<u>Page 1</u>

Part 21 (I	PAR)		Event	# 46939
	APPLIED TECHNICAL SERVICES, IN SHAW AREVA MOX SERVICES, LLC		09:42 (EDT) 07:30 (EDT)	
Region: City: County: State:	MARIETTA	Docket #: Agreement State: License #:	Yes	
HQ Ops	ified by: CATHY MANSFELD Officer: JOE O'HARA y Class: NON EMERGENCY Section: UNSPECIFIED PARAGRAPH	Notifications:	JOHN ROGGE STEVEN RUDISAIL JULIO LARA JACK WHITTEN PART 21 GRP	R1DO R2DO R3DO R4DO

PART 21 NONCOMPLIANCE TO PERCENT ELONGATION REQUIREMENTS PER ASTM CODE

Material used to fabricate standards used in ultrasonic testing failed to meet percent elongation standards per the code. Applied Technical Services has notified Areva. It is believed these standards were shipped to France from Areva in Aiken, S.C.

NCR No. 2011-001; Corrective Action #2011-285

*** UPDATE FROM JIM HILLS TO JOE O'HARA VIA FAX AT 1853 EDT ON 7/13/11 ***

Applied Technical Services determined that the questionable values did not affect the functionality of the standard.

Notified R1DO(Dwyer), R2DO(Freeman), R3DO(Bloomer), R4DO(Cain), and the part 21 Group via e-mail.

JE2U NMSS

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Received at: 07/13/2011 18:56

07/13/2011 18:53 FAX 7704246415



APPLIED TECHNICAL SERVICES, INCORPORATED

1049 Triad Court Marietta, Georgia 30062 (770) 423-1400 Fax # (770) 514-3299 www.atslab.com

FACSIMILE COVER LETTER

From:Cathy Mansfield-QA DirectorPhone:770-423-1400Fax:770-424-6415Direct:678-444-2812Email:cmansfield@atslab.com

To:NRC Operations CenterFax:301-816-5151

Pages: **8**(IF TRANSMISSION IS INCOMPLETE, PLEASE CALL 770-423-1400) Subject: Written notification of completed investigation of NCR 2011-01 Part 21 reporting

Please review attached Noncompliance report concluding the investigation performed by Applied Technical Services, Inc.

If further information needs to be provided, please use the contact information listed above.

THE INFORMATION CONTAINED IN THIS FACSIMILE MAY BE CONFIDENTIAL AND INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFIY US IMMEDIATELY BY TELEPHONE AND RETURN THIS ORIGINAL MESSAGE TO US AT THE ADDRESS ABOVE VIA THE U.S. POSTAL SERVICE.

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

Wednesday, July 13, 2011

Subject: NCR #-2011-01 Applied Technical Services, Inc. Shaw Areva Mox, LLC PO 10888-P-8098 Closure of Part 21-30 day Written Notification: UT Standards; Round 260mm and Sheet 175mm

Reference: 1

1. NCR 2011-01 Part 21 Notification to NRC

- 2. Letter from Semih Genculu to ATS Quality Director dated 7/13/11
- 3. Applied Technical Services, inc Test Reports Reference DAMC 160096-2 rev 1
- 4. Applied Technical Services, inc Test Reports Reference DAMC 160096-17 rev 2

Dear Sir/Ma'am:

Applied Technical Services, inc submitted an interim report (reference 1), in accordance with the requirements of 10 CFR Part 21, regarding an evaluation of report-ability which could not be evaluated due to inability to determine if safety related. The deviation being evaluated pertains to the questionable elongation values of UT Standards; Round 260mm and Sheet 175mm. This deviation was designated as Part 21 NCR #2011-01.

The purpose of this letter is to close the report. The investigation performed determined that the questionable elongation values (reference 3 and 4) did not affect the functionality of the standard as explained in a memo to the ATS QA Director (reference 2).

If you have any questions, please feel free to contact me or Semih Genculu, Vice President at 770-423-1400.

Sincerely,

Jim J Hills, President

Customer Notification of Noncompliance per 10 CFR Part 21

NCR NO .:

CORRECTIVE ACTION #

DATE

This is to inform you that the following noncompliances were discovered in regards to the below mentioned order/contract. Corrective Action is being implemented to correct the root cause of this discrepency. Completed Corrective Action will be forwarded with Final Notice.

