

From: John Lamb
Sent: Tuesday, February 14, 2023 2:25 PM
To: Gayheart, Cheryl Ann
Cc: Brown, R. Keith; Chamberlain, Amy Christine; Pournaras, DeLisa S.; Lowery, Ken G.
Subject: FW: Request for Steam Generator (SG) Tube Inspection Call with Vogtle, Unit 1

Importance: High

Ms. Gayheart,

Has SNC decided to participate in the conference call to discuss the Vogtle, Unit 1, SG tube inspection data during the upcoming spring 2023 outage or has SNC decided to decline to participate?

Thanks.
John

From: John Lamb
Sent: Tuesday, February 7, 2023 4:34 PM
To: Gayheart, Cheryl Ann <CAGAYHEA@SOUTHERNCO.COM>
Cc: Chamberlain, Amy Christine <ACCHAMBE@southernco.com>; Pournaras, DeLisa S. <DSPOURNA@SOUTHERNCO.COM>; Lowery, Ken G. <KGLOWERY@southernco.com>
Subject: Request for Steam Generator (SG) Tube Inspection Call with Vogtle, Unit 1
Importance: High

Ms. Gayheart,

As you know, the U.S. Nuclear Regulatory Commission (NRC) staff participates in in conference calls with licensees to discuss their steam generator (SG) tube inspection activities. The NRC staff would like to participate in a conference call with Southern Nuclear Operating Company (SNC) personnel for Vogtle Electric Generating Plant (Vogtle), Unit 1 during its upcoming spring 2023 outage. The reason that Vogtle, Unit 1, has been selected is about 40 percent of the total Alloy 600 TT cracks have occurred in the Vogtle, Unit 1, SGs, and the ongoing susceptibility is evident in the detection of 8 new cracks during the fall 2021 inspection. Given that operating experience, and because it has been more than 10 years since our last inspection call with Vogtle, Unit 1, the NRC staff is requesting a call during the upcoming inspections during the spring 2023 refueling outage.

If SNC agrees, the NRC staff would request to conduct the call when about 80% or more of the Vogtle, Unit 1, SG inspection data has been analyzed, but before analysis is complete.

Please reply by noon on February 14, 2023, if SNC agrees to participate in this call, and provide an estimated date when 80% or more of the Vogtle, Unit 1, SG inspection data has been analyzed, but before analysis is complete.

Thanks.

John

HISTORY OF VOGTLE SG TUBE INSPECTION CALLS

Vogtle, Unit 1

Date	ADAMS Accession No.
June 10, 2004	ML041660086
June 3, 2005	ML051400035
December 19, 2006	ML063390165
May 28, 2008	ML081430126

Vogtle, Unit 2

Date	ADAMS Accession No.
June 10, 2004	ML041660086
April 25, 2013	ML13112A225
April 11, 2022	ML22095A229

BACKGROUND

EVENT

On February 15, 2000, at 7:17 p.m., the Indian Point Unit 2 nuclear plant experienced a SG tube failure, which required the declaration of an “Alert” at 7:29 p.m., and a manual reactor trip at 7:30 p.m. The operators identified that the #24 SG was the source of the leak and completed isolation of the #24 SG by 8:31 p.m. The event was moderate risk significant. It involved a SG tube failure that resulted in an initial primary-to-secondary leak of reactor coolant of approximately 146 gallons per minute and required an “Alert” declaration. The event resulted in a minor radiological release to the environment that was well within regulatory limits. No radioactivity was measured offsite above normal background levels, and the event did not adversely impact the public health and safety.

AIT

The NRC sent an Augmented Inspection Team (AIT) on February 18, 2000, to review the causes, safety implications, and licensee actions associated with the event. The AIT developed a sequence of events, determined the risk significance of the event, and assessed the response by the plant staff and management. The cause of the tube failure was outside the scope of the AIT inspection. The AIT’s report is presented in Inspection Report 05000247/2000-02, dated April 28, 2000 (ML003710036 – see below link).

INFORMATION NOTICE

The NRC issued an Information Notice 2000-09, dated June 28, 2000 (ML003726124 – see below link).

OIG REPORT

The Office of Inspector General (OIG) issued OIG-00-03S on August 29, 2000 (ML003746663 – see below link).

