



ARKANSAS POWER & LIGHT COMPANY

FIRST NATIONAL BUILDING/P.O. BOX 551/LITTLE ROCK, ARKANSAS 72203/(501) 371-7901

February 15, 1983

JOHN M. GRIFFIN
Vice President
Nuclear Operations

1CAN028313

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

SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Proposed Technical Specification
Change to Allow for the Acoustic
Emission Examination of ANO-1 RCP
Flywheels

Gentlemen:

At the verbal request of your Mr. Guy Vissing, enclosed is a revision to our previously proposed change to the Arkansas Nuclear One - Unit 1 (ANO-1) Technical Specification 4.2.6. The enclosed revision updates AP&L's original request made in our letter dated February 22, 1979, (1CAN027909) to now include language specifically referencing the Acoustic Emission Examination methodology to test the ANO-1 Reactor Coolant Pump (RCP) flywheels. The basis for this revision is summarized below.

Current Requirements

ANO-1 Technical Specification 4.2.6 currently requires complete surface and volumetric examination of the reactor coolant pump flywheels to be conducted coincident with refueling or maintenance shutdowns such that within a 10 year period after startup all four reactor coolant pump flywheels will be examined.

Overview of ANO-1 RCP Flywheel Testing Concern

As stated in our February 22, 1979, letter to NRC, the ANO-1 reactor coolant pump motors are an early model from Allis-Chalmers manufactured such that the flywheels are "shrunk-to-fit" on the shaft. The manufacturer

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has stated that these flywheels were not intended to be removable and has strongly recommended that they not be removed from their shafts. Due to accessibility problems, it was thought impossible to meet the letter of the present technical specification calling for a complete surface and volumetric examination without removal of the flywheels.

AP&L's Original Request for Relief

Per our letter dated February 22, 1979, AP&L requested an amendment to the ANO-1 Technical Specification 4.2.6 which would limit the surface and volumetric examination of the ANO-1 RCP flywheels to those areas accessible without motor disassembly, i.e., can be reached through the existing access ports, and possibly only the upper access ports if the radiation levels at the lower access ports were prohibitive.

AP&L's Request to use Acoustic Emission Inspection

Subsequent to the above submittal, AP&L became aware of the potential application of Acoustic Emission (AE) Examination as an alternative examination methodology. AE was thought to address the examination requirements in our Technical Specifications without requiring the physical disassembly of the flywheels. Therefore, in our letter dated August 18, 1982, (1CAN088203) we requested that Acoustic Emission be considered as a suitable alternative examination methodology. The AE methodology was formally presented to the NRC at a meeting in Bethesda, Maryland on August 24, 1982.

Your September 14, 1982, letter (1CNA098204) requested additional information on our proposed AE examination methodology. Our responses were subsequently provided to NRC in our letters dated November 30, 1982, (1CAN118205) and December 23, 1982, (1CAN128210).

NRC's Request for an Amended Technical Specification Change

During a January 10, 1983, telephone conversation, your Mr. Guy Vissing stated that NRC had agreed to Acoustic Emission Examination being an acceptable alternative examination methodology for the ANO-1 RCP Flywheels. Mr. Vissing requested that our Licensing Section prepare an amendment to our February 22, 1979, Technical Specification change request to incorporate language referencing AE as an initial examination methodology, to omit the previously referenced radiation exposure consideration, and to perform other suitable Nondestructive Examinations (NDE), on any areas of concern as indicated by the results of the Acoustic Emission Examination. Thus, AP&L's application of AE will either (a) confirm the structural integrity of the flywheel, or (b) indicate that there exists an area of the flywheel that, for whatever reason, needs further NDE testing to ensure structural integrity.

The following points are in agreement between the NRC staff and AP&L staff relative to the enclosed revision to our Technical Specification change request.

- 1) Surface and volumetric examinations will be performed on all four (4) Reactor Coolant Pump upper flywheels.

- 2) Acoustic Emission Examination is an acceptable alternative surface and volumetric examination methodology to initially test the ANO-1 RCP flywheels.
- 3) If the results of the Acoustic Emission Examination revealed that areas of concern existed on the upper flywheels, then the upper flywheels would be tested further by other NDE methods to ensure structural integrity.
- 4) Acceptable test results for the upper flywheels will be considered indicative of the acceptable condition of the lower flywheels. This is based on the smaller size and the correspondingly smaller inservice stresses which would be experienced by the lower flywheels.

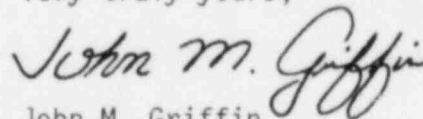
Summary

On February 22, 1979, AP&L submitted a Technical Specification change request seeking to limit the examination of the ANO-1 RCP flywheels to those areas accessible through the existing access ports. The basis for this request was that our RCP motors were an early model and were not designed to be dismantled to the extent necessary for the testing required in the existing Technical Specifications with then available technology.

When new technology became available to AP&L, we requested NRC to consider Acoustic Emission as a suitable alternative examination methodology to test the ANO-1 RCP flywheels. After formally presenting the AE methodology and answering NRC's resulting questions, we were requested by NRC to submit an amended Technical Specification change request to reference Acoustic Emission as an initial examination methodology. Application of AE will enable AP&L to comply with NRC's existing examination requirements and thereby ensure the structural integrity of the ANO-1 RCP flywheels.

No additional fee is remitted as the enclosed amendment is submitted at NRC's request and is intended to modify an existing request currently under regulatory review.

Very truly yours,



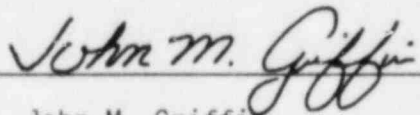
John M. Griffin
Vice President, Nuclear Operations

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Enclosure

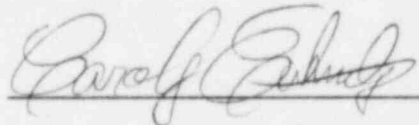
STATE OF ARKANSAS)
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COUNTY OF PULASKI) SS

I, John M. Griffin, being duly sworn, subscribe to and say that I am Vice President, Nuclear Operations for Arkansas Power & Light Company; that I have full authority to execute this oath; that I have read the document numbered 1CANØ183Ø3 and know the contents thereof; and that to the best of my knowledge, information and belief the statements in it are true.



John M. Griffin

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 16th day of February, 1983.



Notary Public

My Commission Expires:
4-1-85