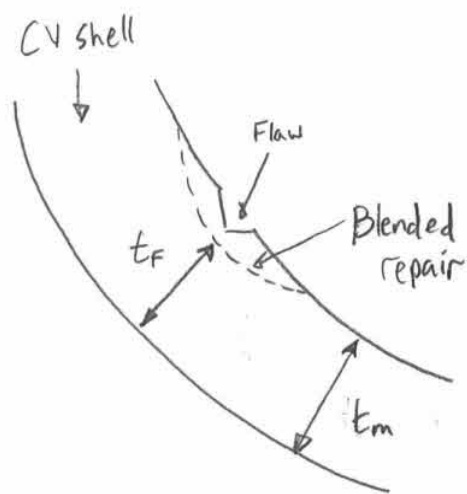


**From:** Michel(R2), Eric  
**Sent:** Wednesday, February 25, 2015 2:53 PM  
**To:** Heisserer, Jamie <[Jamie.Heisserer@nrc.gov](mailto:Jamie.Heisserer@nrc.gov)>  
**Subject:** FW: Scan Data from [R2RDLCM-Summer-2-3]

Sketch to help explain the CV repair options.

Eric

**From:**  
**Sent:** Wednesday, February 25, 2015 2:37 PM  
**To:** Michel(R2), Eric  
**Subject:** Scan Data from [R2RDLCM-Summer-2-3]



$t_n$  = Nominal thickness  $1\frac{5}{8}$ " (1.625")

$t_{min}$  = Min thickness per NE-3000  
1.432"

$t_F$  = Final thickness after flaw removal.

$t_m$  = Thickness measured by UT.  
( $\approx 1.71$ " )

If blended repair results in:

1.  $t_F > t_{min}$

Then repair complete.

2.  $t_F < t_{min}$  (1.432")

Then weld repair and RT or MT

3.  $t_F < 90\%$  of  $t_{min}$  (1.289")

Then weld repair and RT.

Therefore, the depth of flaw removal can be  $\approx 1.71" - 1.43" = 0.28"$  deep before a weld repair must take place. The depth of flaw removal can be  $\approx 1.71" - 1.289" = 0.421"$  before a welded repair with RT must take place.

**From:** Issa, Alfred  
**To:** Cozens, Ian; Harmon, David; Kleeh, Edmund; Pasquale, Daniel  
**Cc:** Anderson, Brian; Valentin, Andrea; Check, Michael; Johnson, Andrea; OBryan, Phil; Khouri, George; Roach, Edward; Kavanagh, Kerri  
**Subject:** FW: Event Notice #51158: 06/16/2015  
**Date:** Tuesday, June 16, 2015 11:54:17 AM  
**Attachments:** Events.pdf

---

Please see the attached 50.55 (c) initial notification regarding the Summer Unit 2 SIT inspection (damage to containment vessel and associated rebar).

Alfred Issa, P.E.  
US NRC  
Reactor Operations Engineer  
alfred.issa@nrc.gov  
(301) 415-5342

-----Original Message-----

From: HOO Hoc  
Sent: Tuesday, June 16, 2015 11:48 AM  
To: HOO Hoc; Haag, Robert  
Subject: Event Notice #51158: 06/16/2015

Headquarters Operations Officer  
U.S. Nuclear Regulatory Commission  
Phone: 301-816-5100  
Fax: 301-816-5151  
email: hoo.hoc@nrc.gov  
secure e-mail: (b)(6)

Page 853 of 960

Withheld pursuant to exemption

(b)(5)

of the Freedom of Information and Privacy Act



## **Fredette, Thomas**

---

**From:** Fredette, Thomas  
**Sent:** Wednesday, April 29, 2015 11:12 AM  
**To:** Issa, Alfred  
**Cc:** OBryan, Phil; Johnson, Andrea  
**Subject:** RE: Summer Unit 2 SIT POE Article  
**Attachments:** Summer Unit 2 SIT Article RCA Final.docx

I made one minor correction- nonconformance is one word (and not hyphenated) and formatted the picture captions. The "Final" version is attached.

---

**From:** Issa, Alfred  
**Sent:** Wednesday, April 29, 2015 10:01 AM  
**To:** Fredette, Thomas  
**Cc:** OBryan, Phil; Johnson, Andrea  
**Subject:** RE: Summer Unit 2 SIT POE Article

Sorry Tom. I did not notice your previous email. I was and still am multi—tasking. I replaced the figure and put back the "non-conformance and deviations" term based on Eric's comment.

Thanks



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*[alfred.issa@nrc.gov](mailto:alfred.issa@nrc.gov)*  
*(301) 415-5342*

---

**From:** Fredette, Thomas  
**Sent:** Wednesday, April 29, 2015 9:53 AM  
**To:** Issa, Alfred  
**Cc:** OBryan, Phil; Johnson, Andrea  
**Subject:** RE: Summer Unit 2 SIT POE Article

You are still using the wrong graphic for your Figure 1. Please use the graphic I sent you this a.m.!!!!!!

---

**From:** Issa, Alfred  
**Sent:** Wednesday, April 29, 2015 9:37 AM  
**To:** Fredette, Thomas  
**Cc:** OBryan, Phil; Johnson, Andrea  
**Subject:** RE: Summer Unit 2 SIT POE Article

Please see attached.

Thank you



*Alfred Issa, P.E.*

*US NRC*

*Reactor Operations Engineer*

*alfred.issa@nrc.gov*

*(301) 415-5342*

---

**From:** Fredette, Thomas  
**Sent:** Wednesday, April 29, 2015 9:06 AM  
**To:** Issa, Alfred  
**Cc:** Summer\_Construction\_Support  
**Subject:** FW: Summer Unit 2 SIT POE Article

Attached is my Rev 1 . . . please polish up, incorporate Phil's comments and send out a cleaned up copy for final review to the COE team. Thanks.

---

**From:** OBryan, Phil  
**Sent:** Wednesday, April 29, 2015 9:00 AM  
**To:** Johnson, Andrea; Fredette, Thomas; Issa, Alfred; Michel(R2), Eric  
**Subject:** RE: Summer Unit 2 SIT POE Article

We are technically still reviewing the RCA, but our initial read didn't reveal any significant problems. I added a contributing cause to Tom's comments (attached).

---

**From:** Johnson, Andrea  
**Sent:** Wednesday, April 29, 2015 8:53 AM  
**To:** Fredette, Thomas; Issa, Alfred; Michel(R2), Eric; OBryan, Phil  
**Cc:** Anderson, Brian; Thomas, Eric; Harmon, David  
**Subject:** RE: Summer Unit 2 SIT POE Article

I saw a note today indicating that staff have completed review of the RCA. Should that sentence be revised?

---

**From:** Fredette, Thomas  
**Sent:** Wednesday, April 29, 2015 8:42 AM  
**To:** Issa, Alfred; Michel(R2), Eric; OBryan, Phil  
**Cc:** Anderson, Brian; Johnson, Andrea; Thomas, Eric; Harmon, David  
**Subject:** RE: Summer Unit 2 SIT POE Article

Attached are my annotations. Your graphic does not match up with your narrative, probably because you are using a Vogtle graphic to describe VC Summer concrete activities. I would suggest using the attached- although it is not quite as clear, it is accurate.

Thomas Fredette, PE  
Construction Ops Engr – VC Summer 2&3

---

**From:** Issa, Alfred  
**Sent:** Wednesday, April 29, 2015 8:15 AM  
**To:** Michel(R2), Eric; OBryan, Phil  
**Cc:** Anderson, Brian; Johnson, Andrea; Fredette, Thomas; Thomas, Eric; Harmon, David  
**Subject:** Summer Unit 2 SIT POE Article

Eric/Phil,

Please review the revised POE article that accounts for the recently received root cause analysis report and provide me with any comments. Specifically, I review the wording related to the exit meeting and the final report since I am not sure where they currently stand. I included a "compare" copy from the last version that you saw and a clean copy.

Thank you very much

Al

## Inadvertent Damage to the V. C. Summer Unit 2 AP1000 Containment Vessel

Al Issa

The AP 1000 containment consists of a free standing cylindrical steel vessel that contains layered concrete in the vessel bottom head (Figure 1). In early February, while Chicago Bridge & Iron (CB&I) was installing embed plates and preparing for pouring Layer 3 (83' elevation) concrete, interferences were identified with 7 dowels (vertical rebars) extending from Layer 2. These dowels were cut off and ten 27-inch holes were core drilled in the concrete to grout in replacement dowels. To prepare for grouting, each hole was filled with water. However, one of the holes closest to the containment vessel wall did not hold water. A subsequent borescope examination of that hole revealed that the drill had damaged the containment vessel. In addition, the core bit cut into the horizontal safety-related rebar at this location (see related non-public [photographs](#)). Upon excavation of concrete, it was discovered that the containment vessel was gouged to a depth of approximately 1/8" (non-public Photo 1). The contractor investigated potential rebar impact from coring at the other locations and determined safety-related rebar was impacted at two additional core locations. The subsequent analysis conservatively assumed horizontal rebar was impacted at both of those locations. This incident has received widespread news coverage.

Region II management dispatched a [Special Inspection Team](#) (SIT) to the site to review the incident and licensee/consortium (Westinghouse/Chicago Bridge & Iron (CB&I)) activities initiated to assess the containment vessel damage and implement corrective actions. The SIT completed onsite inspection activities the week of Feb. 23<sup>rd</sup>, and have reviewed the recently completed root cause analysis report. The identified causes include: 1) lack of clear and effective work processes for core drilling; 2) single point vulnerabilities within field engineering; and 3) weaknesses in design/technical verifications in the nonconformance and deviation (N&D) process. An inspection report will follow within 45 days of the final SIT exit meeting. The containment vessel has been repaired (non-public Photo 2) and the impacted safety related rebar in all three locations was accepted "as is."

See related [COMM](#).

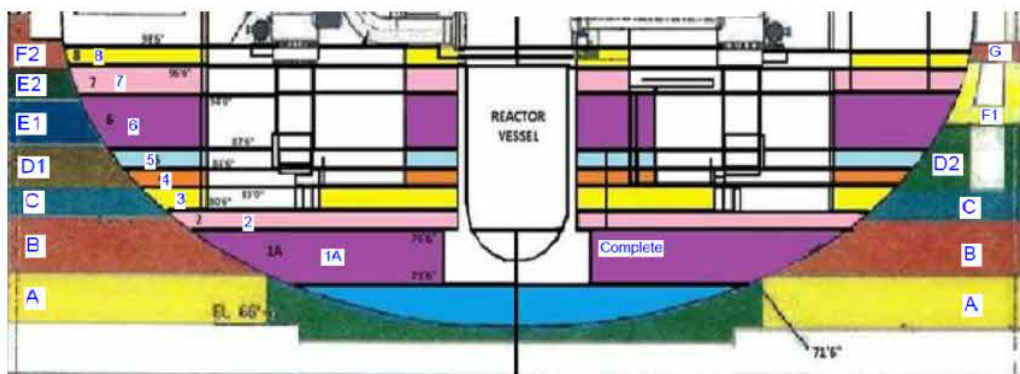


Figure 1 – A depiction of the containment vessel bottom head showing the layers of concrete

Page 858 of 960

Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

**From:** Michel(R2), Eric  
**To:** QBryan, Phil  
**Subject:** FW: SIT Information request 3-9-15  
**Date:** Monday, March 23, 2015 12:52:23 PM  
**Attachments:** [image001.png](#)  
[CVBH Core Location Disposition Rev. 3.pdf](#)

---

Just an FYI.

Eric

---

**From:** SALTER, JAMES FINDLAY [mailto:JAMES.SALTER@scana.com]  
**Sent:** Monday, March 23, 2015 12:41 PM  
**To:** SALTER, JAMES FINDLAY; Michel(R2), Eric  
**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie; Musser, Randy  
**Subject:** RE: SIT Information request 3-9-15

Eric,

1. RCA finalization: RCA team is targeting April 3, as the completion (Final sign off) of the RCA.
2. CV Cores Disposition Update: See attached table for information concerning the CV Core holes.

All N&Ds are in workflow or are dispositioned. All RAls have been answered. Daily OCC meetings have been discontinued.

Let me know if you need anything additional,

**J. Findlay Salter, EIT**  
Associate Engineer  
New Nuclear Deployment - Licensing  
**SCE&G** | V.C. Summer Nuclear Station  
P.O. Box 88 | MC 846  
Jenkinsville, SC 29065-0088  
803.941.9855 Office  
[james.salter@scana.com](mailto:james.salter@scana.com)



---

**From:** SALTER, JAMES FINDLAY  
**Sent:** Monday, March 16, 2015 12:35 PM  
**To:** 'Michel(R2), Eric'  
**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie; Musser, Randy  
**Subject:** RE: SIT Information request 3-9-15

Eric,

I will plan to provide an update on 3/23.

Findlay

---

**From:** Michel(R2), Eric [<mailto:Eric.MichelR2@nrc.gov>]

**Sent:** Monday, March 16, 2015 12:34 PM

**To:** SALTER, JAMES FINDLAY

**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie; Musser, Randy

**Subject:** RE: SIT Information request 3-9-15

\*\*\*This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source.

---

Findlay,

Thanks for the update. Unless anything changes drastically in the interim, can we have another update next Monday (3/23)?

Eric

---

**From:** SALTER, JAMES FINDLAY [<mailto:JAMES.SALTER@scana.com>]

**Sent:** Monday, March 16, 2015 12:09 PM

**To:** Michel(R2), Eric

**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie

**Subject:** RE: SIT Information request 3-9-15

Eric,

3. RCA finalization: RCA team is targeting Friday, MARCH 25, as the completion (Final sign off) of the RCA.
4. CV Cores Disposition Update: See attached table for information concerning the CV Core holes.

Final QC Investigations are occurring in re-cored holes D3, D7 today to address VS2-CR01-GNR-000294, VS2-CR01-GNR-000295 RAI's.

Let me know if you need anything additional,

**J. Findlay Salter, EIT**  
Associate Engineer  
New Nuclear Deployment - Licensing  
**SCE&G** | V.C. Summer Nuclear Station  
P.O. Box 88 | MC 846  
Jenkinsville, SC 29065-0088  
803.941.9855 Office  
[james.salter@scana.com](mailto:james.salter@scana.com)



---

**From:** Michel(R2), Eric [<mailto:Eric.MichelR2@nrc.gov>]  
**Sent:** Tuesday, March 10, 2015 9:32 AM  
**To:** SALTER, JAMES FINDLAY  
**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie  
**Subject:** RE: SIT Information request 3-9-15

\*\*\*This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source.

---

Findlay,

Thanks, this is very helpful. Can we ask for an update on Monday 3/16 to see if anything has changed? It would also help to get rough dates when the actions for the N&Ds for the holes will be completed. Again, those dates would be for our planning purposes only.  
Thanks.

