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August 31, 1984

ØCANØ88413

Director of Nuclear Reactor Regulation
ATTN: Mr. J. F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Director of Nuclear Reactor Regulation
ATTN: Mr. James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Units 1 & 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
Final Response to ØCNAØ384Ø5
Control of Heavy Loads at ANO-1&2

Gentlemen:

The purpose of this letter is to provide NRC with our enclosed final response to your letter ØCNAØ384Ø5 dated March 6, 1984. NRC requested additional information on two items concerning our ØCAN1182Ø4 Heavy Loads Response dated November 12, 1982.

Our letter ØCANØ684Ø2 dated June 8, 1984, provided NRC with requested information concerning our establishment of an ongoing test/inspection program that is consistent with the requirements of Article 5.3 of ANSI N14.6-1978. Additionally, information was provided to address NRC's stated concerns for the Unit 1 Tripod and Turnbuckles and the Unit 1 Internals Handling Adapter.

This letter completes our response to ØCNAØ384Ø5 by addressing NRC's stated concerns for the Unit 1 ISI (ARIS) Tool Lift Rig, the Unit 2 Reactor Maintenance Structure Lift Beam and the Hydraset. We believe that our

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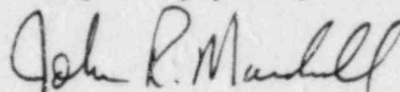
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revised Factors of Safety to yield and ultimate, reported both herein and in our letter ØCANØ684Ø2, are adequate and comparable to ANSI N14.6-1978 values. As a result, no further corrective actions beyond those reported are currently planned.

This concludes our response commitments for the two information requests contained in your letter ØCNAØ384Ø5 dated March 6, 1984.

Very truly yours,



John R. Marshall
Manager, Licensing

JRM:DET/lw

Enclosure

ATTACHMENT TO ØCANØ88413

ØCNAØ384Ø5 dated March 6, 1984, contained two requests for additional information concerning the control of heavy loads at ANO-1&2. These two questions are from NRC's review of our ØCAN1182Ø4 dated November 12, 1982. Our ØCANØ684Ø2 dated June 8, 1984, provided NRC with our initial response. This is our final and concluding response concerning ØCNAØ384Ø5.

•NRC INFORMATION REQUEST NO. 2

"Table 2.3.1(d)-2, contained in your ltr of 11-12-82, indicates several lifting devices (Unit 1 Tripod and Turnbuckle, Internal Handling Adapter and ISI tool and Unit 2 Reactor Maintenance Station Lift Rig and Hydro Set) w^h re the minimum factor of safety to yield and/or ultimate material strength is substantially less than those values specified in ANSI N14.6-1978 Article 3.2.1. This information is provided without additional comments related to either how these margins can be found to provide a degree of reliability equivalent to that expected in a device designed structure in accordance with Article 3.2.1 or your proposed corrective actions. Such information is required".

•AP&L Response

Unit 1 - ISI (ARIS) Tool Lift Rig

We reported in our letter dated November 12, 1982, (ØCAN1182Ø4), that the minimum Factors of Safety for the ARIS II Lift Rig were 1.77 to yield and 4.42 to ultimate. These values were based on our review of vendor design calculations. Upon further review, we learned that current vendor planning calls for using a new generation ISI Tool (ARIS III) to perform future ANO-1 upper nozzle weld inspections under the condition of fuel in the core. ARIS II will still be used for the balance of the reactor vessel weld inspections (fuel out of the core). Consequently, we no longer anticipate using ARIS II at ANO under a condition in which NUREG-0612 would apply.

We have reviewed the vendor's design report for the ARIS III Reactor Vessel Nozzle Examination Tool and have concluded that ARIS III was designed to meet the intent of NUREG-0612. Specifically, the lift rig for ARIS III was reviewed for conformance to ANSI N14.6-1978, and it was determined that the minimum Factors of Safety to yield and to ultimate are 2.55 and 6.38, respectively. We noted that these minimum Factors of Safety were based on an extreme load condition, not normal operational loads. Therefore, our conclusion is that the ARIS III lift rig was designed to provide reliability in compliance with ANSI N14.6-1978.

Unit 2 - Reactor Maintenance Structure Lift Beam

Our review of the previously reported minimum Factors of Safety to yield (2) and to ultimate (3.2) confirmed that these values are

correct. Although these values are well within AISC code allowables, we plan to physically modify the lift beam prior to its next use in order to ensure that the ANSI N14.6-1978 criteria are met. Our planned modification will increase the minimum Factors of Safety (FS) to the following values:

Minimum FS to Yield = 3.16
Minimum FS to Ultimate = 5.10

Unit 2 - Hydraset

Our review into the previously reported Factors of Safety to yield (2) and to ultimate (3.7) concluded that these values were calculated using extremely conservative design assumptions. After consulting with the manufacturer, we independently recalculated the minimum Factors of Safety using a refined mathematical model to more accurately analyze the most highly stressed component of the hydraset. As a result, our revised Factors of Safety are as follows:

Minimum FS to Yield = 3.24
Minimum FS to Ultimate = 4.94

We feel the above values are reasonable based on the results of calculations by the vendor which revealed a factor of safety of 5.24.