

Part 21 (PAR)

Event # 46939

<b>Rep Org:</b> APPLIED TECHNICAL SERVICES, INC		<b>Notification Date / Time:</b> 06/09/2011 09:42 (EDT)	
<b>Supplier:</b> SHAW AREVA MOX SERVICES, LLC		<b>Event Date / Time:</b> 04/13/2011 07:30 (EDT)	
<b>Last Modification:</b> 07/13/2011			
<b>Region:</b> 1	<b>Docket #:</b>		
<b>City:</b> MARIETTA	<b>Agreement State:</b>	Yes	
<b>County:</b>	<b>License #:</b>		
<b>State:</b> GA			
<b>NRC Notified by:</b> CATHY MANSFELD	<b>Notifications:</b> JOHN ROGGE	R1DO	
<b>HQ Ops Officer:</b> JOE O'HARA	STEVEN RUDISAIL	R2DO	
<b>Emergency Class:</b> NON EMERGENCY	JULIO LARA	R3DO	
<b>10 CFR Section:</b>	JACK WHITTEN	R4DO	
21.21	UNSPECIFIED PARAGRAPH	PART 21 GRP	

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.

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JE20  
NMSS



**APPLIED TECHNICAL SERVICES, INCORPORATED**

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**FACSIMILE COVER LETTER**

**From:** Cathy Mansfield-QA Director  
**Phone:** 770-423-1400  
**Fax:** 770-424-6415  
**Direct:** 678-444-2812  
**Email:** [cmansfield@atslab.com](mailto:cmansfield@atslab.com)

**To:** NRC Operations Center  
**Fax:** 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.

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**APPLIED TECHNICAL SERVICES, INCORPORATED**

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**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-6098  
Closure of Part 21-30 day Written Notification:  
UT Standards; Round 260mm and Sheet 175mm**

**Reference: 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,**

A handwritten signature in black ink, appearing to read 'Jim J. Hills', written over a horizontal line.

**Jim J Hills, President**



**APPLIED TECHNICAL SERVICES, INCORPORATED** **ISO 9001**

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 in<sup>2</sup> 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 in<sup>2</sup>).

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.

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

A handwritten signature in black ink, appearing to read 'S. Genculu', is written over the typed name and date.

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  
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**APPLIED TECHNICAL SERVICES, INCORPORATED**

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**TENSILE TEST REPORT**

Ref. DAMC 160096-17 Rev 2\* Date July 13, 2011 Page 2 of 2

Customer: Shaw – Areva Mox Services, LLC at Mecachimie Route du Millecent 50440 Beaumont – Hague Cedex France Attention: Olivier Descampeaux

Purchase Order #: 10888-P-6098 Part #/Name: Round Bar 175 mm

Material Designation: ASTM B348 Gr. 2 Ti, Ht # CN7484 Specimen Type: Round Reduced Section

Tensile Test Equipment: Tinius Olsen S/N: 211205 Cal. Due: 06/11

Extensometer: Tinius Olsen S/N: 211202 Cal. Due: 06/11

Lab Comment: 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**

Specimen Identification	Thickness, in.	Diameter or Width in.	Area, in. <sup>2</sup>	Ultimate Load, lbs.	0.2% Offset Load, lbs.	Tensile Strength, psi	Yield Strength, psi	Elong. % in 2 in.	Red. in Area, %
175 mm	—	0.5008	0.1970	12,244	9,551	62,000	48,500	12	38
ASTM B348-09 Gr. 2						See Rev. 2 Note below			

\*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.



Prepared by: J. Sutton J. Sutton, E. I. T.  
Materials Testing

Approved by: Shawn Murray Shawn Murray  
Group Manager

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