

Established 1788

# Joseph Oat Corporation

www.josephoat.com

2500 Broadway/Drawer 10  
Camden, NJ 08104 USA

T: (856) 541-2900

F: (856) 541-0864

June 13, 2012

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

Subject: Shaw Group 10CFR Part 21 Report Regarding Ductility of Reinforcing Steel for Embedments not in accordance with Code Requirement  
Vogle, Units 3 and 4, Embedments for Westinghouse AP1000 CA20 Module Supports  
Rebuttal by Joseph Oat Corporation

U.S. NRC Part 21 Group:

This letter provides additional relevant information regarding the May 31, 2012 Part 21 report issued by Shaw Group which alleges that materials furnished by Joseph Oat Corporation do not meet Code requirements, and the noncompliance "could potentially create a substantial safety hazard, if it were to remain uncorrected." Since Joseph Oat's scope of supply was limited to furnishing parts in accordance with the requirements of the Shaw Group purchase order and did not include design responsibility, Joseph Oat cannot provide an opinion regarding whether the Shaw Group design presents a safety hazard or not. However, Joseph Oat can say, after our analysis of the facts in this matter, that, contrary to the Shaw Group Report, the parts we supplied were furnished in accordance with the Code and met the purchase order requirements which Joseph Oat received from Shaw Group.

The parts defined in the Shaw Group report are called Embedded Plates and are primarily depicted on Westinghouse Drawing APP-1215-CE-007, one of 50 drawings forwarded by Shaw with Shaw purchase order 132175-D220.07. This drawing, in addition to providing dimensional details, lists five specific notes which refer to these parts, and lists nine "references." Two of the references are identical to the specific notes. These references are APP-1215-CE-005 and APP-1215-CE-006, both of which are drawings which depict the locations of the embedments shown on APP-1215-CE-007 within the plant. From the location drawings, one can determine from the directional symbol at the top left corner of the general plan view, that the location of these embedments is a specific floor (*not a frame member or a wall*). The other "references" provide the Design Specification reference (APP-SS01-Z0-003), the General Concrete Notes drawing referred to in the Shaw Group Part 21 report (APP-0000-C9-001) as well as several other non-relevant references such as references to drawings for parts we do not supply.

The Design Specification, entitled "Embedded and Miscellaneous Steel, Westinghouse Safety Class C" is an inclusive 36 page document which specifies the requirements for the materials and labor we provided. In fact, Paragraph 2.0 of this document entitled "Scope" reads:

This specification details the technical and quality assurance requirements for furnishing, fabricating, and delivering Safety Class C (Nuclear Safety Related) embedded steel, cast-in-place anchor bolts, and miscellaneous steel to the job site.

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The Supplier/Subcontractor shall manage and furnish labor, equipment, materials, and services to fabricate and deliver the embedment steel, including cast-in-place anchor bolts, as shown on the Engineers drawings and as specified herein.

The Design Specification lists 45 "Applicable Documents", some of which apply to Joseph Oat's limited scope; many of which do not. It is noted that of the Applicable Documents listed, none refer to ACI 318 or ACI 349. ASTM A615/A615M-2001 is listed as an applicable document. Furthermore, with regard to the material requirements for reinforcing bars and deformed anchor bars the Design Specification specifies "ASTM A615, ASTM A706" as permissible alloys. There are no supplementary requirements imposed upon the supply of ASTM A615 rebar, and ASTM A615 contains no mandatory requirements for ductility, which Shaw implies is their stated reason for the 10CFR Part 21 report.

One of the "reference documents" referred to above and in the Shaw Report is APP-0000-C9-001, entitled AP1000 Concrete General Notes. This document contains 28 general notes dealing with many issues relating to concrete work, most of which have little or no relevance to the Joseph Oat limited scope of work. These notes contain requirements relating to the strength of concrete, requirements for reinforcing bar standard hooks, requirements for the finishing of concrete surfaces, and many other out-of-scope requirements. Only one note, Note 7, includes any information which could be argued to be even remotely related to parts we supplied, and this note forms the basis of the Shaw action. The note reads:

Reinforcing bars shall be deformed bars conforming to ASTM A706, "Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement," and shall be Grade 60. For reference, all bars conforming to ASTM A706, Grade 60 comply with the ductility requirements set in ACI 318 and 349, Paragraph 21.2.5. Also, reinforcing bars may be deformed bars conforming to ASTM A-615, "Deformed and Plain Billet-Steel bars for concrete reinforcement", Grade 60 supplementary requirement S1; if approved by Westinghouse. ASTM A615 bars shall comply with the ductility requirement set in ACI 318 and 349, Paragraph 21.2.5, as required by the ACI Code.

