FOIA/PA 2015-0205

GROUP A

Records being released in their entirety

Steddenbenz, Katherine

From: Michel(R2), Eric
Sent: Monday, January 26, 2015 8:05 AM
To: Musser, Randy
Cc: Steddenbenz, Katherine
Subject: Before I forget

Randy,

Just want to make sure I share this one before I forget. Please emphasize that unless there's an absolute show-stopper, the smart plan change requests should be entered, *then* comments should be made. I'm still getting things sent back for minor issues and it continues to clog up the system. Some aren't even problems, they're just asking seemingly arbitrary questions. For example, I wanted a note added to all 4 units pointing addressing a Part 21 (the coating on a bunch of piping supports doesn't meet some GSI 191 concerns) and that's being held up until I address whether or not this should be added to the generic AP1000 smart plans (in addition to the site specific). First, it's obvious it shouldn't be added to the generic plans; second, please just enter it the change request, then send me a note; and third, it would be swell if I could enter these on my own.

Eric

A1

Issa, Alfred

From: Kavanagh, Kerri
Sent: Monday, March 02, 2015 9:27 AM
To: Anderson, Brian
Cc: Cheok, Michael; Valentin, Andrea; Issa, Alfred
Subject: RE: INFO: COMM re CBI Pipe Support Coatings Issue

Thanks Brian.

Kerri
301-415-3743

From: Anderson, Brian
Sent: Friday, February 27, 2015 4:23 PM
To: Kavanagh, Kerri
Cc: Cheok, Michael; Valentin, Andrea; Issa, Alfred
Subject: INFO: COMM re CBI Pipe Support Coatings Issue

Kerri,

No action; just FYI. Al Issa has developed the attached OpE/ConE COMM (internal, non-public) on the piping supports coatings issue (CB&I Part 21). We should publish this COMM in the next week or so. After that, we'll work with the NRR OpE group on an Information Notice that highlights several examples of GI-191 issues. No action for you on that, either. Just letting you know.

Thanks,
Brian

A2

Makar, Gregory

From: Makar, Gregory
Sent: Wednesday, February 04, 2015 6:34 AM
To: Sastre, Eduardo
Subject: FW: OpE - Final Part 21 Report on Pipe Support Coatings

Eduardo – I haven't opened up the three reports below, but I don't see any new technical information here. The highlighted part is in the report Matt sent us originally.

Greg

From: Yoder, Matthew
Sent: Wednesday, February 04, 2015 6:17 AM
To: Makar, Gregory
Subject: FW: OpE - Final Part 21 Report on Pipe Support Coatings

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From: Cusumano, Victor
Sent: Tuesday, February 03, 2015 3:32 PM
To: Lu, Shanlai; Yoder, Matthew; Klein, Paul; Smith, Stephen
Subject: FW: OpE - Final Part 21 Report on Pipe Support Coatings

FYI

From: Pannier, Stephen
Sent: Tuesday, February 03, 2015 3:09 PM
To: Prescott, Paul; Kendzia, Thomas; Armstrong, Aaron; Issa, Alfred; Cusumano, Victor
Subject: OpE - Final Part 21 Report on Pipe Support Coatings

The following interim and final Part 21 reports are provided for your information:

CB&I NUCLEAR - PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000 PROJECTS – Recommend For OpE COMM

See Part 21 Reports 2014-0076-00, 2014-0076-01 and 2014-0076-02 for details. The vendor submitted a Part 21 report after their evaluation concluded that the use of the incorrect coating inside containment impacts debris generation and long-term cooling analyses performed for the AP1000 design. It is estimated that the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability. Therefore, if left uncorrected this condition could have caused a substantial safety hazard for the V. C. Summer and Vogtle AP1000 nuclear projects.

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Makar, Gregory

From: Yoder, Matthew
Sent: Tuesday, January 20, 2015 9:47 AM
To: Makar, Gregory
Subject: FW: Part 21 Notice on Coatings for Piping Supports For the New Vogtle and Summer Plants

FYI

From: Hoffman, Keith
Sent: Thursday, January 15, 2015 7:19 AM
To: Klein, Paul; Yoder, Matthew
Subject: Part 21 Notice on Coatings for Piping Supports For the New Vogtle and Summer Plants

FYI, I thought this may be of interest to you guys. If not please disregard.

Part 21	Event Number: 50734
Rep Org: CB&I NUCLEAR Licensee: CB&I NUCLEAR Region: 1 City: CHARLOTTE State: NC County: License #: Agreement: Y Docket: NRC Notified By: CURTIS CASTELL HQ OPS Officer: STEVE SANDIN	Notification Date: 01/14/2015 Notification Time: 14:10 [ET] Event Date: 01/13/2015 Event Time: [EST] Last Update Date: 01/14/2015
Emergency Class: NON EMERGENCY 10 CFR Section: 21.21(d)(3)(i) - DEFECTS AND NONCOMPLIANCE	Person (Organization): RANDY MUSSER (R2DO) PART 21 GROUP (EMAI)

Event Text

10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000 PROJECTS

The following report was received via email:

"This report is being provided in accordance with 10 CFR 21.21.

"(i) Name and address of the individual or individuals informing the Commission.

