



UNDERWATER ENGINEERING SERVICES, Inc.
1326 S.W. Biltmore Street
Port Saint Lucie, FL 34983

Subject: Completion of evaluation: 10CFR Part 21 Notification of Potential Safety
Related Noncompliance Deviation

To: United States Nuclear Regulatory Commission Document Control Desk

Evaluation Report Cover Letter:

On Wednesday, April 9th, 2008 UESI reported an initial notification of potential Part 21 applicability to the USNRC. This notification was faxed to, and confirmation received from, the NRC Operations Center.

Please find attached the completed evaluation report of the UESI Part 21 review of its Picco UT-15 Service Level I repair coating material, and its impact, if any, on end users of the product. There have been no changes between the initial notification sent to your office, and the final evaluation enclosed with this document. The evaluation report has been final reviewed and approved by the CEO/President of UESI.

UESI has provided a copy of the evaluation for your information. Attachment 2 of the evaluation is a copy of the official notification that was faxed to your Operations Center.

UESI has notified all applicable facilities that may have been impacted by this Part 21, and provided a copy of this report to them.

If you have any questions or need additional information concerning this notification, please feel free to contact me,

Regards,

Chris C. Graham
UESI QA Manager
Phone: (772) 337-3116 (x114)
Fax: (772) 337-0294
Email: cgraham@uesi.com

IE19
NRR


Potential 10-CFR 21 Applicability Review
UESI Service Level 1 Coating Repair Material
Picco UT-15

Evaluation Team:

A Review Team was formed as directed by UESI/GPI President Steve Greenman to resolve UESI Nonconformance Report #2008-01 (Reference 1) and the associated findings of NUPIC Audit 08.03.SPAFL.08.1 (Joint Audit # 20119) (Reference 2). The Review Team members responsible for the results entailed in this report are:


- Mr. Jon R. Cavallo, PE, Vice President of GPI affiliate Corrosion Control Consultants & Labs, Inc, UESI Certified Level III Coatings Inspector, registered Professional Engineer, ASTM D-33 Nuclear Coatings Committee Chairman, a SSPC certified Protective Coatings Specialist and industry leader in coatings evaluation and consulting.
- Mr. Robert Walcheski, UESI Technical Manager, UESI Assistant Vice President, Certified UESI ANSI Level III Coatings Inspector, ASNT SNT-TC-1A & CP189 VT-1/V-3 (IWE, IWL, IWF) Level II, ASTM D33 committee member, certified NACE CIP Level II, former SGPAI-UES QA Manager, and;
- Mr. Chris Graham, UESI Quality Assurance Manager, NQA-1 Lead Auditor, NACE CIP1, Certified UESI ANSI Level II Coatings, Certified UESI ANSI Level III Visual Welding, Current API 510 Certified Inspector, CQCM and UESI Part 21 Review Team POC.

Report submitted for review and approval to UESI/GPI President by:


Chris C. Graham UESI Quality Assurance Manager

04-14-2008
Date

I have reviewed the results of this evaluation and concur with its evaluations and conclusion. I have reviewed and approved this report, and authorize applicable determinations made within this internal evaluation to be included in the official Part 21.21 submittal to the Nuclear Regulatory Commission, in accordance with 10CFR Part 21 and the UESI Quality Assurance Manual, 3rd Edition, Rev. 0.


Stephen Greenman- UESI/GPI President/CEO
Steven

41408
Date

SUBJECT: **Potential 10 CFR 21 Applicability Review as described in UESI
QA Manual, QAP-15, R/5, Section 5.0**

DISCUSSION

A Review Team was formed as directed by UESI / GPI President and CEO Steve Greenman to resolve UESI Nonconformance Report #2008-01 (Reference 1) and the associated findings of NUPIC Audit 08.03.SPAFL.08.1 (Joint Audit # 20119 - Reference 2). The Review Team members assigned were:

- Mr. Jon R. Cavallo, PE, Vice President of GPI affiliate Corrosion Control Consultants & Labs, Inc, UESI Certified Level III Coatings Inspector, registered Professional Engineer, ASTM D-33 Nuclear Coatings Committee Chairman, a SSPC certified Protective Coatings Specialist and industry leader in coatings evaluation and consulting.
- Mr. Robert Walcheski, UESI Technical Manager, UESI Assistant Vice President, UESI Certified ANSI Level III Coatings Inspector, ASNT SNT-TC-1A & CP189 VT-1/V-3 (IWE, IWL, IWF), ASTM D33 committee member, certified NACE CIP Level II, former SGPAI-UES QA Manager, and;
- Mr. Chris Graham, UESI Quality Assurance Manager, NQA-1 Lead Auditor, NACE CIP1, Certified UESI ANSI Level II Coatings, Certified UESI ANSI Level III Visual Welding, Current API 510 Certified Inspector and UESI Part 21 Review Team POC.

PHASE ONE Evaluation:

The Review Team conducted an initial meeting on March 18, 2008. Dean Reynolds, UESI Vice President and Branch Manager also attended the 3/18/08 meeting. The purpose of the meeting was to create a schedule to identify locations of use and determine the acceptability of UT-15 coatings applied in commercial nuclear facilities.

