

EDO Principal Correspondence Control

FROM: DUE: 02/24/12

EDO CONTROL: G20120052

DOC DT: 01/24/12

FINAL REPLY:

Mike Mulligan  
Hinsdale, New Hampshire

TO:

Borchardt, EDO

FOR SIGNATURE OF :

\*\* GRN \*\*

CRC NO:

Leeds, NRR

DESC:

2.206 - Peach Bottom Nuclear Plants 2 and 3  
(EDATS: OEDO-2012-0054)

ROUTING:

Borchardt  
Weber  
Virgilio  
Ash  
Mamish  
OGC/GC  
Dean, RI  
Burns, OGC  
Mensah, NRR  
Banic, NRR  
Scott, OGC  
Bowman, OEDO

DATE: 01/26/12

ASSIGNED TO:

CONTACT:

NRR

Leeds

SPECIAL INSTRUCTIONS OR REMARKS:

Template: EDO-001

ERIDS: EDO-01

# EDATS

Electronic Document and Action Tracking System



**EDATS Number:** OEDO-2012-0054

**Source:** OEDO

## General Information

**Assigned To:** NRR

**OEDO Due Date:** 2/24/2012 11:00 PM

**Other Assignees:**

**SECY Due Date:** NONE

**Subject:** 2.206 - Peach Bottom Nuclear Plants 2 and 3

**Description:**

**CC Routing:** RegionI; OGC; Tanya.Mensah@nrc.gov; Merrilee.Banic@nrc.gov; Catherine.Scott@nrc.gov

**ADAMS Accession Numbers - Incoming:** NONE

**Response/Package:** NONE

## Other Information

**Cross Reference Number:** G20120052

**Staff Initiated:** NO

**Related Task:**

**Recurring Item:** NO

**File Routing:** EDATS

**Agency Lesson Learned:** NO

**OEDO Monthly Report Item:** NO

## Process Information

**Action Type:** 2.206 Review

**Priority:** Medium

**Signature Level:** NRR

**Sensitivity:** None

**Urgency:** NO

**Approval Level:** No Approval Required

**OEDO Concurrence:** NO

**OCM Concurrence:** NO

**OCA Concurrence:** NO

**Special Instructions:**

## Document Information

**Originator Name:** Mike Mulligan

**Date of Incoming:** 1/24/2012

**Originating Organization:** Citizens

**Document Received by OEDO Date:** 1/25/2012

**Addressee:** R. W. Borchardt, EDO

**Date Response Requested by Originator:** 2/27/2012

**Incoming Task Received:** 2.206

Jan 24, 2012

R. William Borchardt  
Executive Director for Operations  
US Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Mr. Borchardt,

Request an Emergency Peach Bottom nuclear plants 2 and 3 shutdown to replace all safety relief valves pneumatic actuators buna-n seals with nylon seals...or other high quality and durable materials designed and tested for elevated temperature.

Here are excerpts from the License Event Report 05000278 2011-003-00 dated 11/18/2011.

[https://www.google.com/search?sourceid=navclient&ie=UTF-8&rlz=1T4DKUS\\_enUS226US227&q=ML11325A383](https://www.google.com/search?sourceid=navclient&ie=UTF-8&rlz=1T4DKUS_enUS226US227&q=ML11325A383)

“Based on evaluation of the 9/25/11 surveillance testing performed on Safety Relief Valves (SRVs) during the P3R18 Refueling Outage, site Engineering personnel determined that the 71 B SRV did not meet its allowable leak rate for the pneumatic actuation controls for the Automatic Depressurization System (ADS) feature of the SRV. This resulted in a degradation of the number of times the 71 B SRV could be used during a design basis event. This event was considered as a condition prohibited by Technical Specifications. The cause of the excessive leak rate was due to a failure of the 71B SRV actuator diaphragm thread seal. The thread seal was replaced on 9/26/11. As left leak testing was performed and the valve was restored to an operable condition to support startup from the P3R18 Refueling Outage.”

