From: Bower, Fred
Sent: Monday, November 23, 2015 4:23 PM
To: Deborah Grinnell <grinnelldebbie2@gmail.com>
Cc: Gray, Mel <Mel.Gray@nrc.gov>; Cook, William <William.Cook@nrc.gov>; Barkley, Richard <Richard.Barkley@nrc.gov>; Bower, Fred <Fred.Bower@nrc.gov>; Broaddus, Doug <Doug.Broaddus@nrc.gov>; Buford, Angela <Angela.Buford@nrc.gov>; Cataldo, Paul <Paul.Cataldo@nrc.gov>; Chaudhary, Suresh <Suresh.Chaudhary@nrc.gov>; Erickson, Alice <Alice.Erickson@nrc.gov>; Floyd, Niklas <Niklas.Floyd@nrc.gov>; Fuhrmann, Mark <Mark.Fuhrmann@nrc.gov>; Khanna, Meena <Meena.Khanna@nrc.gov>; Lamb, John <John.Lamb@nrc.gov>; Lehman, Bryce <Bryce.Lehman@nrc.gov>; Lupold, Timothy <Timothy.Lupold@nrc.gov>; Newport, Christopher <Christopher.Newport@nrc.gov>; Ott, William <William.Ott@nrc.gov>; Philip, Jacob <Jacob.Philip@nrc.gov>; Regan, Christopher <Christopher.Regan@nrc.gov>; Sircar, Madhumita <Madhumita.Sircar@nrc.gov>; Thomas, George <George.Thomas2@nrc.gov>; Wittick, Brian <Brian.Wittick@nrc.gov>; Tran, Tam <Tam.Tran@nrc.gov>; Screnci, Diane <Diane.Screnci@nrc.gov>; Sheehan, Neil <Neil.Sheehan@nrc.gov>; Tifft, Doug <Doug.Tifft@nrc.gov>; McNamara, Nancy <Nancy.McNamara@nrc.gov>; Colaccino, Joseph <Joseph.Colaccino@nrc.gov>; Scott, Michael <Michael.Scott@nrc.gov>; Thompson, Margaret <Margaret.Thompson@nrc.gov>
Subject: RE: Re: Seabrook - Concrete Core Bores - ASR - [SST-2015-191]

Ms. Grinnell,

I am responding to your emailed (ML15287A368)[1] questions regarding the concrete core samples that have been removed from Seabrook Station to date. My staff and I coordinated this response with staff from the Division of License Renewal in the NRC's Office of Nuclear Reactor Regulation.

The ASR issue was first identified in 2010 following the removal of a number of core samples from the lower electrical tunnel in the Control Building. Following the removal of samples from this area, NextEra removed four (4) samples from five other areas of the plant (ML112241029 and ML12171A277):

1) Containment Enclosure Building, including areas that had been wetted (which were below grade) and limited wetted areas

2) The Radiation Control Area (RCA) walkway (which is all below grade), including areas that had been wetted and non-wetted

3) Emergency Diesel Oil Storage Room (which is all below grade), including areas that had been wetted and non-wetted

4) The Residual Heat Removal (RHR) vaults (which are almost all below grade), including areas that were wetted and non-wetted

5) The EFW pump house stairwell (which is almost all below grade), including areas that were wetted and non-wetted

Thus the 34 samples noted in your email were all taken from the actual "in situ" concrete walls of Seabrook Station. The general locations were provided to the agency on the docket in NextEra letter SBK-L-13080, dated May 1, 2013 (ML13261A145).

In addition, NextEra has made plans to extract additional core samples from the in situ concrete to allow for the installation of extensometers in the walls of key ASR-affected concrete structures. These measuring devices

are to be installed in 2016, consistent with commitments made by NextEra in their license renewal submittals (ML15183A023).

Hopefully this information will be of use to you, and reassured you that the ASR analyses to date have been using data from in situ concrete samples. As noted in a previous letter to C-10 (ML14112A323), our conclusions regarding NextEra's core sampling and testing activities are described in NRC Inspection Reports 05000443/2012009 and 05000443/2012010 (available on the NRC's Seabrook Concrete degradation public webpage at: http://www.nrc.gov/reactors/operating/ops-experience/concrete-degradation.html#publicly). For affected structures, NextEra staff assessed structural design attributes using bounding values for assumed ASR degradation derived from concrete industry test data. These evaluations were informed using the material property test results from core samples from various Seabrook ASR-affected and non-affected structures. NRC inspectors reviewed these prompt operability determinations and concluded that there is reasonable assurance, considering the core bore results and bounding structural evaluations, to conclude Seabrook ASR-affected structures remain capable of performing their intended safety functions. As described above, the NRC Staff will evaluate NextEra's approach to resolve this non-conforming condition.