NOTIFICATION CLASSIFICATION

Initial Form (notify customer and NRC within 2 days via facsimile)*

Written Notification - Include supporting documentation, i.e., Corrective Action, Root Cause analysis, analytical documentation, etc (notify customer and NRC within 30 days in written format)*

Interim Notice-(notify customer and NRC within 60 days in written format)*

Unable to Evaluate Notice (notify customer within 5 days via facsimile)*

*refer to 10 CFR Part 21 posted on ATS Intranet for fax # and contact information

COMPONENT SUPPLIER

Customer: Shaw Areva Mox Services, LLC

Contact: Dennis Ivey

Customer PO#/Contract: 10888-P-6098

Component: UT Standards; Round 260 mm and Sheet 175 mm

DESCRIPTION OF NONCOMPLIANCE UT Standards Round 260 MM and Sheet 175 mm

Nature of Defect/Deviation Attribute; Elongation. Specification-none specified. Actual 12% Safety hazard to the extend known: No safety hazard-attribute will not affect functionality of component

Estimated time to Corrective Action: 0 days

Quality Assurance Director/Authorized Employee

Advice: Use as is

Basic Component

Cathy Mansfield Cathy Mansfield AUTHORIZATION

<u>7/13/11</u> Date

CC: President Vice President Department Manager



1049 Triad Court, Marietta, Georgia 30062 • (770) 423-1400 Fax (770) 424-6415

July 13, 2011

To: ATS QA Director

By: Semih Genculu, PE

Re: ATS Job D160096

The material specified by MOX was UNS R50400, per ASTM B348, Standard Specification for Titanium and Titanium Alloy Bars and Billets. The chemical and mechanical properties were verified by ATS to determine conformance to listed requirements. The mechanical properties on the 11" diameter raw material to fabricate standards 260mm and 175mm were found to comply with the tensile and yield values listed in ASTM B348 but were low on the % elongation. The ASTM standard states that the mechanical properties, listed in Table 2, applies to material up to 3" in thickness with a maximum cross sectional area of 10 in² and that properties for larger sections are to be negotiated between the manufacturer and the purchaser. The reason for this statement is because typically tensile requirements cannot be achieved in larger sections. ATS testing revealed this statement to be true as a lower elongation value (12% versus 20%) was obtained on the subject bar, which was 11" in diameter (approximately 95 in²).

The two reference blocks that were manufactured from the subject raw material are reportedly going to be utilized as calibration standards during ultrasonic testing. The lower percent elongation value will not have a material affect on the performance of the standards as evidenced in ASME Boiler and Pressure Vessel Code Section V, Article 5, Paragraph T-534, which allows a variety of grades with varying mechanical properties to be used as a calibration standard. Moreover, this material diameter of 11" does not have a specified required elongation value as noted in ASTM B348, Table 2, Note (A).

Semih Genculu, P.E.

5. Len

Semih Genculu, P.E. 2011.07.13 16:55:04 -04'00'

Vice President & Materials Testing Manager

Professional Engineers and Scientists Design • Consulting • Testing and Inspection Members in AAFS, ACS, ASM, ASME, ASNT, ASQC, ASTM, AWS, FSCT, LAAI, NACE, NCSL, NFPA, SAFS, TAPPI GEORGIA SOCIETY OF PROFESSIONAL ENGINEERS, NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS



CI	HEMIC	AL TES	T REPO	DRT		
Ref . DAMC 160096-2 Rev.1*	Date July	/ 13, 2011		Page	1 0	of 2
Customer: <u>Shaw – Areva Mox Se</u> 50440 Beaumont – Ha			ie Route du N Attent		r Descamp	caux
Purchase Order #: 10888-P-6098 Material Designation: ASTM B:	· ·			······································		·
Special Requirement: <u>N/A</u> Lab Comment: <u>Analyzed by incr</u>				ic emission to	echniques.	
		Test Resu				
	Соп	nposition: W	eight %		[
Identification	Fe	0	С	N	н	Ti
ASTM B348 Gr. 2 Ti chemical requirements ⁽¹⁾	0.30 Max.	0.25 Max.	0.08 Max.	0.03 Max.	0.015 Max.	Rem.
Round Bar 260 mm	0.10	0.16	0.03	0.01	0.003	Rem.
			Sample	Mccts Requ	irements	k

(1) ASTM B348-09

900 .

Prepared by:

Approved by:

2. Mola T. Gholar Senior Chemist O. M. McKay D. M. McKay Supervisor

This report may not be reproduced except in full without the written approval of ATS. This report represents interpretation of the results obtained from the test specimen and is not to be construct as a guarantee or warranty of the condition of the entire material lot. If the method used is a customer provided, non-standard test method. ATS does not assume responsibility for validation of the method. Measurement uncertainty available upon request where applicable.