Eric

---

**From:** SALTER, JAMES FINDLAY [<mailto:JAMES.SALTER@scana.com>]  
**Sent:** Monday, March 09, 2015 4:11 PM  
**To:** SALTER, JAMES FINDLAY; Michel(R2), Eric; Oelstrom, Chad  
**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'  
**Subject:** RE: SIT Information request 3-9-15

CORRECTION

---

**From:** SALTER, JAMES FINDLAY  
**Sent:** Monday, March 09, 2015 3:48 PM  
**To:** 'Michel(R2), Eric'; 'Oelstrom, Chad'  
**Cc:** 'Donnelly, Patrick'; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'  
**Subject:** SIT Information request 3-9-15



Eric,

Per our conversation this morning:

5. RCA finalization: RCA team is targeting Friday, MARCH 20, as the completion (Final sign off) of the RCA.
6. CV Cores Disposition Update: See attached table for information concerning the CV Core holes.

The outstanding core locations were recently logically grouped and new N&Ds written to facilitate the retrieval of as-built information. The N&Ds will reference each other and will consider cumulative effects of these and other nonconformances.

As you'll see in the table, we're still in the process of gathering information at four locations (D3, D6 and D7). The information gathering process may lead to re-coring. The extent of those efforts has not yet been defined. As part of excavation D4 and D5 have been exposed for inspection. The cut #11 radial bar in R1 has been dispositioned as abandon in place.

I understand you have been able to review CB&I Services repair documentation.

Let me know if you need anything additional,

**J. Findlay Salter, EIT**  
Associate Engineer  
New Nuclear Deployment - Licensing  
**SCE&G** | V.C. Summer Nuclear Station  
P.O. Box 88 | MC 846  
Jenkinsville, SC 29065-0088  
803.941.9855 Office  
[james.salter@scana.com](mailto:james.salter@scana.com)



**From:** Michel(R2), Eric  
**To:** Oelstrom, Chad; Heisserer, Jamie; OBryan, Phil  
**Cc:** Ernstes, Michael  
**Subject:** RE: CVBH Repair Completed  
**Date:** Tuesday, March 10, 2015 6:53:04 AM

---

Ok. These all look reasonable and consistent with what we understood the week of the SIT.

---

**From:** Oelstrom, Chad  
**Sent:** Monday, March 09, 2015 5:16 PM  
**To:** Michel(R2), Eric; Heisserer, Jamie; OBryan, Phil  
**Cc:** Ernstes, Michael  
**Subject:** CVBH Repair Completed

Eric,

FYI...

CVBH indication repair was completed today at approximately 1630.  
Based on my observations of the UT and VI:  
Base metal thickness: 1.685"  
Indication depth: 1/8"  
Final grinding depth: 9/64" (1/8" + 1/64"), I don't have the final UT thickness.  
MT passed.

If needed, I will provide the recorded (QC) values when I see a copy of the signed-off traveler.

Chad

**From:** [Oelstrom, Chad](#)  
**To:** [Michel\(R2\), Eric](#); [OBryan, Phil](#)  
**Subject:** Please Review SIT PPT Slide attached  
**Date:** Wednesday, March 04, 2015 8:53:43 AM  
**Attachments:** [SIT Observations.pptx](#)

---

Eric and Phil,

NRO and RII Management are going to be onsite tomorrow and I will need to brief them on our observations. SCE&G will be giving them a timeline of events so I will not be briefing them on that. Please review the attached slide to make sure I have captured all that we observed. This is high level the actual details of no GFCI or cutting of rebar and continuing, etc. I think falls under the items on the slide. I need this back by this 3:00 pm.

Thanks,  
Chad

**From:** Nazario, Tomy  
**To:** Michel(R2), Eric  
**Cc:** Oelstrom, Chad; OBryan, Phil  
**Subject:** RE: Core boring of SR concrete  
**Date:** Thursday, February 26, 2015 9:42:17 AM

---

I'm not aware of OE/ConE. The instances here at the site consisted of drilling into rebar on seismic category I structures; however, in most if not all cases engineering was able to evaluate as acceptable and no significant impact to the structure given the location of the rebar and structural integrity of the portion drilled into. They have a fairly comprehensive process now for controlling drilling/coring operations. We can discuss more anytime today if you'd like. I'm working from home, you can call me at (b)(6)

---

**From:** Michel(R2), Eric  
**Sent:** Thursday, February 26, 2015 9:15 AM  
**To:** Nazario, Tomy  
**Cc:** Oelstrom, Chad; OBryan, Phil  
**Subject:** RE: Core boring of SR concrete

We're on site for the SIT this week only. The only question I've got is with regard to any published OE that may be available. Do you know of anything off-hand (e.g. IN, or something INPO published...not even sure if INPO gets involved in construction though)? Did you issue any violations?

Eric

-----Original Message-----

**From:** Nazario, Tomy  
**Sent:** Thursday, February 26, 2015 8:49 AM  
**To:** Michel(R2), Eric  
**Cc:** Oelstrom, Chad; OBryan, Phil  
**Subject:** RE: Core boring of SR concrete

Outside of Scope

---

**From:** Michel(R2), Eric  
**Sent:** Wednesday, February 25, 2015 5:53 PM  
**To:** Nazario, Tomy  
**Cc:** Oelstrom, Chad; OBryan, Phil  
**Subject:** Core boring of SR concrete

Outside of Scope

## Issa, Alfred

---

**From:** opa administrators <opa@nrc.gov>  
**Sent:** Monday, February 23, 2015 9:51 AM  
**To:** Issa, Alfred  
**Subject:** NRC Begins Special Inspection at Summer Nuclear Plant Unit 2 Construction Site  
**Attachments:** 15-004.ii.pdf

**From:** Heisserer, Jamie  
**To:** QBryan, Phil  
**Subject:** FW: For the 1100 Coring/CV Meeting  
**Date:** Thursday, February 19, 2015 10:50:28 AM

---

**From:** SANDERS, GARRETT R [mailto:GARRETT.SANDERS@scana.com]  
**Sent:** Thursday, February 19, 2015 10:50 AM  
**To:** Donnelly, Patrick; Michel(R2), Eric; Oelstrom, Chad; SALTER, JAMES FINDLAY; YOUNG, KYLE MATTHEW; TORRES, ALAN D; TUNE, JOHN BRAD; GIBBONS, PATRICK BLAKE; MOFFATT, GARY D; RICE, APRIL R; WORD, ROOSEVELT JR; CUNNINGHAM, LARRY P; Heisserer, Jamie  
**Cc:** Greg Drake; Sean M Burk; James Comer; Cole, Joseph A; 'Baucom, Charles'  
**Subject:** For the 1100 Coring/CV Meeting

VC Summer Units 2 & 3  
Consortium Immediate Action Summary for Unit 2 CV Core Drill Event  
February 19, 2015

The team is focused on 3 streams of work:

- 1) Establishing a path forward on assessing damage and effecting repairs
  - a. Team Lead: Greg Drake
  - b. Primary Management Team:
    - i. John Arnall: CBIP Civil Concrete Construction with CBIP team members
    - ii. Joe Bianco (WEC) with Paul Fleming, CBIS
    - iii. John Robinson, Dan Krebs: WEC Design Eng.
  - c. The Team will meet in the main OCC room M, T, Th, Fr and meet in the Aux OCC room on Wed.
- 2) Identifying and implementing interim corrective actions needed pending investigation completion
  - a. Team Lead: Sean Burk
  - b. Core Drilling halted on site
    - i. Drills held in Tool Room
  - c. Effort on 2/19 to review all SR current activities (in addition to core drilling) and review if these are being executed with adequate controls
    - i. Sean Burk – Lead with CM, AM, FE, QC, WEC
    - ii. Identify Safety Related scope being performed at risk, and Stop those activities
    - iii. Development of incident reporting protocol
    - iv. Identify plan to return work activities placed on hold
    - v. Perform a risk assessment for current and planned activities + 6mo.
  - d. Following identification of contributing causes of event, conduct all day site stand down to reflect on and review Work Control, Work Packages, Risk Identification, Risk Control
- 3) Conduct an incident investigation/root cause to ensure a complete understanding of the contributing causes and identification of corrective actions

- a. Team Lead: Jim Comer, with support from Ed Wills and Mike Annacone
- b. The Team will:

- i. Obtain statements
- ii. Problem Statement
- iii. Scope Statement
- iv. Prepare an event timeline to include N&D and CAR Initiation
- v. Review and Analyze work package(s)
- vi. Review all Procedures for violations
- vii. Review Codes for violations
- viii. Review Training Quals
- ix. Review Oversight
- x. Extent of Condition
- xi. Extent of Cause
- xii. Review NSC and HUP aspects
- xiii. Develop Effectiveness Review plan

4) The Team will:

- Work through the weekend and be prepared to support a comprehensive status
- Coordinate with the client to ensure the NRC is kept informed
- Keep Vogtle informed and any applicable actions taken there
- Will be in a position to brief the NRC SI on the issue and our results following their entrance on Monday.

## **Tappert, John**

---

**From:** Cheok, Michael  
**Sent:** Wednesday, June 10, 2015 8:47 AM  
**To:** Tracy, Glenn; Holahan, Gary  
**Cc:** Valentin, Andrea; Beardsley, James; Tappert, John; Caldwell, Robert; Monninger, John; Hawkins, Kimberly; Akstulewicz, Frank; Delligatti, Mark  
**Subject:** FW: VC Summer Special Inspection Team Report.

FYI. No surprises in the findings – we have been aware of them. Phil OBryan from DCIP was on the inspection team.

---

**From:** Yerokun, Jimi  
**Sent:** Wednesday, June 10, 2015 8:12 AM  
**To:** Dudes, Laura; Cheok, Michael; Jones, William  
**Cc:** McCree, Victor; Ernstes, Michael; Heisserer, Jamie  
**Subject:** VC Summer Special Inspection Team Report.

FYI:

We are issuing the VC Summer Special Inspection Team report this week, under Jamie's signature. The special inspection was in response to the concrete boring incident that resulted in damages to safety-related rebar and containment vessel bottom head. Findings: Two Green non-cited violations of App. B Crit. III, Design Control, and Crit. V, Procedure. Associated Human Performance Cross-Cutting aspects of Work Management and Avoid Complacency.

**Jimi T. Yerokun**  
**Director, DCI/RII**  
**404 997-4300**

(b)(6) (cell)



**From:** Fredette, Thomas  
**To:** Summer Construction Support; Vogtle Construction Support  
**Subject:** FW: For the 1100 Coring/CV Meeting  
**Date:** Monday, February 23, 2015 10:51:05 AM

---

FYI from the CV drilling issue.

Thomas R Fredette, PE  
Construction Ops Engr – VC Summer  
NRO/DCIP/CIPB  
301.415.8538

(b)(6)

(mobile)

**From:** Donnelly, Patrick  
**Sent:** Friday, February 20, 2015 1:38 PM  
**To:** Fredette, Thomas; Beardsley, James  
**Subject:** FW: For the 1100 Coring/CV Meeting

FYI – The three pronged attack CB&I Power has developed to deal with the issues surrounding the CV strike are described below.

Let me know if you have any questions.

Patrick Donnelly  
V.C. Summer Resident Inspector  
(803)345-6856

**From:** SANDERS, GARRETT R [<mailto:GARRETT.SANDERS@scana.com>]  
**Sent:** Thursday, February 19, 2015 10:50 AM  
**To:** Donnelly, Patrick; Michel(R2), Eric; Oelstrom, Chad; SALTER, JAMES FINDLAY; YOUNG, KYLE MATTHEW; TORRES, ALAN D; TUNE, JOHN BRAD; GIBBONS, PATRICK BLAKE; MOFFATT, GARY D; RICE, APRIL R; WORD, ROOSEVELT JR; CUNNINGHAM, LARRY P; Heisserer, Jamie  
**Cc:** Greg Drake; Sean M Burk; James Comer; Cole, Joseph A; 'Baucom, Charles'  
**Subject:** For the 1100 Coring/CV Meeting

VC Summer Units 2 & 3  
Consortium Immediate Action Summary for Unit 2 CV Core Drill Event  
February 19, 2015

The team is focused on 3 streams of work:

- 1) Establishing a path forward on assessing damage and effecting repairs
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  - b. Primary Management Team:
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    - ii. Joe Bianco (WEC) with Paul Fleming, CBIS
    - iii. John Robinson, Dan Krebs: WEC Design Eng.
  - c. The Team will meet in the main OCC room M, T, Th, Fr and meet in the Aux OCC room on Wed.

- 2) Identifying and implementing interim corrective actions needed pending investigation completion
  - a. Team Lead: Sean Burk
  - b. Core Drilling halted on site
    - i. Drills held in Tool Room
  - c. Effort on 2/19 to review all SR current activities (in addition to core drilling) and review if these are being executed with adequate controls
    - i. Sean Burk – Lead with CM, AM, FE, QC, WEC
    - ii. Identify Safety Related scope being performed at risk, and Stop those activities
    - iii. Development of incident reporting protocol
    - iv. Identify plan to return work activities placed on hold
    - v. Perform a risk assessment for current and planned activities + 6mo.
  - d. Following identification of contributing causes of event, conduct all day site stand down to reflect on and review Work Control, Work Packages, Risk Identification, Risk Control
  
- 3) Conduct an incident investigation/root cause to ensure a complete understanding of the contributing causes and identification of corrective actions
  - a. Team Lead: Jim Comer, with support from Ed Wills and Mike Annacone
  - b. The Team will:
    - i. Obtain statements
    - ii. Problem Statement
    - iii. Scope Statement
    - iv. Prepare an event timeline to include N&D and CAR Initiation
    - v. Review and Analyze work package(s)
    - vi. Review all Procedures for violations
    - vii. Review Codes for violations
    - viii. Review Training Quals
    - ix. Review Oversight
    - x. Extent of Condition
    - xi. Extent of Cause
    - xii. Review NSC and HUP aspects
    - xiii. Develop Effectiveness Review plan
  
- 4) The Team will:
  - Work through the weekend and be prepared to support a comprehensive status
  - Coordinate with the client to ensure the NRC is kept informed
  - Keep Vogtle informed and any applicable actions taken there
  - Will be in a position to brief the NRC SI on the issue and our results following their entrance on Monday.

**From:** Beardsley, James  
**To:** Fredette, Thomas; Johnson, Andrea; O'Bryan, Phil  
**Cc:** Kozak, Thomas; Lukes, Robert; Webb, Michael; Weber, Carl; Brown, Michael; Wilson, Joshua  
**Subject:** FW: Summer Containment Vessel Issue and SIT Decision  
**Date:** Wednesday, February 18, 2015 5:01:30 PM

---

FYI. Phil O'Bryan will be participating on the SIT referenced below.

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

---

**From:** Cheok, Michael  
**Sent:** Wednesday, February 18, 2015 4:48 PM  
**To:** Beardsley, James  
**Subject:** Fw: Summer Containment Vessel Issue and SIT Decision

---

**From:** McCree, Victor  
**Sent:** Wednesday, February 18, 2015 04:45 PM  
**To:** Tracy, Glenn; Johnson, Michael; Cheok, Michael; Valentin, Andrea; Holahan, Gary  
**Cc:** Brown, Frederick; Yerokun, Jimi; Jones, William; Wert, Leonard; Hannah, Roger; Ledford, Joey; Ernstes, Michael  
**Subject:** Summer Containment Vessel Issue and SIT Decision

Glenn/Mike,

Yesterday, Region II was informed of an event at the Summer Unit 2 construction site on Thursday, February 19 that appeared to warrant additional inspection. Based on further consideration, I have concluded that this inspection should be conducted as a Special Inspection based on the deterministic criteria described in App C to IMC 2504. Specifically, *"the event represents a significant issue(s) not covered by [other criteria] that in the judgment of management warrants additional inspection or oversight."*

As we discussed yesterday, preliminary information (which will be verified during the SIT) indicates that while installing embed plates in the Summer Unit 2 Containment Vessel (CV) in preparation for pouring Layer 3 of concrete, interferences were identified with 7 dowels (vertical rebar) extending from Layer 2. These dowels were removed and ten 27-inch holes were drilled in the concrete to grout in replacement dowels. To prepare for grouting, each hole was filled with water, however, workers noted that one of the holes closest to the CV did not hold water. A subsequent boroscope examination of that hole revealed that the drill had penetrated the CV (to some degree). We were also informed that other holes drilled in to the Layer 2 concrete may have cut through longitudinal rebar. In addition, it was reported that a grounding (safety) feature in the core boring drill was intentionally bypassed during the drilling evolution and that this was likely a factor in the unintended

penetration of the CV and cutting of Layer 2 basemat rebar.

