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CONTROL NO: 6543

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FROM: Tennessee Valley Authority Chattanooga, TN J. E. Gilleland			DATE OF DOC: 7-16-74	DATE REC'D 7-18-74	LTR X	TWX	RPT	OTHER
TO: A. Schwencer			ORIG 1 signed	CC 14	OTHER	SENT AEC PDR <u>XXX</u> SENT LOCAL PDR <u>XXX</u>		
CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D 15		DOCKET NO: <u>50-438/439</u>		

**DESCRIPTION:**

Ltr re our 5-9-74 ltr trans the following....

\*\* Denotes Letter Only

Distribution as per D. Davis

PLANT NAME: BELLEFONTE UNITS 1 & 2

**ENCLOSURES:**

Responses to Reg Staff position....  
to be included in PSAR amdt #12...

**ACKNOWLEDGED  
DO NOT REMOVE**

FOR ACTION/INFORMATION 7-22-74 GMC

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MUNTZING/STAFF	✓ MACCARY	KASTNER	GEARIN (L)	B. HURT
CASE	✓ KNIGHT	BALLARD	✓ GOULBOURNE (L)	<u>PLANS</u>
GIAMBUSSO	✓ PAWLICKI	SPANGLER	KREUTZER (E)	MCDONALD
BOYD	SHAO		LEE (L)	CHAPMAN
MOORE (L)(BWR)	✓** STELLO	<u>ENVIRO</u>	MAIGRET (L)	DUBE w/input
DEYOUNG(L)(PWR)	HOUSTON	MULLER	REED (E)	E. COUPE
SKOVHOLT (L)	NOVAK	DICKER	SERVICE (L)	D. THOMPSON (2)
GOLLER(L)	ROSS	KNIGHTON	SHEPPARD (L)	KLECKER
P. COLLINS	IPPOLITO	YOUNGBLOOD	SLATER (E)	EISENHUT
DENISE	✓** TEDESCO	REGAN	SMITH (L)	
✓ REG OPR	LONG	PROJECT LDR	TEETS (L)	
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1 - P. R. DAVIS (AEROJET NUCLEAR)	NEWMARK/BLUME/AGBABIAN	RM-B-127, GT.
16 - CYS ACRS HOLDING	1-GERALD ULRIKSON...ORNL	1-RD..MULLER..F-309 GT
	1-B & M SWINEBROAD, Rm E-201 GT	

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CHATTANOOGA, TENNESSEE  
37401

**TVA**  
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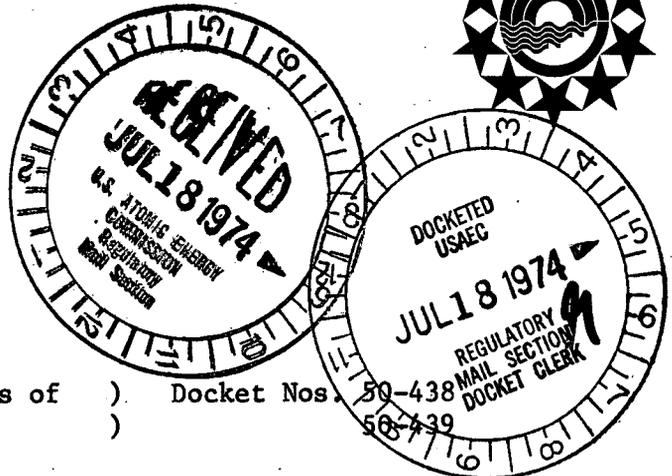


July 16, 1974

Mr. A. Schwencer, Chief  
Light Water Reactors Branch 2-3  
Directorate of Licensing  
U.S. Atomic Energy Commission  
7920 Norfolk Avenue  
Bethesda, Maryland 20014

Dear Mr. Schwencer:

In the Matter of the Applications of )  
Tennessee Valley Authority )



Docket Nos. 50-438  
58-439

Enclosed are 15 copies of our responses to Regulatory Staff position statements provided in your letter dated May 9, 1974. These responses conform to and document the agreement we reached in our May 2, 1974, meeting. The Bellefonte PSAR will be amended in Amendment 12 which is tentatively scheduled to be submitted on August 2, 1974, to include these responses.