The applicability of documents ACI 318 and 349 are questioned since these documents are not listed as "Applicable Documents" in accordance with the Design Specification for Joseph Oat's limited scope of supply. Nevertheless, paragraph 21.2.5 reads:

Reinforcing resisting earthquake-induced flexural and axial forces in *frame members and in wall boundary elements* (emphasis ours) shall comply with ASTM A706. ASTM A615 Grades 40 and 60 reinforcement are permitted in these members if (a) the actual yield strength based on mill tests does not exceed the specified yield strength by more than 18,000 psi (retests shall not exceed this value by more than an additional 3000 psi) and (b) the ratio of the actual ultimate tensile strength to the actual tensile yield strength is not less than 1.25.

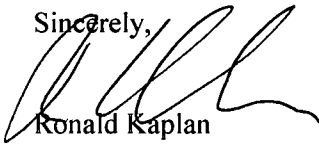
The specific embedments which Joseph Oat supplied and which are the subject of the Shaw Group May 31, 2012 10CFR Part 21 report are embedments for a floor, not a frame member or a wall; and therefore it is clear that even if it were argued that ACI 349 paragraph 21.2.5 was a applicable document and paragraph to our contract, these embedments would not be required to meet the ductility requirements of



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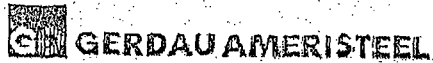
this document because of their intended placement within a floor in the Vogtle facility. Furthermore, to be perfectly clear and contrary to the Shaw Group assertion, all rebar we supplied for these embedments fully meets the specified chemical and physical testing requirements specified by ASTM A615, and therefore fully complies with the Code and all of the Westinghouse requirements which the Shaw purchase order specification flowed down to our company.

Sincerely,



Ronald Kaplan  
President - Operations

cc: Mr. Steven Vias  
U.S. NRC Region II  
Marquis One Tower  
245 Peachtree Center Avenue  
NE Suite 1200  
Atlanta, Georgia 30303-1257



KNOXVILLE STEEL MILL  
1919 TENNESSEE AVE  
KNOXVILLE TN 37921 USA

Chemical and Physical Test Report

MADE IN UNITED STATES

CUSTOMER: JOESPH OAT CORPORATION

PROJECT: THREADED-102817

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030

SHAW  
POWER

SHAPE + SIZE	GRADE	SPECIFICATION													SALES ORDER	CUST P.O. NUMBER	
X29MM REBAR (# 9)	420 (60)	ASTM A615/A615M-09B THERMEX TREATED															
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Sn	C Eqv				
K113904	.35	.79	.012	.053	.18	.28	.13	.10	.026	.004	.003	.003	.504				

Mechanical Test: Yield 87930 PSI, 606.26 MPA Tensile: 109910 PSI, 757.8 MPA %El: 12.5/8in, 12.5/200MM Bend: OK Def HT: .076, 1.93MM Def Gap: .185, 4.7MM Def SP: 692, 17.58MM %l/h 4.7L

Customer Requirements CASTING: STRAND CAST

SHAPE + SIZE	GRADE	SPECIFICATION													SALES ORDER	CUST P.O. NUMBER	
X29MM REBAR (# 9)	420 (60)	ASTM A615/A615M-09B THERMEX TREATED															
HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Sn	C Eqv				
K113910	.33	.74	.024	.043	.20	.39	.14	.20	.030	.008	.003	.003	.489				

Mechanical Test: Yield 93290 PSI, 643.21 MPA Tensile: 112280 PSI, 774.14 MPA %El: 12.5/8in, 12.5/200MM Bend: OK Def HT: .074, 1.88MM Def Gap: .194, 4.93MM Def SP: 692, 17.58MM %l/h 4.4L

Customer Requirements CASTING: STRAND CAST

SHAW POWER GROUP - VOGTLE UNIT 3  
PO#132175-D220-07 REV 3  
EMBED PLATES JOC SERIAL #2694-6A1 - 6A78  
JOSEPH OAT CORP. 2500 BROADWAY, CAMDEN, NJ 08104

NUCLEAR

*Bea Byt* 12-19-11

2010

J-2694-6 ITS

PO#165080

THE ABOVE FIGURES ARE CERTIFIED CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

*Wayne Kelnick*

This material, including the billets, was melted and manufactured in the United States of America

*Bhaskar*

Bhaskar Yalamanchili  
Quality Director  
Gerdau Ameristeel

*Lisa Charnick*

Metallurgical Services Manager  
KNOXVILLE STEEL MILL

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