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General Information**Assigned Office:** NRR**OEDO Due Date:** 03/07/2013**Other Assignees:****SECY Due Date:** 03/07/2013**Date Response****Requested by Originator:****Other Parties:****Subject:** Critical Need for Rigorous, Proactive Nuclear Regulatory Commission Investigation with a Broad View at Fort Calhoun Station**Description:****CC Routing:** OE, OGC, OI, OIG, RegionIV**ADAMS Accession Numbers - Incoming:****Response / Package:****Other Information****Cross Reference No:** LTR-13-0104**SRM\Other:** No**Process Information****Action Type:** Letter**OEDO Concurrence:** No**Signature Level:** NRR**OCM Concurrence:** No**Special Instructions:****OCA Concurrence:** No**Document Information****Originator Name:** Mike Ryan**Date of Incoming:** 02/04/2013**Originator Org:** Clean Nebraska**Document Received by OEDO Date:** 02/06/2013**Addressee:** Chairman Macfarlane**Incoming Task:** Letter**OEDO POC:** Dan Merzke

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

Date Printed: Feb 06, 2013 06:27

PAPER NUMBER: LTR-13-0104

LOGGING DATE: 02/05/2013

ACTION OFFICE: EDO

AUTHOR: Mike Ryan (Clean Nebraska)

AFFILIATION: NE

ADDRESSEE: CHRM Allison Macfarlane

SUBJECT: Concerns critical need for rigorous, proactive NRC investigation with a broad view at Fort Calhoun Station

ACTION: Direct Reply

DISTRIBUTION: RF, SECY to Ack.

LETTER DATE: 02/04/2013

ACKNOWLEDGED No

SPECIAL HANDLING: Lead office to publicly release 24 hours after SECY's assignment, via SECY/EDO/DPC.

NOTES:

FILE LOCATION: ADAMS

DATE DUE: 03/07/2013

DATE SIGNED:

EDO --G20130099

February 4, 2013

Allison M. Macfarlane
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Critical need for rigorous, proactive NRC investigation with a broad view at Fort Calhoun Station

Dear Chairman Macfarlane:

We are concerned about several very serious problems recently revealed regarding Fort Calhoun Station. Our concern is magnified because it appears the NRC may not be scrutinizing problems at the plant with an appropriately wide view or in a rigorous, proactive manner that recognizes all potential related and/or interconnected problems.

Significant Deficiencies With Serious Plant-Wide Implications

Significant deficiencies recently revealed at Fort Calhoun Station that have potentially plant-wide implications include the following partial list.

1. Nonconforming containment internal structures.

Omaha Public Power District (OPPD) recently revealed that 47 of 135 beams and 5 of 14 columns (more than a third of each) in the Containment Building do not conform to Fort Calhoun's license. They do not meet acceptance criteria for working stress and/or ultimate strength. OPPD found that loads on the beams and columns cannot support the loads they were designed for, much less the new power uprate loads. Equipment that supports air cooling, steam generators, and Class I piping is affected. This is a significant problem that has existed since the plant was built in the late 1960s and early 1970s because the containment internal structures were not built as designed. As you may recall, Branch Chief Michael Hay stated at the January 8, 2013 briefing of NRC Commissioners on Fort Calhoun that margins of safety have clearly been affected because of containment internal structure problems.

OPPD also recently disclosed that calculations regarding these structures are incorrect, incomplete, or missing. In addition, inconsistencies exist between calculations and drawings. OPPD recently acknowledged that it has known since the 1990s about the missing calculations but decided not to reconstitute them at that time.

The utility argues that even though the containment internal structures do not conform to their licensing basis, they are operable for outage conditions. OPPD proposes to wait to make any modifications to address the containment internal structure problems until after restart during the next planned outage. This incredible proposal does not explain how Fort Calhoun can be operable for at-power conditions given its clear structural deficiencies and nonconformance with its license.

