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JRBuchanan
ACRS (16)

Docket No. 50-313

NOV 12 1976

Arkansas Power & Light Company
ATTN: Mr. J. D. Phillips
Senior Vice President
Production, Transmission,
and Engineering
Sixth and Pine Streets
Pine Bluff, Arkansas 71601

Gentlemen:

Your letter of August 17, 1976, requested that (1) the exemption to Appendix H to 10 CFR 50 granted for Arkansas Nuclear One - Unit No. 1 (ANO-1) by letter of June 11, 1976, be modified to allow indefinite operation of ANO-1 with the reactor vessel surveillance program to be conducted at Davis Besse Unit No. 1 and (2) the ANO-1 Technical Specifications be revised to allow the ANO-1 reactor vessel surveillance program to be conducted at Davis Besse Unit No. 1. We have determined that the information described in the enclosure is necessary to continue our review.

To enable us to maintain our review schedule, please submit the requested information by December 10, 1976.

A related concern is the program you intend to employ to meet the requirements of 10 CFR 50, Appendix G, Paragraph IV.C, when required. In this regard you are also requested to submit within 60 days of receipt of this letter a description of any additional program you plan to implement to satisfy the requirements of 10 CFR 50, Appendix G, Paragraph IV.C. Since such a program may require data from surveillance programs at several reactors, you should also address the appropriate questions in the enclosure as they relate to your planned program in this area.

Sincerely,

Original Signed by:
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosure:
Request for Additional
Information

OFFICE	DOR:ORB #2	DOR:TS/OT	DOR:ORB #2	DOR:AD/OR	
SURNAME	WEConverse:ah	DDavis	DLZiemann	KRGoller	
DATE	11/11/76	11/11/76	11/11/76	11/12/76	

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Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-526-166

cc w/enclosure:
Horace Jewell, Esquire
House, Holms & Jewell
1550 Tower Building
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ARKANSAS POWER & LIGHT COMPANY

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE - UNIT NO. 1 (ANO-1)

REQUEST FOR ADDITIONAL INFORMATION

1. Provide your contingency plans for assuring that your surveillance program will not be jeopardized by an extended outage of any other reactor(s) from which you expect to receive data. What time limits will you place on the host* reactor(s) for a given outage and justify these limits.
2. Provide your program and schedule for installing the redesigned surveillance capsule holders in your reactor in the event this action becomes necessary.
3. What is the schedule for withdrawal of your capsules from the host reactor(s)? Relate the schedule to predicted trends in adjusted reference temperature and Charpy upper shelf energy. What arrangements have been made with the owners of the host reactor(s) to assure that this withdrawal schedule will be met.
4. Specify the minimum and maximum radiation lead times for:
   (a) surveillance specimens relative to the vessel beltline inner surface, and (b) surveillance specimens relative to the 1/4T position in the vessel wall, which you will require for guest specimens exposed in the host reactor(s). Justify the values specified.

*The "host reactor" has the redesigned surveillance specimen capsule holders for irradiation of both the "host capsules" which contain material representative of the host reactor beltline, and "guest capsules" which represent (for want of a better word) "guest reactors".

5. Indicate the corrective action to be undertaken at the guest reactor if the limits specified in response to Question 4, above, cannot be met. If the corrective action does not involve reactor shutdown, justify the proposed alternative.
6. Describe how the operating staff of the guest reactor will keep informed of the exposure status of the guest specimens at the host reactor(s) relative to the limits specified in response to Question 4, above.
7. Submit amended proposed Technical Specifications that reflect the appropriate portions of your responses to Questions 3, 4, 5 and 6 above.

Similarity of Guest and Host Reactors

1. Provide a comprehensive tabulation for the guest reactor and each host reactor of the values of all parameters, including construction and operating characteristics, that may affect the fracture toughness of the reactor vessel material as it is irradiated. Discuss how all differences in these parameters are accommodated in the integrated surveillance program.

Fluence Estimates

1. Describe analytical techniques that you plan to use to estimate the fluence expected at the various welds of the beltline of your vessel. How much uncertainty do you expect there to be in the fluence estimates?

2. Describe any dosimetry checks that you plan to make on the analytical results.
3. What differences in neutron energy spectra and dose rate do you predict for your reactor beltline and your surveillance specimens, wherever they are to be irradiated? Describe the corrections, if any, that will be made to the predicted radiation damage at your beltline welds as a result of these differences. Possible corrections include differences in specimen irradiation temperatures, differences in neutron spectra arising from differences in reactor geometry or a different type of fuel (e.g. mixed oxides), and differences in dose rate if some test reactor data are used.

Traceability of Welds

1. Identify the heats of weld wire and flux used in all beltline welds, and give specific locations where each is used.
2. State which weld or welds is expected to be controlling with regard to radiation damage and why, i.e., give expected neutron flux, initial RT_{NDT}, Charpy upper shelf energy, and chemical composition for the controlling welds.
3. Which welds are represented in the surveillance capsules irradiated in your reactor?
4. Which welds, if any, are represented in surveillance programs for other reactors?

5. List any test reactor programs on radiation damage in which your weld metals are represented.
6. List any test and surveillance programs on radiation sensitivity which include weld metals in the same category as your weld metals.