If you have additional questions or concerns related to Seabrook Station, or additional information to provide in this matter, please do not hesitate to contact Richard Barkley of my staff at (610) 337-5328.

Sincerely,

Fred Bower

USNRC Region I Branch Chief with Oversight Responsibility for Salem, Hope Creek and Seabrook
| 2100 Renaissance Boulevard, STE 100, King of Prussia, PA 19406 |
|☎: (610) 337-5200 |

1 Designation in parentheses refers to an Agency-wide Documents Access and Management System (ADAMS) accession number. Documents referenced in this letter are publicly-available using the accession number in ADAMS.

[SST-2015-191]

From: Deborah Grinnell [mailto:grinnelldebbie2@gmail.com]
Sent: Thursday, November 12, 2015 4:16 PM
To: Bower, Fred <Fred.Bower@nrc.gov>
Cc: Gray, Mel <Mel.Gray@nrc.gov>; Cook, William <William.Cook@nrc.gov>; Barkley, Richard <Richard.Barkley@nrc.gov>
Subject: [External_Sender] Re: Seabrook - Concrete Core Bores - ASR

Thank you, Fred.

Debbie

> On Nov 12, 2015, at 4:02 PM, Bower, Fred <Fred.Bower@nrc.gov> wrote:
>
> Dear Ms. Grinnell,
>
> I got your voicemail from earlier today. I am sorry that I missed your call.
>
> As I indicated below, we are developing a response to your inquiry as we are able and I plan to meet the below committed time.
>
> Sincerely,
>
> *Fred Bower*

USNRC Region I Branch Chief with Oversight Responsibility for Salem, Hope Creek and Seabrook
| 2100 Renaissance Boulevard, STE 100, King of Prussia, PA 19406 |
|☎: (610) 337-5200 |

From: Bower, Fred
Sent: Thursday, October 15, 2015 7:24 AM
To: Debbie Grinnell <debbie@c-10.org>
Cc: Dentel, Glenn <Glenn.Dentel@nrc.gov>; Gray, Mel <Mel.Gray@nrc.gov>; Cook, William <William.Cook@nrc.gov>; Barkley, Richard <Richard.Barkley@nrc.gov>
Subject: RE: Seabrook - Concrete Core Bores - ASR

Dear Ms. Grinnell,

My name is Fred Bower and I have recently assumed the branch chief oversight responsibilities for Seabrook from Glenn Dentel. I am writing to acknowledge receipt of your below October 12, 2015, email to Glenn Dentel. This document has been entered into ADAMS and will become a public document (ML15287A368) shortly. Once public, your incoming email can be located by entering ML15287A368 into the search box in the upper right corner of our homepage at www.nrc.gov. NRC Region I staff are working on your email and we will respond when we are able and likely within 30 – 60 days. In addition to responding to you directly, we plan to file our response to you in ADAMS package ML15287A372 and make it publically available.

Thank you for the opportunity to respond. My contact information by phone and email are provided below if you have any further questions.

Sincerely,

Fred Bower
Chief | Projects Branch 3 | Division of Reactor Projects | Region I | U.S. NRC |
| 2100 Renaissance Boulevard, STE 100, King of Prussia, PA 19406 |
| ☎: (610) 337-5200 | ✉: Fred.Bower@nrc.gov |

From: Dentel, Glenn
Sent: Tuesday, October 13, 2015 7:28 AM
To: Bower, Fred <Fred.Bower@nrc.gov>; Gray, Mel <Mel.Gray@nrc.gov>; Cook, William <William.Cook@nrc.gov>; Barkley, Richard <Richard.Barkley@nrc.gov>
Subject: RE: Re: Seabrook

Debbie Grinnell e-mail response.

From: Deborah Grinnell [mailto:grinnelldebbie2@gmail.com]
Sent: Monday, October 12, 2015 11:40 AM
To: Dentel, Glenn <Glenn.Dentel@nrc.gov>
Subject: [External_Sender] Re: Seabrook

Hello Glenn,

Thank you for your email. I need clarity on the definition of the words used to describe on SBK-L-15107/Enclosure 1/Page 9. In "NextEra Energy Response to Issue No 6" where it is

statement; "Thirty-four (34) concrete core have been removed to date from ASR impacted concrete and visually examined"

1) The 34 concrete cores removed are they from Seabrook's "in situ" original concrete impacted by ASR in Seabrook New Hampshire's from the actual buildings. Where are the 34 cores located on these buildings?