Let me get this straight, this is a important nuclear core cooling safety system. One of the most important. We got terrible issues nationwide with internal nuclear safety engineering quality...also big troubles with communicating to engineering nuclear contracting parts venders and other engineering services. They have big troubles with controlling the quality of

repair or replacement safety parts and all realms of engineering services. These safety parts and component vendors can make more money not having adequate safety engineering support services for the components they sell on a nationwide basis. You can just make more money trading metal and rubber for profits. That is the short term hyper efficient business model we are using in manufacturing and part supplier than you can selling nuclear safety. You bet, you better be thinking to the new nuclear plants with this one.

This got to be backwards. So you had a contractor tell you in March the seals are substandard and 6 months later your LER states the apparent cause of a Buna-n seal failure was thermal degradation of the thread seal material. And you don't got the capability to immediately update the valve actuators knowing there are safety deficiencies. Is this a nuclear plant and is this the United States of America, the greatest nation on the planet?

“Based on evaluation of the 9/25/11 surveillance testing performed on Safety Relief Valves (SRVs) during the P3R18 Refueling Outage...”

“Based on March 2011 vendor technical evaluation report, upgrades to the diaphragm thread seal for ADS SRVs on Units 2 and 3 are planned.”

...”There were no actual safety consequences as a result of this event.”

Lets get the wording right, this is how Peach Bottom nuclear plant words it.

“When inspected by maintenance personnel, the thread seal had indications of being **dry and brittle**.”

“Subsequent review by Engineering personnel determined that the apparent cause was thermal degradation of the thread seal material. A vendor technical evaluation report was issued in March 2011 and provides recommendations to upgrade the seal with a design that is more resistant to heat related failures.”

Can you believe it coming out of a nuclear power plant engineering department they don't ask themselves is this a expected failure? God help us all how this “dry and brittle” seal will perform in a design accident and being in a high temperature environment of a accident. If this is the way Peach Bottom does safety engineering safety systemically, when the rubber hit the road, you are all screwed. Was there more temperature around this seal than normal? How long was the seal in the actuator? Why did it fail early? Is it the exact same material as they used before with so much success? Why did it fail because of thermal degradation? Did any other plants have issues with SRV Buna-n seal and the parts or vender supplier? Was the vender parts or

supplier trying to pull a fast one over Vermont Yankee, I mean Palisades Bottom? Is there anything to learn from the troubles at other plants”

...“There were no actual safety consequences as a result of this event”

Do you really trust this kind of vender who is known to be not forthcoming? Think of the self interest in this for both Peach Bottom and the vender. Why isn't the deficiencies characterized in the LER and announced too all the other nuclear plants like the federal reporting system was initially designed for? Why the secrecy? I got to tell you something, we hammered the NRC over this at VY. We got a lot more information than we normally get. There is a lot of safety information that other plants should know about, and certainly the community should be notified about...that gets buried in a deep dark hole that only special people can see. It is happening every day in nuclear-land all around us. The single most important determinate for nuclear safety is democratic style disclosure and transparency....fundamental honesty.

“A vendor technical evaluation report was issued in March 2011 and provides recommendations to upgrade the seal with a design that is more resistant to heat related failures.”

### **Inoperability of Vermont Yankee's Safety Relief Valves Due to Degraded Seals**

Here is Entergy-Vermont Yankee's LER-02-01 dated 10/25/2010 over troubles with their SRV buna-n. I/we have been nipping at Entergy's heels over Vermont Yankee and Palisades with many 2.206s. I am one of two 2.206's over this. The NRC blew me off on this as they always do. Least they allow me to get it down on paper.