An evaluation of all available Picco UT-15 DBA/Irradiation tests was conducted under Phase One to confirm that Picco UT-15 meets the DBA/Irradiation requirements of ASTM D-3911-95 (Reference 3) on all substrates tested. The Phase One Evaluation confirmed that Picco UT-15 satisfies the DBA/Irradiation qualification requirements for Service Level I coating to the acceptance requirements of ASTM D-3911-95 on all substrates tested.

Next, the Phase One evaluation effort focused on the assessment of DBA qualifications tests to determine the acceptability of Picco UT-15 as it relates to the ANSI N101.2-1972 (Reference 4) and ANSI N5.12-1974 (Reference 5) (DBA/irradiation and lining test) requirements, establish the level to which the product meets those qualification requirements and identify any limitations that should have been imposed on the product after completion of irradiation and DBA testing in 1996. The 1996 irradiation and DBA testing is reported in Reference 6.

The 1996 irradiation and DBA test report for UT-15 (Reference 6) states, on page 3 of 7:

“Testing was performed in accordance with ANSI N101.2 and ASTM D 3911 for DBA test requirements... Specific parameters were obtained from anticipated DBA and irradiation conditions of various facilities as described in the applicable FSAR’s.”

On page 5 of 7 of Reference 6, the following statement appears concerning DBA testing:

“Examination and evaluation was performed in accordance with ASTM D 3911...”

Again on page 5 of 7 of Reference 6, the following statement appears under Acceptance Criteria:

“Peeling shall not be permitted. Delamination shall not be permitted. Cracking is not considered a failure unless accompanied by delamination or loss of adhesion. Blisters shall be limited to intact blisters which are completely surrounded by sound coating bonded to the surface.”

These acceptance criteria conform to the 1995 version of ASTM D3911. These acceptance criteria do not conform to ANSI N101.2; specifically, ANSI N101.2 limits blistering to a few No. 4 blisters as defined in ASTM D 714 (Reference 7).

The review team next identified the following information contained in the 1996 irradiation and DBA test report (Reference 6).

1. Review of the 1996 test report revealed that testing of the Picco UT-15 coating material, Batch 1 and Batch 2 met or exceeded the acceptance criteria delineated in ANSI N 101.2-1972 and ASTM when applied on the following substrates; CZ-11SG, Dimetcote 6N, Ameron 90, Keeler and Long 6548/7107, Valspar/Mobil V78 Series and Plasite 7155.
2. Picco UT-15, Batch 3 met or exceeded the acceptance criteria delineated in ANSI N 101.2-1972 for all substrates referenced above with the exception of CZ-11SG.
3. Simulated pitting defects of 1/16 in (0.0625 in.) were introduced into selected test panels.
4. The 1996 test did not include Chemical Resistance Testing as defined in Section 5 of ANSI N5.12.

The review team reviewed a 1990 GPU-Oyster Creek DBA/Irradiation Test (Reference 8), which provides the results of testing of Brutem-15 (the predecessor of UT-15). Testing was performed by application of Brutem 15 over CZ-11SG. No post-irradiation and post-DBA defects were noted.

The review team reviewed a 2005 Duane Arnold Energy Center DBA/Irradiation Test (Reference 9). Testing was performed by application of UT-15 over CZ11SG. This testing was performed at the Owner's request as a result of a possible increase of the design peak temperature in the torus. Chemical Resistance Testing was not requested by Duane Arnold Site Engineering due to time and financial constraints, even though it was apparently invoked in the contract document.

Phase One Summary:

The review team, after conducting the Phase One reviews described above, holds the following opinions:

1. UT-15 coating is qualified per ASTM D3911-95 and ANSI N101.2-1974 for application as a repair coating over Dimetcote 6N, Ameron 90, Keeler and Long 6548/7107, Valspar/Mobil V78 Series and Plasite 7155.
2. UT-15 coating is qualified per ASTM D3911-95 for application as a repair coating over CZ11SG.
3. UT-15 coating is not qualified per ANSI N101.2 for application as a repair coating over CZ11SG.
4. UT-15 is qualified for repair of defects up to 1/16 in (0.0625 in.) in depth, subject to the limitations of 1, 2 and 3 above.

Since the completion and evaluation of this 2005 DBA/Irradiation Test the review team concluded that UESI has not provided and installed any Picco UT-15 coating to the DAEC facility. It was also noted that UESI had taken corrective action measures related to the Test Report. Technical errors noted in this 2005 DAEC DBA/Irradiation Test were identified and documented on a UESI Nonconformance Report (NCR # 2008-02). UESI Quality Assurance initiated QA records corrections and submitted to Mr. Eric Sorenson of the DAEC facility as an amendment to the existing DBA/Irradiation Test, and the NCR was closed.

This concludes Phase One of the review.

PHASE TWO Evaluation:

Phase Two of the evaluation began with a review of Final Engineering Reports, contract documents, job start and Order Entry Review forms of Nuclear Project work to determine the extent of use of Picco UT-15 on Nuclear Safety related projects.

UESI identified all nuclear coating project work involving Picco UT-15 performed since the 1996 DBA Test (Reference 6). This information is summarized in Table 1.

