

Docket Nos. 50-313  
and 50-368

July 6, 1990

Mr. Neil S. Carns  
Vice President, Nuclear  
Arkansas Nuclear One  
P. O. Box 551  
Little Rock, Arkansas 72203

Dear Mr. Carns:

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - EXTENSION IN LICENSES  
EXPIRATION DATES (TAC NOS. 66575 AND 66557)

Enclosed is a copy of the Environmental Assessment associated with your applica-  
tions for amendments dated October 30, 1987 as supplemented on September 27,  
1989 for Units 1 and 2 and January 29, 1990 for Unit 1 only. This assessment  
relates to your requests to amend the expiration dates for the operating  
licenses for Arkansas Nuclear One, Units 1 and 2.

A Notice of Issuance of Environmental Assessment and Finding of No Significant  
Impact has been forwarded to the Office of the Federal Register for publication.

Sincerely,

original signed by

Thomas W. Alexion, Project Manager  
Project Directorate IV-1  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

original signed by

Chester Poslusny, Jr., Project Manager  
Project Directorate IV-1  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

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Docket Nos. 50-313  
and 50-368

Mr. T. Gene Campbell  
Vice President, Nuclear  
Arkansas Power and Light Company  
P. O. Box 551  
Little Rock, Arkansas 72203

Dear Mr. Campbell:

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - EXTENSION IN LICENSES  
EXPIRATION DATES (TAC NOS. 66575 AND 66557)

Enclosed is a copy of the Environmental Assessment associated with your applications for amendments dated October 30, 1987 as supplemented on September 27, 1989 for Units 1 and 2 and January 29, 1990 for Unit 1 only. This assessment relates to your requests to amend the expiration dates for the operating licenses for Arkansas Nuclear One, Units 1 and 2.

A Notice of Issuance of Environmental Assessment and Finding of No Significant Impact has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Thomas W. Alexion, Project Manager  
Project Directorate IV  
Division of Reactor Projects - III,  
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Chester Poslusny, Jr., Project Manager  
Project Directorate IV  
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IV, V and Special Projects  
Office of Nuclear Reactor Regulation

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

July 6, 1990

Docket Nos. 50-313  
and 50-368

Mr. Neil S. Carns  
Vice President, Nuclear  
Arkansas Nuclear One  
P. O. Box 551  
Little Rock, Arkansas 72203

Dear Mr. Carns:

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - EXTENSION IN LICENSES  
EXPIRATION DATES (TAC NOS. 66575 AND 66557)

Enclosed is a copy of the Environmental Assessment associated with your applications for amendments dated October 30, 1987 as supplemented on September 27, 1989 for Units 1 and 2 and January 29, 1990 for Unit 1 only. This assessment relates to your requests to amend the expiration dates for the operating licenses for Arkansas Nuclear One, Units 1 and 2.

A Notice of Issuance of Environmental Assessment and Finding of No Significant Impact has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Handwritten signature of Thomas W. Alexion in cursive.

Thomas W. Alexion, Project Manager  
Project Directorate IV-1  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Handwritten signature of Chester Poslusny, Jr. in cursive.

Chester Poslusny, Jr., Project Manager  
Project Directorate IV-1  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:  
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Mr. Neil S. Carns  
Arkansas Power & Light Company

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Unit Nos. 1 and 2

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

ENVIRONMENTAL ASSESSMENT  
BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATING TO THE CHANGE IN EXPIRATION DATES OF  
FACILITY OPERATING LICENSE NOS. DPR-51 AND NPF-6  
ENTERGY OPERATIONS, INC.  
ARKANSAS NUCLEAR ONE, UNITS 1 AND 2  
DOCKET NOS. 50-313 AND 50-368  
DATED July 6, 1990

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## 1.0 INTRODUCTION

The United States Nuclear Regulatory Commission (the Commission) is considering the issuance of proposed amendments which would extend the expiration dates of the facility operating license for Arkansas Nuclear One, Units 1 and 2 (ANO-1&2). The expiration date for License No. DPR-51 for ANO-1 would be extended from December 6, 2008 to May 20, 2014, and the expiration date for License No. NPF-6 for ANO-2 would be extended from December 6, 2012 to July 17, 2018. These plants are owned and operated by Arkansas Power and Light Company (AP&L) and are located in Pope County, Arkansas.

