

Highlights
Nuclear Regulatory Commission
Level 3 Hearing on San Onofre nuclear power plant
February 12, 2012
San Juan Capistrano, California
By Glenn Pascall

Purpose of the meeting: To review the status of NRC oversight of Unit 2

Next meeting: In California in April or May

NRC Presentation Panel

Facilitators: Rick Daniels, Chip Cameron

Chair: Arthur Howell, NRC Deputy Administrator, Region IV, and NRC Team Leader on SONGS

NRC Confirmatory Letter and Edison Response: Ryan Lanz

Inspection process and technical evaluation: Greg Warner / Jim Anderson

Atomic Licensing and Safety Board process: Dan Dorman, Deputy Director

Overview: Art Howell

The steam generator problem is a serious safety issue that has to be resolved.

The steam generator leak was examined by an “augmented inspection team” that issued its report in June 2012. The NRC has also commissioned an independent inspection report that will be issued.

On October 2, 2012 Edison submitted a response to the June report. As a result, 8 of the 10 unresolved items in the report have been “closed” as issues.

An inspection effort is currently underway in response to a CAL (Confirmatory Action Letter) from the NRC to Edison that contains requests for additional information. The NRC formed an Oversight Panel that held a review session on January 12, 2013 to determine the accuracy of information submitted by Edison.

Among the technical issues:

- An operational assessment of the conservatism of data distribution

- Separate reviews of benchmarking used by Mitsubishi to assess vibrational forces, gas flows and forces, and tube integrity margins.
- Modification of stability ratio calculations

The CAL contained 32 additional requests for additional information. Edison has responded to 28.

The most difficult question for Edison to answer is the ability to demonstrate steam generator tube integrity during the entire period of future operations under the current license.

Another significant question is whether reliance on anti-vibration bars constitutes a design change.

A third question regards the ability to insure safety and steam generator integrity up to 100 percent of thermal power.

The earliest time frame on restart would be the end of April.

Confirmatory Action Letter (CAL) specifics: Ryan Lanz

- Edison was performing routine inspection on Unit 3 when Unit 2 broke down due to fluid elastic instability. Unit 3 was found to have 318 tubes with wear.
- Edison performed operational assessments on Unit 3 that will determine the causes of wear, with results made public.
- Edison will verify complete plugging of 507 tubes in Unit 2.
- Edison will describe actions intended to prevent future wear.
- If Edison runs Unit 2 at 70 percent power, this will be followed by shutdown and inspection after 150 days.
- Prior to start-up of the Unit 2 reactor, Edison will provide a statement to NRC regarding safe operations, and NRC will review Edison modeling related to this.

Statements from Local Elected Officials (recognized and invited to speak)

Don Mosher, Del Mar City Council, and Scripps Research Institute:

Our concern has increased as availability of research data has increased. We oppose restart without an Adjudicated License Amendment process. We are particularly concerned that computer modeling failed to predict the problems that developed, yet computer modeling is now being used to assess the degree of future risk. Only operation of the plant at 100 percent power will reveal the actual degree of risk.

Bob Filner, Mayor, City of San Diego (Filner's statement delivered by Dr. Rob Wilder, special assistant to the mayor for environmental policy and sustainability):

Regarding the resatart of Unit 2, the NRC has determined that Unit 2 and Unit 3 have similar problems. Any decision about Unit 2 should be preceded by an Adjudicated License Amendment process.

The Public Utilities Commission (PUC) is investigating the appropriateness of Edison's rate charges since shutdown. The PUC should also study the costs of a restart versus the full range of energy alternatives.

Dave Roberts, San Diego County Board of Supervisors: San Onofre should remain closed until all safety issues have been answered.

Cut through the rumor and innuendo to the only question that matters: Is this plant safe?

(name of representative) Solana Beach City Council:

Our city council is in unanimous support of the Boxer-Feinstein resolution regarding addressing all risks. Safety is the top priority.

We support Senator Boxer's call for full investigation before restart.

(name) Deputy Mayor, City of Del Mar: We cannot ignore Fukushima. What is our exit route? The truth is we know there is not one. San Onofre must not reopen without the full required hearings.

Question from moderator: Is any local government official in the audience tonight who is not concerned about San Onofre? (silence)

Question from Chip Cameron, facilitator: Why did NRC ask Edison to determine tube wear in Unit 3 but not in Unit 2? Will you do that?

Reply from Art Howell: The NRC will amend the CAL “as needed” based on Edison’s response (note this does not answer the question).

Question: What is a worst-case scenario for stream generator piping?

Reply from Greg Warner: Each ruptured tube will leak 400 – 500 gallons a minute.

Reply from Ryan Lanz: This type of accident does not create a challenge for the nuclear fuel supply and thus does not involve risk of a major radiation release.

Gary Headrick, San Clemente Green:

The document that is the basis of the Boxer-Markey letter has raised major concerns. So long as it is kept confidential, it exposes the NRC to charges of “guilt by association.” Why isn’t this letter being released?

(No response from NRC. The argument would probably be that the letter contains propriety technology information. As the Los Angeles Times noted in an editorial on February 10, such information could be “redacted” – censored – while the remainder of the letter is released.)

Question: Does NRC dispense all policy information equally among stakeholders?

Reply from Ryan Lanz: Yes, except when information is security-related or is claimed by a vendor to be proprietary – a claim that is reviewed by NRC.

(name), Construction Trades spokesperson: San Onofre has been a safe place to work over time. If there is a way to get the plant up and running, let’s do it expeditiously.

Ryan Lanz: The 70 percent run is not a test. It won’t happen unless determined in advance to be safe.