TABLE 1				
UESI Project # (Prefix) NUC-	Client / Facility	Scope of Services	UT-15 Coating Repairs Performed (Y/N)	Phase 3 Evaluation Required (Y/N)
2008101	SNC – Hatch	Torus desludging and inspection.	N	N
2007106	DTE -Fermi	Torus desludging, inspection & repairs	YES Plasite 7155	YES
2007105	GPC – Branch	Plant discharge repairs	N	N
2007104	ENW – Columbia Station	Wetwell / drywell coatings inspection	N BioDur	N
2007103	ENW – Columbia	Inspect Circ. Water Pump	N	N
2007102	Entergy – Pilgrim Station	Torus desludge, inspection & repairs	YES CZ-11 D3911	YES
2007101	SNC – Hatch	Torus desludge & inspection	N	N
2006105	INEEL	Isolation pool	N	N
2006104	TXU – Comanche Peak	Staff augmentation	N	N
2006103	NPPD –Cooper	Vendor support CST	N	N
2006102	SNC – Hatch	CST Plug removal	N	N
2006101	SNC – Hatch	Torus desludge & inspection	YES Ameron Dimetcote	YES
2005103	TXU – Comanche Peak	Staff augmentation	N	N
2005102	TXU – Comanche Peak	Staff augmentation	N	N
2005101	SNC – Hatch	Torus desludge & inspection	N	N

TABLE 1

UESI Project # (Prefix) NUC-	Client / Facility	Scope of Services	UT-15 Coating Repairs Performed (Y/N)	Phase 3 Evaluation Required (Y/N)
2004109	NMC - DAEC	DBA / Irradiation of UT-15	N	N
2004108	NPPD - Cooper	Staff augmentation	N	N
2004107	ENW - Columbia	Dive inspections, clean & removal	N BioDur 561	N
2004106	NMC - Duane Arnold	Coating repair and inspections	YES	YES
2004105	DTE - Fermi	Torus desludge and inspection	YES Plasite 7155	YES
2004104	TXU - Comanche Peak	Staff augmentation	N	N
2004103	TVA - Browns Ferry	Subcontract to UCC - Desludge & coating repairs	YES Valspar 78	YES
2004102	INEEL	Underwater cleaning	N	N
2004101	SNC - Hatch	Desludge and inspection	N	N
2003106	TXU - Comanche Peak	Staff augmentation	N	N
2003105	NMC - Monticello	Qualification of U/W coating repair systems	N	N
2003104	SNC - Hatch	Steam dryer diving services	N	N
2003103	ENW - Columbia	Torus desludge, inspection and repair as needed	N BioDur	N
2003101	SNC - Hatch	Torus desludge, inspection and RHR / CS dive	N	N
2002106	SNC - Vogtle	Fire Water Storage Tank Insp.	N	N
2002105	TXU - Comanche Peak	Staff Augmentation	N	N
2002104	GPU - Oyster Creek	Sub to UCC Coating repairs	YES Valspar 78	YES

TABLE 1

UESI Project # (Prefix) NUC-	Client / Facility	Scope of Services	UT-15 Coating Repairs Performed (Y/N)	Phase 3 Evaluation Required (Y/N)
2002103	TXU – Comanche Peak	Staff Augmentation	N	N
2002102	SNC – Hatch	Torus desludge, inspection and repair as needed	N	N
2002101	ENW – Columbia	Torus desludge, inspection and repair as needed	N	N
2001107	NPPD – Cooper	Coatings inspection	N Carboline 890	N
2001106	DTE – Fermi	Torus desludge, inspection and repair as needed	YES Part B – 00D063 Plasite 7155	YES
2001105	SNC - Hatch	Torus desludge, inspection and repair as needed	N	N
2001104	ENW – Columbia	Torus desludge, inspection and repair as needed	N Amercoat 90	N
2001103	Alliant – DAEC	Torus desludge, inspection and repair as needed	YES Part B – 00D063 CZ-11 N101.2	YES
2001102	TVA – Browns Ferry	Torus U2 inspect, desludge, repair	YES	YES
2001101	Entergy – Pilgrim	Torus desludge, inspection and repair as needed	YES CZ-11 D-3911	YES
2000106	NYPA – Fitzpatrick	SFP Interference removal	N	N
2000105	NYPA – Fitzpatrick	Torus desludge, inspection, strainer	N	N
2000104	SNC – Hatch	Torus desludge, inspection and repair as needed	N	N
2000103	NPPD – Cooper	Drywell coating inspection	N Carboline 890	N
2000102	SNC – Hatch	Torus desludge, inspection and repair as needed	N	N