When informed of this event on Monday, February 23, SCANA reported that it stopped boring work in the CV. SCANA also contacted the construction representatives at SoCo (Vogtle 3/4) and shared this occurrence.

The decision to dispatch an SIT to follow-up this event is influenced by several preliminary factors: (i) *the potential impact on safety related structures (the CV and structural longitudinal reinforcement bars); (ii) the information indicating that a grounding (safety) feature on the core boring drill was intentionally disabled; (iii) the apparently untimely notification of the licensee (and NRC) regarding the occurrence of the event; and (iv) the apparent breakdown in controls to preclude such an event.*

We are in the process of drafting a charter for the Special Inspection Team (SIT), identifying the team members, and creating a communications plan (including a Daily Note and news release). We will also coordinate with NRO to identify any technical support needed to fulfill the charter. The SIT will likely begin onsite inspection on Monday, February 23.

Also, as you may know, CMR Ostendorff is scheduled to visit Summer on February 23, so I plan to give him a courtesy call today to brief him on the event and our plans for the SIT (which will be onsite during his visit).

That's all for now.

Vic



**From:** Beardsley, James  
**To:** OBryan, Phil  
**Cc:** Fredette, Thomas; Johnson, Andrea; Heisserer, Jamie; Michel(R2), Eric; Cheok, Michael; Valentin, Andrea  
**Subject:** Summer Special Inspection  
**Date:** Wednesday, February 18, 2015 4:26:07 PM

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Phil,

RII has requested your participation on the VC Summer Special Inspection next week. The team will be traveling to Summer, Monday. Eric Michel in the team leader, please work with him on the logistics.

In addition to supporting the team, I would appreciate it if you would look over our program to see if we can make improvements to our documentation and structure. The tentative plan is to do the inspection based on IMC 2504 Appendix C, but it is basically management discretion. The inspection will be under IP 35007, but the team will reference IP 93812 as it has guidance appropriate for a special inspection. Unfortunately, our program does not have a special inspection procedure like IP 93812 and that procedure is currently only assigned to IMC 2515. My question (for you) is should we write our own procedure, have IP 93812 added to IMC 2504 applicability or is there another approach that would make sense. After the inspection is complete, I look forward to your thoughts.

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
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C: (b)(6)

## A. NRC-Identified and Self Revealed Findings

### Cornerstone: Construction/Installation

- Green: The NRC identified an Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" for damage to safety related structural rebar as a result of failure by South Carolina Electric and Gas (SCE&G), through their contractor Chicago Bridge & Iron (CB&I) Power, to implement appropriate procedures for coring into concrete. No immediate corrective actions were necessary to alleviate immediate safety or security concerns. Subsequent corrective actions to evaluate damaged safety related rebar have been completed. The licensee entered this issue into their corrective action program as CR-NND-15-00539.

The finding was associated with the Construction/Installation cornerstone. The inspectors determined the performance deficiency was more than minor following the guidance in IMC 0613, "Power Reactor Construction Inspection Reports," Appendix E, Example 16. The inspectors evaluated the finding in accordance with IMC 2519, "Construction Significance Determination Process," Appendix A, "AP 1000 Construction Significance Determination Process," and determined the finding was of very low safety significance (Green) because it was associated with a portion of a structure assigned to the intermediate risk importance column, and Row 2, of the construction significance determination matrix. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAAC 760 (3.3.00.02a.i.a). The acceptance criteria of this ITAAC requires that a reconciliation report is completed that concludes the "as-built" construction conforms to the approved design. At the time of the inspection, this finding was associated with deviations from design requirements that would not have been reconciled by the licensee as required by the ITAAC; however, as of the writing of this report, the associated deviations have been adequately reconciled. The inspectors screened the finding for a possible construction cross-cutting aspect in accordance with Appendix F, "Construction Safety Focus Components and Aspects," of IMC 0613. This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency aspect because the licensee failed to adequately develop a process which would recognize and plan for the possibility of mistakes. [H.12]. (Section 2)

2. Review the licensee's (and CB&I's) assessment of human performance issues, procedure violations, and/or code violations. Develop an independent assessment based on the sequence of events.

a. Inspection Scope and Observations

The inspectors conducted interviews with CB&I, WEC, and SCE&G personnel; constructed a timeline of events (Section 4OA5.1); and reviewed corrective action program documents, work instructions, and procedures in order to assess human performance, procedural compliance, and potential violations of governing codes and standards. Personnel interviewed included CB&I craft workers and their supervisors, CB&I field engineers and their supervisors, WEC design engineers and their supervisors, and managers from all three organizations. Lists of personnel interviewed and documents reviewed are included in the Supplemental Information section at the end of this report.

b. Findings

i. Failure to implement procedures for coring concrete and post installing anchors

Introduction: An ITAAC finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and drawings," was identified by the NRC for unanalyzed damage to safety related structural rebar as a result of the failure by SCE&G, through their contractor CB&I Power, to adequately implement procedures for post-installing safety related rebar and coring into concrete.

Description: In early February 2015, CB&I Power was installing relocated dowels in preparation for the proposed layer 3 of concrete inside the CV. The relocated dowels were being post-installed by coring into the existing concrete of layer 2 (below the proposed layer 3) and grouting the post-installed dowels in the cored holes. As stated above, ten holes were cored. To prepare for grouting, each hole was filled with water to pre-soak the hole. However, one of the holes (R1) closest to the CVBH wall did not hold water. A subsequent borescope examination of that hole revealed that the drill penetrated completely through the concrete and had impacted the CVBH. Subsequent inspection also revealed that the core bit had cut through safety-related rebar at this location. The contractor investigated potential rebar impacts from coring at the other nine locations and determined safety-related rebar was impacted at the D2 and D7 core locations as well.

The VC Summer Unit 2 project had procedures in place for installing reinforcing steel and post-installing rebar or anchors by coring and grouting. These procedures included corporate level procedures NCSP 3-33-1, Installation of Drilled-In Concrete Anchors, and NCSP 3-42-1, Reinforcing Steel installation; and site level instruction CSI 3-40-0, Installation of Post Installed Anchors. Both corporate level procedures and site instructions were required to be followed.

These procedures had requirements regarding contact with, or damage to structural rebar described as follows. NCSP 3-33-1, Attachment 7.1, entitled "Drilled-In Concrete Anchor Installation Attributes," was the construction quality completion (CQC) checklist which provided those attributes to be verified by a field engineer and superintendent

during coring. Attribute W90 required, in part, "Rebar has not been cut unless approved (list approval documents in remarks)." NCSP 3-33-1 also required in Section 6.2.2.e that, "Discipline Construction Superintendent and responsible Field Engineer shall verify...that reinforcing steel has not been cut." Site level instruction CSI 3-40-0, Section 6.2.1 stated, in part, "post installed anchors shall not be drilled into structural rebar or embedded plates unless approved by the Engineer." Finally, NCSP 3-42-1, Section 6.8b stated, in part, "any item, condition or material which deviates from drawings, specifications or other engineering requirements and cannot be resolved within the scope of such requirements, or otherwise requires an Engineering disposition, shall be reported in accordance with, NCSP 2-8, "Nonconformance Reporting and Control".

The contractor failed to adequately implement the above mentioned procedures for the ten cored holes. Specifically, the work was performed per the "Repair" dispositions in N&D VS2-CR01-GNR-00259 and N&D VS2-CR01-GNR-00263, but those N&Ds failed to incorporate CB&I procedures NCSP 3-33-1, CSI 3-40-0, and NCSP 3-42-1. As a result, the N&Ds provided no approvals for cutting safety related rebar, and safety related rebar was cut at three core locations (R1, D2, and D7). Coring was not stopped by the Field Engineer or Construction Superintendent when rebar was contacted. In addition, the Field Engineer or Superintendent did not contact the Engineer for approval or to report the nonconformance of the impacted rebar, as required by the procedures. Prior to grout placement on core locations D2 and D7, neither the Field Engineer nor Construction Superintendent verified that rebar was not cut. As a result ITAAC 3.3.00.02a.i.a was materially impacted because these two locations contained unanalyzed structural deviations from the original design that would not have been reconciled.

Analysis: The inspectors determined that the left in-place, damaged and unanalyzed structural rebar in core holes D2 and D7 as a result of the failure to implement the appropriate procedures as required by 10 CFR Part 50, Appendix B, Criterion V, was a performance deficiency. The performance deficiency was more than minor following the guidance in IMC 0613, "Power Reactor Construction Inspection Reports," Appendix E, Example 16. Specifically, CB&I did not implement the appropriate requirements for coring into concrete and impacting safety related rebar, thereby leaving the cutting of safety related rebar unacceptable or indeterminate. The finding was determined to be an ITAAC finding because it was material to the acceptance criteria of Unit 2 ITAAC 760 (3.3.00.02a.i.a). The acceptance criteria of this ITAAC requires that a reconciliation report, concluding the "as-built" construction conforms to the approved design, is completed for the areas associated with the ITAAC. The structural rebar that was impacted in holes D2 and D7, and then subsequently grouted over, is included within the scope of ITAAC 760, and would not have been reconciled by the licensee as required by the ITAAC. The inspectors reviewed SCE&G Condition Report CR-NND-15-000263 and N&D No.'s VS2-1110-GNR-000011, VS2-CR01-GNR-000294, and VS2-CR01-GNR-000295 to determine whether appropriate action was taken to address the non-conforming condition of the unanalyzed cut rebar in core holes D2 and D7. The inspectors determined the dispositions and justifications of the cut rebar reconciled the unanalyzed condition with the design. The cut rebar still met the licensing basis and no longer impact the ITAAC 3.3.00.02a.i.a acceptance criteria. No additional findings were identified. NCV 05200027/2015009-01 is closed.

The inspectors concluded this finding was associated with the Construction/Installation Cornerstone. The inspectors evaluated the finding using the construction SDP in



accordance with IMC 2519, "Construction Significance Determination Process," Appendix A, "AP 1000 Construction Significance Determination Process" and determined that the finding was of very low safety significance (Green) because it was associated with a portion of a structure assigned to the intermediate risk importance column and Row 2 of the construction significance determination matrix.

The inspectors screened the finding for a possible construction cross-cutting aspect in accordance with Appendix F, "Construction Cross-Cutting Components and Aspects" of IMC 0613. This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency aspect, because the licensee failed to adequately develop a process which would recognize and plan for the possibility of mistakes. [H.12].

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings" requires, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

Contrary to the above, during coring and grouting in early February for the construction of layer 3 concrete inside the CV, the licensee, through their contractor CB&I Power, failed to implement appropriate procedures for post-installing safety related rebar and coring into concrete. Specifically, coring was not stopped by the Field Engineer or Construction Superintendent when rebar was contacted at locations R1, D2, and D7 per procedures NCSP 3-33-1, CSI 3-40-0, and NCSP 3-42-1. In addition, the Field Engineer or Superintendent did not contact the Engineer for approval, or report the nonconformance of the impacted rebar. Prior to grout placement, neither the Field Engineer nor Construction Superintendent verified that rebar was not cut. As a result, core locations D2 and D7 were grouted with an unapproved, unanalyzed and unreconciled structural defect. If left uncorrected, these unanalyzed and unreconciled defects, in this portion of the structure, had the potential safety consequence of preventing the CV foundation from meeting its intended design function per the UFSAR, Tier 1, Section 3.3.2.a). Corrective actions taken by the licensee, to date of this report, include: issuing a stop work order on all coring activities, reviewing and revising procedures for coring and post-installing anchors in concrete, training of management and craft, developing new procedures for penetrating concrete, and analyzing the impacts of the cut structural rebar.

Because this violation was of very low safety significance (Green) and it was entered into the licensee's corrective action program as CR 15-0539, this violation is being treated as a non-cited violation (NCV 05200027/2015009-01), Failure to Implement Procedures for Coring Concrete and Post-Installing Anchors, consistent with Section 2.3.2 of the NRC Enforcement Policy and EGM 11-006.

**Issa, Alfred**

---

**From:** Beardsley, James  
**Sent:** Friday, March 13, 2015 11:27 AM  
**To:** Brown, Michael; OBryan, Phil; Wilson, Joshua; Fredette, Thomas; Johnson, Andrea  
**Subject:** FW: End of week Summer SIT update  
**Attachments:** VCS CVBH after.jpg; VCS CVBH before.jpg

FYI

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
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Office: T-7D49  
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C: (b)(6)

---

**From:** Heisserer, Jamie  
**Sent:** Friday, March 13, 2015 11:08 AM  
**To:** McCree, Victor; Brown, Frederick; Yerokun, Jimi; Jones, William  
**Cc:** Beardsley, James; Michel(R2), Eric  
**Subject:** End of week Summer SIT update

Good morning,

This week, VC Summer completed repairs to the containment vessel bottom head. Attached are some clear pictures of the damage and subsequent repair. Chad Oelstrom observed the repair and non-destructive examination. The CVBH was repaired in accordance with code, and the thickness meets design requirements.

The team expects to receive the final dispositions on the impacted rebar early next week and the final root cause evaluation at the end of next week. If the licensee meets their intended schedule, the team should complete their reviews and conduct the final exit meeting by March 27.

If you have any questions, please let me know.

**Jamie M. Heisserer**  
Chief, Construction Inspection Branch 2  
Region II - Division of Construction Inspection  
U.S. Nuclear Regulatory Commission  
(404) 997-4451 (Office)  
(b)(6) (Cell)

**From:** Burk, Sean M  
**To:** Voss, Drew; Dahlberg, Chris; Tate, William; Pitre, Mark A.; Arnall, John R; Magnarelli, Dan (Westinghouse); Tate, Terry L; Dykstra, Fred; Khan, Arshad; Sawicki, Jay; De Torres, Gerardo; Cole, Robert; Morgan, William J; Steinem, John R; Evenson, Ryan; Senterfeit, Forrest H; Henderson, Calvin; Hollenbach, Kenneth W; Anderson, Cory; Hughes, Joseph P; Capitano, Charles J.; Ezell, Jason; Yeliseyev, John; Fleetwood, Andrew S; Sedey, Raymond; Bettasso, Daniel; Kalish, Jamey; Copeland, Terry; Hulon, Stephen M; Anderson, Michael V; Wood, Bill; Salter, James F; Steele, Robert J; YOUNG, KYLE MATTHEW; Donnelly, Patrick; OBryan, Phil; Oelstrom, Chad; Michel(R2), Eric; Skelley, Matthew  
**Cc:** McClung, Bradley; Drewett, George; Crawley, David (Westinghouse); Kaufman, Eric; Powell, Daniel; Zimmers, Erik; Brogdon, Jeff; Dunaway, Michael J; Comer, James; Wills Jr, Edward; Faulkner, Kevin A.; Parente, Dave (Westinghouse); Vine, Robert; Keane, Brian; Getty, Kathleen; Kozlowsky, David; Williams, Terry; Williams, Elmer; Bonkosky, Jeffrey; Hamilton, Brent A; "CATLEDGE, JOHN THOMAS"; Chandler, Timothy; Bolton, Robert T.; Griffith, Mark D.  
**Subject:** RE: Interim Actions Team - Core Drill contact with Vessel  
**Date:** Friday, February 27, 2015 1:42:40 PM  
**Attachments:** Interim Actions Team Actions.xlsx

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Please see updated AIL from today's noon meeting.

