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July 31, 1997

OCAN079710

U. S. Nuclear Regulatory Commission
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Subject: Arkansas Nuclear One - Units 1 and 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
Final Resolution of Generic Letter 96-06

Gentlemen:

Generic Letter 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions," requested addresses to determine whether or not piping systems that penetrate the containment are susceptible to thermal expansion of fluid so that overpressurization of piping could occur. The requested actions also stated that in addition to the individual addressee's postulated accident conditions, these items should be reviewed with respect to the scenarios referenced in the generic letter.

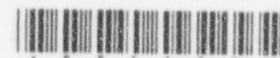
Arkansas Nuclear One (ANO) submitted the 120-Day response to the generic letter on January 28, 1997 (OCAN019702). In that letter, ANO committed to perform further case specific analysis, e.g., heat transfer and/or finite element analysis considering detailed geometry of the penetrations in ANO Units 1 & 2. Final resolution was to be complete by July 31, 1997. Consistent with our commitment, the additional analysis has been completed and the results are summarized below.

An evaluation of the ANO-1 reactor building and ANO-2 containment building mechanical penetrations was performed. At ANO-1, seventy-five (75) reactor building mechanical penetrations were evaluated. Of these penetrations, the following twenty-one (21) were considered potentially susceptible to thermally induced overpressurization. Additional analysis was performed for each of these penetrations.

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Penetration Number	System/Service
P-10	Steam Generator Sampling
P-12	Core Flood Tank Sampling
P-14	MU&P Letdown to Demineralizers
P-19	SFP Cooling to Incore Tank and Refueling Canal
P-39	Condensate to Quench Tank
P-40	Fire Water to Reactor Building
P-42	Plant Heating Return
P-47	Intermediate Cooling Water to CRDs
P-48	Plant Heating Supply
P-51	Chilled Water to RB Cooling Coils
P-52	ICW to RCPs
P-58	Steam Generator A Drain
P-59	Chilled Water from RB Cooling Coils
P-60	ICW From CRDs and RCPs
P-62	ICW from Letdown and RCP Seal Coolers
P-64	Steam Generator A Drain
P-68	Reactor Building Sump Drain
P-69	RCS Drains
P-70	Quench Tank Drain
P-7A	Pressurizer and RCS Sampling
P-9	MU&P RCP Controlled Bleedoff

At ANO-2, seventy-six (76) containment building mechanical penetrations were evaluated. Of these penetrations, the following eleven (11) were considered potentially susceptible to thermally induced overpressurization:

Penetration Number	System/Service
2P-18	RCP Seal Water Return
2P-19	Refueling Canal Recirculation
2P-33	SIT Drain
2P-37	Quench Tank Liquid Sample
2P-39	Quench Tank Makeup and Demin Water Supply
2P-42	Plant Heating Return
2P-48	Plant Heating Supply
2P-51	Chilled Water Inlet
2P-59	Chilled Water Outlet
2P-68	Containment Sump Drain
2P-69	Reactor Drain Tank Discharge

Resolution for ANO-1

Physical modifications will be made to seventeen (17) of the twenty-one (21) potentially susceptible penetrations. These modifications will be completed by the end of refueling outage 1R14 and will provide relief paths for trapped fluids during accidents or ambient temperature increases in order to eliminate the possibility of overpressurization. Refueling outage 1R14 is currently scheduled to begin in March 1998.

No physical modifications are planned for the remaining four (4) potentially susceptible penetrations. The justification for each is summarized below:

- Penetration P-16 has been shown by heat transfer calculation to not be susceptible to overpressurization during an accident or ambient temperature increase.
- Penetration P-19 is currently drained and will be maintained in a drained configuration during normal operation.
- Penetration P-42 is out of service and is currently blanked off. The penetration will be inspected during 1R14 to ensure that it is drained.
- Penetration P-48 is out of service and is currently blanked off. The penetration will be inspected during 1R14 to ensure that it is drained.

Resolution for ANO-2

Physical modifications will be made to nine (9) of the eleven (11) potentially susceptible penetrations. These modifications will be completed by the end of refueling outage 2R13 and will provide relief paths for trapped fluids during accidents or ambient temperature increases in order to eliminate the possibility of overpressurization. Refueling outage 2R13 is currently scheduled to begin in January 1999.

No physical modifications are planned for the remaining two (2) potentially susceptible penetrations. The justification for both are discussed below:

- Penetration 2P-18 has been shown by heat transfer calculation to not be susceptible to overpressurization during an accident or ambient temperature increase.
- Penetration 2P-19 is currently drained and will be maintained in a drained configuration during normal operation.

While it is our intent to effect the modifications during the next refueling outage for each unit, the modifications have not yet been fully scoped. Therefore, should we determine it to be impractical to complete all of the modifications during the next refueling outage for each unit, we will notify you and provide the basis for the schedule change.

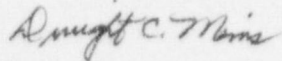
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Should you have any questions or comments, please contact me.

Very truly yours,



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DCM/dwb

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