TABLE 1

<i>UESI Project # (Prefix) NUC-</i>	<i>Client / Facility</i>	<i>Scope of Services</i>	<i>UT-15 Coating Repairs Performed (Y/N)</i>	<i>Phase 3 Evaluation Required (Y/N)</i>
2000101	DTE – Fermi	Torus desludge, inspection and repair as needed	YES Plasite 7155	YES
0990110	SGPAI	QPS Development	N	N
0990109	ComEd – Quad Cities	Torus desludge, inspection and repair as needed	N UT 790	N
0990108	IMPC – D.C. Cook	AEP Concrete Coatings	N	N
0990107	TXU – Comanche Peak	Coatings Inspection	N	N
0990106	ENW - WNP 2 (Columbia)	Wetwell diving services	N BioDur	N
0990105	ComEd – Dresden	Torus desludge and ECCS strainer inspection	N UT 790	N
0990104	Carboline Korea	Carboline DBA coordination	N	N
0990103	Boston Ed - Pilgrim	Torus desludge, inspection and repair as needed	YES Part B – 98E084 CZ-11 D3911	YES
0990102	SNC – Hatch	Torus desludge, inspection and repair as needed	N	N
0990101	ComEd – LaSalle	U2 Strainer replacement	N	N
0980112	ComEd – Dresden	Desludge and coating inspection	N UT 790	N
0980111	ComEd – LaSalle	U1 Strainer replacement	N	N
0980110	TVA – Browns Ferry Unit 3	Desludge, coating inspection, strainer	N	N
0980109	SNC – Hatch	Torus desludge, inspection and repair as needed	N	N
0980108	DTE – Fermi	Torus desludge, inspection and repair as needed	YES Plasite 7155	YES
0980107	GPU - Oyster Creek	Strainer replacements	YES Part B – 98E084	YES

TABLE 1

UESI Project # (Prefix) NUC-	Client / Facility	Scope of Services	UT-15 Coating Repairs Performed (Y/N)	Further Evaluation Required (Y/N)
0980106	WPPSS – (Columbia)	Strainer installation	N	N
0980105	SNC – Hatch	Mock-up strainer	N	N
0980104	IEU – DAEC	Desludge, inspection, strainer	YES Part B – 96H023	YES
0980103	SNC – Hatch	Torus desludge, inspection and repair as needed	N	N
0980102	ComEd – LaSalle	Desludge, inspection, strainer	N UT 790	N
0980101	GE Morris	Fuel basin liner	N	N
COM 097 (7328)	ComEd – Dresden	Desludge, coating, strainer	N Plastite 790	N
COM 097 (7321)	ComEd – LaSalle	ECCS Strainer installation	N	N
COM 097 (7320)	WPPSS – (Columbia)	Desludge, inspect, repair coatings	N	N
COM 097 (7315)	SNC – Hatch	Desludge, inspect, ECCS strainer	N	N
COM 097 (7314)	TVA – Browns Ferry	Diver services, ECCS strainer	N	N
COM 097 (7311)	PECO – Peach Bottom	U/W Torus inspection	YES Part B – 95H023	YES
COM 097 (7301)	NPPD – Cooper	Desludge, inspect, repair as needed	YES Part B – 96H023	YES
COM 097 (7299)	SNC – Hatch	Desludge, inspect, repair as needed	N	N
COM 097 (7298)	ComEd – LaSalle	Inspection and debris removal	N C790	N
COM 097 (7292)	ComEd – Quad Cities Unit 1	Torus desludge, inspect, repair	N C790	N
COM 096 (7291)	ComEd – Quad Cities Unit 2	Torus desludge, inspect, repair	N C790	N
COM 096 (7290)	Boston Ed – Pilgrim	Desludge, inspect, repair as needed	YES Part B – 96F077 CZ-11 D3911	YES
COM 096 (7287)	IES – DAEC	Desludge, inspect, repair as needed	YES Part B – 96F077 CZ-11 N101.2	YES
COM 096 (7286)	Boston Ed – Pilgrim	Strainer walk down	N	N

TABLE 1				
UESI Project # (Prefix) NUC-	Client / Facility	Scope of Services	UT-15 Coating Repairs Performed (Y/N)	Further Evaluation Required (Y/N)
COM 096 (7285)	DTE – Fermi	ECCS Strainer inspection	N	N
COM 096 (7278)	PECO – Limerick	Suppression pool desludge, inspect	N	N
COM 096 (7277)	TVA – Browns Ferry Unit 3	Diving services	UT-15 Issued to job.	Material sent to site but no record of use.
COM 096 (7275)	GPU – Oyster Creek	Torus desludge, inspect, repair	YES Part B – 96F077	YES
COM 096 (7273)	NYPA – Fitzpatrick	Coating inspection	N	N
096 (7270)	ComEd – LaSalle	Desludge, inspect suppression pool	N	N
096 (7269)	WPPSS (Columbia)	Desludge, inspect supp. pool	N	N
096 (7256)	TVA – Browns Ferry	Torus desludge, inspect, repair	N	N
096 (7255)	SNC – Hatch	Desludge, inspect, repair as needed	N Plastite C790	N
096 (7253)	WPPSS – (Columbia)	WNP-2 FME Suppression pool	N	N
096 (7252)	ComEd – Quad Cities	Unit 1 Torus desludge	N Plastite C790	N

Phase Two Summary:

As depicted by Table 1, UESI reviewed all available documentation related to the issue, storage and installation of its Picco UT-15 in Service Level I coating applications to commercial nuclear facility clients / purchasers. The review identified eight commercial nuclear facilities (Fermi, Pilgrim, Hatch, Duane Arnold, Oyster Creek, Browns Ferry, Peach Bottom and Cooper Stations) where Picco UT-15 repair coating had been applied to suppression pools/tori after the 1996 DBA / Irradiation Test results. The *Phase 3* review (scheduled to commence on April 3rd thru 5th timeframe based on availability of team members) was planned by the Review Committee to evaluate substrates applied, acceptability to defined site specific criteria and whether a Part 21 notification is required.

