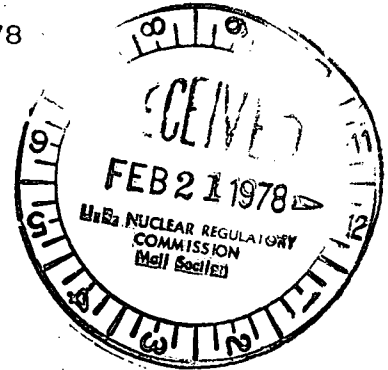




**Commonwealth Edison**  
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REGULATORY DOCKET FILE COPY

February 15, 1978



Mr. Donald K. Davis, Acting Chief  
Operating Reactors - Branch 2  
Division of Operating Reactors  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Dresden Station Units 2 and 3  
Quad-Cities Station Units 1 and 2  
Request for Information Concerning  
Reactor Vessel Material  
NRC Docket Nos. 50-237/249 and  
50-254/265

- References (a): D. K. Davis letter to R. L. Bolger  
dated May 20, 1977
- (b): M. S. Turbak letter to D. K. Davis  
dated August 26, 1977
- (c): D. K. Davis letter to R. L. Bolger  
dated December 7, 1977

Dear Mr. Davis:

Reference (a) requested information concerning the Dresden and Quad-Cities reactor vessel material surveillance programs. Commonwealth Edison's response was transmitted by Reference (b). Reference (c) stated that our response did not contain sufficient detailed information. It stated: "Without more detailed information, estimates will have to be made on a conservative 'worst case' basis." The current Technical Specifications for the Dresden Units 2, 3 and Quad-Cities Units 1, 2 reactor vessels are based on "worst case" conditions, and we believe this basis to be satisfactory. The relatively low end-of-life fluence of these reactor vessels results in relatively minor Adjustment of Reference Temperature compared to higher fluence vessels.

Mr. Donald K. Davis:

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February 15, 1978

The Table in Reference (b) entitled "Chemical Composition and Mechanical Properties of Materials Included in the Material Surveillance Programs" contains composition, charpy, and tensile data from tests made on beltline region materials. These data have been used to establish characterizations of the beltline region materials as shown in Table 1 (attached). The characterizations are based on the highest copper content, highest 30 ft-lb. Charpy fix temperature, and lowest charpy upper shelf energy of the base material, electroslag welds, and submerged arc welds. These characterizations may be applied to Dresden Units 2, 3 and Quad-Cities Units 1, 2. Reference (b) provides the basis to support the copper limits assigned to the beltline region materials as being conservative.

From the material characterizations, the initial limiting material for establishment of pressure temperature limits is the electroslag welds due to their having the highest RT NDT of the beltline materials. However, as fluence accumulates, the greater Adjustment of Reference Temperature of the higher-copper submerged arc welds establishes these welds as the limiting material.

The specific items requested in Reference (a) are not available within Commonwealth Edison, but it is believed that the attached characterization of beltline region materials and Reference (b) are adequate for your evaluation of our Technical Specifications and material surveillance programs.

One (1) signed original and 59 copies of this letter are provided for your use.

Very truly yours,



M. S. Turbak  
Nuclear Licensing Administrator  
Boiling Water Reactors

attachment

Table 1 - Characterization of Material in the Reactor Vessel  
 Beltline Region, Dresden Units 2 and 3, Quad Cities Units 1 and 2

	Copper, percent	RT <sub>NDT</sub> , °F <sup>1</sup>	Charpy Upper Shelf, Ft lbs.
Base Material	0.22	0	105
Electroslag Welds	0.20	40	70
Submerged Arc Welds	0.35	15	65

<sup>1</sup> Determined from 30 Ft-lb energy level of Charpy V-notch transition curves.