

# Babcock & Wilcox

Power Generation Group

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (804) 384-5111

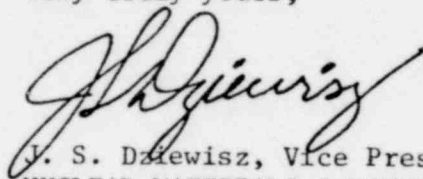
October 16, 1979

Mr. Uldis Potapovs  
Vendor Inspection Branch  
United States Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76012

Dear Sir:

In response to your letter of September 12, 1977 concerning the apparent deviations from Criterion V of Appendix B to 10 CFR 50, we submit the attached replies to the audit report inspection summary.

Very truly yours,



J. S. Dziewisz, Vice President  
NUCLEAR MATERIALS & MANUFACTURING DIVISION

JSD:bd  
Attachment

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Deviation: Procedure, Fuel Pellet Sample Selection, for Lot Certification Testing MK B or MK C, QC-929, Revision 1, Paragraph 4.2.2, requires that sampling shall be on every 5th tray for normal sized lots.

Contrary to the above, the following sampling frequencies were observed for two normal sized lots. On lot 23 of Project 27A-2 from the 1672 trays produced, a lot master sample of 299 pellets were selected, when 334 pellets should have been selected. On lot 24 from the 585 trays produced at the time of inspection, a lot master sample of 108 pellets had been drawn, when 117 pellets should have been selected.

Action Taken: All inspectors in pelletizing area have been re-instructed that the pellet sampling should be based on the number of trays of pellets per box in lieu of number of boxes of completed pellets.

Preventative Action:

In reviewing the facts of this deviation, it was determined that MK B pellets, when packaged in the storage box, have (10) trays per box whereas MK C pellets have (13) trays per box. It appears that the degree of sampling for the lot size of MK C pellets for Project 27A-2 was based on (2) pellets per box which in fact is consistent for the sampling requirement of MK B pellets. Our prime purpose in sampling is to secure a random sample of approximately 300 to 500 pellets of MK B or MK C design across the pellet lot at the grinding operation. We have revised Procedure QC-929 to clarify the intent and scope of sampling requirement.

Date of Completion: The revision of Procedure QC-929 Rev. 2 was completed on 9/11/79.

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Deviation: Procedures, Fuel Pellet Final Inspection (MK C), QC-930, Revision 1, and Inspection of Resintered Fuel Pellets, QC-935, Revision 1, Paragraphs 6.5 and 3.1 respectively require that the certification sample and the resinter sample both be selected from the "lot master sample" for that lot.

Contrary to the above, the certification sample data of dimensional characteristics of a recent lot was found to be significantly different from the same lot's initial data for the resintering sample. This demonstrates that the samples were not selected from the same "lot master sample".

Action Taken: Manufacturing Engineering has identified four (4) groups of pellets which were characterized from lot 4, 27A-1. The statistics for these four (4) groups are:

	A	B	C	D
	Lot 4 Cert. (70 Pellets)	Lot 4 Resinter (22 Pellets)	Lot 4 Resinter Leftover (16 Samples)	Lot 4 GDI Test (38 Samples)
Dia. in	.3231	.3227	.3231	.3228
s	.0002	.0004	.0002	.0004
Density, g/cc	10.43	10.45	10.41	10.43
s	.018	.046	.022	.048
Length, in	.3771	.3859	.3788	.3824
s	.003	.004	.003	.006

Manufacturing Engineering's analysis of this data is that columns A & C and B & D are matched pairs of data.

Columns B & D closely resemble data which results from a "Green-Density-Increase" (GDI) program which was being run by Manufacturing Engineering. This test investigated green densities above the production density and resulted in slightly longer pellets. NMC records reveal that a GDI test was run for lot 2 and samples were placed in a box containing 27A resinter samples just prior to inventory. Some crossover must have taken place because the samples left the box identified as lot 4 GDI.

Date of Completion: Sampling for Resinter Testing will be performed immediately after lot density is determined. Results from both tests will be compared to verify that both data groups are similar. In the case of lot 4, pellets (16) from column C will be resintered. Fuels Engineering has verified that these samples are adequate. The resinter test for lot 4 will be rerun by November 30, 1979.

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