



ARKANSAS POWER & LIGHT COMPANY

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October 24, 1984

ØCAN1Ø84Ø6

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
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
AP&L Response to "Proposed Staff
Actions to Improve and Maintain Diesel
Generator Reliability" (Generic Letter 84-15)

Gentlemen:

The purpose of this letter is to respond to your July 2, 1984, Generic Letter 84-15 entitled "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability", (ØCNAØ78423). Therefore, enclosed are Arkansas Power & Light Company's responses as they relate to Arkansas Nuclear One - Units One and Two (ANO-1&2).

AP&L agrees that an overall improvement in diesel engine reliability and availability can be gained by performing diesel generator starts for surveillance testing using engine prelube and other manufacturer recommended procedures to reduce engine stress and wear and by preventive and corrective maintenance practices based on the manufacturer's recommendations.

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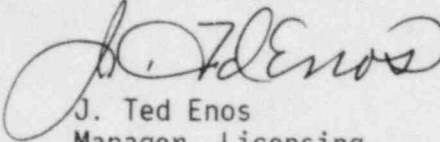
Mr. Darrell G. Eisenhut

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October 24, 1984

Therefore, in consideration of the above and as stated in our response to Item 1 enclosed, AP&L will submit to NRC by January 15, 1985, proposed changes to the existing ANO 1 and 2 diesel generator surveillance Technical Specifications to reduce the number of required cold fast diesel generator starts.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J. Ted Enos".

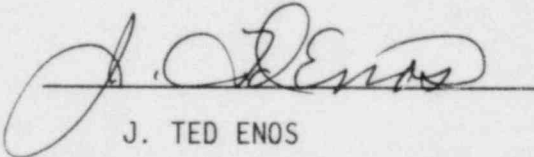
J. Ted Enos
Manager, Licensing

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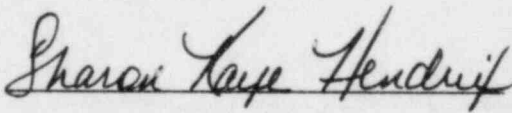
Attachment

STATE OF ARKANSAS)
) SS
COUNTY OF PULASKI)

I, J. Ted Enos, being duly sworn, subscribe to and say that I am Manager of Licensing, for Arkansas Power & Light Company; that I have full authority to execute this oath; that I have read the document numbered ØCAN1Ø84Ø6 and know the contents thereof; and that to the best of my knowledge, information and belief the statements in it are true.


J. TED ENOS

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 24th day of October, 1984.


Notary Public

My Commission Expires:

9-19-89

ENCLOSURE TO ØCAN1Ø84Ø6

Response to Generic Letter 84-15
"PROPOSED STAFF ACTIONS TO IMPROVE AND
AND MAINTAIN DIESEL GENERATOR RELIABILITY"

Item 1: "Reduction in Number of Cold Fast Start Surveillance Tests for Diesel Generators"

This item is directed towards reducing the number of cold fast start surveillance tests for diesel generators which the staff has determined results in premature diesel engine degradation. The details relating to this subject are provided in Enclosure 1. Licensees are requested to describe their current programs to avoid cold fast start surveillance testing or their intended actions to reduce cold fast start surveillance testing for diesel generators."

Response: Arkansas Power & Light Company's current practice to reduce cold fast start surveillance testing for diesel generators is to schedule the preventative maintenance activities to coincide, to the extent practicable, with the required monthly surveillance testing. This is done whenever possible in order to reduce repetitive starting of the diesel generators to demonstrate operability. Additionally, AP&L prelubes the diesel generators to lessen mechanical stress and wear from cold fast starts currently required from ambient conditions.

AP&L proposes to reduce the number of cold fast starts by submitting Technical Specification Change Requests (TSCRs) for ANO-1&2, which would extend the time period between required starts from ambient conditions. All other starts for purposes of surveillance testing would be preceded by appropriate engine warm-up procedures (including prelube) as recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized as much as possible. TSCRs to effect the above changes, will be sent to NRC by January 15, 1985.

Item 2: "Diesel Generator Reliability Data"

This item requests licensees to furnish the current reliability of each diesel generator at their plant(s), based on surveillance test data. Licensees are requested to provide the information requested in Enclosure 2."

Response: Part 1: "Licensees are requested to report the reliability of each diesel generator at their plant for its last 20 and 100 starts."

The reliability data of ANO-1&2 diesel generators for the last 20 and 100 demands as of July, 1984, is presented below:

ANO-1 (20 Valid Demands)

<u>Diesel Generator</u>	<u>Reliability</u>	<u>No. of Failures</u>	<u>Date of Failure(s)</u>
"A"	100 %	0	N/A
"B"	100 %	0	N/A

ANO-1 (100 Valid Demands)

<u>Diesel Generator</u>	<u>Reliability</u>	<u>No. of Failures</u>	<u>Date of Failure(s)</u>
"A"	100 %	0	N/A
"B"	96 %	4	2/22/82, 8/21/81, 4/27/81, 3/8/81

ANO-2 (20 Valid Demands)

<u>Diesel Generator</u>	<u>Reliability</u>	<u>No. of Failures</u>	<u>Date of Failure(s)</u>
"A"	100 %	0	N/A
"B"	90 %	2	6/21/84, 6/6/84

ANO-2 (100 Valid Demands)

<u>Diesel Generator</u>	<u>Reliability</u>	<u>No. of Failures</u>	<u>Date of Failure(s)</u>
"A"	100 %	0	N/A
"B"	98 %	2	6/21/84, 6/6/84

Part 2: "Licensees are requested to indicate whether they maintain a record which itemizes the demands and failures experienced by each diesel generator unit."