## 2.0 IDENTIFICATION OF THE PROPOSED ACTION

The currently licensed term for each ANO unit is 40 years commencing with the issuance of the construction permit (December 6, 1968 for ANO-1, and December 6, 1972 for ANO-2). Accounting for the time that was required for construction of each unit, this represents an effective operating license term of approximately 34½ years for each unit. AP&L's applications of October 30, 1987 as supplemented by a letters dated September 27, 1989 for Units 1 and 2 and January 29, 1990 for Unit 1 only, requested an extension of the expiration dates of the operating licenses as noted above. With these proposed expiration dates, the 40-year operating term for each license would start with issuance of the operating license rather than the construction permit.

## 3.0 THE NEED FOR THE PROPOSED ACTION

The granting of the proposed license amendments would allow operation of each ANO unit for approximately 5½ additional years beyond the currently approved license expiration dates. Without issuance of the proposed license amendments, ANO-1&2 would not be authorized to operate beyond the end of the currently approved license terms.

## 4.0 ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

In February 1973, the United States Atomic Energy Commission issued the Final Environmental Statement for ANO-1, and in June 1977 the United States Nuclear Regulatory Commission issued the "Final Environmental Statement (FES) Related to Operation of ANO-2," NUREG-0254. These documents provided an evaluation of the environmental impact associated with operation of ANO-1&2. The NRC staff has reviewed the FES for each unit and additional information provided by AP&L, to determine the environmental impact of operation of the two ANO units for approximately five and one-half additional years each, beyond the current license expiration dates.

### 4.1 RADIOLOGICAL AND ENVIRONMENTAL IMPACTS

The staff has considered potential radiological impacts to the general public residing in the vicinity of the ANO Nuclear Power Plants site; these impacts include potential accidents and normal radiological releases. In addition, the staff has considered the impacts from radiation exposure to workers at ANO-1&2. Finally, the impacts from the uranium fuel cycle and the transportation of fuel and waste have been considered. These impacts are summarized in Section 4.1.1 through 4.1.4 below.

#### 4.1.1 Radiological Impacts - General Public

Radiological impacts on the environment due to the operation of ANO Units 1 and 2 remain low, as expected. Tables 5.5 and 5.6 of the ANO-1 FES and Tables 5.7 and 5.8 of the ANO-2 FES list the offsite dose estimates made by the staff before these units commenced operations. As shown in these documents, doses to the public were predicted to be considerably lower than the applicable Regulatory guideline values at Appendix I to 10 CFR Part 50.

The staff stated in its proposed no significant hazards consideration determination dated February 8, 1989, that the change in the expiration date of the operating license for each unit is consistent with the originally engineered design life of each plant, i.e. 40-years of operation. The potential effects of the full 40 year operational life for each unit have been previously considered in the Safety Analyses. In addition considering design conservatism, surveillance, inspection, testing, and maintenance programs in place to sustain the condition of the plants throughout their service life, the probability or consequences of previously evaluated accidents has not been significantly increased for the units. Further, continued plant operation in accordance with the Technical Specifications assures that an adequate margin of safety will be preserved on a continuing basis through the new expiration date of each operating license.

AP&L is required to provide an annual report of radioactivity released from the units and estimates of offsite doses due to the atmospheric emissions and liquid effluents. The dose estimates are obtained through use of calculational models described in the station's Offsite Dose Calculation Manual. Models must be used because the doses are too low to measure.

The staff has examined AP&L's calculated results of 1988 (Semiannual Radiological Effluent Release Report for Third and Fourth Quarters 1988, Accession No. 8903240210, U.S. NRC Public Document Room) and finds that the estimated doses are well within Appendix I guideline values, some being well below the staff's preoperational estimates in the FES's, and some being close to the preoperational estimates. We conclude that the environmental impacts due to the routine radioactive emissions and effluents from ANO-1 and -2 are well within regulatory guidelines and are expected to remain insignificant.

The staff has assessed the public risks from reactor accidents per year of operation at other reactors of comparable design and power level. In all cases, the estimated risks of early fatalities and latent cancer fatalities per year of reactor operation have been small compared to the risks of many non-reactor type of accidents to which the public is typically exposed, and compared to the natural incidence of fatal cancers. The annual risks associated with reactor accidents did not increase with longer periods of operation of the reactor. If similar risks were estimated for ANO-1&2, we would expect a similar conclusion. Further, as noted in the FES for each unit, the integrated exposure to population within a 50-mile radius of the ANO site from each postulated accident would be orders of magnitude smaller than that from naturally

occurring background radiation. When considered with the probability of occurrence, the annual potential radiation exposure of the population from all the postulated accidents is an even smaller fraction of the exposure from natural background radiation and, in fact, is well within naturally occurring variations in the natural background. The staff concludes that the proposed additional years of operation would not increase the annual public risk from reactor accidents.

