCE claims...
2 retweets
AceHoffmanNov 30, 7:19pm via HootSuite

#nukefreecal Dietrich is talked about the OSGs "cracking" from chemicals, but their main intention with the RSGs was to minimize wear. Oops!
1 retweets
AceHoffmanNov 30, 7:16pm via HootSuite

#nukefreecal NRC guy asks if the AVB bars had a lower harmonic because of a redesign. SCE blamed MHI for such details, one way or the other.
1 retweets
AceHoffmanNov 30, 7:12pm via HootSuite

#nukefreecal Will there be high localized void fractions during a MSLB?? Will the steam be too dry? The velocity too high? Not enuf damping?
AceHoffmanNov 30, 7:11pm via HootSuite

#nukefreecal Unit 2 is NOT "clearly different" - the results were a bit different but that's probably due to operational differences...
2 retweets
AceHoffmanNov 30, 6:58pm via HootSuite

Unit 2 had different pressures, temperatures and flow rates which probably caused the different behaviors -- and some design issues.
AceHoffmanNov 30, 6:57pm via HootSuite

3 tubes failed below Main Steam Line Break accident pressure. In case you wonder whether we almost lost Southern California last January...
AceHoffmanNov 30, 6:55pm via HootSuite

A "backward look" at San Onofre from DAY ONE indicates ~4,000,000 pounds of high level spent fuel sitting on site and we don't want any...
AceHoffmanNov 30, 6:53pm via HootSuite

Say what, "UNPREDICTABLE AND RAPID"??? Tube-To-Tube wear in 2 tubes is 2 tubes too many!
AceHoffmanNov 30, 6:51pm via HootSuite

2 tubes in Unit 2 with >35% wear, 2 were close enough to be more than that by the next cycle... two tubes with TTW 14% "probably less"...
AceHoffmanNov 30, 6:48pm via HootSuite

The fact that the tubes passed the "integrity requirements" proves that those requirements were/are inadequate...
AceHoffmanNov 30, 6:46pm via HootSuite

There are additional types of probes that are more expensive which SCE did not use... see the DAB Safety Team reports for more information.
AceHoffmanNov 30, 6:43pm via HootSuite

Then they looked on the outside and found some wear from the retainer bars... so they plugged the 94 tubes that touched the bars.
AceHoffmanNov 30, 6:39pm via HootSuite

Okay, so they looked at all 20,000 tubes with a bobbin coil. max 76 feet. They looked and looked. Then sampled with the rotating probe.
AceHoffmanNov 30, 6:35pm via HootSuite

Note that Unit 1's steam generators did NOT function very well, and the original SGs (OSGs) in U2 & U3 didn't function very well either!
AceHoffmanNov 30, 6:33pm via HootSuite

9727 things that can fail in each steam generator and dozens of places on each of those "10,000" tubes. So 170,000 inspections isn't much!
AceHoffmanNov 30, 6:31pm via HootSuite

The tube-to-tube separation was much less than the design had called for (0.05 inches versus 0.25 inches or more).
AceHoffmanNov 30, 6:30pm via HootSuite

They took away ~7 inches of topspace above the U-tubes for the Replacement Steam Generators. They can't put it back.
AceHoffmanNov 30, 6:29pm via HootSuite

The need for effective heat transfer after shutdown goes on for a long time. If the tubes have cascaded ruptures, look out!
AceHoffmanNov 30, 6:26pm via HootSuite

Here's an animation you can look at if you don't have visuals, from my web site. The top two images are like San Onofre goo.gl/t1Njg AceHoffmanNov 30, 6:24pm via HootSuite

Safety margins for SG tube wear are probabilities, guesses, and assumptions. The resultant numbers might be right, but they might not be.
AceHoffmanNov 30, 6:22pm via HootSuite

Even without TTW (tube-to-tube wear), Unit 2s tubes should have been inspected during the first refueling outage.
AceHoffmanNov 30, 6:21pm via HootSuite

600 technicians ensure there are "significant safety margins... to ... maintain tube integrity". Didn't they promise that the 1st time?
AceHoffmanNov 30, 6:18pm via HootSuite

Note that unit two's SGs weren't inspected prior to unit 3's blowing a tube. After spending half a billion $ to install them, why not?
AceHoffmanNov 30, 6:17pm via HootSuite

They keep saying they did a good job of shutting down Unit 3. But actually, they didn't recognize fluid elastic instability.
AceHoffmanNov 30, 6:14pm via HootSuite

Pete Dietrich says: "We take full responsibility and accountability for [the] decision." Does that mean SCE is abandoning Price-Anderson?!?
AceHoffmanNov 30, 9:49am via HootSuite

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