Very truly yours,

J. E. Gilleland  
Assistant to the Manager of Power

Enclosure (15)

CC: William E. Garner, Esq. (Enclosure)  
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Scottsboro, Alabama 35768

William D. Paton, Esq.  
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Office of Regulation  
U.S. Atomic Energy Commission  
Washington, DC 20545

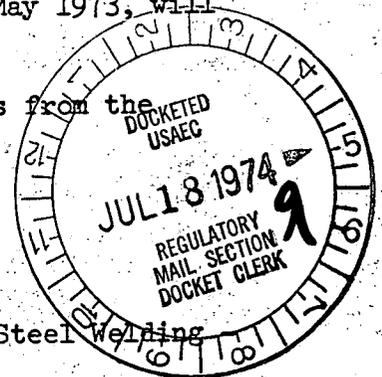
REGULATORY DOCKET FILE COPY

6543

Question 5.4

Describe how closely Regulatory Guides 1.31, Revision 1, "Control of Stainless Steel Welding," issued in June 1973, and 1.44, "Control of the Use of Sensitized Stainless Steel," issued in May 1973, will be followed.

Provide the technical justification for any deviations from the practices recommended in these Regulatory Guides.

Response to 5.4

## A. Control of Delta-Ferrite in Austenitic Stainless Steel Welding

Babcock and Wilcox specifies a delta ferrite content range of 5 - 15% (except for filler wire designated E 16-8-2 or ER 16-8-2) for austenitic stainless steel weld for both wrought and cast materials. Control of the delta ferrite contents of weld metals will be established by obtaining chemical analyses from weld wire, weld wire flux combinations and from undiluted weld pads together with the Schaeffler or other applicable weld metal constitution diagram. Magnetic permeability measurements are also employed as an alternate method for determining delta ferrite contents of weld deposits.

Procedure qualifications for automatic welding processes specify voltage, amperage, travel speed, and interpass temperature limits. For manual, and semi-automatic processes B&W controls nominal production travel speeds by specifying the voltage, amperage, and bead width of weave. For semi-automatic processes the width of weave is a specified nominal dimension whereas for manual processes the width of weave is that required to produce a sound weld. A given set range for amperage, voltage, and bead width, automatically requires the welder to have a minimum nominal travel speed in order to produce a sound quality weld.

Delta ferrite measurements on production welds will be performed on B&W contracts and on field welds and will include 100% measurement of welds in material over 1" thickness and by a sampling plan for welds less than 1" thickness. Single pass welds and welds in material less than 1/4" thickness need not be examined. Production welds on stainless steel components shall be sampled on a best effort basis.

## B. Control of the Use of Sensitized Austenitic Stainless Steel -

The materials and processes used to minimize the extent of sensitization in austenitic stainless steel used in the R.C.S. are described in subsections 5.2.5.2, 5.2.5.4, 5.2.5.5, and 5.2.5.6. Moreover, welding procedures (current, voltage, and travel speed) are controlled to meet the following qualifications:

1. Limit the amount of heat input during fabrication.
2. Limit interpass temperature.
3. Avoid excessive weaving.

B&W has performed tests on selected welding procedures to determine the susceptibility of weld HAZ to intergranular corrosion. This data will be documented as evidence of compliance with Regulatory Guide 1.44. In addition, TVA will perform similar tests on selected welding procedures.

Austenitic stainless steel components are cleaned and protected (as described in Section 5.2.5.1) against contaminants capable of causing stress, corrosion, cracking during fabrication, shipment, storage, construction, and testing. Further protection of these materials is provided during operation through the reactor coolant chemistry control as described in Sections 5.2.3.4 and 5.2.5.4.

It must also be stated that the excellent operating experience of PWR reactor systems containing austenitic stainless steel components provides assurance of the acceptability of these materials for their intended use.

5.19

Our Request 5.4 has not yet been addressed in the PSAR. An acceptable position on Regulatory Guide 1.31, "Control of Stainless Steel Welding," June 1973, is presented in Enclosures 2 and 3. State your intent to meet the positions set forth in these enclosures.

Response: Please see the response to Request 5.4

5.20

The PSAR does not indicate any system to detect and monitor loose parts in the reactor coolant system. Several such systems have been developed and will be utilized on many facilities which are now operating or will be operating in the near future. These systems have been very useful in both an operational and safety sense. Provide a commitment in the PSAR to supply an online loose parts monitoring system which has performance capabilities similar to those presently in operation.

Response: TVA will install an online loose parts monitoring system which has performance capabilities similar to those presently in operation.