

Cardinal

INDUSTRIAL PRODUCTS

Nuclear Division of B&G Manufacturing Company, Inc.

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August 29, 1995

QAM-95-065

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

Reference: 10 CFR, Part 21 Notification

To Whom It May Concern:

This letter provides notification of defect to the Nuclear Regulatory Commission as required by 10 CFR Part 21, paragraph 21.21, (4).

Cardinal Industrial Products (CIP) was informally contacted by Duquesne Light-Beaver Valley Power Station to discuss mechanical failures that were discovered, when they conducted supplemental testing on a Lot of 3/8 - 24 x 2 A-193 B7 HEX CAPSCREWS identified by head markings (B7, C, TS9, S4). These fasteners were supplied by CIP to Duquesne Light on purchase order D 136646.

The method of performing additional testing was discussed with Duquesne Light and their subcontracted Testing Laboratory to assure that the testing was performed in accordance with ASTM A-370. It was decided that Duquesne Light would provide CIP with a sample to be tested by CIP, with a Duquesne representative present.

All four (4) samples supplied by Duquesne were tested at CIP, with one (1) failure. The failure exhibited an unusually low hardness and tensile per the material specification. It should be noted that ASTM A-193 B7 material does not have a hardness requirement.

CIP pulled additional product samples from stock and by conducting hardness evaluation, identified other failure's. CIP sent one (1) sample that passed hardness and one (1) sample that failed hardness out for metallurgical examination by an approved testing laboratory.

The results of this examination indicated that the "Good" sample had .006 "decarburization, and a core hardness of 35 HRC, while the "Bad" sample had no decarburization, and a core hardness of 95.5 HRB. The low core hardness, and more specifically, the lack of decarburization would indicate that the "Bad" sample did not receive the full heat treatment. The decarburization is formed, when alloy steel is heat treated in an air atmosphere, but in order for it to form the parts must reach the prescribed temperature.

JE19

CIP also performed hardness test, as means of an indicator, on ten (10) heat lot charges that were process before and after the suspect charge was heat treated.

Duquesne Light identified test failures with product lot (3/8 x 4 A-193 B7 lot # 12133 lot code S4). CIP has identified, two (2) additional heat lot charges that exhibit the same failures in hardness as the heat lot identified by Duquesne light. Those lots are, 3/8 x 6 A-193 B7, Lot # 12134, Lot Code S5 and 5/8 - 11 x 2 1/2, A-193 B7, Lot # 11127, Lot Code TU 1).

Attachment 1, to this report, identifies all of the customers who have received these suspect fasteners that could possibly create a safety hazard. The customer's have been notified of this defect and have been instructed to evaluate this condition in accordance with 10 CFR Part 21 paragraph 21.21 (a) (1) (ii) and (b) (1).

CIP is in the process of conducting additional testing on all ASTM A-193, B7 inventory that was heat treated at CIP. A hold has been placed on our A-193 B7 inventory to prevent distribution until completion of our evaluation. The above defective heat lots have been nonconformanced and placed in our bonded nonconformance area. Additionally, our heat treatment facility has been closed pending further investigation.

CIP will provide a complete investigation report to the NRC within sixty (60) days as required by 10 CFR Part 21.

Should you have any questions, concerning this issue, please contact me at (702) 739-1966.

Sincerely,

David Z. Hathcock
Quality Assurance Manager

Attachment (1)

cc: NRC file.

3/8x4 A193 B7		10 CFR PART 21 NOTIFICATION LIST						
Material lot# 12133	CUSTOMER	C.I. #	DESCRIPTION	QTY.	SHIP DATE	HEAD MRKNG	ORDER STATUS	WHOM TO NOTIFY
SCI	53021	54021-2	3/8-16x 3 1/2	100	6/8/94	B7, C	Commercial	
812 E. Browning			A193 B7 Hex			TS9, S4		
Streator, IL 61364			Capscrew					
SCI	13123	55500-2	3/8-16x 3 1/2	25	1/16/95	B7, C	Commercial	
812 E. Browning			A193 B7 Hex			TS9, S4		
Streator, IL 61364			Capscrew					
Duquesne Light	D136388	55513-1	3/8-16 X 1 1/2	101	1/13/95	B7, C	Nuclear	Duquesne Light
P.O. Box 347						TS9, S4		Beaver Valley pwr sta.
Shippingport, PA								P.O. Box 4
15077-0347							Attention Mng	Shippingport, PA 15077
Midwest Bolt & Supply	88496	55527-1	3/8-24x 1 3/4	248	1/25/95	B7, C	Commercial	
405 E. 14th Street			A193 B7 Hex			TS9, S4		
N. Kansas City, MO			Capscrew					
64116								
Duquesne Light	D136646	55646-1	3/8-24x 2	101	1/27/95	B7, C	Nuclear	Duquesne Light
P.O. Box 347			A193 B7 Hex			TS9, S4		Beaver Valley pwr sta.
Shippingport, PA			Capscrew					P.O. Box 4
15077-0347							Attention Mng	Shippingport, PA 15077
Canadian Worcester	C4968	55692-1	3/8-16x 1 1/16	100	2/20/95	B7, C	Nuclear	Notify QA Contact
20 Mid dominion acres			A193 B7 Hex			TS9, S4		
Scarborough			Capscrew					
Ontario, Canada								
M1S 4A5								