<http://pbadupws.nrc.gov/docs/ML1115/ML111530359.pdf>

“During the 2010 refueling outage, the pneumatic actuators for the four main steam safety relief valves (RV), RV- 2-71 -A, B, C & D, were tested and leakage was identified through the shaft to piston thread seal on **three of the four** RVs. This leakage, when combined with the RV accumulator leakage, caused **two of the four** RVs to not meet design actuation requirements and therefore be considered inoperable. Technical Specification (TS)3.6.D requires at least three of the four RVs to be operable for overpressure

...Subsequent material testing of a seal from the same batch lot determined that the apparent cause of the thread seal condition was **thermal degradation.**”

I would like to know what the shelf life and service life is on these rubber nylon seals?

“The thread seals were manufactured in 2002, supplied to Vermont Yankee (VY) in new style actuators in 2008 and were in service for one operating cycle prior to the test. The thread seals in the new style actuators are made of Buna-N material, were manufactured by Parker Hannifin Corporation and dedicated for use in safety class applications by Curtiss-Wright Flow Control Corporation, Target Rock Division.”

Where did I hear Curtiss Wright and Target Rock Division before?

“Prior to the upgrade to the new style actuators, the thread seals were made from a **silicon material**.”

Hmm, thermal degradation and once made with a better nylon material? We will later get into environmental type 1 and 2 actuators and seals.

“Material testing determined that the apparent cause of the thread seal condition was **thermal degradation**. The change to use Buna-N material in the new style seal resulted in reduced thermal margin when considering the potential local heat transfer affects on the seal material. The use of silicone material in the original application provided more margin.”

Oops! Vermont Yankee installed the SRV actuators with Buna-n in 2008. Then the next outage they discovered inappropriate material use for the seals...had to wait to another outage to replace them all. Doesn't that sound familiar? Does Entergy have parts QA and later systemic issues with QA?

The idea in a critical nuclear power plant core cooling safety system the material engineers weren't absolutely sure of the characteristic of the buna-n and couldn't perfect predict with certainty the life span in the worst temperatures...we are in the realm of Fukushima Daiichi stupidity.

VY will replace the Buna-N thread seal material in all four RVs during the 2011 refueling outage with a material that provides more temperature margin.”

It is a total breakdowns in material science and engineering. It is happening all over the place and I don't understand why it is happening.

**NRC VY Problem and Resolution Inspection 2011-008**

You wouldn't believe all the troubles Entergy's Palisades plant is having with management...following procedures, adequate process system for following maintenance and fixing problems. Most perplexing is, management showing they actually don't care what was going on in the site, by paying attention and being intrusive. I got a pending 2.206 on that. They are right up there with being in the top five worst plants in the nation. This is another indication how systemic their problems are and the NRC didn't care. There computer document system is upside down...

"The inspectors determined that the licensee's evaluation "did not specifically identify" two apparent causes or significant contributing causes."

Is the NRC and the industry still confused when to submit a Part 21? Should a Part 21 with Peach Bottom be submitted? Or is Peach Bottom using materials outside their design parameters? Where is the promised Part 21 from Target Rock with Vermont Yankee?

"The SRV vendor did not submit a part 21 report for the SRV issue due to the Type 2 actuator being used in an application outside of two design parameters."

Does Peach Bottom have type 2 or type 1 SRV actuators and seals?

..."Design ambient temperature for the Type 2 actuator is 150 degrees F according to the vendor design documents. The actuators at Entergy are exposed to an ambient temperature environment up to 185-190 degrees F according to the CR. This would result in a 35-40 degree F loss of margin for the BUNA N thread sealant (rated at 210-250 degrees F.)

... "The Type 2 actuator has cooling slots, where as the Type 1 actuator does not. These cooling slots were not accounted for when the Type 1 actuator was replaced with the Type 2 actuator and the cooling slots were covered by insulation."

