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Docket No. 50-313

Nathan M. Newmark Consulting
Engineering Services
1114 Civil Engineering Building
University of Illinois
Urbana, Illinois 61807

THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

Gentlemen:

Contract No. AT(49-5)-2667

Nathan M. Newmark Consulting Engineering Services is hereby requested, pursuant to the conditions of Contract No. AT(49-5)-2667, to perform the following services for the Commission concerning the operating license review of Arkansas Power & Light Company's Arkansas Nuclear One - Unit 1:

1. Perform an overall review of the seismic design and analyses for Class I (seismic) structures, systems, components, and equipment, other than those pressure-containing components such as pumps, valves, piping and vessels covered by the applicable ASME Component Codes and ANSI Piping Codes, to determine if the specified seismic design criteria have been adequately and appropriately applied.
2. Perform a review of the following specific areas related to the seismic design and analyses of Class I structures, systems, components, and equipment, other than those components such as pumps, valves, piping and vessels covered by the applicable ASME Component Codes and ANSI Piping Codes, to determine:
 - a. The adequacy of the seismic-system dynamic analyses which have been used to determine the capability of the plant to withstand the specified seismic inputs at the site, taking into account soil-structure interaction and coupled horizontal and vertical motions.
 - b. The adequacy of seismic analyses which have been used to determine the capability of the structures, systems, components, and equipment to withstand the loadings which employ the inputs and responses as may be derived by the seismic-system dynamic analyses.
 - c. The suitability of the specified damping factors as applied to the design of structures, systems, components, and equipment, taking

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into account the influence of the specified design stress levels which have been used under the various seismic design loading combinations.

- d. The adequacy of the design loading combinations (which include a seismic load) and the associated limits of allowable design stresses which have been used for the various construction materials of the Class I structures only.
 - e. The adequacy of specific testing methods used, if any, in lieu of design analyses or seismic analytical methods.
3. Prepare and furnish a commentary on the items reviewed and any areas of concern within the scope of 1 and 2 above, including preliminary conclusions which may serve as a basis for the final summary conclusions of item 4 below.
 4. Prepare and furnish a "Seismic Design Consultant Report for Arkansas Nuclear One-Unit 1" containing a summary of the Arkansas Nuclear One-Unit 1 conclusions reached from the evaluation of the final design within the scope of 1 and 2 above, taking into account (a) the information submitted by the applicant, (b) discussions held with AEC regulatory staff, and (c) AEC meetings with the applicant and its contractors in which you may have participated.
 5. Perform a site visit of completed Class I structures, systems, components, and equipment if evaluation of specified design adequacies within the scope of 1 and 2 is required or will be commensurately facilitated by inspection.
 6. Participate, if required, as an expert witness, within the scope of 1, 2, 4, and 5 above, in the event of a public hearing on the facility.

Your initial review of the documents enclosed should include the identification of areas of concern and areas requiring additional information, within the scope of 1 and 2 above. Please advise us, at the earliest opportunity, of the results of this initial review and any additional information needed so that we may add your information requests, as appropriate, to those which the AEC will transmit to the applicant. Copies of the amendments prepared by the applicant in response of these AEC requests for supplemental information will be forwarded to you upon receipt.

Volumes I, II, and III of the FSAR for this facility are enclosed for your use.

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All correspondence and reports as may be required to comply with this Work Directive for services shall be addressed to Mr. Edson G. Case, Director, Division of Reactor Standards, U.S. Atomic Energy Commission, Washington, D.C. 20545. All costs shall be itemized and requests for reimbursement shall be submitted on a monthly basis.

The initial amount payable to your firm in order to perform items 1 through 5 of this Work Directive is \$2,500; additional funding will be the subject of a supplemental Work Directive. Item 6, if required, will be costed separately. You will be advised of our schedule requirements for the initial review, the commentary and the final report.

Reports concerning work for others shall be made in accordance with Article I, paragraph (d) and Article XV of the Contract.

This constitutes a Work Directive pursuant to Article 1, paragraph (b) of Contract No. AT(49-5)-2667. All other requirements specified in Contract No. AT(49-5)-2667 remain unchanged.

Sincerely,

Original Signed by
E. G. Case

Edson G. Case, Director
Division of Reactor Standards
(Authorized Representative
for the Contracting Officer)

Enclosure:

Volumes I, II and III
of the FSAR

bcc: HKShapar, OGC
EGCase, DRS
JLSmith, DC
RRMaccary, DRS
JLSullivan, DR
DFLange, DRS
JLee, DRS
PWR-3
FKaras

RC 203-27, CC

DRS:ADAE
Maccary
5/25/71

OGC
5/1/71

GRESS	OFFICE ▶	DRS:MEB	DRS:MEB	DRS	DRL:AD	DRS:ADSG	DRS:DIR
T-DRS Fm Ltr		<i>Davidson</i>	<i>Lange</i>	<i>Lee</i>	<i>DeYoung</i>	<i>smith</i>	<i>Case</i>
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	DATE ▶	<i>5/25/71</i>	<i>5/25/71</i>	<i>5/27</i>	<i>5/26/71</i>	<i>5/27</i>	<i>5/27</i>