1049 Triad Court, Marietta. Georgia 30062 • (770) 423-1400 Fax (770) 424-6415

		TE	NSILE .	TEST F	EPOR	Г			
Ref. DAMC 16	0096-2 Rev.	1* D a	te July I	3, 2011			Page 2	2 of	2
Customer: Sha	w – Areva N	Aox Service	es, LLC at N	Aecachimi	e Route du	Millecent	50440 Be	aumont -	- Hague
Cec	lex France		,	Attenti	on: Oliv	vier Descar	mpeaux		
Purchase Order	#: <u>10888-F</u>	<u>-6098</u> Pa	rt #/Name:	Round	Bar 260 m	m			
Material Design	ation: <u>AS</u>	TM B348 (Gr. 2 Ti, Ht	<u># CN7484</u>	Specir	nen Type:	Round	Reduced	Section
Tensile Test Equ	ipment:	Tinius Ols	en S/N:	21120:	5	_ Cal. D	ue: <u>06/1</u>	1	
Extensometer:		Tinius Ols	en S/N:	211202	2	_ Cal. Di	ue: _06/1	1	
Lab Comment:	Tested per	ASTM E8-	09 Strain R	ate: before	yield, 0.00	03-0.007 ii	1/in/min; a	after yield	ł,
	0.4 in/min	cross head	speed						
		<u></u>	Tes	t Result		. .			
Specimen Identification	Thickness, in.	Diameter or Width in.	Area, in. ²	Ultimate Load, lbs.	0.2% Offset Load, lbs.	Tensile Strength, psi	Yield Strength, psi	Elong. % in 2 in.	Red. in Area, %
260 mm		0.5008	0.1970	12,244	9,551	62,000	48,500	12	38
ASTM B348- 09 Gr. 2				······		See Rev. 1 Note below			
						<u> </u>			<u> </u>
									<u> </u>
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·····									
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*Rev. 1-Revised	to remove n	onconform	ance and de	elete minir	num requir	ements in	accordan	ce with l	Note (A)

of Table 2, ASTM B348-09.

Prepared by J. Sutton, E. I. T. Materials Testing Approved by Shawn Murray Group Manager

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APPLIED TECHNICAL SERVICES, INCORPORATED

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Cł	IEMIC/	AL TES	REPO	DRT		
Ref. DAMC 160096-17 Rev 2*	Date	July 13, 2011		Page	1 o	f 2
Customer: <u>Shaw – Areva Mox Ser</u> 50440 Beaumont – Ha			Route du N Attent		r Descamp	eaux
Purchase Order #: 10888-P-6098						
Material Designation: ASTM B3	– 48 Gr. 2 Ti,	Ht # CN7484				
Special Requirement: N/A						
Lab Comment: Analyzed by iner	t gas fusion,	combustion a	d ICP atom	ic emission te	chniques.	
		Test Resul	ts			
	Con	nposition: We	ight %	·····		
Identification	Fe	0	С	N	H	Ti
ASTM B348 Gr. 2 Ti chemical requirements ⁽¹⁾	0.30 Max.	0.25 Max.	0.08 Max.	0.03 Max.	0.015 Max.	Rem.
Round Bar 175 mm	0.10	0.16	0.03	0.01	0.003	Rem.
						
			Sample	Meets Requi	rements	

(1) ASTM B348-09

SO 900

Prepared by:

Approved by:

2 / The da T. Gholar Senior Chemist D. M. McKay Supervisor

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		Date Ju	ly 13, 2011			Page 2	2 of	22
w – Areva N	fox Service	es, LLC at	Mecachimi	e Route du	Millecent	50440 Be	aumont -	- Hague
ex France			Attenti	on: Oliv	ier Desca	mpeaux		
: <u>10888-P</u>	<u>-6098</u> Pa	rt #/Name:	Round	Bar 175 m	m			
tion: <u>AS</u>	TM B348 (Gr. 2 Ti, H	t # CN7484	Specir	nen Type:	Round	Reduced	Sectior
ipment:	Tinius Olse	en S/N	:	5	_ Cal. D	ue: <u>06/1</u>	1	
	Tinius Olse	en S/N	: 211202	2	Cal. Di	ue: <u>06/1</u>	1	
Tested per	ASTM E8-	09 Strain I	Rate: before	e yield, 0.00)3-0.007 ii	n/in/min; a	after yield	1,
0.4 in/min	cross head	speed						
		Tes	st Result	s				<u></u>
Thickness, in.	Diameter or Width in.	Агса, iл. ²	Ultimate Load, lbs.	0.2% Offset Load, lbs.	Tensile Strength, psi	Yield Strength, psi	Elong. % in 2 in.	Red. in Aree, %
	0.5008	0.1970	12,244	9,551	62,000	48,500	12	38
					Se	e Rev. 21	Note belo	w
		·····						
		<u> </u>						
	ex France : <u>10888-P</u> tion: <u>AS'</u> ipment: <u></u> <u>Tested per</u> 0.4 in/min Thickness,	ex France : <u>10888-P-6098</u> Pa tion: <u>ASTM B348 (</u> ipment: <u>Tinius Olse</u> Tinius Olse Tested per ASTM E8- 0.4 in/min cross head Thickness, Diameter or Width in. Diameter	ex France : 10888-P-6098 Part #/Name: tion: ASTM B348 Gr. 2 Ti, He ipment: Tinius Olsen S/N Tinius Olsen S/N Tested per ASTM E8-09 Strain H 0.4 in/min cross head speed Thickness, Diameter Area, in. or Width in. ²	ex France Attenti : 10888-P-6098 Part #/Name: Round tion: ASTM B348 Gr. 2 Ti, Ht # CN7484 ipment: Tinius Olsen S/N: 21120: Tinius Olsen S/N: 21120: Tested per ASTM E8-09 Strain Rate: before 0.4 in/min cross head speed Test Result Thickness, Diameter or Width in. ² Ultimate Load, lbs.	ex France Attention: Oliv :: 10888-P-6098 Part #/Name: Round Bar 175 m tion: ASTM B348 Gr. 2 Ti, Ht # CN7484 Specin ipment: Tinius Olsen S/N: 211205 Tinius Olsen S/N: 211202 Tested per ASTM E8-09 Strain Rate: before yield, 0.00 0.4 in/min cross head speed Test Results Thickness, Diameter Area, Ultimate 0.2% In. In. Ibs. Load, 1bs. Offset	ex France Attention: Olivier Descar :: 10888-P-6098 Part #/Name: Round Bar 175 mm tion: ASTM B348 Gr. 2 Ti, Ht # CN7484 Specimen Type: ipment: Tinius Olsen S/N: 211205 Cal. Dr Tinius Olsen S/N: 211202 Cal. Dr Tested per ASTM E8-09 Strain Rate: before yield, 0.003-0.007 in 0.4 in/min cross head speed Test Results Thickness, Diameter Area, Ultimate 0.2% Tensile In. or Width in. ² Load, Offset Strength, Ibs. Load, lbs. psi — 0.5008 0.1970 12,244 9,551 62,000	ex FranceAttention:Olivier Descampeaux::10888-P-6098Part #/Name:Round Bar 175 mmtion:ASTM B348 Gr. 2 Ti, Ht # CN7484Specimen Type:Round Iipment:Tinius OlsenS/N:211205Cal. Due:06/1Tinius OlsenS/N:211202Cal. Due:06/1Tested per ASTM E8-09 Strain Rate:before yield, 0.003-0.007 in/in/min; a0.4 in/min cross head speedTest ResultsThickness, in.Diameter or Width in. ² Ultimate Load, Ibs.0.2% Offset Load, Ibs.Yield Strength, psi0.50080.197012,2449,55162,00048,500	I0888-P-6098 Part #/Name: Round Bar 175 mm tion: ASTM B348 Gr. 2 Ti, Ht # CN7484 Specimen Type: Round Reduced ipment: Tinius Olsen S/N: 211205 Cal. Due: 06/11 Tinius Olsen S/N: 211202 Cal. Due: 06/11 Tinius Olsen S/N: 211202 Cal. Due: 06/11 Tested per ASTM E8-09 Strain Rate: before yield, 0.003-0.007 in/in/min; after yield 0.4 in/min cross head speed Test Results Thickness, Diameter Area, Ultimate 0.2% Tensile Yield Elong. in. or Width in. ² Load, Offset Strength, Strength, % in 2 in.

*Rev. 1-Revised to include Nonconformance Report.

Rev. 2-Revised to remove nonconformance and delete minimum requirements in accordance with Note (A) of Table 2, ASTM B348-09. h

Prepared by: Testing Materials Approved by: Shawn Murray Group Manager

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