"Michael Hickey
CB&I Nuclear
128 S. Tryon St., Suite 1000
Charlotte, NC 28202

"(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

"The basic components being supplied are pipe supports to be used inside the containment for the V. C. Summer and Vogtle AP1000 nuclear projects. The pipe supports are classified as ASME B31.1 Code and Quality Assurance (QA) Categories II and III. These supports are associated with various non-safety-related portions of several systems inside containment, including Component Cooling, Passive Core Cooling, Spent Fuel Pool Cooling, Waste

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Liquid, and others. The material being procured was not basic component materials and 10 CFR Part 21 was not applicable. The basic component aspect became inadvertently introduced based on the decision to use a coating that was based on inorganic zinc (IOZ) in lieu of the appropriate coating, which is a Self-Priming High Solids Epoxy (SPHSE). Use of the IOZ coating required the application to be performed as a safety-related application. Due to misinterpretation of the design specification requirements, the wrong safety-class was invoked and the wrong coating material was selected. The piping supports are not impacted by this use of the IOZ coating and would have not been impacted for meeting the pipe support design function. The use of the incorrect coatings, with the incorrect safety classification, could have impacted the ability of the required systems to perform the long-term cooling function, which is considered a safety-related functional impact. The approximate number of supports that are impacted for each unit is provided as follows: 952 Vogtle Unit 3, 275 Vogtle Unit 4, 967 V. C. Summer Unit 2, and 625 V. C. Summer Unit 3.

"(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

"The affected piping supports are being supplied by LISEGA Inc. USA, 370 East Dumplin Valley Rd., Kodak, TN 37764. Note that LISEGA supplied the pipe supports with coating material as specified in the procurement documents. Subsequent review has determined that the procurement documents specified incorrect information for many of the supports, which should have been coated with a different material. The procurement documentation was provided to the supplier by CB&I Power, 128 South Tryon Street Charlotte, NC 28202.

"(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

"The use of the incorrect coating inside containment impacts debris generation and long-term cooling analyses performed for the AP1000 design. It is estimated that the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability. Therefore, if left uncorrected this condition could have caused a substantial safety hazard for the V. C. Summer and Vogtle AP1000 nuclear projects.

"(v) The date on which the information of such defect or failure to comply was obtained.

"The discovery date of these deviations is based on the date of the associated CB&I Power Corrective Action Report (CAR). That CAR was initiated on March 10, 2014. Interim Part 21 reports dated October 15, 2014, and December 11, 2014, were submitted to the NRC.

"(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

"The impacted materials are pipe supports with incorrect coatings intended to be used inside containment for the V. C. Summer and Vogtle AP1000 nuclear projects. The approximate number of supports that are impacted for each unit is provided as follows: 952 Vogtle Unit 3, 275 Vogtle Unit 4, 967 V. C. Summer Unit 2, and 625 V. C. Summer Unit 3.

"(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

"The nonconforming pipe supports were initially placed into a hold status and are being corrected. A corrective action report (CAR 2014-2574) has been entered in the CB&I Power Corrective Action Program that describes the circumstances that led to the identification of this potential substantial safety hazard. That CAR is identified as a Level 1, significant condition adverse to quality, and a root cause analysis of the condition is required by CB&I Power Corrective Action Program. The actions necessary to correct the identified conditions and the causes for these conditions will be established and tracked to completion under the CB&I Power Corrective Action Program.

"(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

"The condition was discovered by CB&I Power prior to installation of the affected components and the components are being corrected. Therefore, there is no additional action or advice needed for the licensees at this time. The condition has also been evaluated by CB&I Power for potential 10 CFR 50.55(e) reporting by the affected combined operating license holders. CB&I Power has recommended to the licensees that this condition is reportable under 10 CFR 50.55(e).

"(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

"Not applicable.

"This condition was previously identified by interim report letters dated October 15, 2014 [ML14296A427 - Log No. 2014-76-00], and December 11, 2014.

"If you have any questions pertaining to this information, please contact Curtis Castell, Licensing Manager, at 980-321-8314."

Keith M. Hoffman
Materials Engineer
NRR/DE/EPNB
(301)415-1294

Issa, Alfred

From: Issa, Alfred
Sent: Monday, March 02, 2015 8:09 AM
To: King, Mark
Subject: RE: CBI Pipe Support Coatings Issa Comm attached with my comments shown in YELLOW markings

I'll tweak it some more when I receive all the comments. I will probably remove the "either or" since the strainer clogging is what impacts NPSH in a direct way. BTW do you guys want to add any OpE insights? During the last COE meeting, Harold seemed to be interested in the Comm and the IN. Eric Smith, John Thompson and Jesse Robles attended the meeting. I copied Eric but I'm not sure if he's the right guy.

Thanks

From: King, Mark
Sent: Monday, March 02, 2015 8:02 AM
To: Issa, Alfred
Subject: RE: CBI Pipe Support Coatings Issa Comm attached with my comments shown in YELLOW markings

How about...

debris clogging of sump strainers impacting either strainer loading and/or NPSH requirements of the pumps supplied by the strainers flow.

From: Issa, Alfred
Sent: Monday, March 02, 2015 8:00 AM
To: King, Mark
Subject: RE: CBI Pipe Support Coatings Issa Comm attached with my comments shown in YELLOW markings

Would the following statement do it?

"...could have eventually caused impairment of the long-term cooling function during events that require that capability by adding to the debris clogging of the sump strainers, thus reducing the flow."