Sean M. Burk  
Senior Director  
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Power  
Nuclear  
Tel: +1 803 575 3181  
Cell: (b)(6)

[Sean.Burk@CBI.com](mailto:Sean.Burk@CBI.com)

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-----Original Appointment-----

**From:** Burk, Sean M

**Sent:** Wednesday, February 18, 2015 5:11 PM

**To:** Burk, Sean M; Voss, Drew; Dahlberg, Chris; Tate, William; Pitre, Mark A.; Arnall, John R; Magnarelli, Dan (Westinghouse); Tate, Terry L; Dykstra, Fred; Khan, Arshad; Sawicki, Jay; De Torres, Gerardo; Cole, Robert; Morgan, William J; Steinem, John R; Evenson, Ryan; Senterfeit, Forrest H; Henderson, Calvin; Hollenbach, Kenneth W; Anderson, Cory; Hughes, Joseph P; Capitano, Charles J.; Ezell, Jason; Yeliseyev, John; Fleetwood, Andrew S; Sedey, Raymond; Bettasso, Daniel; Kalish, Jamey; Copeland, Terry; Hulon, Stephen M; Anderson, Michael V; Wood, Bill; Salter, James F; Steele, Robert J; YOUNG, KYLE MATTHEW; 'Donnelly, Patrick'; 'OBryan, Phil'; Oelstrom, Chad; Michel(R2) Eric; Skelley, Matthew

**Cc:** McClung, Bradley; Drewett, George; Crawley, David (Westinghouse); Kaufman, Eric; Powell, Daniel; Zimmers, Erik; Brogdon, Jeff; Dunaway, Michael J; Comer, James; Wills Jr, Edward; Faulkner, Kevin A.; Parente, Dave (Westinghouse); Vine, Robert; Keane, Brian; Getty, Kathleen; Kozlowsky, David; Williams, Terry; Williams, Elmer; Bonkosky, Jeffrey; Hamilton, Brent A; 'CATLEDGE, JOHN THOMAS'; 'Chandler, Timothy'; Bolton, Robert T.; Griffith, Mark D.

**Subject:** Interim Actions Team - Core Drill contact with Vessel

**When:** Friday, February 27, 2015 12:00 PM-1:00 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** OCC

Purpose of this meeting is to:

Review the actions from 2/26 meeting.

## **LUNCH WILL BE PROVIDED.**

Please see updated action list. Thanks to all for your efforts so far. **Please plan on attending this meeting. We want to review open actions and any needs for the weekend if necessary.**

<< File: Interim Actions Team Actions.xlsx >>

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**From:** YOUNG, KYLE MATTHEW  
**To:** Michel(R2), Eric; Oelstrom, Chad; OBryan, Phil  
**Cc:** SALTER, JAMES FINDLAY  
**Subject:** FW: 2015-0539 Timeline- 1538 hrs. 26 FEB 15  
**Date:** Thursday, February 26, 2015 3:53:43 PM  
**Attachments:** [Event Timeline for NRC 02-26-2015.docx](#)

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**From:** James Comer  
**Sent:** Thursday, February 26, 2015 3:39 PM  
**To:** YOUNG, KYLE MATTHEW; Wills Jr, Edward  
**Subject:** FW: 2015-0539 Timeline- 1538 hrs. 26 FEB 15

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Final as of the date in the subject line



**Jim Comer PMP**  
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**"ONE TEAM ONE MISSION"**  
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---

**From:** Hurley, Amanda F.  
**Sent:** Thursday, February 26, 2015 2:23 PM  
**To:** Karmozyn, James  
**Cc:** Comer, James  
**Subject:** 2015-0539 Timeline

Mr. Karmozyn,



Attached is the timeline with the changes just given to me by Mr. Comer. Please let me know if I can do anything else.

Thanks!



**Amanda Hurley**  
Human Performance and Trending Manager  
V.C. Summer Performance Improvement Organization  
Power / Nuclear  
Office: (803) 932-5420  
Mobile: (b)(6)  
[amanda.hurley@CBI.com](mailto:amanda.hurley@CBI.com)

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**From:** YOUNG, KYLE MATTHEW  
**To:** OBryan, Phil; Oelstrom, Chad; Vias, Steven; Michel(R2), Eric; Donnelly, Patrick; Karlovich, Nicholas; Chandler, Timothy  
**Cc:** SALTER, JAMES FINDLAY  
**Subject:** Fw: CVBH Concrete Core OCC Meeting : Action Item List 2-25-15  
**Date:** Wednesday, February 25, 2015 1:53:37 PM  
**Attachments:** SecureZIP Attachments.zip

---

Kyle Young  
803.941.9811 Office

(b)(6) Mobile

---

**From:** Sullivan, Christina M <sullivcm@westinghouse.com>  
**Sent:** Wednesday, February 25, 2015 12:26  
**To:** Drake, Gregory A.; 'Karmozyn, James'; 'Kappers, Michelle L'; 'Young, Todd'; Parente, David A; 'john.arnall@cbi.com'; Bianco, Joseph; Gary, Latia D; Kenny, Natalie L; Krebs, Daniel P; Sweidan, Basheer N; Bernardo, Robert L; 'Hughes, Joseph P'; 'Sarah Fadell'; 'rwdriscoll@cbi.com'; 'Paul J Fleming'; Fletcher, Christopher J; Crawley, David W; 'Tate, Terry L'; 'Loni LaPlante'; 'Drewett, George'; 'john.yeliseyev@cbi.com'; YOUNG, KYLE MATTHEW; TUNE, JOHN BRAD; SALTER, JAMES FINDLAY; TROFICANTO, RICHARD D; 'carrie.arnold@cbi.com'; 'terry.copeland@cbi.com'; 'charles.capitano@cbi.com'; 'michael.v.anderson@cbi.com'; Zeno-Hernandez, Gabriel A; Sullivan, Christina M; Daugherty, Terry S; Ewing, Jerrod A.; ty.gregory@cbi.com; jerry.sapp@cbi.com  
**Cc:** Macecevic III, William A.; 'Wood, Bill'; Magnarelli, Daniel L; Robinson, John L.; 'Burk, Sean M'; Kenneth W. Hollenbach  
**Subject:** CVBH Concrete Core OCC Meeting : Action Item List 2-25-15

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See attached action items from today's OCC meeting.

Thank you,

Christina M. Sullivan, PMP  
Westinghouse Electric Company

p: (803) 345-8603

c: (b)(6)

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**From:** Burk, Sean M  
**To:** Voss, Drew; Dahlberg, Chris; Tate, William; Pitre, Mark A.; Arnall, John R; Magnarelli, Dan (Westinghouse); Tate, Terry L; Dykstra, Fred; Khan, Arshad; Sawicki, Jay; De Torres, Gerardo; Cole, Robert; YOUNG, KYLE MATTHEW; Morgan, William J; Steinem, John R; Evenson, Ryan; Senterfelt, Forrest H; Henderson, Calvin; Hollenbach, Kenneth W; Anderson, Cory; Hughes, Joseph P; Capitano, Charles J.; Ezell, Jason; Yeliseyev, John; Fleetwood, Andrew S; Sedey, Raymond; Bettasso, Daniel; Kalish, Jamey; Copeland, Terry; Hulon, Stephen M; Anderson, Michael V; Wood, Bill; Donnelly, Patrick; OBryan, Phil; Oelstrom, Chad; Michel(R2), Eric; Salter, James F; Steele, Robert J  
**Cc:** McClung, Bradley; Drewett, George; Crawley, David (Westinghouse); Kaufman, Eric; Powell, Daniel; Zimmers, Erik; Brogdon, Jeff; Dunaway, Michael J; Comer, James; Wills Jr, Edward; Faulkner, Kevin A.; Parente, Dave (Westinghouse); Vine, Robert; Keane, Brian; "CATLEDGE, JOHN THOMAS"; Getty, Kathleen; Chandler, Timothy; Kozlowsky, David; Williams, Terry; Williams, Elmer; Bonkosky, Jeffrey; Hamilton, Brent A; Karmozyn, James; Smith, Jarred; Hobbs, Brian  
**Subject:** RE: Interim Actions Team - Core Drill contact with Vessel  
**Date:** Wednesday, February 25, 2015 11:47:07 AM  
**Attachments:** Interim Actions Team Actions.xlsx

---

Please see updated AIL for the Interim and Immediate Actions Team. Jim Karmozyn, we need the criteria ASAP.

Sean M. Burk  
Senior Director  
Project Management  
Power  
Nuclear  
Tel: +1 803 575 3181  
Cell: (b)(6)

[Sean.Burk@CBI.com](mailto:Sean.Burk@CBI.com)

CB&I  
VC Summer Site  
Jenkinsville, SC

[www.CBI.com](http://www.CBI.com)



-----Original Appointment-----

**From:** Burk, Sean M

**Sent:** Wednesday, February 18, 2015 5:11 PM

**To:** Burk, Sean M; Voss, Drew; Dahlberg, Chris; Tate, William; Pitre, Mark A.; Arnall, John R; Magnarelli, Dan (Westinghouse); Tate, Terry L; Dykstra, Fred; Khan, Arshad; Sawicki, Jay; De Torres, Gerardo; Cole, Robert; YOUNG, KYLE MATTHEW; Morgan, William J; Steinem, John R; Evenson, Ryan; Senterfelt, Forrest H; Henderson, Calvin; Hollenbach, Kenneth W; Anderson, Cory; Hughes, Joseph P; Capitano, Charles J.; Ezell, Jason; Yeliseyev, John; Fleetwood, Andrew S; Sedey, Raymond; Bettasso, Daniel; Kalish, Jamey; Copeland, Terry; Hulon, Stephen M; Anderson, Michael V; Wood, Bill; 'Donnelly, Patrick'; 'OBryan, Phil'; Oelstrom, Chad; Michel(R2) Eric; Salter, James F; Steele, Robert J

**Cc:** McClung, Bradley; Drewett, George; Crawley, David (Westinghouse); Kaufman, Eric; Powell, Daniel; Zimmers, Erik; Brogdon, Jeff; Dunaway, Michael J; Comer, James; Wills Jr, Edward; Faulkner, Kevin A.; Parente, Dave (Westinghouse); Vine, Robert; Keane, Brian; 'CATLEDGE, JOHN THOMAS'; Getty, Kathleen; 'Chandler, Timothy'; Kozlowsky, David; Williams, Terry; Williams, Elmer; Bonkosky, Jeffrey; Hamilton, Brent A

**Subject:** Interim Actions Team - Core Drill contact with Vessel

**When:** Wednesday, February 25, 2015 10:00 AM-11:00 AM (UTC-05:00) Eastern Time (US & Canada).

**Where:** OCC

Purpose of this meeting is to:



Review the actions from 2/23 meeting.

Please see updated action list. Thanks to all for your efforts so far. Only those that have actions identified are required to attend this meeting.

<< File: Interim Actions Team Actions.xlsx >>

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**From:** Salter, James F  
**To:** OBryan, Phil; Oelstrom, Chad; Michel(R2), Eric  
**Cc:** Baucom, Charles; kyle.young@scana.com; Wills Jr, Edward; Salter, James F  
**Subject:** FW: Core Specimens  
**Date:** Monday, February 23, 2015 5:50:40 PM  
**Attachments:** CVBH xsec Core Model 1.pdf  
VS2-CORE HOLE-AB-150219-1.pdf  
VS2-CORE HOLE-AB-150219-2.pdf  
CV CORE LOG.PDF

---

Eric,

See attached documents in response to the team request from our review of the cores this afternoon.

Findlay

---

**From:** Young, Todd  
**Sent:** Monday, February 23, 2015 4:10 PM  
**To:** 'YOUNG, KYLE MATTHEW'; Salter, James F; john.catledge@scana.com  
**Cc:** Arnall, John R  
**Subject:** FW: Core Specimens

Guys,

I have attached copies of the PCAQ #2 attachments for reference. Phil with the NRC had requested a copy of the model x-sec.

Regards,

[CB&I logo]

Todd Young  
Construction Field Engineer  
Nuclear Power Sector  
Tel: +1 803-932-5648  
todd.young@CBI.com<<mailto:todd.young@CBI.com>>

CB&I  
SCANA V.C. Summer Units 2 & 3  
14368 State Highway 213  
Jenkinsville, SC 29065  
USA  
[www.CBI.com<http://www.cbi.com/>](http://www.cbi.com/)

From: Young, Todd

Sent: Monday, February 23, 2015 2:09 PM  
To: 'james.salter@scana.com'  
Subject: Core Specimens

Findlay,

John Arnall just stopped by. He said he could meet with you at 2:30 at the batch plant office.  
If you have any questions, call him at (b)(6).

Thanks,

[CB&I logo]

Todd Young  
Construction Field Engineer  
Nuclear Power Sector  
Tel: +1 803-932-5648  
todd.young@CBI.com<<mailto:todd.young@CBI.com>>

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**From:** Fredette, Thomas  
**To:** Summer Construction Support; Vogtle Construction Support  
**Subject:** FW: Summer Unit 2 Coring/CV Contact Photos - For Internal Use Only  
**Date:** Monday, February 23, 2015 10:49:17 AM  
**Attachments:** CV contact core photos.pptx

---

fyi

Thomas R Fredette, PE  
Construction Ops Engr – VC Summer  
NRO/DCIP/CIPB  
301.415.8538

(b)(6)

(mobile)

---

**From:** Donnelly, Patrick  
**Sent:** Sunday, February 22, 2015 3:17 PM  
**To:** Ernstes, Michael; Jones, William; Brown, Frederick; Michel(R2), Eric; Oelstrom, Chad  
**Cc:** Fredette, Thomas; Beardsley, James; Fuller, Justin; Heisserer, Jamie; Musser, Randy  
**Subject:** Summer Unit 2 Coring/CV Contact Photos - For Internal Use Only

Fred, et al:

I took some pictures of the coring locations in the Unit 2 nuclear island, focusing on the hole where the CV contact occurred and put some slides together to brief Cmr. Ostendorff tomorrow. I thought they might help bring some clarity to the situation.

These photos have not been cleared for public use and are for internal NRC use only.

The first slide shows the embed plates suspended in place by construction aids fabricated by the craft. Holes R1 and R2 are associated with the far embed plate in this photo, and the orange cap coving R3 can be seen between the legs of the construction aid for the near embed.