The ANO-2 FES, dated June 1977, estimated the population distribution within 50 miles of the ANO site as 164,688 in 1970 and projected a population increase to 255,529 by 2016. AP&L's amendment request for each ANO unit dated October 30, 1987 revised these estimates, based upon 1970 and 1980 census data, to 422,593 in 2018 based on the annual percentage growth rate. The estimated population dose per year of unit operation for ANO-1 for the year 2015 is 1.1 person-rem (FES Table 5.6) and is less than one person-rem for ANO-2 for the year 1990 (FES Table 5.5). Even considering the increase in population estimates, the estimated population dose will remain very small compared to the population dose from natural background, which is estimated at 18,000 person-rem. Thus, the increase in population associated with the proposed license extension will not change the conclusions in Section 5.6.3 of the ANO-1 FES and in Section 5.5.1.6 of the ANO-2 FES, which were that no measurable radiological impact on the local population is expected from the normal operation of Arkansas Nuclear One, Units 1 and 2.

#### 4.1.2 Environmental Impacts - Uranium Fuel Cycle

In addition to the impacts associated with the operation of the reactors, there are impacts associated with the uranium fuel cycle. The uranium fuel cycle consists of those facilities (e.g., uranium mills, fuel fabrication plants, etc.) that are necessary to support the operation of the reactors. The FES for ANO-1&2 assumed the fuel management scheme of annual refuelings.

Since that time, the maximum reload enrichment for each unit has been increased to 3.5 weight percent U-235 for ANO-1 and to 4.1 weight percent U-235 for ANO-2, thus allowing longer fuel cycles than those assumed in the original FES. The use of higher enrichments and longer fuel cycles result in fewer total fuel assemblies discharged to the spent fuel pool. Specifically an average of approximately 64 assemblies per 18 month cycle are being discharged versus 59 per an annual cycle for ANO-1; and for ANO-2, an average of approximately 68 per 18 month cycle versus 59 per annual cycle are being discharged.

In assessing the environmental impact of increasing the operating life from approximately 34 1/2 years to 40 years, the original FES has been reviewed along with the environmental analysis of the change in fuel enrichment. The additional years of reactor operation would almost proportionally increase the total fissile uranium required. However, the annual environmental effects of the uranium fuel cycle activities remain essentially unchanged. The longer fuel cycles result in a lower cumulative total of spent fuel assemblies that will be discharged (i.e., with the longer cycles, approximately 1592 assemblies versus

approximately 2420 assemblies with annual cycles over the assumed 40 year plant operating lifetime for ANO-1 and approximately 1782 assemblies versus approximately 2420 assemblies with annual cycles for ANO-2). The net is an approximately 1.5 percent reduction in the annual fuel requirements.

The current storage capacity of the spent fuel storage pool for ANO-1 is 968 assemblies and for Unit 2 is 988 assemblies. AP&L's initial assessment of ANO's requirements and potential alternatives regarding the continuing need for spent fuel storage capacity was completed in December of 1988. The major recommendation emerging from this initial assessment was that a more detailed and comprehensive evaluation in the 1990-1991 timeframe is required to identify the specific courses of action to be taken to alleviate the spent fuel storage shortfall and to select the initial storage technology to be implemented.

There are 63 spent fuel storage locations at ANO-1 and 109 locations at ANO-2 that are physically restricted due to such reasons as heavy loads, access interferences, incore detector and trash storage cans, and dummy assembly and tool storage. The initial assessment acknowledged that prior to implementing any new storage technology, every effort would be made to utilize existing storage capacity. Nevertheless, additional capacity will be required before the Department of Energy (DOE) begins to accept spent fuel at a high-level waste repository.

AP&L's initial assessment identified six (6) potential spent fuel storage alternatives: spent fuel pool rerack, fuel rod consolidation, metal casks, concrete casks, horizontal concrete modules, and modular vaults. AP&L stated that preference would be given to those technologies for which topical safety analysis reports have been approved by the NRC and that have been demonstrated or implemented by other utilities. Other considerations in selecting an alternative will include the likelihood of DOE acceptance of the waste form, any interference with normal operations, and the time required to implement the alternative.