(The sumps don't get clogged, the sump strainers do.)

Thanks

From: King, Mark
Sent: Monday, March 02, 2015 7:58 AM
To: Issa, Alfred
Subject: RE: CBI Pipe Support Coatings Issa Comm attached with my comments shown in YELLOW markings

Just trying to make it easy for the reader to understand the exact issue...namely...**debris clogging of sumps impacting strainer loading and/or NPSH requirements**... you correct as you see fit.

From: Issa, Alfred
Sent: Monday, March 02, 2015 7:55 AM
To: King, Mark
Subject: RE: CBI Pipe Support Coatings Issa Comm attached with my comments shown in YELLOW markings

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Thanks Mark. I think that the following comment on the clogging of sump should probably be fine tuned:

"...could have eventually caused impairment of the long-term cooling function during events that require that capability (i.e. debris clogging of sumps)."

The use of "i.e." is not exact since the effect is indirect. In other words, "i.e." should mean "that is". Maybe what we should use instead is "by". Also, the unqualified coating would add to the debris loading on the sump strainers, and not the sumps, reducing the flow rather than fully clogging the strainers. How would the following sound to you instead:

"...could have eventually caused impairment of the long-term cooling function during events that require that capability by adding to the debris loading on the sump strainers, thus reducing the flow."

I tried to explain it in more technical terms by tying it to the pump NPSH.

Thanks

Al

From: King, Mark
Sent: Monday, March 02, 2015 7:35 AM
To: Issa, Alfred
Subject: CBI Pipe Support Coatings Issa Comm attached with my comments shown in YELLOW markings

Al, see attached...looks good.
My minor comments / suggestions... shown in yellow markings.

Makar, Gregory

From: Makar, Gregory
Sent: Tuesday, March 10, 2015 1:21 PM
To: Donnelly, Patrick
Cc: Fredette, Thomas
Subject: RE: Pipe support coating correction

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

From: Makar, Gregory
Sent: Monday, March 09, 2015 3:43 PM
To: Donnelly, Patrick
Subject: Pipe support coating correction

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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
301-415-4034

Issa, Alfred

From: Issa, Alfred
Sent: Monday, March 09, 2015 2:06 PM
To: Torbey (CONTR), Andrea
Subject: RE: Finalized OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Never mind Andrea. I found it.

Thanks

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

From: Issa, Alfred
Sent: Monday, March 09, 2015 2:04 PM
To: Torbey (CONTR), Andrea
Subject: RE: Finalized OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Hi Andrea,

Where would I find the ML number for this Comm?

Thanks

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

From: Torbey (CONTR), Andrea
Sent: Monday, March 09, 2015 12:28 PM
To: Bowman, Cassandra; Issa, Alfred
Cc: Anderson, Brian

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Subject: RE: Finalized OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Sure thing.

From: Bowman, Cassandra
Sent: Monday, March 09, 2015 12:28 PM
To: Torbey (CONTR), Andrea; Issa, Alfred
Cc: Anderson, Brian
Subject: RE: Finalized OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Thanks!

From: Torbey (CONTR), Andrea
Sent: Monday, March 09, 2015 12:22 PM
To: Issa, Alfred; Bowman, Cassandra
Cc: Anderson, Brian
Subject: RE: Finalized OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Done.

From: Issa, Alfred
Sent: Wednesday, March 04, 2015 10:17 AM
To: Bowman, Cassandra
Cc: Torbey (CONTR), Andrea; Anderson, Brian
Subject: Finalized OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Hi Cassandra,

Please get with Andrea to help you publish the subject Comm. We need to get it out (make distribution) by COB tomorrow.

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/ope_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/ope_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/ope_comm/Lists/OpE_COMMIndex) with the COMM info

Thank you

Sloan, Kimberly

From:	Issa, Alfred
Sent:	Friday, January 16, 2015 11:06 AM
To:	Cozens, Ian; Harmon, David; Kleeh, Edmund; Pasquale, Daniel
Cc:	Anderson, Brian; Valentin, Andrea; Cheok, Michael; Khouri, George; Fuller, Justin; Abbott, Coleman; Pannier, Stephen; Ernstes, Michael; Roach, Edward
Subject:	FW: Event Notice: 01/14/2015 - Part 21 - CB&I
Attachments:	Summary.pdf; Events.pdf; (50734) EN # 50734- CB&I.pdf

The attached Part 21/50.55(e) illustrates the challenges associated with non safety related activities impacting safety related functions. Although the supports in question are non-safety related, the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability (a safety related function). The purchase specification did not take that into account and Appendix B and Part 21 were not invoked in the purchase order since the supports are non-safety related. I had previously written a similar Comm dealing with the use of aluminum and zinc inside containment (ML13154A208).

An effective way to avoid similar problems by the licensees in the future is through the use of boiler plates to be included in all purchase orders of parts to be used inside containment. These can include a material and process exclusion list as required.

I recommend this notification to be uploaded to the international ConEx database.