This concludes Phase Two of the review.

PHASE THREE Evaluation:

Review Team members convened as previously scheduled. After review of the previous charts, related Final Engineering Reports, Purchase Orders, Contract requirements, Order Entries and other associated documentation with the *Phase 2* evaluation, UESI identified eight commercial nuclear facilities (Fermi, Pilgrim, Hatch, Duane Arnold, Oyster Creek, Browns Ferry, Peach Bottom and Cooper Stations) where Picco UT-15 repair coating had been applied to the suppression pools/tori after 1996. *Table 2* below lists these facilities and indicates the review team recommendation for filing a 10CFR Part 21 report:

TABLE 2				
UESI Project Job Start / FER Numbers	Client Facility	Substrate UT-15 Applied Over	UT-15 Material Code Referenced (Contractual)	Part 21 Recommended? Yes / No (See Phase 3 Summary)
2004106 2001103 0980104 096 (7287)	Duane Arnold	CZ-11	Coatings to meet ASTM D 3911, ANSI N101.2 & ANSI N5.12	YES – Product supplied inadvertently as ANSI N101.2 qualified, but only met ASTM D- 3911.
097 (7301)	Cooper Station	CZ-11	Contract 96-75 Unavailable - FER noted repairs performed as directed by facility. No final C of C issued.	Indeterminate- Pit depth repairs exceeded DBA qualification limits for UT-15 at direction of facility personnel. Repair material was reviewed and evaluated “unqualified” according to client program.
097 (7311)	Peach Bottom Unit 3	CZ-11	P.O. 00270469 R/1A	Indeterminate - See Summary – Product was deemed unqualified due to no final examination performed per PECO directive.
2007102 2003102 2001101 0990103 096 (7290)	Pilgrim Station	CZ-11	Contract specifies Coatings to meet ASTM D-3911-95	NO – Product complies with D- 3911 when applied to CZ-11 substrate
2001102	Browns Ferry Unit 2 & 3	Valspar 78	Coatings to meet ASTM D 3911 and ANSI N101.2	NO – Product complies to D- 3911 and N 101.2 on substrate
2002104 0980107 096 (7275)	Oyster Creek	Valspar 78	Coatings to meet ASTM D 3911 and ANSI N101.2	NO – Product complies to D- 3911 and N 101.2 on substrate
2006101 0980103	Hatch	Ameron Dimetecote	Coatings to meet ASTM D 3911 and ANSI N101.2	NO – Product complies to D- 3911 and N 101.2 on substrate
2007106 2004105 2001106	Fermi	Plasite 7155	Coatings to meet ASTM D 3911 and ANSI N101.2	NO – Product complies to D- 3911 and N 101.2 on substrate

Phase Three Summary:

As determined by review team evaluation during the *Phase One* evaluation, the 1996 DBA/Irradiation Test revealed that Picco UT-15 met the qualification and acceptance requirements of ANSI N101.2 / ANSI N5.12 (both DBA/Irradiation and DBA criteria), when applied and tested on substrates Dimetcote 6N, Ameron 90, K&L 6548/7107, Valspar/Mobil V78 Series and Plasite 7155. On this basis, UESI is confident that there is no potential impact to safety with regard to Service Level I protective coating Picco UT-15 provided and installed at nuclear facilities Fermi, Hatch, Oyster Creek and Browns Ferry meets the acceptance requirements (ANSI N101.2 / ASTM D-3911) defined by contractual documents.

Affected plants with CZ-11 Substrate are addressed as follows:

FPL- Duane Arnold Energy Center

The Duane Arnold Energy Center facility has been determined to contain CZ-11 substrate and Picco UT-15 material was installed under the auspices of ANSI N101.2 / N5.12, and therefore it is determined that the potential Part 21 applies to this facility.

FPL-DAEC's Garth Dolderer is aware of finding, as he was the NUPIC member that made UESI aware that the potential for a Part 21 existed. At conclusion of Phase Three evaluation a potential Part 21 notification was placed to FPL-DAEC's Eric Sorenson. Follow up email notification to be sent.

NPPD- Cooper Station

The Cooper Station facility has been determined to contain CZ-11 substrate, however a review of the Final Engineering Report (097) 7301 supplied to Cooper at the completion of UT-15 Coating Repairs does not specify the code requirements the product was required to satisfy (ANSI N101.2 and/or ASTM D-3911). The review team attempted to review the Nebraska Public Power Contract (# 96-75) referenced in the report, but was unable to locate the business record's copy (over 10 years sent to alternate storage and not considered permanent QA records).

A review of the FER indicates that UESI personnel were directed by Cooper Station personnel to perform repairs to pit depths in the torus vapor and U/W regions in excess of 60 mils (0.060"). It should be noted that the depth of coating qualification per the DBA Test (induced defects) for Picco UT-15 is 0.0625" and may explain why a post installation Certificate of Conformance was not issued with this Final Engineering Report. Records indicate that UESI (S.G. Pinney at the time) performed a total of 1,454 repairs (approximately 40 sq. ft) within all 16 bays of the Cooper Station Torus. As a courtesy, UESI has notified NPPD-Cooper personnel (Russ Wenzl and Joshua Swele via phone and email confirmation) of a potential Part 21 that they will need to evaluate to see if it is applicable to their facility.