If DOE delays acceptance of spent fuel beyond 2003, a further increase in storage capacity at ANO will be necessary. This will also be considered when selecting from among the storage alternatives. Related to this will be consideration of the possibility that DOE may delay acceptance until well into the ANO operating license extension period. The largest impact from this would be associated with the cost of a chosen technology, not the feasibility (e.g., additional metal or concrete casks, etc.).

AP&L will initiate a study in the 1990-1991 timeframe to address the spent fuel storage requirements of ANO-1 and 2. This study will include consideration of spent fuel storage requirements due to extended operation of the units upon receiving license extensions.

#### 4.1.3 Environmental Impacts - Occupational Exposures

The staff has evaluated ANO's dose history over the life of the plant and has compared it with the overall industry dose experience. ANO exposures have consistently been below the industry average with the exception of 1983, 1986, and 1988. In 1983, approximately 100 man-rem was incurred during the installation of extensive modifications and 440 man-rem was incurred due to Unit 1 steam generator tube repair. The higher than average exposure in 1986 resulted from refueling outages for both units being extended, which permitted additional jobs to be performed during that year. Similarly, refueling outages were conducted on both units during 1988 and additions to the work scope resulted in the higher than average exposure.

The average annual dose per unit at ANO over the life of the plant through 1988 (1975-1988) is 399 person-rem. This is less than the PWR average annual dose of 467 person-rem for the same time period. Using the most recent five-year period, 1984-1988, ANO averaged 400 person-rem per year while the PWR average was 413 person-rem per year.

In 1987, AP&L implemented a Radiation Exposure Goals Program to establish realistic annual exposure goals for the plant. Each work group will be responsible for developing their own exposure goals as well as the goals for any contractor support personnel employed by these work groups. All exposure goals will be reviewed by the ANO ALARA Coordinator as well as ANO Management. AP&L has set a long-term exposure goal for 1990-1994 to be in INPO's Best Performing Quartile (3-year average) for U.S. nuclear units.

AP&L has implemented numerous ALARA-related features in order to reduce occupational exposures at ANO. The use of remote equipment for steam generator tube plugging operations has resulted in a greater than 60 percent reduction in the average exposure required to repair a steam generator tube between 1983 and 1988. Other ALARA measures implemented include use of mock-ups during training, use of a Duratek filtration system which has greatly reduced the number of radwaste filter changes and associated exposure, decontamination of the Auxiliary Buildings, thereby eliminating the requirement to wear anti-contamination clothing for entry to these buildings, and steps to cleanup the RCS by performing  $H_2O_2$  treatment at the beginning of each outage to help reduce the source term.

AP&L does not expect the annual collective doses to workers to increase during the proposed additional years of reactor operation. In order to reduce the source term and minimize the activity buildup in the reactor coolant system, each unit utilizes the NSSS vendor-specified lithium-borated chemical control program. Worker training includes instruction in state-of-the-art ALARA design techniques that emphasize source reduction and dose reduction during plant modifications. In addition, ANO management is working to improve communications between Health Physics and other work groups on radiological considerations during work activities, routine operations, and outages. Such cooperation is important in the effort to lower plant collective doses.

Additional occupational exposures will result from decommissioning of ANO-1&2, although these doses will be incurred with or without the license extension periods. The extended operating times should have no measurable adverse effect on decommissioning dose requirements.

The staff concludes that AP&L's dose assessment is acceptable and that the radiation protection programs at ANO-1&2 are adequate to ensure that occupational radiation exposures will be maintained ALARA and in continued compliance with the requirements of 10 CFR Part 20.

Therefore, the staff concludes that the environmental impact associated with 40-year operating license duration is not significantly different from that associated with the approximately 35-year operating term authorized by the existing license and those previously assessed in the FES for each ANO unit.