Thanks

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Sloan, Kimberly

From: Issa, Alfred
Sent: Tuesday, March 31, 2015 10:13 AM
To: Brown, Michael; Johnson, Andrea; Fuller, Justin; Harmon, David; Anderson, Brian; Abbott, Coleman
Cc: Thomas, Eric; Kavanagh, Kerri; Roach, Edward
Subject: Periodic Operating Experience Newsletter Article related to the AP 1000 pipe support Part 21 notification
Attachments: CBI Pipe Support Coating Deviations.docx

Please review the attached Periodic Operating Experience Newsletter Article related to the CB&I pipe support coating Part 21 notification and let me know if you have any comments or inputs by COB April 3rd, 2015. This is an internal article with the audience being the NRC staff at large.

Eric,

In addition, please let me know if you would like me to adjust the length of the article.

Thank you

Al

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Burkhalter, Cornelia

From:	King, Mark
Sent:	Thursday, January 15, 2015 3:07 PM
To:	Pannier, Stephen; Pasquale, Daniel; Kendzia, Thomas; Armstrong, Aaron; Prescott, Paul; Issa, Alfred
Subject:	EN 50734 - 10 CFR PART 21 / 10 CFR 50.55(E) REPORT - CB&I NUCLEAR - REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP-1000 PROJECTS

See EN 50734

10 CFR PART 21 / 10 CFR 50.55(E) REPORT - CB&I NUCLEAR –

REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP-1000 PROJECTS

See link above for the full report details.
The approximate number of pipe supports that are impacted for each unit is provided as follows:

952 Vogtle Unit 3
275 Vogtle Unit 4
967 V. C. Summer Unit 2
625 V. C. Summer Unit 3

The use of the incorrect coating inside containment impacts debris generation and long-term cooling analyses performed for the AP1000 design. It is estimated that the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability. Therefore, if left uncorrected this condition could have caused a substantial safety hazard for the V. C. Summer and Vogtle AP-1000 nuclear projects.

Send info to TRG for QA/ Vendor Branch (Dan Pasquale, Tom Kendzia, Aaron Armstrong, Paul Prescott), IOEB Part 21 contact (Steve Pannier) and NRO (Al Issa), assigned to Mark King

FYI,
Mark

Mark King
Senior Reactor Systems Engineer
NRC/NRR/DIRS/IOEB – Operating Experience Branch
O-7E08
301-415-1150
Mark.King@nrc.gov

NRC – One Mission – One Team

A10

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Follow-up/Other Tasks: Five (5)

[Note - The information in this part of the Summary is often preliminary in nature and is provided to help IOEB staff communicate and track noteworthy items being followed up by either the Regions or HQ staff.]

1) deleted – unrelated / outside scope

2) deleted – unrelated / outside scope

3) deleted – unrelated / outside scope

4) 10 CFR PART 21 / 10 CFR 50.55(E) REPORT - CB&I NUCLEAR - REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000 PROJECTS

See link for full report details. The approximate number of supports that are impacted for each unit is provided as follows:

952 Vogtle Unit 3
275 Vogtle Unit 4
967 V. C. Summer Unit 2
625 V. C. Summer Unit 3

The use of the incorrect coating inside containment impacts debris generation and long-term cooling analyses performed for the AP1000 design. It is estimated that the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability. Therefore, if left uncorrected this condition could have caused a substantial safety hazard for the V. C. Summer and Vogtle AP1000 nuclear projects.

Send info to TRG for QA/ Vendor Branch (Dan Pasquale, Tom Kendzia, Aaron Armstrong, Paul Prescott), IOEB Part 21 contact (Steve Pannier) and NRO (Al Issa), assigned to Mark King.

5) deleted – unrelated / outside scope

**(i.e., Screened /reviewed against LIC-401 criteria for initiating an "Issue for Resolution" (IFR), which is IOEB's process for conducting further evaluation of an issue to determine what, if any, additional actions should be taken to communicate and organizationally learn from OpE.)*

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Attendees at Screening Meeting: Dave Garmon, Mark King, Richard Perkins (RES), Al Issa (NRO) and Joe Giantelli

Issa, Alfred

From: Issa, Alfred
Sent: Monday, March 09, 2015 2:34 PM
To: Patel, Raju
Subject: RE: NEW OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Try again. ADAMS is having problems. I just tried and it worked for me.

Thanks

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

From: Patel, Raju
Sent: Monday, March 09, 2015 2:33 PM
To: Issa, Alfred
Subject: RE: NEW OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Isaa,

The link does not work.

From: Issa, Alfred
Sent: Monday, March 09, 2015 2:31 PM
Subject: NEW OpE COMM: Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Information Security Reminder: OpE COMMs may contain preliminary information, may be pre-decisional and may contain sensitive/proprietary information.
OpE COMMs are not intended for distribution outside the agency.

This email is being sent to notify recipients of a new OpE COMM in ADAMS (**ML 15068A226**)

Potential for Substantial Safety Hazard Caused by Pipe Support Coating Deviations (AP-1000 Projects)

Summary

Chicago Bridge & Iron (CB&I) submitted a Part 21 notification that concluded that the amount of unqualified coating used on pipe supports supplied to the AP 1000 Vogtle Units 3 and 4, and the Summer Units 2 and 3

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construction sites could have eventually caused impairment of the long-term cooling function during events that require that capability by increasing the debris clogging the sump strainers thus reducing the flow. Therefore, if left uncorrected, this condition could have caused a substantial safety hazard for these plants. See Generic Issue (GI)-191, "Assessment of Debris Accumulation on PWR Sump" for more information.