Exelon- Peach Bottom Unit 3

A review of the Coatings Material Certificate of Conformance issued to Peach Bottom Unit 3 revealed that the coatings were not designated a "Qualified Repair" due to the fact that PECO Management made a determination to eliminate the UESI (SG Pinney at the time) Final Visual Examination (DFT and defects inspection of final coat) due to time constraints.

UESI contacted Dan Testa and Paul Macuiba of Exelon and informed them of finding and evaluation results via phone conversation and email confirmation. On the basis that the coating repairs performed were not considered qualified repairs by UESI, Exelon should evaluate to validate whether coatings were properly documented according to their quality program.

Phase Three summary: The review team determined that the only plant definitively affected by a potential Part 21 is the Duane Arnold Energy Center facilities. 3 other facilities where Picco UT-15 was installed over a Carboline Carbo-Zinc CZ-11 substrate either met the contractual scope (ASTM D-3911) or should have been included in plant inventory of unqualified coatings, and should be evaluated by those affected facilities to validate.

Further information that may be helpful to these affected facilities will be found in the next section of this evaluation report titled "***Review Team Conclusions and Recommendation***"

This concludes *Phase Three* of the review.

Added Note:

On the basis of the Phase One, Two and Three evaluations, an official notification of a Part 21 was issued to the Nuclear Regulatory Commission via facsimile on Wednesday, April 9, 2008 and validated as received by telephone concurrence to the NRC Operations Center. A copy of this correspondence has been attached (see Attachment 2) to this report.

REVIEW TEAM CONCLUSIONS AND RECOMMENDATIONS

Review of Design Basis Accident Reports revealed that the post DBA/Irradiation test acceptance criteria for blistering was exceeded on 4 of 16 test panels tested on CZ-11 substrate, when evaluated to the requirements of ANSI N101.2-1972. Blisters and adjacent repair coating were noted as "sound and fully intact", which complies with ASTM D-3911-95, but the size of blisters was documented as size #2 and larger. ANSI N101.2-1972 requires that blister size be limited to few, size #4 and smaller. Picco UT-15 satisfactorily passed all other acceptance criteria established in ANSI N101.2-1972 (flaking, cracking, delamination, peeling and chalking).

Safety Hazard: On the basis of the UESI evaluation, while the Picco UT-15 coating was inadvertently presented as ANSI N101.2/N5.12 qualified over Carboline Carbo-Zinc 11 substrate, the results of the irradiation and DBA testing confirm that UT-15 remained sound and fully intact with no other coating failures noted. UESI is confident in assessing that UT-15 poses no substantial safety hazard, as it is highly unlikely to contribute to the ECCS debris source term inventory of coatings debris.

Recommendations: As the seller and installer of the UT-15 coating material, UESI cannot adequately evaluate the product for purchaser/affected licensee with regard to facility specific Safety Analysis requirements. As referenced in Part 21.21(3)(ii)(b) UESI is informing licensees (within 5 days of this determination) where Picco UT-15 was sold and installed on CZ-11 substrate under the auspices of ANSI N101.2 so that they may properly evaluate in accordance with their 10CFR50 App. B quality program. Again it is emphasized that the key elements of a Service Level I repair coating, adhesion and intact, were acceptable tributes of all DBA tests conducted on Picco UT-15.

UESI work procedures shall be revised to reflect maximum pit depth allowable to be considered "qualified" coating. Amended records to the DBA/Irradiation Test results should include maximum pit depth data also.

The final draft of the evaluation was completed on Tuesday, April 8, 2008 and forwarded to the UESI / GPI president, as defined in the UESI QA Manual and 10 CFR 21.

Based on the evaluation performed by the review team as described herein, a report in accordance with 10 CFR PART 21--REPORTING OF DEFECTS AND NONCOMPLIANCE should be transmitted to the US Nuclear Regulatory Commission by Mr. Steve Greenman, President, Greenman-Pedersen, Inc. or his designee concerning the findings related to UESI Nonconformance Report #2008-01 and NUPIC Audit Finding 08.03.SPAFL.08.1 Finding No. 1.

The notification requirements of 10 CFR Part 21 related to a director of corporate officer are reproduced on Attachment 1.

This concludes the Conclusion and Recommendations Section of the review.

REVIEW TEAM REFERENCES:

1. UESI Nonconformance Report (NCR) # 2008-01
2. NUPIC Audit 08.03.SPAFL.08.1 (Joint Audit # 20119)
3. ASTM D-3911-95, "Standard Test Method for Evaluating Coatings Used in Light-Water Nuclear Power Plants at Simulated Design Basis Accident (DBA) Conditions"
4. ANSI N101.2-1972, "Protective Coatings (Paints) for Light Water Nuclear Reactor Containment Facilities"
5. ANSI N5.12-1974, "Protective coatings (paints) for the nuclear industry"
6. Final Engineering Report "Final Report for Design Basis Accident (DBA) and Irradiation Testing of Coating Repair Materials for Use in Boiling Water Reactor Suppression Chamber Immersion Areas" dated 16 December 1996
7. ASTM D714-87(1994) e1 "Standard Test Method for Evaluating Degree of Blistering of Paints"
8. Final Engineering Report "Coating Systems Tested on Steel Panels for Irradiation and Design Basis Accident (DBA) Criteria Requirements / Duane Arnold Energy Center / Iowa Electric Light and Power Company / Cedar Rapids, Iowa / Report No. 2" dated 1/16/1990
9. Final Engineering Report No. NUC2004109, "Irradiation and Design Basis Accident (DBA) Qualification Testing of Repair Coatings fro Duane Arnold Energy Center" dated December 20, 2005.