The second slide depicts the layout of the embed plate, the holes drilled in the correct locations that have already been grouted, the holes drilled in the wrong locations and the cut rebar embedded in Layer 2 concrete. For reference, the R2 and R3 holes were approximately 27 ½ inches deep and the hole that contacted the CV (R1) was approximately 28" deep. I believe the difference is due to the fact that the concrete directly against the CV broke off and came up with the core.

Let me know if you have any questions.

-Patrick

**Patrick Donnelly**

Construction Resident Inspector  
US NRC - V.C. Summer Units 2 & 3  
[Patrick.Donnelly@NRC.gov](mailto:Patrick.Donnelly@NRC.gov)  
O: 803-345-6856

C:

(b)(6)

**From:** Beardsley, James  
**To:** Fredette, Thomas; Johnson, Andrea; OBryan, Phil  
**Subject:** FW: Memo: Special Inspection Charter to Evaluate the Inadvertent Damage of the V.C. Summer Unit 2 Containment Vessel  
**Date:** Sunday, February 22, 2015 6:13:06 PM

---

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

---

**From:** Check, Michael  
**Sent:** Friday, February 20, 2015 2:18 PM  
**To:** Beardsley, James; Tappert, John; Monninger, John; Valentin, Andrea  
**Cc:** Fredette, Thomas; Johnson, Andrea; OBryan, Phil; Webb, Michael  
**Subject:** FW: Memo: Special Inspection Charter to Evaluate the Inadvertent Damage of the V.C. Summer Unit 2 Containment Vessel

FYI

---

**From:** Dubose, Sheila  
**Sent:** Friday, February 20, 2015 11:44 AM  
**To:** Michel(R2), Eric  
**Cc:** Tracy, Glenn; Check, Michael; Yerokun, Jimi; Heisserer, Jamie; Ernestes, Michael; Jones, William; Brown, Frederick  
**Subject:** Memo: Special Inspection Charter to Evaluate the Inadvertent Damage of the V.C. Summer Unit 2 Containment Vessel

[View ADAMS P8 Properties ML15051A104](#)  
[Open ADAMS P8 Document \(Special Inspection Charter to Evaluate the Inadvertent Damage of the V.C. Summer Unit 2 Containment Vessel\)](#)

DATED: February 20, 2015

MEMO TO: Eric Michel, DCI

FROM: Victor McCree, Regional Administrator, RII

SUBJECT: Special Inspection Charter to Evaluate the Inadvertent Damage of the V.C. Summer Unit 2 Containment Vessel

Sheila H. DuBose, Administrative Assistant  
Deputy Regional Administrator for Construction  
Office of the Regional Administrator  
U. S. NRC, Region II  
Atlanta, GA 30303  
(404) 997-4431

(b)(6)



**From:** Michel(R2), Eric  
**To:** OBryan, Phil; Oelstrom, Chad  
**Subject:** FW: Corrective Action Documents #1  
**Date:** Friday, February 20, 2015 10:15:57 AM  
**Attachments:** [image001.png](#)  
[CR-NND-15-00263 date 2-19-15.pdf](#)

---

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**From:** SALTER, JAMES FINDLAY [mailto:[JAMES.SALTER@scana.com](mailto:JAMES.SALTER@scana.com)]  
**Sent:** Thursday, February 19, 2015 7:32 PM  
**To:** Michel(R2), Eric  
**Cc:** YOUNG, KYLE MATTHEW  
**Subject:** Corrective Action Documents #1

Eric,

The next few emails will contain corrective action documents and N&Ds applicable to CV Impact and Rebar Cutting during coring operations inside Containment.

CR-NND-15-00263 is the SCE&G Condition Report (CR)

**J. Findlay Salter, EIT**  
Associate Engineer  
New Nuclear Deployment - Licensing  
**SCE&G** | V.C. Summer Nuclear Station  
P.O. Box 88 | MC 846  
Jenkinsville, SC 29065-0088  
803.941.9855 Office  
[james.salter@scana.com](mailto:james.salter@scana.com)



**From:** Michel(R2), Eric  
**To:** QBryan, Phil; Qelstrom, Chad  
**Subject:** FW: Corrective Action Documents #3  
**Date:** Friday, February 20, 2015 10:16:15 AM  
**Attachments:** [image001.png](#)  
[VS2-CR01-GNR-000263.pdf](#)  
[VS2-CR01-GNR-000275.pdf](#)

---

---

**From:** SALTER, JAMES FINDLAY [mailto:JAMES.SALTER@scana.com]  
**Sent:** Thursday, February 19, 2015 7:44 PM  
**To:** Michel(R2), Eric  
**Cc:** YOUNG, KYLE MATTHEW  
**Subject:** Corrective Action Documents #3

Eric,

VS2-CR01-GNR-000263 is the initial N&D dispositioning repair work entailing core boring in area of CV impact.

VS2-CR01-GNR-000275 is an N&D documenting corings from VS2-CR01-GNR-000263 in improper location.

To review the following documents were provided this set of three emails:

CR-NND-15-00263 is the SCE&G Condition Report (CR)

CAR 2015-0539 is CB&I CAR initiated to capture the initially identified programmatic issues,

VS2-1110-GNR-000008 is an N&D that documents the CV impact

VS2-CR01-GNR-000279 is an N&D that documents cut reinforcing steel

VS2-CR01-GNR-000263 is the initial N&D dispositioning repair work entailing core boring in area of CV impact.

VS2-CR01-GNR-000275 is an N&D documenting corings from VS2-CR01-GNR-000263 in improper location.

Let me know if you had trouble receiving any emails. I have also placed the documents in the NND\_NRC Extranet drive in the following location:

*NND\_NRC\Region II\Special Inspection Team 2-23-15 MICHEL*

Thanks,

**J. Findlay Salter, EIT**  
Associate Engineer  
New Nuclear Deployment - Licensing  
SCE&G | V.C. Summer Nuclear Station  
P.O. Box 88 | MC 846  
Jenkinsville, SC 29065-0088

803.941.9855 Office  
[james.salter@scana.com](mailto:james.salter@scana.com)



**From:** Beardsley, James  
**To:** Foggie, Kirk  
**Cc:** Cheok, Michael; Valentin, Andrea; Ernstes, Michael; Fredette, Thomas; Johnson, Andrea; OBryan, Phil  
**Subject:** Replacement Version: URGENT ACTION: Meeting with Chairman today  
**Date:** Friday, February 20, 2015 12:38:45 PM  
**Attachments:** VC Summer Unit 2 Containment Drilling Issue Rev 2.pdf  
**Importance:** High

---

Kirk,

Please use the attached version. The original was not appropriately marked.

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

---

**From:** Beardsley, James  
**Sent:** Friday, February 20, 2015 12:21 PM  
**To:** Foggie, Kirk  
**Cc:** Cheok, Michael (Michael.Cheok@nrc.gov); Valentin, Andrea (Andrea.Valentin@nrc.gov); Ernstes, Michael; Fredette, Thomas; Johnson, Andrea; Phil OBryan (OBryan, Phil)  
**Subject:** FW: URGENT ACTION: Meeting with Chairman today  
**Importance:** High

Kirk,

Attached is the write up for the VC Summer issue requested below. If you need anything else, please let me know.

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

---

**From:** Tracy, Glenn  
**Sent:** Friday, February 20, 2015 7:10 AM  
**To:** Cheok, Michael; Akstulewicz, Frank; Foggie, Kirk; Miller, Fred; Scott, Tonya; Valentin, Andrea; Delligatti, Mark  
**Cc:** Williams, Donna  
**Subject:** URGENT ACTION: Meeting with Chairman today  
**Importance:** High

Folks,

Good morning! Request your help. I was asked last night to see the Chairman this morning at 3 p.m. Main focus my perspectives for his trip to Vogtle, but want to give heads up on a few other items.

1.) Frank

- a. An accurate blurb for the Areva suspension... it came up at his morning meeting yesterday.
- b. Current status our hearing closure.
- c. Any other hot licensing matters... COLS status yesterday...

2.) Mike

- a. Top billing – the Summer CV issue. Need a write-up overview. A drawing with location and whatever is known about the protection that was overridden—too much conjecture as of now... what is understood now of that? Do not need or want inspection level, that's why we have an SIT; but do need correct overview facts and a picture as of now. Specifics of team content, etc.

3.) Kirk

- a. Update a periodic using last periodic with Comm Ostendorff... do not overwork this
- b. Copy of my messages to Southern's Board writeup (see me)

4.) Fred

- a. Copy of resources graph for Annie Caputo (last slide).

Thanks.

**From:** Beardsley, James  
**To:** (b)(6)  
**Subject:** Special Inspection Memo  
**Date:** Friday, February 20, 2015 12:45:54 PM  
**Attachments:** Memorandum to Mike Check of (b)(6) Version 2.pdf

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Phil,

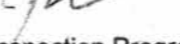
In order to clear up any question about your participation in the Special Inspection I prepared the attached Memo. I will be giving you a call to provide background.

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)



February 20, 2015

MEMORANDUM TO: Michael Cheok,  
Director, Division of Construction Inspection and Operational  
Programs  
Office of New Reactors

FROM: Jim Beardsley,   
Chief, Construction Inspection Program Branch  
Division of Construction Inspection and Operational Programs  
Office of New Reactors

SUBJECT: DUTIES AND LIMITATIONS FOR (b)(6) WHILE ASSIGNED  
TO CONSTRUCTION INSPECTION TASKS

This memorandum documents the roles, responsibilities and (b)(6)  
(b)(6) while assigned to construction inspection tasks.

**Background:**

(b)(6)

**Discussion:**

(b)(6)

(b)(6)

CONTACT: Jim Beardsley, NRO/DCIP  
301-415-5998

CC: Glenn Tracy, Director NRO

(b)(6)  
Rodolfo Rivera, OI

**From:** Michel(R2), Eric  
**To:** OBryan, Phil  
**Cc:** Oelstrom, Chad; Heisserer, Jamie  
**Subject:** Summer SIT briefing call & misc  
**Date:** Thursday, February 19, 2015 8:53:54 AM  
**Attachments:** [Containment Core Drilling Update.msg](#)  
[FW VCS SIT charter draft.docx.msg](#)  
[Reservation Confirmation #91299534 for SpringHill Suites Columbia DowntownThe Vista .msg](#)

---

Phil,

There's a briefing call with the licensee this morning, tentatively at 11:00, that would help with the background. I don't have a call in number yet.

Info I have to date on the issue is attached. Charter has not been issued yet, but it's going through concurrence now so it should be soon. Draft is attached.

As far as logistics go, I just made a reservation at the Springhill Suites in Columbia for Monday (2/23) through Friday. I'll be driving a rental up, so can get us back and forth to the site. My cell is (b)(6) feel free to call or text anytime.

Looking forward to working with you.

Eric

Eric Michel  
Senior Construction Inspector  
USNRC, Region 2  
Atlanta, GA  
404-997-4555

**From:** Fredette, Thomas  
**To:** Summer Construction Support; Vogtle Construction Support  
**Subject:** FW: Summer Core Drilling Impact w/ CV  
**Date:** Tuesday, February 17, 2015 2:20:35 PM  
**Attachments:** Core Drilling - CV Impact.pdf  
VS2-1110-GNR-000008.pdf

---

Preliminary FYI – "Keystone Cops"

Thomas R Fredette, PE  
Construction Ops Engr – VC Summer  
NRO/DCIP/CIPB  
301.415.8538  
(b)(6) (mobile)

---

**From:** Donnelly, Patrick  
**Sent:** Tuesday, February 17, 2015 1:27 PM  
**To:** Fredette, Thomas; Beardsley, James  
**Subject:** FW: Summer Core Drilling Impact w/ CV

FYI – This may make its way up to HQ. See attached and below.

Patrick Donnelly  
V.C. Summer Resident Inspector  
(803)345-6856

---

**From:** Donnelly, Patrick  
**Sent:** Tuesday, February 17, 2015 12:31 PM  
**To:** Ernestes, Michael; Heisserer, Jamie; Musser, Randy  
**Cc:** Chandler, Timothy; Karlovich, Nicholas; Heher, Patrick  
**Subject:** Summer Core Drilling Impact w/ CV

Mike-

CB&I found interferences between layer 2 rebar dowels and layer 3 embed plates inside containment. An N&D was written and the disposition was to cut the interfering dowels flush with the layer 2 concrete, core drill 2.5" holes at least 25" into the concrete and grout in new dowels in more appropriate locations.

We have been informed by SCE&G of several issues with the evolution.

1. In location Core R1 per the attached N&D, it was found that the core drill bit cut into/gouged the containment vessel. This was found when the hole could not hold water when trying to soak the concrete to prepare for grouting and CB&I brought in a borescope. It is not known how deep the gouge is in the CV or what corrective actions will be necessary to correct or accept the current configuration.
2. CB&I learned of the gouge in the CV on Thursday and did not inform the licensee until Monday and as of this morning had not yet initiated any corrective action report to document the issue. Update: N&D VS2-1110-GNR-000008 has been written and is attached.
3. The ground fault system, a function of the core driller that cuts power to the drill if metal is encountered by the drill bit, was not engaged. A rebar mat, used as a

construction aid, exists inches below the concrete surface. The ground fault system was disengaged because the rebar mat would have caused the drill to shut off before the full depth of the hole could be drilled. In addition to gouging the CV shell, CB&I also cut through rebar on some of the other bore holes due to the ground fault system not being utilized. CB&I did not label the cores and have not located all the cores drilled. They have already grouted 7 of the 10 holes they bored out. It is unclear at this time how they will address the cutting of rebar.

4. The locations of the new core holes were not explicitly marked. Points were marked by the survey team, and offsets were provided. The crew performing the work was to pull the offset off the marked locations to determine where the new holes should be drilled. This was not done. In addition, the N&D (263) that provided the "repair" disposition did not provide enough amplifying information to guard against the potential for this incident to occur. For instance, the N&D provides a minimum embedment depth, but a maximum depth was not given. No CAR has been provided that captures the human performance errors or addresses how the work was completed without a proper special work instruction generated for the craft to follow.

I will provide updates as they are made available.

**Patrick Donnelly**

Construction Resident Inspector  
US NRC - V.C. Summer Units 2 & 3  
[Patrick.Donnelly@NRC.gov](mailto:Patrick.Donnelly@NRC.gov)

O: 803-345-6856

C: (b)(6)

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of the Freedom of Information and Privacy Act



## Issa, Alfred

---

**From:** Pasquale, Daniel  
**Sent:** Friday, June 26, 2015 3:30 PM  
**To:** Issa, Alfred  
**Subject:** FW: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report  
**Attachments:** Issa Rev1 to Summer SIT COMM.docx; Summer Unit 2 SIT Article RCA Final.docx; Rev2 to Inadvertent Damage to the V C Summer Unit 2 AP1000 Containment Vessel\_djp.docx

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

(b)(5)



Daniel J. Pasquale,  
Sr. Operations Engineer  
U.S. NRC, Office of New Reactors  
Washington, DC 20555-001  
(301) 415-2498 \_office  
(301) 415-5399 \_fax

**From:** Issa, Alfred  
**Sent:** Friday, June 19, 2015 11:07 AM  
**To:** Pasquale, Daniel  
**Subject:** RE: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)

**From:** Pasquale, Daniel  
**Sent:** Thursday, June 18, 2015 2:02 PM  
**To:** Issa, Alfred  
**Subject:** FW: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

COMM Update for the SIT, for your review.