2) The 34 concrete cores removed are they from the "representative sample areas" made from concrete similar to Seabrook's concrete in a "large scale test program' in Texas where the concrete is tested and removed from the 34 concrete cores and visually examined? Where re the 34 cores located in the concrete beans or walls created?

Thank you,

Debbie

On Sep 30, 2015, at 4:16 PM, Dentel, Glenn <Glenn.Dentel@nrc.gov> wrote:

Debbie,

We appreciated the opportunity to discuss the structural issues at Seabrook on September 15 and are providing the following in response to your questions.

The core bores removed from Seabrook structures and the associated material property testing were reviewed and summarized in both confirmation action letter (CAL) follow-up inspection reports (2012-009, Section 3.2.2 and 2012010, Section 9.2). The NRC does not have the summary data sheets for that testing in our possession. All written information, data, reports, drawings and emails related to Seabrook Station ASR in NRC possession were provided to C-10 under an earlier FOIA request. We have not re-reviewed the core sampling data at the Seabrook Station since a team of NRC inspectors, supplemented with structural engineers from our headquarters staff, reviewed the data and documented our conclusions in inspection reports 2012-009 (ML12338A283) dated December 3, 2012, and 2012-010 dated August 8, 2013 (ML13221A172).

NRC inspectors reviewed NextEra's containment operability determination in IR 2012010 (Section 9.3). The inspectors' review concluded NextEra's prompt operability evaluation (POD) for the containment structure supports that the containment structure is operable and capable of meeting its design basis function with some reduced margin.

NextEra has removed a number of core samples from structures at the Seabrook Station to identify and confirm the presence of ASR. While the NRC has not required that NextEra take cores from the plant structures or test specimens, our inspectors have reviewed the core sample results and described our scope of inspection and conclusions in our publically available inspection reports.

Looking forward, NextEra continues to develop actions to address the ASR issue. NextEra has elected to pursue a large scale test program to resolve this condition, which represents a non-conformance to their design basis. To resolve the non-conformance, NextEra will need to provide appropriate, well-supported information as part of a license submittal to the NRC. For any such submittal, we expect that NextEra will need to clearly establish that the results of their large

scale testing program are representative of the actual conditions at the Seabrook Station prior to submitting the results of their accompanying evaluations to the NRC in accordance with 10 CFR 50.59 and/or 50.90. This would include ensuring any submitted test results are representative of conditions in the Seabrook containment and spent fuel pool structures. The NRC will assess the adequacy of the evaluations and corrective actions to address the ASR issue long-term.

The NRC continues to monitor the licensee's actions and verify the adequacy of the current operability determinations for ASR-affected safety related reinforced concrete structures. We are conducting inspections at approximate sixth month intervals to closely monitor licensee actions, and the resident inspectors remain vigilant to any related plant changes or activities. Our publically available inspection reports will continue to document the results of our inspections.

Enclosed is a copy of the latest inspection report as requested.

Glenn Dentel, Mel Gray and William Cook

From: Debbie Grinnell [mailto:debbie@c-10.org]
Sent: Friday, September 18, 2015 11:17 AM
To: Dentel, Glenn <Glenn.Dentel@nrc.gov>
Subject: [External_Sender] RE: Seabrook

Hi Glenn,

Thank you very much for sending Fred Bower's email to me.

As a result of our call, could you sent me an email to clarify the two questions concerning our discussion with the NRC present.
Am I clear that 1) the NRC is not requesting any testing on ASR data in Seabrook's spent fuel pool and on Seabrook's containment.

2) Also was I correct in Bill's statement that the 34 cores tested and done on Seabrook's concrete or not and will not be publically available or the data reported by the industry on all of the cores will not be publically available by the NRC?

Thank you, Glenn.

Debbie

From: Dentel, Glenn [mailto:Glenn.Dentel@nrc.gov]
Sent: Wednesday, September 16, 2015 10:40 AM
To: Debbie Grinnell <debbie@c-10.org>
Cc: Bower, Fred <Fred.Bower@nrc.gov>
Subject: Seabrook

The new branch chief starting October 4, 2015 for Seabrook is Fred Bower. His e-mail is Fred.Bower@nrc.gov and phone number is 610-337-5200.

Glenn Dentel
Branch Chief responsible for oversight of Seabrook, Salem and Hope Creek