This OpE COMM is being distributed to the following groups:

Containment; ECCS; Human Performance; Inspection Programs; New Reactors; Pump & Valve Performance; QA & Vendor Issues; Structural; All COMMs

To unsubscribe from this distribution list, or to subscribe to a different list in the OpE Community, please contact Joe Giantelli

For more information on the Reactor OpE Program, please visit our SharePoint site.

Thank you reviewing and using Operating Experience.

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

Pannier, Stephen

From: Issa, Alfred
Sent: Monday, February 02, 2015 10:55 AM
To: Pannier, Stephen
Subject: RE: Clearinghouse Meeting - February 2nd

Thanks Steve. We decided to write a Comm and recommend an IN for the IOZ coating Part 21. Do you want me to update the entry now or would you rather do it?

Al

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

From: Pannier, Stephen
Sent: Monday, February 02, 2015 10:27 AM
To: Perkins, Richard; Issa, Alfred; Pasquale, Daniel; Cozens, Ian; Wharton, Eric; Woyansky, Andrew; Atack, Sabrina; King, Mark; Giantelli, Joseph; Garmon, David; Chernoff, Harold
Subject: RE: Clearinghouse Meeting - February 2nd

Hi Folks,

Because of a conflict with an NRR all hands meeting today's Clearinghouse meeting has been cancelled. We will screen all outstanding and new issues tomorrow.

Thank you,

Steve Pannier
Chair

From: Pannier, Stephen
Sent: Thursday, January 29, 2015 3:57 PM
To: Perkins, Richard; Issa, Alfred; Pasquale, Daniel; Cozens, Ian; Wharton, Eric; Woyansky, Andrew; Atack, Sabrina
Cc: King, Mark; Giantelli, Joseph; Garmon, David; Chernoff, Harold
Subject: Clearinghouse Meeting - February 2nd
Importance: High

Hi Folks,

This is just an FYI to those Clearinghouse attendees outside of NRR....

NRR has scheduled an all hands meeting for Monday, February 2nd at the same time as when the Clearinghouse normally meets.

A12

I will be monitoring the events that come in between now and Monday morning. If nothing significant that would require us to meet comes in, then I will cancel the Clearinghouse meeting early Monday morning.

Stay tuned.

Thanks,

Steve Pannier
IOEB

Pannier, Stephen

From: Issa, Alfred
Sent: Friday, January 16, 2015 11:06 AM
To: Cozens, Ian; Harmon, David; Kleeh, Edmund; Pasquale, Daniel
Cc: Anderson, Brian; Valentin, Andrea; Cheok, Michael; Khouri, George; Fuller, Justin; Abbott, Coleman; Pannier, Stephen; Ernstes, Michael; Roach, Edward
Subject: FW: Event Notice: 01/14/2015 - Part 21 - CB&I
Attachments: Summary.pdf; Events.pdf; (50734) EN # 50734- CB&I.pdf

The attached Part 21/50.55(e) illustrates the challenges associated with non safety related activities impacting safety related functions. Although the supports in question are non-safety related, the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability (a safety related function). The purchase specification did not take that into account and Appendix B and Part 21 were not invoked in the purchase order since the supports are non-safety related. I had previously written a similar Comm dealing with the use of aluminum and zinc inside containment (ML13154A208).

An effective way to avoid similar problems by the licensees in the future is through the use of boiler plates to be included in all purchase orders of parts to be used inside containment. These can include a material and process exclusion list as required.

I recommend this notification to be uploaded to the international ConEx database.

Thanks

A13

Pannier, Stephen

From: WebContractor Resource
Sent: Friday, January 16, 2015 4:08 PM
To: Pannier, Stephen
Cc: WebWork Resource; NRRWebServices Resource
Subject: RE: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Updated Interim Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Files have been posted live.
http://www.nrc.gov/reading-rm/doc-collections/event-status/part21/
http://www.nrc.gov/reading-rm/doc-collections/event-status/part21/2014/

Thanks,
Jonathan D. Kromer
Web Team

From: Pannier, Stephen
Sent: Friday, January 16, 2015 3:19 PM
To: WebContractor Resource
Cc: NRRWebServices Resource
Subject: RE: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Updated Interim Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Looks good,

Please post

SP

From: WebContractor Resource
Sent: Friday, January 16, 2015 3:15 PM
To: Pannier, Stephen
Cc: NRRWebServices Resource
Subject: RE: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Updated Interim Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Please review and approve:
http://nrcweb:400/reading-rm/doc-collections/event-status/part21/2014/
http://nrcweb:400/reading-rm/doc-collections/event-status/part21/

Thanks,
Jonathan D. Kromer
Web Team

From: NRRWebServices Resource
Sent: Friday, January 16, 2015 2:47 PM
To: WebContractor Resource
Cc: WebWork Resource; NRRWebServices Resource

A14

Subject: FW: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Updated Interim Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Good Afternoon WebContractor,

Please process the following request.

Thanks,

Brenett (Bren) Warren
Program Specialist
Information Technology and
Infrastructure Services Branch (ITIB)
Office of Nuclear Reactor Regulation
brenett.warren@nrc.gov
301-415-3114

Follow us on Twitter:
@NRCgov_RIC

From: Pannier, Stephen
Sent: Friday, January 16, 2015 1:19 PM
To: NRRWebServices Resource
Subject: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Updated Interim Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Hi,

Please update the page at http://www.nrc.gov/reading-rm/doc-collections/event-status/part21/2014/. The intermediate posting places are http://nrcweb:400/reading-rm/doc-collections/event-status/part21/2014/index.html and the existing http://nrcweb:400/reading-rm/doc-collections/event-status/part21/.