Dan



Daniel J. Pasquale,  
Sr. Operations Engineer  
U.S. NRC, Office of New Reactors  
Washington, DC 20555-001  
(301) 415-2498\_office  
(301) 415-5399\_fax

**From:** Issa, Alfred  
**Sent:** Thursday, June 11, 2015 2:09 PM  
**To:** Thomas, Eric  
**Cc:** Anderson, Brian; Pasquale, Daniel; Monninger, John  
**Subject:** FW: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

Eric,

You asked for the VC Summer Unit 2 SIT inspection report last week. Here it is

(b)(5)

(b)(5)

Dan,

(b)(5)

Thanks



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*[alfred.issa@nrc.gov](mailto:alfred.issa@nrc.gov)*  
*(301) 415-5342*

**From:** Johnson, Andrea  
**Sent:** Thursday, June 11, 2015 1:56 PM  
**To:** NRO\_DCIP Distribution  
**Cc:** Burkhardt, Lawrence; McGovern, Denise; Patel, Chandu; Kallan, Paul  
**Subject:** VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)

Andrea M. Johnson  
Reactor Operations Engineer  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction Inspection and Operational Programs  
Construction Inspection Program Branch  
(301) 415-2890

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Page 915 of 960

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of the Freedom of Information and Privacy Act

**Issa, Alfred**

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**From:** Issa, Alfred  
**Sent:** Thursday, May 28, 2015 10:46 AM  
**To:** Pasquale, Daniel  
**Subject:** RE: VC Summer update  
**Attachments:** Issa Rev1 to Inadvertent Damage to the V C Summer Unit 2 AP1000 Containment Vessel .docx; POE 2015-02\_Rev 3.pdf

Dan,

(b)(5)

Thanks



*Alfred Issa, P.E.*

*US NRC*

*Reactor Operations Engineer*

*alfred.issa@nrc.gov*

*(301) 415-5342*

---

**From:** Pasquale, Daniel  
**Sent:** Thursday, May 21, 2015 9:37 AM  
**To:** Issa, Alfred  
**Subject:** VC Summer update

(b)(5)

Thanks, Dan



Daniel J. Pasquale,  
Sr. Operations Engineer  
U.S. NRC, Office of New Reactors  
Washington, DC 20555-001  
(301) 415-2498 \_office  
(301) 415-5399 \_fax



**Issa, Alfred**

---

**From:** OBryan, Phil  
**Sent:** Tuesday, April 28, 2015 3:38 PM  
**To:** Issa, Alfred  
**Cc:** Michel(R2), Eric  
**Subject:** FW: CVBH RCA  
**Attachments:** CAR 2015-0539 Root Cause Report - Final 04-09-2015.pdf; NND-15-0254 Corrective Action Report 2015-0539- Containment Vessel Bottom Head.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Attached is the RCA

---

**From:** Michel(R2), Eric  
**Sent:** Monday, April 20, 2015 2:49 PM  
**To:** Oelstrom, Chad; OBryan, Phil  
**Subject:** FW: CVBH RCA

Chad and Phil,

FYI here is the CB&I root cause and associated SCE&G Project Letter. I'll be reviewing this week.

Eric

---

**From:** SANDERS, GARRETT R [<mailto:GARRETT.SANDERS@scana.com>]  
**Sent:** Monday, April 20, 2015 10:52 AM  
**To:** Michel(R2), Eric  
**Cc:** SALTER, JAMES FINDLAY  
**Subject:** CVBH RCA

Please let me know if you have any questions regarding the attached.

**Issa, Alfred**

---

**From:** Khouri, George  
**Sent:** Wednesday, April 08, 2015 7:26 AM  
**To:** Issa, Alfred  
**Subject:** FW: Unit 2 NI Drilling Event Stop Work and Conditional Release Plan  
**Attachments:** U2NI SW Agenda - Activities Monday 4-6.docx; U2NI Conditional Release of Work Plan.docx

---

**From:** Chandler, Timothy  
**Sent:** Tuesday, April 07, 2015 11:25 AM  
**To:** Heher, Patrick; Khouri, George  
**Subject:** FW: Unit 2 NI Drilling Event Stop Work and Conditional Release Plan

FYI

---

**From:** SANDERS, GARRETT R [<mailto:GARRETT.SANDERS@scana.com>]  
**Sent:** Monday, April 06, 2015 9:42 AM  
**To:** Chandler, Timothy; Karlovich, Nicholas  
**Subject:** FW: Unit 2 NI Drilling Event Stop Work and Conditional Release Plan

---

**From:** SALTER, JAMES FINDLAY  
**Sent:** Monday, April 06, 2015 8:42 AM  
**To:** 'Donnelly, Patrick'; DONNELLY, PATRICK B  
**Cc:** SANDERS, GARRETT R; RICE, APRIL R; YOUNG, KYLE MATTHEW; GIBBONS, PATRICK BLAKE  
**Subject:** FW: Unit 2 NI Drilling Event Stop Work and Conditional Release Plan

Patrick,

See detail of event occurred Thursday in NI and subsequent SWO issued by CB&I.

Findlay Salter  
(803) 941-9855

---

**From:** Wood, Bill <[bill.wood@cbi.com](mailto:bill.wood@cbi.com)>  
**Sent:** Sunday, April 5, 2015 3:52 PM  
**To:** Lyash, Jeff; Trice, Kelly D. (CBI-PSG); ARCHIE, JEFFREY B; JONES, RONALD A; Copeland, Terry; Rick J. Easterling; Macecevic, Bill (Westinghouse); TORRES, ALAN D; Jantosik, David; Tate, William; McClung, Bradley; Wills Jr, Edward; Capitano, Charles J.; Ashe, Jason B; Fleetwood, Andrew S  
**Cc:** Kenneth W. Hollenbach; Hughes, Joseph P  
**Subject:** Unit 2 NI Drilling Event Stop Work and Conditional Release Plan

\*\*\*This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source.

---

(b)(4)



**William O. (Bill) Wood**

Site Director

V C Summer Project

Power, Nuclear

803-932-5710 (Office)

(b)(6) (cell)

[bill.wood@cbi.com](mailto:bill.wood@cbi.com)

CB&I

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(b)(4)

of the Freedom of Information and Privacy Act

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Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

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Withheld pursuant to exemption

(b)(4)

of the Freedom of Information and Privacy Act

## Issa, Alfred

---

**From:** Johnson, Andrea  
**Sent:** Friday, March 27, 2015 3:16 PM  
**To:** Issa, Alfred; Thomas, Eric  
**Cc:** Michel (OGC), Eric; OBryan, Phil; Fredette, Thomas; Anderson, Brian  
**Subject:** RE: Periodic Operating Experience Newsletter Article (Summer 2 SIT)  
**Attachments:** AJ revision Summer Unit 2 SIT.docx

Al, see revisions in the attached. The SIT determined that the timing of CB&I reporting the incident to the licensee was not an issue. Unless Phil or Tom have additional changes, please use this version.

---

**From:** Issa, Alfred  
**Sent:** Friday, March 27, 2015 3:00 PM  
**To:** Thomas, Eric  
**Cc:** Michel (OGC), Eric; OBryan, Phil; Fredette, Thomas; Johnson, Andrea; Anderson, Brian  
**Subject:** Periodic Operating Experience Newsletter Article (Summer 2 SIT)

Hi Eric T.,

Please review the attached draft article regarding the Summer 2 SIT and provide me with comments especially regarding its size (I can expand it or condense it as necessary to meet your needs).

Everybody else,

Please review especially for accuracy and provide me with any additional information/links that the NRC staff at large may be interested in, keeping in mind space limitations. Also, if you have a better sketch than Figure 1, please let me know. I may delete Photo 2 if I have to in order to meet space limitations. I would appreciate it if you can provide me with your comments and inputs by April 2<sup>nd</sup>, 2015.

Thank you

Al



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(b)(4),(b)(5)

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Withheld pursuant to exemption

(b)(4),(b)(5)

of the Freedom of Information and Privacy Act

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Withheld pursuant to exemption

(b)(5)

of the Freedom of Information and Privacy Act

## Issa, Alfred

---

**From:** Issa, Alfred  
**Sent:** Wednesday, April 29, 2015 11:41 AM  
**To:** Thomas, Eric  
**Subject:** FW: Summer Unit 2 SIT POE Article  
**Attachments:** Summer Unit 2 SIT Article RCA Final.docx

Eric,

I received some minor comments after I sent you the email a little while ago. I assume that you are including Figure 1 and Photos 1 and 2. If not, let me know and I'll hyperlink link them.

Thanks



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*alfred.issa@nrc.gov*  
*(301) 415-5342*

---

**From:** Fredette, Thomas  
**Sent:** Wednesday, April 29, 2015 11:12 AM  
**To:** Issa, Alfred  
**Cc:** OBryan, Phil; Johnson, Andrea  
**Subject:** RE: Summer Unit 2 SIT POE Article

I made one minor correction- nonconformance is one word (and not hyphenated) and formatted the picture captions. The "Final" version is attached.

## Issa, Alfred

---

**From:** Pasquale, Daniel  
**Sent:** Wednesday, June 24, 2015 1:50 PM  
**To:** Issa, Alfred  
**Subject:** RE: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)



Daniel J. Pasquale,  
Sr. Operations Engineer  
U.S. NRC, Office of New Reactors  
Washington, DC 20555-001  
(301) 415-2498 \_office  
(301) 415-5399 \_fax

**From:** Issa, Alfred  
**Sent:** Wednesday, June 24, 2015 11:57 AM  
**To:** Pasquale, Daniel  
**Subject:** RE: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*[alfred.issa@nrc.gov](mailto:alfred.issa@nrc.gov)*  
*(301) 415-5342*

**From:** Pasquale, Daniel  
**Sent:** Monday, June 22, 2015 10:35 AM  
**To:** Issa, Alfred  
**Subject:** FW: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)

(b)(5)



Daniel J. Pasquale,  
Sr. Operations Engineer  
U.S. NRC, Office of New Reactors  
Washington, DC 20555-001  
(301) 415-2498 \_office  
(301) 415-5399 \_fax

**From:** Issa, Alfred  
**Sent:** Friday, June 19, 2015 11:07 AM  
**To:** Pasquale, Daniel  
**Subject:** RE: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)

**From:** Pasquale, Daniel  
**Sent:** Thursday, June 18, 2015 2:02 PM  
**To:** Issa, Alfred  
**Subject:** FW: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

COMM Update for the SIT, for your review.

Dan



Daniel J. Pasquale,  
Sr. Operations Engineer  
U.S. NRC, Office of New Reactors  
Washington, DC 20555-001  
(301) 415-2498\_office  
(301) 415-5399\_fax

**From:** Issa, Alfred  
**Sent:** Thursday, June 11, 2015 2:09 PM  
**To:** Thomas, Eric  
**Cc:** Anderson, Brian; Pasquale, Daniel; Monninger, John  
**Subject:** FW: VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

Eric,

You asked for the VC Summer Unit 2 SIT inspection report last week. Here it is.

(b)(5)

(b)(5)

Dan,

(b)(5)

Thanks



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*[alfred.issa@nrc.gov](mailto:alfred.issa@nrc.gov)*  
*(301) 415-5342*

**From:** Johnson, Andrea  
**Sent:** Thursday, June 11, 2015 1:56 PM  
**To:** NRO\_DCIP Distribution  
**Cc:** Burkhardt, Lawrence; McGovern, Denise; Patel, Chandu; Kallan, Paul  
**Subject:** VC Summer Nuclear Station Unit 2 - NRC Special Inspection Report

(b)(5)



(b)(5)

Andrea M. Johnson  
Reactor Operations Engineer  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction Inspection and Operational Programs  
Construction Inspection Program Branch  
(301) 415-2890

## Issa, Alfred

---

**From:** Fredette, Thomas  
**Sent:** Tuesday, March 17, 2015 12:08 PM  
**To:** Johnson, Andrea  
**Cc:** Issa, Alfred  
**Subject:** VCS2 CV Core Drilling Issue and Coatings Issue  
**Attachments:** FW: Update on CVBH excavation; VCS draft timeline; FW: End of week Summer SIT update; Summer Unit 2 Coring/CV Contact Photos - For Internal Use Only; FW: Summer Core Drilling Impact w/ CV; RE: Pipe support coating correction

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Attached for NRC internal use. Please limit distribution

Thomas R. Fredette, P.E.  
Reactor Operations Engineer  
Construction Ops. Engineer - VC Summer  
U.S. Nuclear Regulatory Commission  
NRO/DCIP/CIPB  
301.415.8538  
thomas.fredette@nrc.gov

### -----Original Message-----

**From:** Johnson, Andrea  
**Sent:** Friday, March 13, 2015 9:05 AM  
**To:** Fredette, Thomas  
**Subject:** FW: Weekly site update

What should we send?

---

**From:** Issa, Alfred  
**Sent:** Friday, March 13, 2015 5:09 AM  
**To:** Anderson, Brian; Cozens, Ian; Johnson, Andrea; OBryan, Phil  
**Subject:** RE: Weekly site update

I would be interested in any additional information on the Summer Unit 2 containment issue especially photographs and reference documents that can be released internally to the NRC. The same goes for the CB&I pipe support coating issue. I was tasked to write two POE articles in this regard and I need to keep the related Comms updated.

Thanks

Al

**From:** Anderson, Brian  
**Sent:** Thursday, March 12, 2015 3:42 PM

To: Cozens, Ian  
Cc: Issa, Alfred; Pasquale, Daniel; Welch, Christopher; Gaslevic, James; Kleeh, Edmund  
Subject: RE: Weekly site update

Great summary. Thanks, Ian. Going forward, let's copy the entire branch on this, just for awareness.

Thanks again,  
Brian

From: Cozens, Ian  
Sent: Thursday, March 12, 2015 1:05 PM  
To: Anderson, Brian  
Cc: Issa, Alfred; Pasquale, Daniel; Welch, Christopher  
Subject: Weekly site update

Weekly Site Update for 3/12/2015

Outside of Scope

#### VC Summer

- U2 containment vessel bottom head gouge repair (from the core drilling issue that's been on-going) was completed this week.
- From the same issue, they are drilling 2 more holes in the unit 2 concrete to inspect for any additional rebar damage.
- The Tier 1 editorial license amendment was released this past week
- LAR 72 expected to be out in the next week (due to the ongoing core drilling problem, they don't expect to need this LAR immediately so its release has been delayed).

#### Other Items

Outside of Scope

Ian Cozens, PE  
U.S. Nuclear Regulatory Commission  
NRO/DCIP/IGCB  
(301)415-6203

## Issa, Alfred

---

**From:** Johnson, Andrea  
**Sent:** Tuesday, March 17, 2015 9:30 AM  
**To:** Issa, Alfred  
**Cc:** Anderson, Brian  
**Subject:** FW: Follow-up to the Question on the VC Summer Core Boring Status (~~FOUO~~)

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

FYI

---

**From:** Beardsley, James  
**Sent:** Tuesday, March 17, 2015 9:22 AM  
**To:** NRO\_SES Distribution  
**Cc:** Brown, Michael; OBryan, Phil; Wilson, Joshua; Fredette, Thomas; Johnson, Andrea  
**Subject:** Follow-up to the Question on the VC Summer Core Boring Status (~~FOUO~~)

NRO Management,

(b)(5)

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

## Issa, Alfred

---

**From:** Johnson, Andrea  
**Sent:** Friday, February 27, 2015 10:14 AM  
**To:** OBryan, Phil; Fredette, Thomas; Issa, Alfred  
**Subject:** RE: Draft Email for DCIP management and Tapper  
**Attachments:** VCS SIT status.docx

Phil, Tom made some high quality edits, please use this version for any updates resulting from the exit meeting. Thank you!