In a further apparent attempt to minimize Fort Calhoun's structural problems, OPPD President and CEO Gary Gates asserted publicly after the January 8 briefing that it is not a major issue, it is easily fixed, and it looks like OPPD will not have to make a lot of modifications to deal with the containment internal structure problems at Fort Calhoun. Mr. Gates subsequently stated that any modification may only entail changes to one or two columns and OPPD Board Chairman Fred Ulrich asserted, "The NRC is with us on this."

OPPD's failure to build the containment internal structures according to design documents strongly suggests that many more systems, structures, and components may not have been built to design specifications at Fort Calhoun. To adequately assure safety, the NRC must carry out a hard and thoroughgoing investigation of design documentation, including all calculations, for systems, structures, and components **plant-wide**. This investigation must look at both the extent of the nonconformance with design specifications and why it occurred. Focus must **not** be limited to the nonconforming containment internal structures that OPPD is now seeking to justify. It is also critical that the NRC assign for this rigorous review personnel possessing adequate expertise to see through OPPD's tortured and highly manipulative modeling.

2. Lack of adequate design-basis documentation.

NRC inspectors recently cited OPPD for a related very serious violation: failure to maintain and update design-basis documents as required. OPPD's violation occurred despite the NRC's policy statement published August 10, 1992 "Availability and Adequacy of Design Bases Information at Nuclear Power Plants" (57 Fed. Reg. 35455) and the NRC's Information Request No. 96-137 issued October 9, 1996 regarding licensees maintaining plant design.

The failure at Fort Calhoun to maintain this documentation calls into question all the evaluations, repairs, and upgrades recently completed and currently underway. The NRC noted in a recent inspection report that Fort Calhoun "is currently trying to evaluate, repair, maintain or modify systems, structures, components or procedures with processes that require accurate design information and historical perspective that was intended to be contained or referenced in the design-basis documents." However, the barrier of reliable design and licensing basis documents at Fort Calhoun is failed, according to the NRC. This suggests that **all** of the plant's calculations and design configuration documentation should be reevaluated.

3. Inadequate anchor embedment.

Inadequate anchor embedment is another problem that may exist throughout the Fort Calhoun nuclear plant. Existing analysis requires a minimum embedment of 60 inches for a j-bolt anchor but only 9-inch embedment was recently found for all four raw water pumps. This as-found condition renders all four raw water pumps inoperable. According to the NRC, the licensee has not analyzed the seismic capabilities of the as-found configuration.

This as-found condition suggests that anchors for **all** equipment and structures **plant-wide** need, at a minimum, inspection to assure they are adequate and in accord with plant drawing specifications. A special NRC inspection regarding anchor embedment for the raw water pumps has been announced. However, it is not clear that this special inspection will thoroughly investigate all anchors throughout the plant.

4. Electrical switchgear design vulnerability.

The failure to adequately design, modify, and maintain the electrical power distribution system resulted in the fire in June 2011 in the safety-related 480 volt electrical switchgear. These deficiencies resulted in a red NRC finding having high safety significance.

Even though the bus separation scheme design did not meet the system's design criteria, Fort Calhoun's corrective actions after the fire restored the original configuration of the 480-volt switchgear. According to the NRC's two most recent inspection reports, the 4160 VAC bus is still not protected against an arc fault event on the 480 VAC bus upstream of the 480 VAC feeder breaker and this design vulnerability is still present.

This is a key unresolved safety-related issue that has implications throughout the plant. OPPD resources have been spent on corrective actions which have not yet addressed the basic design vulnerability. According to the inspection reports, Fort Calhoun's electrical power distribution system design basis is still not being met. Nevertheless, OPPD's President and CEO Gary Gates recently asserted that Fort Calhoun Station "is in compliance with its design basis on its electrical power system."