Here is a summary of the OIG findings:

- The NRC has also been long aware of SG tube and other problems at Indian Point Unit 2 (IP2). Nevertheless, the NRC did not conduct a technical review of the July 29, 1997, IP2 SG inspection report when it was submitted to NRR. However, OIG noted that SG inspections are of sufficient importance to be included in plant technical specifications (TSs).
- OIG also found that had NRC staff or contractor's with technical expertise evaluated the 1997 results of the IP2 SG inspection, the NRC could have identified the flaw in the U-bend of row 2, column 5, in SG number 24 that was indicated in the inspection report. This flaw, which was recently determined to be nearly 100 percent through the tube wall in 1997, was the cause of the February 15, 2000, IP2 SG tube rupture.
- OIG found that the 1997 IP2 SG inspection results were not reviewed by the NRC staff for technical quality or sufficiency, because the staff is not required to conduct such a review.
- OIG determined that NRR's review of a 1999 license amendment request (LAR) submitted by IP2 was not adequate. The 1999 IP2 LAR number 201, asking for a 1 year extension for the SG inspection, was approved by NRR based on a safety evaluation (SE) completed by a junior engineer with limited experience in SG inspection techniques. The SE review included the junior engineer's evaluation of the 1997 SG inspection results. During the SE review process, the junior engineer was supposed to receive assistance from a senior engineer with extensive SG experience.
- OIG determined that during the LAR process, the senior engineer did not review the source documents submitted by IP2 nor did he review the 1997 IP2 inspection report.
- OIG also noted that other technical expertise available to the NRR staff was not employed to review the 1997 inspection report or the LAR.
- OIG also found that during the LAR process, the NRC requested additional information from IP2 in the form of an RAI to clarify outstanding issues relative the SG inspection program. Although the junior engineer was not completely satisfied with the response to the RAI, no additional RAI questions were asked by the NRC of IP2.
- OIG found nearly no involvement in the LAR review by either the NRR Project Manager assigned to IP2 or the EMCBC Branch Chief.
- OIG also found that the NRR staff believed that the level of review given to IP2's LAR 201 was acceptable, because SG issues at IP2 were not viewed as significant to NRC's oversight and regulation of the plant.

LESSONS-LEARNED REPORT

The NRC issued its IP2 SG Tube Failure Lessons-Learned Report, Final Report, dated October 23, 2000 (ML020320416 – see below link).

Here is a summary of conclusions and recommendations from the Lessons-Learned Report.

- The NRC (NRR) telephone calls (outage phone calls) with the licensees during the licensees' SG tube examinations can be effective, but are not formally included in either the licensing or the inspection process.
- The technical interaction between the licensees and NRR (outage phone calls) during the licensees' SG tube examinations can be effective and should be factored into the inspection program. The phone calls should involve the regional inspectors and should be used as part of the preparation for NRC inspections. This will afford NRR the opportunity to help focus the inspections on the appropriate issues.

CURRENT PROCESS

The Lessons-Learned conclusions and recommendations bring us to the current process that is contained in an internal memo dated August 24, 2021 (ML21122A131 – see below link).

LINKS

[View ADAMS Properties ML21221A131](#)

[Open ADAMS Document \(2021 Updated Commitments and Processes for the Steam Generator Conference Calls and Steam Generator Tube Inspection Reports\)](#)

[View ADAMS Properties ML003726124](#)

[Open ADAMS Document \(NRC Information Notice 2000-009: Steam Generator Tube Failure at Indian Point Unit 2\)](#)

[View ADAMS Properties ML003710036](#)

[Open ADAMS Package \(G20000083, et al. - Multiple letters to Congress re Indian Point 2 Augmented Inspection Team\)](#)

[View ADAMS Properties ML003746663](#)

[Open ADAMS Document \(OIG Case No. 00-03S, NRC's Response to the February 15, 2000 Steam Generator Tube Rupture at Indian Point Unit 2 Power Plant\)](#)

[View ADAMS Properties ML020320416](#)

[Open ADAMS Document \(Indian Point 2 Steam Generator Tube Failure Lessons - Learned Report, Final Report.\)](#)

Hearing Identifier: NRR_DRMA
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From: John Lamb

Created By: John.Lamb@nrc.gov

Recipients:

"Brown, R. Keith" <rkbrown@southernco.com>
Tracking Status: None
"Chamberlain, Amy Christine" <ACCHAMBE@southernco.com>
Tracking Status: None
"Pournaras, DeLisa S." <DSPOURNA@SOUTHERNCO.COM>
Tracking Status: None
"Lowery, Ken G." <KGLOWERY@southernco.com>
Tracking Status: None
"Gayheart, Cheryl Ann" <CAGAYHEA@SOUTHERNCO.COM>
Tracking Status: None

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MESSAGE	10734	2/14/2023 2:25:00 PM

Options
Priority: High
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