---

**From:** Johnson, Andrea  
**Sent:** Friday, February 27, 2015 9:43 AM  
**To:** OBryan, Phil; Fredette, Thomas  
**Cc:** Issa, Alfred  
**Subject:** RE: Draft Email for DCIP management and Tapper

Update attached, highlighted in yellow. As you suggested, I left it at "ten holes" (rather than explaining the sequence of holes drilled).

---

**From:** OBryan, Phil  
**Sent:** Friday, February 27, 2015 9:19 AM  
**To:** Johnson, Andrea; Fredette, Thomas  
**Cc:** Issa, Alfred  
**Subject:** RE: Draft Email for DCIP management and Tapper

See my edits. Note that you inadvertently changed the last 2 conclusion 180 degrees.

Al, see edits for future comm updates

---

**From:** Johnson, Andrea  
**Sent:** Friday, February 27, 2015 9:05 AM  
**To:** Fredette, Thomas; OBryan, Phil  
**Subject:** Draft Email for DCIP management and Tapper

See attached draft, pending this morning's exit meeting.

Andrea M. Johnson  
Reactor Operations Engineer  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction Inspection and Operational Programs  
Construction Inspection Program Branch



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of the Freedom of Information and Privacy Act

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Withheld pursuant to exemption

(b)(5)

of the Freedom of Information and Privacy Act



## Issa, Alfred

---

**From:** Issa, Alfred  
**Sent:** Thursday, February 26, 2015 9:22 AM  
**To:** OBryan, Phil  
**Cc:** Nazario, Tomy; Anderson, Brian; Cozens, Ian; Harmon, David; Kleeh, Edmund; Pasquale, Daniel  
**Subject:** RE: Core boring of SR concrete  
**Attachments:** RE: OpE/ConE COMM re Summer Special Inspection

(b)(5)

-----Original Message-----

**From:** OBryan, Phil  
**Sent:** Thursday, February 26, 2015 9:09 AM  
**To:** Issa, Alfred  
**Subject:** FW: Core boring of SR concrete

(b)(5)

-----Original Message-----

**From:** Nazario, Tomy  
**Sent:** Thursday, February 26, 2015 8:49 AM  
**To:** Michel(R2), Eric  
**Cc:** Oelstrom, Chad; OBryan, Phil  
**Subject:** RE: Core boring of SR concrete

(b)(5)

From: Michel(R2), Eric  
Sent: Wednesday, February 25, 2015 5:53 PM  
To: Nazario, Tomy  
Cc: Oelstrom, Chad; OBryan, Phil  
Subject: Core boring of SR concrete

(b)(5)

**Issa, Alfred**

---

**From:** Issa, Alfred  
**Sent:** Wednesday, February 25, 2015 10:18 AM  
**To:** Bowman, Cassandra  
**Cc:** Torbey, Andrea; Garmon, David; Anderson, Brian (Brian.Anderson@nrc.gov)  
**Subject:** Finalized OpE COMM: Inadvertent Damage to the V. C. Summer Unit 2 AP1000 Containment Vessel - Special Inspection (SIT)  
**Attachments:** Inadvertent Damage to the V. C. Summer Unit 2 AP1000 Containment Vessel - Special Inspection (SIT).pdf

The subject OpE COMM has been finalized. A pdf of the COMM is attached. The final word version can be viewed here:

[http://fusion.nrc.gov/nrr/team/dirs/ioeb/oep\\_comm/OpECOMMDevelopment/Final](http://fusion.nrc.gov/nrr/team/dirs/ioeb/oep_comm/OpECOMMDevelopment/Final)

Please take the following actions:

(1) add/update this OpE COMM in ADAMS using the OpE COMM Profile in the Admin Folder ([http://fusion.nrc.gov/nrr/team/dirs/ioeb/oep\\_comm/OpECOMMDevelopment/Admin](http://fusion.nrc.gov/nrr/team/dirs/ioeb/oep_comm/OpECOMMDevelopment/Admin)). Note: if the document has a red revision date then it is already in ADAMS and should just be updated with the new version, if there is no revision date then the document has to be added to ADAMS

(2) Update the OpE COMM Index ([http://fusion.nrc.gov/nrr/team/dirs/ioeb/oep\\_comm/Lists/OpE\\_COMMIndex](http://fusion.nrc.gov/nrr/team/dirs/ioeb/oep_comm/Lists/OpE_COMMIndex)) with the COMM info

**Issa, Alfred**

---

**From:** Issa, Alfred  
**Sent:** Wednesday, February 25, 2015 9:35 AM  
**To:** Bowman, Cassandra  
**Cc:** Torbey, Andrea; Garmon, David; Anderson, Brian (Brian.Anderson@nrc.gov)  
**Subject:** OpE Comm Processing  
**Attachments:** ADAMS OpE Comm 665.docx

Hi Cassandra,

We need to process the following OpE Comm by COB today:

[http://fusion.nrc.gov/nrr/team/dirs/ioeb/ope\\_comm/OpECOMMDevelopment/Drafts/INADVERTENT%20DAMAGE%20TO%20THE%20V.C.%20SUMMER%20UNIT%20%20AP1000%20CONTAINMENT%20VESSEL%20-%20SPECIAL%20INSPECTION%20\(SIT\).docx](http://fusion.nrc.gov/nrr/team/dirs/ioeb/ope_comm/OpECOMMDevelopment/Drafts/INADVERTENT%20DAMAGE%20TO%20THE%20V.C.%20SUMMER%20UNIT%20%20AP1000%20CONTAINMENT%20VESSEL%20-%20SPECIAL%20INSPECTION%20(SIT).docx)

The Comm should be entered into ADAMS in such a way that it could be revised in the future without having to change the associated ML number. Andrea and/or Dave (copied here) should be able to answer any questions that you might have. The following web page has additional instructions that you may need.

[http://fusion.nrc.gov/nrr/team/dirs/ioeb/ope\\_comm/OpECOMMDevelopment/Forms/AllItems.aspx](http://fusion.nrc.gov/nrr/team/dirs/ioeb/ope_comm/OpECOMMDevelopment/Forms/AllItems.aspx)

Thank you



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*alfred.issa@nrc.gov*  
*(301) 415-5342*

## Issa, Alfred

---

**From:** Issa, Alfred  
**Sent:** Tuesday, February 24, 2015 3:06 PM  
**To:** Cozens, Ian; King, Mark  
**Cc:** Anderson, Brian (Brian.Anderson@nrc.gov)  
**Subject:** RE: Summer 2 SIT Issa Comm.docx  
**Attachments:** Summer 2 SIT Issa Comm.docx

Ian/Mark,

(b)(5)

Brian,

The substantive changes that I made are highlighted in yellow.

Thanks



*Alfred Issa, P.E.*  
*US NRC*  
*Reactor Operations Engineer*  
*alfred.issa@nrc.gov*  
*(301) 415-5342*

---

**From:** Cozens, Ian  
**Sent:** Tuesday, February 24, 2015 10:14 AM  
**To:** Issa, Alfred  
**Subject:** FW: Summer 2 SIT Issa Comm.docx

AI,  
Also, this inspection is the lead story on NRC in the News today. Multiple public news outlets are covering it. We should make certain that any relevant public news technical information is addressed in this COMM. Here are the links to the public news stories I could find:

NRC in the News: <http://www.bulletinintelligence.com/nrc/>  
The State (Columbia, SC): [http://www.thestate.com/2015/02/23/4006832\\_regulators-probe-containment-damage.html?rh=1](http://www.thestate.com/2015/02/23/4006832_regulators-probe-containment-damage.html?rh=1)  
The Advocate (Baton Rouge, LA): <http://theadvocate.com/news/11677302-123/agency-inspecting-cbi-construction-at>

The Republic (Columbus, IN):

<http://www.therepublic.com/view/story/2648dbccb6614c429335a97fae2d8d7c/SC--Nuclear-Plant-South-Carolina>

*Ian Cozens, PE*  
*U.S. Nuclear Regulatory Commission*  
*NRO/DCIP/IGCB*  
*(301)415-6203*

---

**From:** Cozens, Ian  
**Sent:** Tuesday, February 24, 2015 10:07 AM  
**To:** Issa, Alfred  
**Subject:** RE: Summer 2 SIT Issa Comm.docx

Al,  
(b)(5)



*Ian Cozens, PE*  
*U.S. Nuclear Regulatory Commission*  
*NRO/DCIP/IGCB*  
*(301)415-6203*

---

**From:** Issa, Alfred  
**Sent:** Tuesday, February 24, 2015 9:56 AM  
**To:** Anderson, Brian; King, Mark; Pannier, Stephen; Garmon, David  
**Cc:** Cozens, Ian; Harmon, David; Kleeh, Edmund; Pasquale, Daniel  
**Subject:** Summer 2 SIT Issa Comm.docx

Please review and submit any comments by COB today.

## **Fredette, Thomas**

---

**From:** Beardsley, James  
**Sent:** Friday, March 13, 2015 11:27 AM  
**To:** Brown, Michael; OBryan, Phil; Wilson, Joshua; Fredette, Thomas; Johnson, Andrea  
**Subject:** FW: End of week Summer SIT update  
**Attachments:** VCS CVBH after.jpg; VCS CVBH before.jpg

FYI

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

---

**From:** Heisserer, Jamie  
**Sent:** Friday, March 13, 2015 11:08 AM  
**To:** McCree, Victor; Brown, Frederick; Yerokun, Jimi; Jones, William  
**Cc:** Beardsley, James; Michel(R2), Eric  
**Subject:** End of week Summer SIT update

Good morning,

This week, VC Summer completed repairs to the containment vessel bottom head. Attached are some clear pictures of the damage and subsequent repair. Chad Oelstrom observed the repair and non-destructive examination. The CVBH was repaired in accordance with code, and the thickness meets design requirements.

The team expects to receive the final dispositions on the impacted rebar early next week and the final root cause evaluation at the end of next week. If the licensee meets their intended schedule, the team should complete their reviews and conduct the final exit meeting by March 27.

If you have any questions, please let me know.

**Jamie M. Heisserer**  
Chief, Construction Inspection Branch 2  
Region II - Division of Construction Inspection  
U.S. Nuclear Regulatory Commission  
(404) 997-4451 (Office)  
(b)(6) (Cell)



## **Fredette, Thomas**

---

**From:** OBryan, Phil  
**Sent:** Thursday, March 19, 2015 10:15 AM  
**To:** Beardsley, James  
**Cc:** Fredette, Thomas; Johnson, Andrea  
**Subject:** FW: SIT Information request 3-9-15

fyi

---

**From:** Oelstrom, Chad  
**Sent:** Thursday, March 19, 2015 10:13 AM  
**To:** Michel(R2), Eric  
**Cc:** OBryan, Phil  
**Subject:** RE: SIT Information request 3-9-15

FYI... Talked to Ed Wills. RCA final sign off is now scheduled for March 30<sup>th</sup>. Draft is complete. CBI Senior management to review this week. Then the CARB and MRB need to review and approve. Then final sign off. My understanding is SCE&G's review is to be concurrent with the CARB review. Ed said the team determined the root cause was inadequate procedures with several contributing causes. He told me the contributing causes generally aligned with our findings and observations. It was a brief conversation not much detail provided.

Rebar dispositions – waiting on final two holes (D6 and D7). Should be complete today and finalized by tomorrow. All other holes are use as is.

I asked Findlay to continue to provide an update on 3/23.

---

**From:** Michel(R2), Eric  
**Sent:** Monday, March 16, 2015 12:34 PM  
**To:** SALTER, JAMES FINDLAY  
**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie; Musser, Randy  
**Subject:** RE: SIT Information request 3-9-15

Findlay,

Thanks for the update. Unless anything changes drastically in the interim, can we have another update next Monday (3/23)?

Eric

---

**From:** SALTER, JAMES FINDLAY [<mailto:JAMES.SALTER@scana.com>]  
**Sent:** Monday, March 16, 2015 12:09 PM  
**To:** Michel(R2), Eric  
**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie  
**Subject:** RE: SIT Information request 3-9-15

Eric,



(b)(4)

**J. Findlay Salter, EIT**

Associate Engineer  
New Nuclear Deployment - Licensing  
**SCE&G** | V.C. Summer Nuclear Station  
P.O. Box 88 | MC 846  
Jenkinsville, SC 29065-0088  
803.941.9855 Office  
[james.salter@scana.com](mailto:james.salter@scana.com)



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**From:** Michel(R2), Eric [<mailto:Eric.MichelR2@nrc.gov>]

**Sent:** Tuesday, March 10, 2015 9:32 AM

**To:** SALTER, JAMES FINDLAY

**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'; Oelstrom, Chad; Heisserer, Jamie

**Subject:** RE: SIT Information request 3-9-15

\*\*\*This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source.

Findlay,

Thanks, this is very helpful. Can we ask for an update on Monday 3/16 to see if anything has changed? It would also help to get rough dates when the actions for the N&Ds for the holes will be completed. Again, those dates would be for our planning purposes only. Thanks.

Eric

---

**From:** SALTER, JAMES FINDLAY [<mailto:JAMES.SALTER@scana.com>]

**Sent:** Monday, March 09, 2015 4:11 PM

**To:** SALTER, JAMES FINDLAY; Michel(R2), Eric; Oelstrom, Chad

**Cc:** Donnelly, Patrick; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; 'Cole, Joseph A'; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; 'McIntyre, Brian A'; RICE, APRIL R; 'edward.wills@cbi.com'; 'Baucom, Charles'

**Subject:** RE: SIT Information request 3-9-15

CORRECTION

**From:** SALTER, JAMES FINDLAY

**Sent:** Monday, March 09, 2015 3:48 PM

**To:** 'Michel(R2), Eric'; 'Oelstrom, Chad'

**Cc:** 'Donnelly, Patrick'; SANDERS, GARRETT R; 'Ewing, Jerrod A.'; Cole, Joseph A; YOUNG, KYLE MATTHEW; CATLEDGE, JOHN THOMAS; McIntyre, Brian A; RICE, APRIL R; 'edward.wills@cbi.com'; Baucom, Charles

**Subject:** SIT Information request 3-9-15

(b)(4)

**J. Findlay Salter, EIT**

Associate Engineer

New Nuclear Deployment - Licensing

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803.941.9855 Office

[james.salter@scana.com](mailto:james.salter@scana.com)



## **Fredette, Thomas**

---

**From:** Beardsley, James  
**Sent:** Tuesday, April 28, 2015 4:39 PM  
**To:** Bowman, Cassandra; Brown, Michael; Fredette, Thomas; Johnson, Andrea; Kozak, Thomas; Lukes, Robert; McCain, Debra; OBryan, Phil; Spivack, Ian; Webb, Michael; Weber, Carl; Wilson, Joshua  
**Subject:** FW: VC Summer Special Inspection Exit Meeting

FYI

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

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**From:** Cheok, Michael  
**Sent:** Tuesday, April 28, 2015 4:28 PM  
**To:** NRO DCIP Branch Chiefs  
**Cc:** Valentin, Andrea  
**Subject:** FW: VC Summer Special Inspection Exit Meeting

---

**From:** Yerokun, Jimi  
**Sent:** Tuesday, April 28, 2015 4:21 PM  
**To:** Cheok, Michael; Valentin, Andrea  
**Subject:** FW: VC Summer Special Inspection Exit Meeting

FYI.....