ATTACHMENT 1

"Notification requirements of 10 CFR Part 21 related to a director of corporate officer"

(3) Notification required by paragraph (d)(1) of this section must be made as follows --

(i) Initial notification by facsimile, which is the preferred method of notification, to the NRC Operations Center at (301) 816 - 5151 or by telephone at (301) 816 - 5100 within two days following receipt of information by the director or responsible corporate officer under paragraph (a)(1) of this section, on the identification of a defect or a failure to comply. Verification that the facsimile has been received should be made by calling the NRC Operations Center. This paragraph does not apply to interim reports described in § 21.21(a)(2).

(ii) Written notification to the NRC at the address specified in § 21.5 within 30 days following receipt of information by the director or responsible corporate officer under paragraph (a)(3) of this section, on the identification of a defect or a failure to comply.

(4) The written report required by this paragraph shall include, but need not be limited to, the following information, to the extent known:

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

(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.

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

(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.

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

(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.

(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.

(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.

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

(5) The director or responsible officer may authorize an individual to provide the notification required by this paragraph, provided that, this shall not relieve the director or responsible officer of his or her responsibility under this paragraph.

(e) Individuals subject to this part may be required by the Commission to supply additional information related to a defect or failure to comply. Commission action to obtain additional information may be based on reports of defects from other reporting entities.

TRANSMISSION VERIFICATION REPORT

TIME : 04/09/2008 10:55
 NAME :
 FAX :
 TEL :
 SER.# : BROM5J390260

DATE, TIME 04/09 10:53
 FAX NO./NAME 13018165151
 DURATION 00:01:36
 PAGE(S) 04
 RESULT OK
 MODE STANDARD
 ECM

GREENMAN-PEDERSEN, INC.
UNDERWATER ENGINEERING SERVICES, INC.
INSTRUMENT SALES INC. a GPI Company

Mailing Address

1326 SW Biltmore St.
 Port St. Lucie, FL 34983-2958
 Ph: 772-337-3080 Fax: 772-337-0294

FACSIMILE COVER SHEET

TO:	<i>NRC</i> OPERATIONS CENTER
COMPANY:	NUCLEAR REGULATORY Comm.
FAX:	(301) 816-5151
PHONE:	(301) 816-5100
FROM:	CHRIS GRAHAM - QA MANAGER
DATE:	04-09-2008
PAGES INCLUDING COVER PAGE:	4

MESSAGE:

INITIAL NOTIFICATION OF POTENTIAL PART 21
RELATING TO TORUS IMMERSION/VAPOR PHASE
COATINGS -



UNDERWATER ENGINEERING SERVICES, Inc.
1326 S.W. Biltmore Street
Port Saint Lucie, FL 34983

ATTACHMENT 2:
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Subject: 10CFR Part 21, Initial Notification of Potential Safety Related
Noncompliance Deviation

Notification By: Underwater Engineering Services, Inc. (Formerly S.G. Pinney and
Associates -- UES)

Phone: (772) 337-3116 (x114 Chris Graham), Fax: (772) 337-0294

Based on NUPIC Audit No. 08.03SPAFL.08.1, Finding No. 1 a review of Historical Design Basis Accident (DBA) / Irradiation Test Results dated 12/16/1996, and subsequent internal investigation and evaluation, it has been determined that UESI Proprietary Underwater Coating Picco UT-15, when applied over the substrate Carboline CZ-11 only, does not meet all acceptance criteria of ANSI N101.2-1972 and ANSI N5.12-1974 for DBA qualified Coating Service Level I repair material.

The evaluation concluded that while Picco UT-15 is fully qualified to ASTM D-3911-95 for all Service Level I and Torus/Immersion Area coating repairs on all substrates tested, use of the product should have been limited to ANSI N 101.2-1972 qualified on all substrates tested with the exception of CZ-11.

Beginning immediately, UESI will cease to market and install its product as ANSI N101.2-1972 / N5.12-1974 irradiation and DBA qualified when applied as a repair material over Carboline CZ-11 substrate.

The following information is provided as required by 10 CFR 21.21(d) (4):

(i) Name and address of individual informing the commission.

Chris Graham, UESI Quality Assurance Manager
Robert J. Walcheski, UESI Assistant Vice President and Technical Manager
Jon R. Cavallo, P.E. PCS, Vice President of GPI affiliate Corrosion Control Consultants & Labs, Inc, UESI Certified Level III Coatings Inspector, registered Professional Engineer, ASTM D-33 Nuclear Coatings Committee Chairman, SSPC certified Protective Coatings Specialist.

Underwater Engineering Services, Inc. (formerly SG Pinney & Associates-UES)
1326 SW Biltmore St.
Port Saint Lucie, FL 34983
Ph. 772-337-3116

(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 the defect.