In the 2014 table, please enter the following updated Part 21 Interim report above the master (-00) entry. Also, in the Recently Updated Reports table at http://www.nrc.gov/reading-rm/doc-collections/event-status/part21, please place the report at the top of the table in reverse chronological order.

Log no: 2014-0076-01
Notifier: CB&I Nuclear
Description: Updated Interim Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects
Report date: 12/11/2014
Event No. / Accession: ML15014A214

Thank you,

Stephen J. Pannier
U.S. Nuclear Regulatory Commission
Reactor Systems Engineer
NRR/DIRS/IOEB
301-415-4083

Pannier, Stephen

From: ADAMS IM
Sent: Thursday, January 29, 2015 8:22 AM
To: Pannier, Stephen
Subject: RE: Final Part 21 Report: 2014-76-02 - CB&I Nuclear - Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Steve,

Document ML15027A425 is already Publicly Available. (It was changed about 20 minutes ago.)

Thanks,
Donna Davis
Acting on Behalf of ADAMS Customer Support

From: Pannier, Stephen
Sent: Thursday, January 29, 2015 8:17 AM
To: ADAMS IM
Subject: Final Part 21 Report: 2014-76-02 - CB&I Nuclear - Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Hi,

Please make the Part 21 report at ML15027A425 publicly available for immediate release.
This document is an externally generated Part 21 report and has been reviewed for SUNSI.

Thank you,

Steve Pannier
NRR/DIRS/IOEB

A15

Pannier, Stephen

From: ADAMS IM
Sent: Friday, January 16, 2015 9:35 AM
To: Pannier, Stephen
Subject: RE: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Done. ML15014A214 has been changed to public available.

Thanks
Melissa

From: Pannier, Stephen
Sent: Friday, January 16, 2015 9:08 AM
To: ADAMS IM
Subject: Updated Part 21 Report: 2014-76-01 - CB&I Nuclear - Report Regarding Deviations of Coatings for Pipe Supports for AP1000 Projects

Hi,

Please make the Part 21 report at ML15014A214 publicly available for immediate release.
This document is an externally generated Part 21 report and has been reviewed for SUNSI.

Thank you,

Steve Pannier
NRR/DIRS/IOEB

A16

Issa, Alfred

From: Issa, Alfred
Sent: Friday, February 27, 2015 4:34 PM
To: Anderson, Brian
Subject: RE: CBI Pipe Support Coatings Issa Comm

Will do.

Thanks for the quick response.

Alfred Issa

-------- Original Message --------
Subject: RE: CBI Pipe Support Coatings Issa Comm
From: "Anderson, Brian" <Brian.Anderson@nrc.gov>
To: "Issa, Alfred" <Alfred.Issa@nrc.gov>
CC:
Date: Fri, February 27, 2015 4:22 PM

Well done, Al. I approve, with one minor edit.

Add apostrophe to this sentence --- "The piping supports main design function is..."

Thanks,
Brian

From: Issa, Alfred
Sent: Friday, February 27, 2015 3:23 PM
To: Thomas, Eric; Anderson, Brian
Cc: King, Mark; Cozens, Ian; Harmon, David; Kleeh, Edmund; Pasquale, Daniel
Subject: CBI Pipe Support Coatings Issa Comm

Please review and comment on the attached Comm by COB Monday 3/2/2015. This should include any required OpE input.

Thank you

Al

A-17

Issa, Alfred

From: Anderson, Brian
Sent: Tuesday, March 31, 2015 6:35 PM
To: Issa, Alfred
Subject: RE: Periodic Operating Experience Newsletter Article related to the AP 1000 pipe support Part 21 notification

Perfect. I approve.

Out of curiosity...I noticed that the notification was linked three separate times in the COMM. How come?

From: Issa, Alfred
Sent: Tuesday, March 31, 2015 10:13 AM
To: Brown, Michael; Johnson, Andrea; Fuller, Justin; Harmon, David; Anderson, Brian; Abbott, Coleman
Cc: Thomas, Eric; Kavanagh, Kerri; Roach, Edward
Subject: Periodic Operating Experience Newsletter Article related to the AP 1000 pipe support Part 21 notification

Please review the attached Periodic Operating Experience Newsletter Article related to the CB&I pipe support coating Part 21 notification and let me know if you have any comments or inputs by COB April 3rd, 2015. This is an internal article with the audience being the NRC staff at large.

Eric,

In addition, please let me know if you would like me to adjust the length of the article.

Thank you

Al

A18

Sloan, Kimberly

From: Makar, Gregory
Sent: Tuesday, March 10, 2015 1:21 PM
To: Donnelly, Patrick
Cc: Fredette, Thomas
Subject: RE: Pipe support coating correction

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

From: Makar, Gregory
Sent: Monday, March 09, 2015 3:43 PM
To: Donnelly, Patrick
Subject: Pipe support coating correction

A-19

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
301-415-4034

Don DePierro
Senior Vice President, Nuclear Division
Power

CB&I
128 S. Tryon Street, Suite 1000
Charlotte, NC 28202
Tel: +1 980-321-8232
don.depierro@cbi.com

10 CFR 21.21

October 15, 2014

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: INTERIM 10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000® PROJECTS

The attachment to this letter provides an interim report in accordance with 10 CFR 21.21 pertaining to the identification of deviations associated with coatings on pipe supports being supplied for the V. C. Summer and Vogtle AP1000® nuclear projects. The deviations being evaluated are associated with the use of an incorrect coating type for recently procured pipe supports.