#### 4.1.4 Environmental Impacts - Transportation of Fuel and Waste

The staff has reviewed the environmental impacts attributable to the transportation of fuel and waste to and from the ANO-1&2 sites. With respect to the normal conditions of transport and possible accidents in transport, the staff concludes that the environmental impacts are bounded by those identified in Table S-4, "Environmental Impact of Transportation of Fuel and Waste To and From One Light Water-Cooled Nuclear Power Reactor" of 10 CFR 51.52. The bases for this conclusion are that: 1) Table S-4 is based on an annual refueling and an assumption of 60 spent-fuel shipments per reactor year. At the present time each unit has completed a transition to an 18-month refueling cycle which will result in an average fewer than 60 spent-fuel shipments per year per unit. Reducing the number of fuel shipments will reduce the overall impacts related to population exposure and accidents discussed in Table S-4; and 2) Table S-4 represents the contribution of such transportation to annual radiation dose per reactor year to exposed transportation workers and to the general public.

AP&L projects that spent fuel may achieve a batch average burnup of 42,000 MWD/MTU and for each unit. While the average rate of fuel irradiation may exceed the value reported in 10 CFR 51.52(a)(3), (33,000 MWD/MTU), the environmental effect is not significant due to additional decay time beyond the 90 days specified in the regulation. The NRC has previously found (53 FR 6040, February 29, 1988) that the environmental impacts summarized in Table S-4 of 10 CFR 51.52 are conservative and bound the corresponding impacts for burnup levels up to 60 GWD/MTU. The radiation levels of transport fuel casks are limited by the Department of Transportation and are not dependent on fuel enrichment and/or irradiation levels. Therefore, the estimated doses to exposed individuals per reactor year will not increase over that specified in Table S-4.

The annual radiation dose to individuals would not be changed by the extended period of operation. Although some integral risk with respect to normal conditions of transportation and possible accidents in transport would be attributed to the additional years of operation, the integral risk would not be significant because the annual risk for such transportation is small.

#### 4.2 NON-RADIOLOGICAL IMPACTS

The staff has reevaluated the non-radiological impacts associated with operation of ANO-1&2 to include the approximately five and a half additional years of operation associated with a change in the expiration date of the operating license. The non-radiological impacts, primarily on water and land use, are shown in the environmental statements to be quite minor. Continued plant operation during the additional five and a half year period would also have a minor impact, especially when compared to the impacts associated with construction of replacement power capability. We conclude that the non-radiological impacts associated with the proposed changes in the operating license expiration dates are acceptable.

#### 5.0 ALTERNATIVES TO THE PROPOSED ACTION

The principal alternative to issuance of the proposed license extensions would be to deny the application. In this case, each ANO unit would shut down upon expiration of the present operating license.

In Chapter XI of the ANO-1 FES and in chapter X of the ANO-2 FES, a cost-benefit analysis was presented for each plant. Included in the analyses were comparisons among various options including oil and natural gas for producing an equivalent electrical power capacity. Even considering significant changes in the economics of the alternatives, operation of ANO-1&2 in the present plant configuration for an additional five and a half years would only require incremental yearly costs. These costs would be substantially less than the purchase of replacement power or the installation of new electrical generating capacity. Moreover, the overall cost per year of the facility would decrease since the large initial capital outlay would be averaged over a greater number of years. In summary, the cost-benefit advantage of ANO-1&2 compared to alternative electrical power generating capacity improves with the extended plant lifetime.

#### 6.0 ALTERNATIVE USE OF RESOURCES

This action does not involve the use of resources not previously considered in connection with the FES on ANO-1&2.

#### 7.0 AGENCIES AND PERSONS CONSULTED

The Commission's staff reviewed AP&L's request and consulted with the State of Arkansas Department of Health, which had no objection to the proposed operating license extensions.

#### 8.0 BASIS AND CONCLUSION FOR NOT PREPARING AN ENVIRONMENTAL IMPACT STATEMENT

The Commission has determined not to prepare an environmental impact statement for the proposed action. The staff has reviewed the proposed license amendments relative to the requirements set forth in 10 CFR Part 51. Based on this assessment, the staff concludes that there are not significant radiological or non-radiological impacts associated with the proposed action and that the

proposed action will not change any conclusions reached by the Commission in the FES. Therefore, pursuant to 10 CFR 51.31, an environmental impact statement need not be prepared for this action. Based upon this environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment.