---

**From:** Yerokun, Jimi  
**Sent:** Tuesday, April 28, 2015 4:21 PM  
**To:** Brown, Frederick  
**Cc:** Jones, William; McCree, Victor; Heisserer, Jamie  
**Subject:** VC Summer Special Inspection Exit Meeting

The VC Summer Special Inspection Team has completed the inspection, including its review of the licensee's root cause analysis, and plans to have an exit meeting at 1pm on Thursday. Eric Michel briefed Bill, Mike, Jamie and I today on the results of the inspection. The licensee's root cause analysis looks good and there was nothing in it that substantially changes the team's previous assessment. Several barriers were broken including design control, procedure usage, and bypassing equipment safety feature. The team has no safety concerns with the containment repair and cut rebar disposition that the licensee completed, i.e., no code compliance issues. Thus low safety significance. The team identified two Green NCVs with associated human performance aspects .... (i) Procedure issues - procedures for core drilling existed but were not recognized to be used and (ii) Design Control - inadequate verification of design inputs in prescribing core dowel relocation.

Jamie can expand if I missed any critical point.

**Jimi T. Yerokun**  
**Director, DCI/RII**  
**404 997-4300**

**From:** Kozak, Thomas  
**To:** Beardsley, James  
**Subject:** RE: VC Summer Special Inspection Exit Meeting  
**Date:** Thursday, April 30, 2015 4:51:00 PM

---

Can you forward the email summarizing Mike's conversation with Glenn? Thanks.

---

**From:** Beardsley, James  
**Sent:** Thursday, April 30, 2015 10:58 AM  
**To:** Kozak, Thomas  
**Subject:** RE: VC Summer Special Inspection Exit Meeting

Thanks

Jim Beardsley  
Chief, Construction Inspection Program Branch (CIPB)  
U.S. Nuclear Regulatory Commission  
Office of New Reactors  
Division of Construction, Inspection, & Operational Programs  
Office: T-7D49  
MS: T-7D24  
W: (301) 415-5998  
C: (b)(6)

---

**From:** Kozak, Thomas  
**Sent:** Thursday, April 30, 2015 10:57 AM  
**To:** OBryan, Phil; Brown, Michael; Fredette, Thomas; Weber, Carl; Webb, Michael; Wilson, Joshua; Lukes, Robert; Johnson, Andrea; McCain, Debra  
**Cc:** Beardsley, James  
**Subject:** FW: VC Summer Special Inspection Exit Meeting

Below is the email regarding the use of NCVs for the special inspection findings that Jim asked me to send to the group during our branch meeting today.

---

**From:** Kozak, Thomas  
**Sent:** Wednesday, April 29, 2015 9:52 AM  
**To:** Beardsley, James  
**Subject:** FW: VC Summer Special Inspection Exit Meeting

Region II is within our process to disposition the identified violations as noncited violations. Specifically, since the violations did not meet the criteria to be dispositioned using traditional enforcement, and were determined to be more-than-minor, the significance determination process was used to determine significance. Applying the SDP, the findings clearly should be characterized as green. To be potentially greater-than-green, the deficient condition must have an effect on the design function of the associated system, structure, or component. This was not the case in this instance.

The violations associated with green findings can then either be treated as a noncited violation or a cited violation. The enforcement policy states that "in recognition that the regulation of nuclear activities in many cases does not lend itself to a mechanistic treatment, judgment and discretion must be exercised in determining the severity levels of the violations and the appropriate enforcement sanctions. This judgment and discretion include the decision to issue an NOV." Violations associated with green findings are



normally dispositioned as noncited violations. The criteria for a noncited violation is as follows:

1. The licensee must place the violation into a corrective action program to restore compliance and address recurrence.
2. The licensee must restore compliance within a reasonable period of time after a violation is identified.
3. The violation must not be willful.

In this case, the licensee met all of this criteria and in Region II's judgment, an NCV was the appropriate means to disposition the violations.

A Notice of Violation requires the recipient to provide a written response describing (1) the reasons for the violation or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken by the licensee or other person and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. The NRC may waive all or portions of a written response to the extent that relevant information has already been provided to the NRC in writing or documented in an NRC inspection report or inspection record.

One could argue that even if a cited violation was issued, the response could be waived since the relevant information has already been provided to the NRC in writing or will be documented in the inspection report.

---

**From:** Cheok, Michael  
**Sent:** Wednesday, April 29, 2015 7:37 AM  
**To:** Beardsley, James; Kozak, Thomas  
**Cc:** Valentin, Andrea  
**Subject:** FW: VC Summer Special Inspection Exit Meeting

I understand the Green. Not sure how I would explain a NCV vs. NOV to Glenn.

---

**From:** Tracy, Glenn  
**Sent:** Tuesday, April 28, 2015 7:18 PM  
**To:** Cheok, Michael; Valentin, Andrea  
**Subject:** Fw: VC Summer Special Inspection Exit Meeting

Green NCVs? Also, Comm O questioned low vendor citation and want to share his thoughts. Thanks for discussing both with me.

---

**From:** Brown, Frederick  
**Sent:** Tuesday, April 28, 2015 06:52 PM  
**To:** Yerokun, Jimi  
**Cc:** Jones, William; McCree, Victor; Heisserer, Jamie; Cheok, Michael; Valentin, Andrea; Holahan, Gary; Tracy, Glenn  
**Subject:** Re: VC Summer Special Inspection Exit Meeting

Good summary, thanks Jimi.

---

**From:** Yerokun, Jimi  
**Sent:** Tuesday, April 28, 2015 04:20 PM  
**To:** Brown, Frederick  
**Cc:** Jones, William; McCree, Victor; Heisserer, Jamie  
**Subject:** VC Summer Special Inspection Exit Meeting

The VC Summer Special Inspection Team has completed the inspection, including its review of the licensee's root cause analysis, and plans to have an exit meeting at 1pm on Thursday. Eric Michel briefed Bill, Mike, Jamie and I today on the results of the inspection. The licensee's root cause analysis looks good and there was nothing in it that substantially changes the team's previous assessment. Several barriers were broken including design control, procedure usage, and bypassing equipment safety feature. The team has no safety concerns with the containment repair and cut rebar disposition that the licensee completed, i.e., no code compliance issues. Thus low safety significance. The team identified two Green NCVs with associated human performance aspects .... (i) Procedure issues - procedures for core drilling existed but were not recognized to be used and (ii) Design Control - inadequate verification of design inputs in prescribing core dowel relocation.

Jamie can expand if I missed any critical point.

**Jimi T. Yerokun**  
**Director, DCI/RII**  
**404 997-4300**

**Note** - OpE COMMs contain preliminary information in the interest of timely internal communication of operating experience. This information is often subject to change and is not intended for distribution outside the agency in this form.

## Inadvertent Damage to the V. C. Summer Unit 2 AP1000 Containment Vessel - Special Inspection (SIT)

### Executive Summary

While performing core boring activities at the V.C. Summer Unit 2 construction site, the core bit cut into safety-related rebar in two locations and made contact with the containment vessel. Region II management determined that the appropriate level of NRC response in accordance with Inspection Manual Chapter (IMC) 2504, is a Special Inspection.

### COMM Groups Notified:

All Comms, Containment, Human Performance, Inspection Programs, NRO, QA/Vendor, SIT/AIT, Structural, Welding/NDT

### Description

During the week of February 9, 2015, while Chicago Bridge & Iron (CB&I) was installing embed plates and preparing for pouring Layer 3 of concrete inside containment, interferences were identified with 7 dowels (vertical rebar) extending from Layer 2. These dowels were cut off and ten 27-inch holes were drilled in the concrete to grout in replacement dowels. To prepare for grouting, each hole was filled with water. However, workers noted that one of the holes closest to the containment vessel did not hold water. A subsequent boroscope examination of that hole revealed that the drill had damaged the containment vessel to some degree. In addition, the core bit cut into horizontal safety-related rebar in two locations. CB&I reported the issue to South Carolina Electric & Gas (SCE&G) on Monday February 16th who subsequently informed the NRC on Tuesday February 17th.

In accordance with Inspection Manual Chapter (IMC) 2504, "Construction Inspection Program: Inspection of Construction and Operational Programs," Appendix C, "Response to Non-Performance Related Issues/Events," deterministic criteria were used to evaluate the level of NRC response to this construction event. Through review of the deterministic criteria in IMC 2504, Region II management determined that this was a significant event that, while not covered by deterministic criteria, warrants additional inspection or oversight. Specifically, the circumstances which resulted in the inadvertent damage to safety related rebar and the containment vessel revealed several concerns regarding construction practices which warrant additional inspection. Principal among these concerns were: the appropriate use of the corrective action program; the use of approved procedures by field personnel; the bypassing of safety features such as cutting off the autostop on the drill in order to continue coring; and the timeliness of communication to the licensee (the event took place on February 9, 2015 but the licensee was not notified until February 16, 2015). Region II determined that the appropriate level of NRC response is a Special Inspection. See the following documents for additional information:

- NON-PUBLIC [SIT Charter](#)
- NON-PUBLIC IMC 2504 [decision documentation](#)
- NON-PUBLIC [related photographs](#)

Also note that the NRC issued a publicly available [news release](#) in this regard, "NRC Begins Special Inspection at Summer Nuclear Plant Unit 2 Construction Site."

### Construction Experience Insights:

This section will be completed as appropriate, after the publication of the SIT inspection report.

### Point of Contact

This OpE COMM contains preliminary and developing information; it will be updated as new information becomes available. Please send feedback, questions and additional information concerning this event to [Alfred Issa](#), NRO/DCIP/IGCB.



From: [OBryan, Phil](#)  
To: [Fredette, Thomas](#); [Beardsley, James](#)  
Subject: FW: Update on CVBH excavation  
Date: Monday, March 09, 2015 12:31:55 PM  
Attachments: [VS2-1110-GNR-000011.pdf](#)  
[CVBH Excavation.pptx](#)  
[Excavation Plan.pdf](#)

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FYI, evaluations not formally complete yet, but it looks like they will leave the rebar the way it is and grind/buff the vessel. Good pictures in the ppt.

---

From: Donnelly, Patrick  
Sent: Monday, March 09, 2015 12:12 PM  
To: Heisserer, Jamie; Oelstrom, Chad; OBryan, Phil; Michel(R2), Eric  
Cc: Ernstes, Michael  
Subject: Update on CVBH excavation

Jamie, et al-

I've attached the full N&D that describes the excavation, I pulled out a few pages to provide to management, and I've included slides with photos of the excavation.

The plan moving forward is to remove the standing water in the excavation and perform an inspection of the gouge. SCE&G wants to inspect the gouge themselves and review the completed CB&I Services traveler (document Services will work to for the repair of the CVBH) before they will submit a letter to the consortium allowing the repair work to take place. We expect the inspection to take place today, SCE&G to submit their letter by tomorrow and work to start soon after. Preliminary inspections measured the depth of the gouge to be approximately 1/8" and the assumed thickness of the plate is approximately 1.7", leaving plenty of material to meet the design thickness. i.e. we do not anticipate a need for a weld buildup/repair, only grinding the gouge flush.

CB&I Power has decided to create 3 new N&Ds to disposition the core locations for cut safety-related rebar. R1 was already covered in the attached disposition (WEC is allowing CB&I services to cut out 11" of the rebar and they have run calculations that it may remain cut). VS2-CR01-GNR-000279 will cover D4 and D5, the dowel locations included in the excavation. VS2-CR01-GNR-000293 will cover D1. -000294 will cover D2 and D3. -000295 will cover D6 and D7. Expected completion date for the above mentioned N&Ds is 3/15.

Let me know if you have any questions.

**Patrick Donnelly**

Construction Resident Inspector  
US NRC - V.C. Summer Units 2 & 3  
[Patrick.Donnelly@NRC.gov](mailto:Patrick.Donnelly@NRC.gov)  
O: 803-345-6856  
C: (b)(6)

**From:** [Makar, Gregory](#)  
**To:** [Donnelly, Patrick](#)  
**Cc:** [Fredette, Thomas](#)  
**Subject:** RE: Pipe support coating correction  
**Date:** Tuesday, March 10, 2015 1:21:23 PM

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Patrick,

Thank you for the explanation. Based on my reading of that report, the corrective action you described is what I was expecting. They are applying the epoxy as non-safety-related because that material is expected to fail as chips and not transport. IOZ would be expected to fail as particles and transport to the strainers.

These must all be outside the zones of influence for untopcoated IOZ (10 pipe diameters ZOI) and epoxy (4 pipe diameters ZOI). Inside the ZOI everything is assumed to fail as particles anyway, so IOZ and epoxy would have the same effect on debris.

Thanks again – I appreciate the quick feedback!

Greg

---

**From:** Donnelly, Patrick  
**Sent:** Tuesday, March 10, 2015 12:47 PM  
**To:** Makar, Gregory  
**Cc:** Fredette, Thomas  
**Subject:** RE: Pipe support coating correction

Greg-

It's been a long time! I hope you are doing well.

The issue with the coating on the pipe supports described in report [2014-76-02](#) was that they were coated with inorganic zinc in lieu of self-priming high solids epoxy. IOZ coatings are safety-related in their procurement and application due to the protection of and the heat transfer coefficient of the containment vessel. SPHSE are only safety-related with respect to their procurement because the assumption is that they don't perform a safety-function other than to be dense enough to not transport in the event of an accident.

So by coating them with IOZ, had the supports been installed they would have added to the amount of debris that could transport in the event of an accident, challenging the total debris amounts committed to in the license. They were sent back to be blasted and coated with SPHSE.

Let me know if you have any questions.

**Patrick Donnelly**  
V.C. Summer Resident Inspector  
(803)345-6856

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**From:** Makar, Gregory  
**Sent:** Monday, March 09, 2015 3:43 PM

**To:** Donnelly, Patrick  
**Subject:** Pipe support coating correction

Patrick,

I hope you are well. I know your work presents many challenges, but I hope you're enjoying it. I'm wondering if you know how CB&I is correcting the issue with the application of the wrong coating to pipe supports. I received an OpE communication about it, which seems to suggest that the coating on the pipe supports should have been designated safety-related because of the debris potential. I had a different understanding when I read the Part 21 report. I don't know enough about the circumstances to know the options for correcting the error. No one has asked us to get involved, but I'm interested in knowing what they are doing. We're due to get a topical report from Westinghouse on Friday related to LOCA debris generation, so that's one reason I'm interested in anything that could affect coating debris.

If you have any further information you can share, please let me know when you have a chance.

Thank you!  
Greg

[Gregory.Makar@nrc.gov](mailto:Gregory.Makar@nrc.gov)  
301-415-4034