Evaluation for reportability in accordance with 10 CFR Part 21 was not able to be completed within the 60-day evaluation period due the failure to properly identify and track this condition. The failure to properly identify and track this condition has been identified in the CB&I Power Corrective Action Program. It is expected that the evaluation for reportability will be completed by December 12, 2014.

If you have any questions pertaining to this information, please contact Curtis Castell, Licensing Manager, at 980-321-8314.

Sincerely,

Don DePierro
Senior Vice President, Nuclear

cc: Regional Administrator, USNRC, Region II

Attachment

IE19
NRD

A20

INTERIM 10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000® PROJECTS

This report is being provided as an interim report in accordance with 10 CFR 21.21.

(i) Name and address of the individual or individuals informing the Commission.

Mr. Don DePierro
CB&I Nuclear
128 S. Tryon St., Suite 1000
Charlotte, NC 28202

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects.

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects. The affected piping supports are being supplied by LISEGA Inc. USA, 370 East Dumplin Valley Rd., Kodak, TN 37764. Note that LISEGA supplied the pipe supports with coating material as specified in the purchasing documents. Subsequent review has determined that the purchasing documents specified incorrect information for many of the supports, which should have been coated with a different material.

(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects.

It is currently expected that the evaluation of these conditions will be completed by December 12, 2014.

(v) The date on which the information of such defect or failure to comply was obtained.

The discovery date of these deviations is based on the date of the associated CB&I Power Corrective Action Report (CAR). That CAR was initiated on March 10, 2014. Due to a processing error the March 10, 2014, CAR was not properly identified and tracked for Part 21 reportability evaluation. The failure to properly identify and track this condition has been identified in the CB&I Power Corrective Action Program.

(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects. An estimated 2,909 pipe supports are currently considered to have the incorrect coating. The nonconforming pipe supports were initially placed into a "hold" status and are now in the process of being prepared for return to the supplier to be corrected. The pipe supports are associated with piping systems inside containment.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects. Actions are in progress to complete the 10 CFR Part 21 evaluation. Additionally, the pipe support coatings are being corrected, as necessary.

It is currently expected that the evaluation of these conditions will be completed by December 12, 2014.

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

No basic components have been determined to fail to comply or contain a defect. This is an interim report.

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.

CB&I
128 South Tryon Street
Charlotte, NC 28202
Tel: +1 704 343 7500
www.CBI.com

10 CFR 21.21

December 11, 2014

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: UPDATED INTERIM 10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000® PROJECTS

The attachment to this letter provides an updated interim report in accordance with 10 CFR 21.21 pertaining to the identification of deviations associated with coatings on pipe supports being supplied for the V. C. Summer and Vogtle AP1000® nuclear projects. The initial interim report was previously provided by letter dated October 15, 2014. The deviations being evaluated are associated with the use of an incorrect coating type for recently procured pipe supports.

Evaluation for reportability in accordance with 10 CFR Part 21 was not able to be completed within the extended evaluation period due to the need to obtain the review of the draft evaluation by the applicable design authority. It is expected that the evaluation for reportability will be completed by January 12, 2015.

If you have any questions pertaining to this information, please contact Curtis Castell, Licensing Manager, at 980-321-8314.

Sincerely,

Don DePierro
Senior Vice President

cc: Regional Administrator, USNRC, Region II

Attachment

IE19
NRO

A21

UPDATED INTERIM 10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000® PROJECTS

This report is being provided as an updated interim report in accordance with 10 CFR 21.21.

(i) Name and address of the individual or individuals informing the Commission.

Mr. Don DePierro
CB&I Power
128 S. Tryon St., Suite 1000
Charlotte, NC 28202

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects.

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects. The affected piping supports are being supplied by LISEGA Inc. USA, 370 East Dumplin Valley Rd., Kodak, TN 37764. Note that LISEGA supplied the pipe supports with coating material as specified in the purchasing documents. Subsequent review has determined that the purchasing documents specified incorrect information for many of the supports, which should have been coated with a different material.

(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects.

It is currently expected that the evaluation of these conditions will be completed by January 12, 2015.

(v) The date on which the information of such defect or failure to comply was obtained.

The discovery date of these deviations is based on the date of the associated CB&I Power Corrective Action Report (CAR). That CAR was initiated on March 10, 2014. Due to a processing error the March 10, 2014, CAR was not properly identified and tracked for Part 21 reportability evaluation. The failure to properly identify and track this condition has been identified in the CB&I Power Corrective Action Program.

(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects. An estimated 2,819 pipe supports are currently considered to have the incorrect coating. The nonconforming pipe supports were initially placed into a "hold" status and are now in the process of being corrected. The pipe supports are associated with piping systems inside containment.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

No basic components have been determined to fail to comply or contain a defect. This is an interim report. The deviations being evaluated are associated with the use of incorrect coatings for pipe supports intended to be used for the V. C. Summer and Vogtle AP1000® nuclear projects. Actions are in progress to complete the 10 CFR Part 21 evaluation. Additional time is needed to allow review of the draft evaluation by the design authority, Westinghouse Electric Company. The pipe support coatings are being corrected, as necessary.