Peach Bottom questions if the VY insulation story was made up or had nothing to do with the temperature failure. A improper, inaccurate and falsified safety engineering justification. The industry is riddle with these dangling justification and tons of junk science and engineering dressed up in highly educated suits. The dangling science and engineering justifications not a bit connected to any thread of truth, except somebody is making big bucks to get a nuclear plant over to the next outage for a problem that won't get

fixed anyways. It will just get lost in the complexity of the system and people. The nuclear industry is filled with the purveyors of third party service junk science engineering providers. It is easier and cheaper to buy a well suited scientific engineering lie than immediately correct the rubber seal on nuclear core cooling components. Oh, it is a engineer's standard of ethics and codes issue. Don't even get me talking about all the vague engineering codes purchased by the nuclear industry.

"This caused the designed convection cooling of the actuator internals to be lost. As a result, the BUNA-N thread seal material was exposed to high temperature for a longer period, which increased the potential for degradation of the BUNA-N thread seals."

This admits it was a big screw up. But do you get it, VY upgrades in 2008 from nylon to the thermally failed buna-n. I don't understand why Peach Bottom has buna-n now and their vender is talking upgrading after more failures. Why doesn't Peach Bottom have nylon seals now... why do they have Buna-n?

"Entergy Engineering staff overly relied upon the vendor's recommendation did not conduct an appropriate equivalency review on their own. Thus when the Type 2 actuator was used at VY the valve was exposed to higher temperatures which resulted in thermal degradation and air leakage from the actuator."

This is the type of massive communication and confusion crap that has gotten Entergy-Palisades into so much trouble. The VY NRC inspector told me the vender kind of put one over on VY. I think they didn't have the proper qualified part or components. VY said stick it in there, I don't care what the temperature qualifications are and told the vender they would pay them extra if you covered our backs. And the NRC just doesn't care when these boys' play word games and lie to the agency...more worst, lie to the community. You know, shit in their own nest with lies and run-a-way distortions too numerous to remember to make money.

"During RFO27, Entergy discovered that the SRV Vendor no longer supported the Type-1 SRV actuators which energy had. The vendor recommended replacing the Type 1 actuators with a Type 2 actuator. The Type 1 actuator has silicone thread sealants which are rated up to -390 degrees F while a Type 2 actuator uses BUNA-N polymer which is rated up to 210-250."

Respectfully request



- 1) Have Peach Bottom do a outside detailed investigation and root cause.
- 2) The NRC do a special investigation or equivalent...with contrasting and explaining the similarities and differences between Vermont Yankee and Peach Bottom SRV actuators and seal problems.
- 3) Need a generic notice on this?
- 4) That Peach Bottom nuclear plant be immediately shutdown.
- 5) All safety relief valve seals and actuators be replaced with a design with a sufficient margin of safety before start-up.
- 6) Request the formation of a local public oversight panel around every plant.
- 7) A emergency NRC senior official oversight panel with the aims of reforming the ROP.
- 8) A national NRC oversight panel of outsiders to oversee and report on the agency's activities. There should be a mixture of professional academic people and capable lay people.
- 9) I request that President Obama fire Chairman Jazcko and the other Four Horsemen of the Apocalypse NRC Commissioners!

Sincerely,

Mike Mulligan  
Hinsdale, NH 03451  
steamshovel2002@yahoo.com  
1-603-336-8320

**Jaegers, Cathy**

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**From:** Michael Mulligan [steamshovel2002@yahoo.com]  
**Sent:** Tuesday, January 24, 2012 3:31 PM  
**To:** NRC Allegation  
**Subject:** Peach Bottom Emergency shutdown over SRVS seals  
**Attachments:** Peach Bottom Emergency Shutdown over SRV Actuator Buna-n Seals 2.206.doc

Dear sir,

I please request a 2.206 on Peach Bottom. My letter is in the attachment.

I made a allegation's complaint yesterday concerning Vermont Yankee. This PB 2.206 is related to the VY SRV seal problem and it might better explain my allegation. Could you direct a copy of this to the appropriate allegation people so they can look it over?

Thanks,

Mike Mulligan

Hinsdale, NH