AP&L does not maintain a single log which itemizes the history of valid demands/failures for each diesel generator unit as outlined in Section C.3.a of Regulatory Position 1.108, Revision 1. However, various operating data is recorded during the performance of the monthly surveillance tests and is retained as part of the station records. The reliability data supplied in part 1 above was obtained by review of these records utilizing Regulatory Position C.2.e. of Regulatory Guide 1.108, Revision 1, August, 1977 as guidance.

Part 3: "Licensees should also indicate whether a yearly data report is maintained for each diesel generators reliability."

A yearly data report indicating the reliability of each diesel generator is not maintained per Regulatory Guide 1.108, Revision 1, at this time. However, AP&L tracks plant equipment performance for the purpose of detection and analysis of any adverse trends affecting plant safety, including diesel generator reliability.

Item 3: "Diesel Generator Reliability

Licensees are requested to describe their program, if any, for attaining and maintaining a reliability goal for their diesel generators. An example of a performance Technical Specification to support a desired diesel generator reliability goal has been provided by the staff in Enclosure 3. Licensees are requested to comment on, and compare their existing program or any proposed program with the example performance specification."

Response: Arkansas Power & Light Company has not implemented a formal reliability improvement program designed specifically to achieve and/or maintain a given reliability goal for diesel generator performance. However, AP&L has taken certain actions to enhance diesel generator performance at ANO. Among these are:

1. AP&L has established a Preventative Maintenance (PM) Program for our diesel generator units at ANO. This PM program has recently been compared to the latest manufacturer's recommendations and modified where applicable.
2. Except where specifically required by Technical Specifications, AP&L's practice is to avoid long periods of operation at low loads, short duration runs, and fast starts to rated capacity. AP&L concurs with manufacturer's recommendations that these are all potentially harmful to the diesel engine and should be avoided.
3. AP&L's position is that manufacturer's recommendations should be followed in procedures governing test frequency, loading and duration. It is AP&L's practice to periodically make procedural revisions and/or request Technical Specification revisions as necessary to further reduce mechanical stress and wear.

It is AP&L's opinion that the above actions are adequate to ensure an acceptably high degree of reliability is achieved and maintained for the ANO-1&2 diesel generators.

Comments on "ATTACHMENT TO ENCLOSURE 3, EXAMPLE OF
DIESEL GENERATOR PERFORMANCE TECHNICAL SPECIFICATION."

- Para. 1 Reliability Goals - A minimum reliability goal of 0.95 per demand seems to be reasonable provided the manufacturer's recommended practices have been followed concerning surveillance test frequency, loading and duration. If the manufacturer's recommendations were not followed for an older diesel generator due to a historical testing requirement contrary to the manufacturer's recommendations, it may be appropriate in such instances to consider a lesser goal on a case-by-case basis.
- Para. 2 Reliability Level Remedial Actions - AP&L does not agree with the premise that increasing the test frequency increases reliability and is always necessary to address a given problem related to diesel generator degradation. For example, if the root cause of a failure is determined and corrected, then we see no benefit to be gained by further repeated testing. The need for any accelerated surveillance test frequency should be established strictly on the merits of a case-by-case determination of its necessity in light of the root cause for failure and its subsequent resolution.
- Para. 3 Surveillance Test Frequency - It is AP&L's opinion that each diesel generator unit should be tested at a frequency and duration consistent with the manufacturer's recommendations. Because increased surveillance testing increases the probability of failure due to unnecessary stress and wear imposed on the diesel generator, we feel that any decision to enter into an accelerated surveillance test frequency should be based on need as determined from a case-by-case analysis of the root cause of failure. See our comments on Paragraph 2 above.
- Para. 4 Remedial Action Criteria - No comment.
- Para. 5 Requalification Criteria - AP&L's opinion is that entering into an accelerated test schedule should be considered only if the root cause of any given failure (or failures) cannot be determined and corrected.
- Para. 6 Failure to Requalify a Diesel Generator - No comment.
- Para. 7 Diesel Generator Inoperability Limits - ANO-1 Technical Specifications allow one diesel generator to be inoperable for up to 7 days in any month provided certain criteria are met. ANO-2 Technical Specifications allow a maximum of 72 hours for one diesel generator to be inoperable. AP&L perceives no benefit in placing an additional cumulative or annual limit restriction based total time of diesel generator inoperability.

Para. 8 Valid Demands and Failures - Regulatory Guide 1.108, C.2.e is too restrictive with regard to the determination of valid demands and failures. Position C.2.e.7 states that tests performed to verify correction of a problem should be considered valid tests and successes or failures, as appropriate. It is AP&L's opinion that verification tests following corrective maintenance should be considered as an extension of troubleshooting activities and therefore should not be considered as a valid test in the sense that its sole purpose is to challenge the existing status of diesel generator operability. Verification testing should also be considered an integral part of root cause investigations resulting from an original problem.

Para. 9 Reliability Records - No comment.