Supplemental

AUG 2 0 1968

R. S. Boyd, A/D for Reactor Projects, DRL
THRU: S. Levine, A/D for Reactor Technology, DRL /S/

RUSSELLVILLE NUCLEAR UNIT, DOCKET NO. 50-313, REVIEW OF ADDITIONAL STRUCTURAL DESIGN INFORMATION

Additional information was submitted on the Russellville facility in Supplement No. 7 which was received by RT late on August 16, 1968. We have reviewed that portion of the Supplement which addresses the five areas of structural design about which we expressed concern. Our comments on the information submitted by the applicant for each of the five areas are given below.

THREE BUTTRESS DESIGN

The additional information indicates that the AE will design carefully to achieve acceptable friction factors, and provides some further evidence that friction over the 240 degree sector can be handled properly. We believe that design errors may be made but that any inadequacies should be discovered during construction. Corrective actions would be available at very significant costs to the AE. We believe that the additional information validates the position taken in the August 19, 1968 report to the ACRS.

TENDON SYSTEMS

In our August 9, 1968 report to you on Russellville we included, in Appendix A, design criteria we believe should be accepted for large size tendons. The additional information submitted by the applicant adequately addresses these criteria with the following exceptions:

Criterion 3 - The applicant should state that the term production tolerances will be defined to mean the combination of erection tolerances and hardware manufacturing tolerances.

Criterion 4 - The applicant indicates no intent to make a detailed stress analysis of the system. We believe that this should be required.

Criterion 7a- We believe that rigorous material specification requirements should be mandatory. The applicant has merely stated some general limitations.

We believe the additional information submitted by the applicant does not justify the position taken in the report to the ACRS.

OFFICE ▶						
SURNAME ▶						
DATE ▶						

Form AEC-318 (Rev. 9-53)

U.S. GOVERNMENT PRINTING OFFICE : 1966—O-214-629

8004290648

LINER ANCHORAGE

The additional information does not resolve the problem. Acceptable design criteria must be agreed upon with the applicant. The position taken in the report to the ACRS is valid.

CADWELD SPLICES

We are not positive of the proper interpretation of the additional information submitted by the applicant. In any event we believe that the positions taken in the report to the ACRS are not justified. We are not ready to accept a 2% sampling program and we believe that the "sister" splice technique has considerable merit if it is properly correlated.

TENDON ANCHORAGE

The additional information indicates the intent to proceed in the general manner outlined by our suggested criteria as given in Appendix C of our August 9, 1968 memorandum to you. However, the details of the design methods and procedures to be used by the applicant are not well defined. Further information concerning several of these important details will be required before we can agree with the applicant's proposed approach. The items that require further discussion include (1) the use of the working stress method, (2) consideration of inclined shear plane failures, (3) the integrated effect of combined loads, and (4) several other details. Also, we should seek additional design analysis data accumulated by GGA in the Ft. St. Vrain program which is known to exist but has not yet been made available to us.

In view of the above we believe the position taken in the report to the ACRS is not valid.

/S/
R. C. DeYoung, Chief
Containment & Component Technology
Branch, DRL

RT-890
DRL:C&CTB:RCD

cc: C. Long, DRL
A. Schwencer, DRL
F. Cheek, DRL
A. L. Gluckmann, DRL
E. G. Arndt, DRL

bcc: R. C. DeYoung, DRL
S. Levine, DRL

OFFICE ▶	DRL:C&CTB	DRL:C&CTB	DRL:C&CTB	DRL:AD/RT		
SURNAME ▶	EGArndt/sp	ALGluckmann	RCDeYoung	SLevine		
DATE ▶	8/20/68	8/20/68	8/20/68	8/21/68		

Form AEC-318 (Rev. 9-53)

U.S. GOVERNMENT PRINTING OFFICE : 1966—O-214-629