Ray Lutz, Citizens Oversight Projects:

If the NRC found the cause of the wear and break, this surely must include an explanation of what in the process failed. Absent that there will be no confidence. What is it going to take to get the NRC to have a hearing on this?

Reply from Dan Dorman: Did the CAL constitute a de facto license amendment? If NRC so decides, that could lead to an ALA. The last time this question was asked of the NRC, it directed the matter to the Review Board.

Steve Crane, Dana Point: Are you doing durability and fatigue life testing on tubes that previously failed?

Reply from NRC: Yes, as part of the initial ASME (American Society of Mechanical Engineers) testing.

Crane: But despite that they failed. 500 tubes failed – out of how many?

Reply from NRC: There are 10,000 tubes in each steam generator.

Greg Warner, NRC Inspection Assessment Lead: We are focused on Edison's return-to-service plan: thermal hydraulics, modeling reliability, corrective actions, defense-in-depth measures utilizing new equipment.

Jim Anderson, NRC Technical Evaluation Team: We are reviewing Edison's October 3, 2012 response to the CAL. We held a public meeting with Edison in December regarding whether they understand the RAI's (requests for additional information). These call for a comprehensive review of mechanical design, structural integrity, and operations within the power range.

SCE has responded to 28 of the 32 questions. NRC will not make a restart decision until all questions are answered. We will make public a "redacted" (censored) version of questions involving proprietary information.

Gene Stone, ROSE:

At the November 30 meeting, Mr. Howell said he had not read the full response from Edison. I found that disturbing.

How can you hold a secret investigation while your own NRC Chair is calling for transparency? At this point we and other public groups have three demands: (1) An Adjudicated License Amendment hearing in Orange County; (2) An investigation of whether there has been criminal wrongdoing by NRC or Edison.

Torgen Johnson, Urban Planner, Laguna Niguel:

All evaluation is essentially a judgment call. Judgments must be based on prior experience. How do you make a judgment call in the case of a level of wear that is unprecedented? The decision regarding restart will also be a judgment call.

Did Edison make materially false statements about technology they knew was defective? This would be one focus of a hearing.

Dan Dominguez, Union Representative:

I have 30 years at San Onofre, including starting and stopping the reactor many times. We shut it down safely as soon as there is a problem. We do not have an issue with the plan Edison has put forward.

(name), Union Representative:

We call on the NRC to approve restart of the plant out of respect for those workers who work in a safe environment

(name), School of Engineering faculty, UCI:

This may not have been the first time Mitsubishi used this type of design but it was the largest. San Onofre has more steam tubes than any other plant in the U.S.

The issue is the depth of damage to each tube as well as the number of damaged tubes. (no response from NRC).

Question: Is Edison capable of operating the plant safely?

Reply from Ryan Lanz: I am not going to speculate on that. Would Edison like to respond? (silence from Edison, which had a block of front-row seats reserved at the meeting).

Comment from the audience: San Onofre has the worst safety record of any U.S. nuclear plant.

Dan Doorman, Deputy Director, Atomic Licensing & Safety Board:

After we have determined if the plant can be safely operated, this panel (the 5 NRC staff) will make a recommendation on San Onofre restart. In November, the NRC refused a petition from Friends of the Earth to hold an Adjudicated License Amendment hearing and remove the decision from the NRC panel. The petitioners can renew their request for a stay if the panel okays restart.

Petitioners also requested that enforcement action be taken against the licensee (Edison). An NRC review board will consider that request, including information submitted last month.

Ryan Lanz:

Regarding the path forward, we will issue a public report. Eric Lutz and Elmo Collins (District IV administrators) will make a restart decision based on that report. At that point the inspection process will be complete.

Grace van Tillo, San Clemente Green:

Everyone says the San Onofre tube problem is unprecedented. When decisions are based on economics, technical evaluations don't work. We are asking for facts, not emotion. The number of people at risk is so great we are more than money can buy.

We demand an Adjudicated License Amendment process with an evidentiary hearing, sworn testimony, cross examination, and independent witnesses who have no financial interest in the outcome.

Question from audience: According to seismic experts, here is a 37 percent risk of a Southern California quake in the next 30 years that exceeds San Onofre's design capacity to withstand. Why don't we start a seismic safety evaluation?

Reply from Chip (last name), facilitator: The NRC staff here tonight are experts in steam generators, not seismic.

Question from the audience: Given we don't have a repository for San Onofre, where are we putting the waste? (applause)

Question from the audience: Is it true that NRC puts questions to Edison and they decide whether to answer? Why is it that Edison is making no comment tonight – and in fact is refusing to comment?

Reply from Pete Dietrich, San Onofre Lead, Southern California Edison:
The NRC is investigating the situation.

Glenn Pascall, Sierra Club:

I come from a family of engineers. I respect the professionalism and dedication of the engineers on tonight's NRC panel. I also respect the passionate commitment and

deep feelings of everyone here from labor, environmental groups, and the general public. I'll make my statement in the form of a question:

Is tonight's rather tumultuous and chaotic - and also far-ranging - discussion perhaps an Exhibit A for the possibility that the cattle have already left the corral and that this matter can no longer be decided by a level 3 hearing process? If a restart decision were made on the basis of a dialog among technicians, the public outcry would be huge, and not consistent with the credibility that Chair Macfarlane seeks to maintain for the NRC. My question to the panel is whether it is becoming increasingly clear that only an Adjudicated License Amendment process or its equivalent can handle the current range of issues and depth of feeling related to San Onofre.

Reply from Ryan Lanz: There are many ways that (an ALA) might happen, several of which we have mentioned tonight. That decision is beyond the authority of those of us who are here tonight from the NRC.