3/8X4 A193 B7		10 CFR PART 21 NOTIFICATION LIST						
CUSTOMER	CUSTOMER P.O.#	C.I. #	DESCRIPTION	QTY.	SHIP DATE	HEAD MRKNG	ORDER STATUS	WHOM TO NOTIFY
Material lot# 12133								
Com Ed	503085XX221	55699-1	3/8-24 x 4	12	2/7/95	B7, C	Nuclear	Notify QA Contact
P.O. Box 767			A193 B7 Hex			TS9, S4		
Chicago, IL 60690			Capscrew					
			Fully Threaded					
Com Ed	503085XX221	55699-1	3/8-24 x 4	12	2/7/95	B7, C	Nuclear	Notify QA Contact
P.O. Box 767			A193 B7 Hex			TS9, S4		
Chicago, IL 60690			Capscrew					
			Fully Threaded					
Com Ed	503085XX221	55699-1R	3/8-24 x 4	12	2/7/95	B7, C	Nuclear	Notify QA Manager
P.O. Box 767			A193 B7 Hex			TS9, S4		
Chicago, IL 60690			Capscrew					
			Fully Threaded					
Henry Pratt	UCO4756	55748-1	3/8-16 X 2 1/4	8	2/23/95	B7, C	Nuclear	Notify QA Manager
401 S. Highland						TS9, S4		
Aurora, IL 60506								
Georgia Power	70213970000	55757-6	3/8-16 x 2	114	2/28/95	B7, C	Nuclear	Georgia Power
Vogtle Ele. Gen Plant			A193 B7 Hex Bolt			TS9, S4		Vogtle Project
Nuclear Operations								P.O. Box 1295
P.O. Box 1600								Birmingham, AL 35201
Waynesboro, GA 30830							Attention	Nuclear Engineering and Licensing
Process Products LTD	12579	55826-2	3/8-16 x 1 5/8	7	3/10/95	B7, C	Nuclear	Notify QA Contact
920 Caledonia Rd			A193 B7 Hex Bolt			TS9, S4		
Toronto, Ontario								
Canada, M6B 3Y1								

3/8X6 A193 B7		10 CFR PART 21 NOTIFICATION LIST								
CUSTOMER	Material lot# 12134	CUSTOMER P.O.#	C.I. #	DESCRIPTION	QTY.	SHIP DATE	HEAD MRKNG	ORDER STATUS	WHOM TO NOTIFY	
SCI		53021	54021-7	3/8-16 x 6	150	6/8/94	B7, C	Commercial		
812 E. Browning				A193 B7 Hex			TS6, S5			
Streator, IL 61364				Capscrew						
T.V.A		1022567	54055-1	3/8-16 x 6	10	5/25/94	B7, C	Nuclear	T.V.A	
P.O. Box				A193 B7 Hex			TS6, S5		Nuclear Licensing and	
Knoxville, TN 37901				Capscrew					Regulatory Affairs	
37901-5500									LP 5N 156B	
SCI		72221	54182-1	3/8-16 x 5	25	6/20/94	B7, C	Commercial		
812 E. Browning				A193 B7 Hex			TS6, S5			
Streator, IL 61364				Capscrew						
SCI		72221	54182-2	3/8-16 x 6	25	6/20/94	B7, C	Commercial		
812 E. Browning				A193 B7 Hex			TS6, S5			
Streator, IL 61364				Capscrew						
Canadian Worchester		C4846	55073-2	3/8-16 x 7/8	100	11/28/94	B7, C	Nuclear	Notify QA Contact	
20 Mid dominion acres				A193 B7 Hex			TS6, S5			
Scarborough				Capscrew						
Ontario, Canada				Zinc Plated						
M1S 4A5										
Canadian Worchester		C4846	55073-3	3/8-16 x 1	50	11/28/94	B7, C	Nuclear	Notify QA Contact	
20 Mid dominion acres				A193 B7 Hex			TS6, S5			
Scarborough				Capscrew						
Ontario, Canada				Zinc Plated						
M1S 4A5										

5/8-11X2 1/2		10 CFR PART 21 NOTIFICATION LIST						
Material lot# 11127	CUSTOMER	C.I. #	DESCRIPTION	QTY.	SHIP DATE	HEAD MRKNG	ORDER STATUS	WHOM TO NOTIFY
Westinghouse-hanford P.O. Box 1970 Richland, WA 99352	wbsxv316957	53587-1	5/8-11 x 2 1/2 A193 B7 Heavy Hex Bolt	8	3/9/94	B7, C TU1	Commercial	
Arkansas Nuclear one Route 3 P.O. Box 137g s. of jct. of hwy 64w and 333s. Russellville, AR 72801	P0941530	53626-2	5/8-11 x 2 1/2 A193 B7 Heavy Hex Screw	40	3/25/94	B7, C TU1	Nuclear	Entergy Operations Inc Arkansas Nuclear One Route 3 P.O. Box 137g s. of jct. of hwy 64w and 333s. Russellville, AR 72801 Industry Events Review
							Attention Mng	