Critical Need For Rigorous, Proactive NRC Investigation With A Broad View

Our concerns spring from the evidence we have that rigorous, proactive NRC investigation with a wide view may not be occurring at Fort Calhoun. Specifically, we are concerned that:

- The NRC is enabling OPPD to maintain a very narrow focus upon only a few small pieces of much larger, systemic problems at Fort Calhoun Station;
- Plant-wide deficiencies and implications are being given short shrift or being ignored;
- NRC inspectors and analysts are not rigorously and independently investigating all leads, potential problems, and confirmed problems thoroughly but are instead buying OPPD's arguments that Fort Calhoun can be restarted without bringing all aspects of plant systems, structures, and components into full compliance with Fort Calhoun's license and without fully addressing all design weaknesses and vulnerabilities; and
- The NRC is far too trusting of Fort Calhoun's characterizations and analysis despite Fort Calhoun's prolonged poor performance and repeated failures to implement NRC directives since at least the 1990s.

While the NRC has recently been touting the various inspection teams it says have been or will be coming to Fort Calhoun, we are not yet convinced that NRC inspectors and analysts are sufficiently alert, proactive, and, in some cases, skilled in identifying and investigating all safety issues at the plant. Each of the serious problems identified above has existed at the plant for at least three decades if not since Fort Calhoun began operation almost 40 years ago.

Given that NRC resident inspectors have been at Fort Calhoun since the 1980s, it raises at least two questions:

- How could the NRC resident inspectors have missed and/or failed to investigate properly these serious problems for three decades?

▪ Why has the NRC failed to adequately enforce all regulatory requirements at the plant for that period so that these very significant problems continue to exist?

Instead of conducting proactive, rigorous, and independent investigation and oversight, the NRC appears to be effectively led around by the nose by OPPD as to which issues need to be addressed at Fort Calhoun. Evidence of this includes:

▪ The majority of the items on the NRC's restart checklist basis document for Fort Calhoun are items selected by OPPD which the NRC then adopted.

▪ At an NRC public meeting in November 2012, Branch Chief Michael Hay acknowledged the NRC's largely reactive posture thus far with respect to Fort Calhoun.

▪ During the January 2013 briefing of NRC Commissioners regarding Fort Calhoun Station, Region IV Administrator Elmo Collins stated, "[I]t can't come down to NRC inspectors identifying everything that's not correct at a facility. We need the licensee . . . to go out and do that job and do it thoroughly and do it very well."

The most glaring problem with the NRC's approach thus far is that for a very long time OPPD has not done its job as a licensee well, much less very well or thoroughly. Therefore, OPPD cannot be relied upon by the NRC to identify problems at Fort Calhoun. Indeed, OPPD recently acknowledged what has been apparent for a prolonged period: Fort Calhoun's corrective action program has long been ineffective. Review of even a small sampling of Licensee Event Reports filed by OPPD in 2012 demonstrates Fort Calhoun's corrective action program has been in shambles for many years and root cause analyses performed for Fort Calhoun are frequently inadequate.

To assure safety at Fort Calhoun Station, the NRC must assume a proactive posture and lead rigorous, thorough, expert, and truly independent investigations plant-wide at the plant, then conduct similarly rigorous, thorough, expert, and truly independent analyses of all information gathered and, where applicable, carry out appropriately tough enforcement actions. The stakes are too high for the NRC to do anything less.

Thank you for your conscientious consideration of this critically important matter. We look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "Mike Ryan". The signature is written in a cursive, flowing style.

Mike Ryan
Spokesman

Mike, Linda

From: Mike Ryan [mryan1@cox.net]
Sent: Monday, February 04, 2013 5:11 PM
To: NRCExecSec Resource
Subject: Critical need for rigorous, proactive NRC investigation with a broad view at Fort Calhoun Station
Attachments: Letter to NRC Chair Allison Macfarlane 4 Febr 2013.pdf

Please ensure that the attached letter is given to Chair Macfarlane.

Thank you,
Mike Ryan