Duane Arnold Energy Center – Picco UT-15 stating ANSI N101.2 coating repairs performed in CZ-11 Torus per Final Engineering Report's (FER) SGPAI 096 (7287), 0980104, 2001103 and 2004106. DAEC has been contacted and issued CAP 0560444 (Eric Sorenson).

Facilities with CZ-11 substrate and repairs performed with Picco UT-15, but may be exempt from Part 21 impacts are as **Noted**:



Underwater Engineering Services, Inc.

UNDERWATER ENGINEERING SERVICES, Inc.
1326 S.W. Biltmore Street
Port Saint Lucie, FL 34983

ATTACHMENT 2
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(ii) Identification (continued)

Note 1: Cooper Nuclear Station- Picco UT-15 stating coating repairs performed in CZ-11 Torus per SGPAI (Final Engineering Report) FER 097 (7301) – Contract # 96-75. Code compliance not referenced in Final Engineering Report nor C of C issued stating ANSI N101.2 conformance. Per NPPD Cooper station personnel, coatings were classified “unqualified” based on revised Drywell and Wetwell curves. NPPD (Joshua Swele. Russ Wenzl) has been advised of finding as a courtesy.

Note 2: UESI (under the name of S.G. Pinney and Associates - UES) has provided UT-15 coating repairs for the Pilgrim Nuclear Station under the contract conditions of ASTM D-3911-95, which product is shown to satisfy the requirements of on CZ-11 substrate, therefore they are exempt from this Part 21 notification, but PNS has been advised of the finding as a courtesy.

Note 3: UESI (under the name of S.G. Pinney and Associates - UES) has provided UT-15 coating repairs for the Peach Bottom Nuclear facility, but the coatings material was determined to be considered not a “Qualified Repair” due to the SGPAI-UES Inspectors not being provided opportunity to perform a final visual examination of the applied coatings due to time constraints. On this basis, PECO must evaluate impact of this Part 21 notification, and have been advised (Dan Testa, Paul Macuiba) of the finding as a courtesy.

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

Underwater Engineering Services, Inc
1326 SW Biltmore St.
Port Saint Lucie, FL 34983
Ph. 772-337-3116

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

Review of Design Basis Accident Reports revealed that the post DBA/Irradiation test acceptance criteria for blistering was exceeded on 4 of 16 test panels tested on CZ-11 substrate, when evaluated to the requirements of ANSI N101.2-1972. Blisters and adjacent repair coating were noted as “sound and fully intact”, which complies with ASTM D-3911-95, but the size of blisters was documented as size #2 and larger. ANSI N101.2-1972 requires that blister size be limited to few, size #4 and smaller. Picco UT-15 satisfactorily passed all other acceptance criteria established in ANSI N101.2-1972 (flaking, cracking, delamination, peeling and chalking).

Safety Hazard: On the basis of the UESI evaluation, while the Picco UT-15 coating was incorrectly presented as ANSI N101.2/N5.12 qualified over Carboline Carbo-Zinc 11 substrate, the results of the irradiation and DBA testing confirm that UT-15 remained sound and fully intact with no other coating failures noted. UESI is confident in assessing that UT-15 poses no substantial safety hazard, as it will not contribute to the ECCS debris source term inventory of coatings debris. As the seller and installer of the UT-15 coating material, UESI cannot adequately evaluate the product for purchaser/affected licensee with regard to facility specific Safety Analysis requirements. As referenced in Part 21.21(3)(ii)(b) UESI is



UNDERWATER ENGINEERING SERVICES, Inc.
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informing licensees (within 5 days of this determination) where Picco UT-15 was sold and installed on CZ-11 substrate under the auspices of ANSI N101.2 so that they may properly evaluate in accordance with their 10CFR50 App. B quality program.

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

NUPIC identified that a potential problem of unqualified coatings exists with results of the 1996 DBA/Irradiation Test on February 29, 2008. UESI initiated Nonconformance Report NCR # 2008-01, insured that no coating applications was scheduled in Nuclear facilities requiring adherence to ANSI N101.2-1972, notified parent company President of potential Part 21 and under his directive began investigation.

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

Duane Arnold Energy Center: undetermined sq. ft.

(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.

UESI Quality Assurance shall issue a Records Correction Notice to amend the DBA/Irradiation Test dated 12/16/1996. This record will limit the use Picco UT-15 on substrate material Carboline Carbo-Zinc 11 under the auspices of ASTM D-3911-95 only. The records correction shall also amend the report to indicate acceptance of product test to ANSI N101.2 for other DBA/Irradiation Tested substrates. This action item is planned to be completed within 60 days of this report.

(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.

Picco UT-15 is DBA qualified for Service Level I coatings applications in accordance with ASTM D-3911-95 and subsequent revisions to date.

Picco UT-15 is DBA qualified for Service Level I coatings applications in accordance with ANSI N101.2-1972, excluding application on Carboline CZ-11 substrate.

Picco UT-15 maintains excellent adhesion and resistance to peeling, cracking, flaking and delamination, and, based on irradiation and DBA test results, will not contribute to the coatings component of the ECCS debris source term.

If you have any questions or need additional information concerning this notification, please contact Chris Graham, UESI QA Manager or Robert Walcheski, UESI Assistant VP and Technical Manager, at (772) 337-3116.

Robert Walcheski 4-08-08