It is currently expected that the evaluation of these conditions will be completed by January 12, 2015.

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

No basic components have been determined to fail to comply or contain a defect. This is an interim report.

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.

CB&I
128 South Tryon Street
Charlotte, NC 28202
Tel: +1 704 343 7500
www.CBI.com

10 CFR 21.21

January 13, 2015

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: 10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000® PROJECTS

The attachment to this letter provides a report in accordance with 10 CFR 21.21 pertaining to the identification of defects associated with coatings on pipe supports being supplied for the V. C. Summer and Vogtle AP1000® nuclear projects. The defects are associated with the procurement of pipe supports that were coated incorrectly.

This condition was previously identified by interim report letters dated October 15, 2014, and December 11, 2014.

If you have any questions pertaining to this information, please contact Curtis Castell, Licensing Manager, at 980-321-8314.

Sincerely,

Michael Hickey
Senior Vice President

cc: Regional Administrator, USNRC, Region II

Attachment

A22

10 CFR PART 21 REPORT REGARDING DEVIATIONS OF COATINGS FOR PIPE SUPPORTS FOR AP1000® PROJECTS

This report is being provided in accordance with 10 CFR 21.21.

(i) Name and address of the individual or individuals informing the Commission.

Michael Hickey
CB&I Nuclear
128 S. Tryon St., Suite 1000
Charlotte, NC 28202

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

The basic components being supplied are pipe supports to be used inside the containment for the V. C. Summer and Vogtle AP1000® nuclear projects. The pipe supports are classified as ASME B31.1 Code and Quality Assurance (QA) Categories II and III. These supports are associated with various non-safety-related portions of several systems inside containment, including Component Cooling, Passive Core Cooling, Spent Fuel Pool Cooling, Waste Liquid, and others. The material being procured was not basic component materials and 10 CFR Part 21 was not applicable. The basic component aspect became inadvertently introduced based on the decision to use a coating that was based on inorganic zinc (IOZ) in lieu of the appropriate coating, which is a Self-Priming High Solids Epoxy (SPHSE). Use of the IOZ coating required the application to be performed as a safety-related application. Due to misinterpretation of the design specification requirements, the wrong safety-class was invoked and the wrong coating material was selected. The piping supports are not impacted by this use of the IOZ coating and would have not been impacted for meeting the pipe support design function. The use of the incorrect coatings, with the incorrect safety classification, could have impacted the ability of the required systems to perform the long-term cooling function, which is considered a safety-related functional impact. The approximate number of supports that are impacted for each unit is provided as follows: 952 Vogtle Unit 3, 275 Vogtle Unit 4, 967 V. C. Summer Unit 2, and 625 V. C. Summer Unit 3.

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

The affected piping supports are being supplied by LISEGA Inc. USA, 370 East Dumplin Valley Rd., Kodak, TN 37764. Note that LISEGA supplied the pipe supports with coating material as specified in the procurement documents. Subsequent review has determined that the procurement documents specified incorrect information for many of the supports, which should have been coated with a different material. The procurement documentation was provided to the supplier by CB&I Power, 128 South Tryon Street Charlotte, NC 28202.

(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

The use of the incorrect coating inside containment impacts debris generation and long-term cooling analyses performed for the AP1000® design. It is estimated that the amount of unqualified IOZ coating that could have been added to the containment would have eventually caused impairment of the long-term cooling function during events that require that capability. Therefore, if left uncorrected this condition could have caused a substantial safety hazard for the V. C. Summer and Vogtle AP1000® nuclear projects.

(v) The date on which the information of such defect or failure to comply was obtained.

The discovery date of these deviations is based on the date of the associated CB&I Power Corrective Action Report (CAR). That CAR was initiated on March 10, 2014. Interim Part 21 reports dated October 15, 2014, and December 11, 2014, were submitted to the NRC.

(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

The impacted materials are pipe supports with incorrect coatings intended to be used inside containment for the V. C. Summer and Vogtle AP1000® nuclear projects. The approximate number of supports that are impacted for each unit is provided as follows: 952 Vogtle Unit 3, 275 Vogtle Unit 4, 967 V. C. Summer Unit 2, and 625 V. C. Summer Unit 3.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

The nonconforming pipe supports were initially placed into a "hold" status and are being corrected. A corrective action report (CAR 2014-2574) has been entered in the CB&I Power Corrective Action Program that describes the circumstances that led to the identification of this potential substantial safety hazard. That CAR is identified as a Level 1, significant condition adverse to quality, and a root cause analysis of the condition is required by CB&I Power Corrective Action Program. The actions necessary to correct the identified conditions and the causes for these conditions will be established and tracked to completion under the CB&I Power Corrective Action Program.

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

The condition was discovered by CB&I Power prior to installation of the affected components and the components are being corrected. Therefore, there is no additional action or advice needed for the licensees at this time. The condition has also been evaluated by CB&I Power for

potential 10 CFR 50.55(e) reporting by the affected combined operating license holders. CB&I Power has recommended to the licensees that this condition is reportable under 10 CFR 50.55(e).

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.