Principal Contributors: J. Monninger  
C. Poslusny

Dated: July 6, 1990

UNITED STATES NUCLEAR REGULATORY COMMISSION  
ENTERGY OPERATIONS, INC.  
ARKANSAS NUCLEAR ONE, UNITS 1 AND 2  
DOCKET NOS. 50-313 AND 50-368  
NOTICE OF ISSUANCE OF ENVIRONMENTAL ASSESSMENT  
AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering the issuance of proposed amendments to Facility Operating License Nos. DPR-51 and NPF-6, issued to Arkansas Power and Light Company (AP&L), for operation of Arkansas Nuclear One, Units 1 and 2 (ANO-1&2), located in Pope County, Arkansas.

Identification of Proposed Action:

The amendments would consist of changing the license for each unit to extend the expiration date of the operating license. Specifically, for ANO-1, the expiration date for Operating License (OL) No. DPR-51 would be changed from December 6, 2008 to May 20, 2014 and for ANO-2 the expiration date for Operating License No. NPF-6 would be changed from December 6, 2012 to July 18, 2018.

Summary of Environmental Assessment:

The Commission's staff has reviewed the potential environmental impact of the proposed change in the expiration date of the OL for ANO-1 and the OL for ANO-2. This evaluation considered the previous environmental studies, including the Final Environmental Statement (FES) for each unit dated February 1973 (ANO-1) and June 1977 (ANO-2), and more recent NRC policy.

Radiological Impacts:

Based on 1980 U.S. Census data, the revised estimate of the population within 50 miles of the ANO site by the year 2018 was projected to increase to 422,529 while the FES projected a population of about 255,529 in 2016. Even

considering this increase in population, the estimated population dose from the operation of the two units will remain very small compared to the population dose from natural background, estimated to be 18,000 person-REM. The additional period of operation for each unit will not significantly affect the probability or consequences of any reactor accident.

Thus, the conclusion reached in the FES for each unit remains unchanged.

The staff stated in their proposed no significant hazards consideration determination dated February 8, 1989, that the change in the expiration date of the operating license for each unit is consistent with the originally engineered design life of each plant, i.e. 40-years of operation. The potential effects of the full 40 year operational life for each unit have been previously considered in the Safety Analyses. In addition considering design conservatism, surveillance, inspection, testing, and maintenance programs in place to sustain the condition of the plants throughout their service life, the probability or consequences of previously evaluated accidents has not been significantly increased for the units. Further, continued plant operation in accordance with the Technical Specifications assure that an adequate margin of safety will be preserved on a continuing basis through the new expiration date of each operating license.

Regarding the environmental impacts of the uranium fuel cycle, the additional years of operation at each unit will proportionally increase the total fissile uranium required. However the annual environmental effects of the fuel cycle activities including that of transportation of the fuel and associated wastes will be essentially unchanged from that noted in the two FESs. This is based on the fact that each plant has extended its fuel cycle from 12 to 18 months

resulting in a reduction in the annual fuel requirements and the number of required shipments.

With regard to normal plant operation, AP&L complies with Commission guidance and requirements for keeping radiation exposures to ALARA for occupational exposures, and for radioactivity in effluents. AP&L would continue to comply with these requirements during any additional years of facility operation and also would apply advanced technology when available to and appropriate. Accordingly, radiological impacts on man, both onsite and offsite, are not significantly more severe than previously estimated in the FES for each unit.

Non-Radiological Impacts:

The Commission has concluded that the proposed extension will not cause a significant increase in the impacts to the environment and will not change any conclusions reached by the Commission in the FES for each unit.

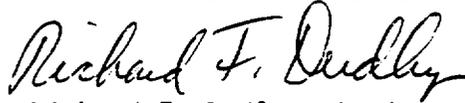
FINDING OF NO SIGNIFICANT IMPACTS:

The Commission has determined not to prepare an environmental impact statement for the proposed action. The staff has reviewed the proposed license amendments relative to the requirements set forth in 10 CFR Part 51. Based on this assessment, the staff concludes that there are no significant radiological or non-radiological impacts associated with the proposed action and that the proposed action will not change any conclusions reached by the Commission in the FES. Therefore, pursuant to 10 CFR 51.31, an environmental impact statement need not be prepared for this action. Based upon this environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see (1) the applications for amendments dated October 20, 1987 as supplemented on September 27, 1989 for Units 1 and 2 and January 29, 1990 for Unit 1 only, (2) the Final Environmental Statements related to operation of ANO-1&2 issued February 1973 and June 1977 respectively, and (3) the Environmental Assessment dated July 6, 1990. These documents are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, D.C. 20555 and at the Tomlinson Library, Arkansas Tech University, Russellville, Arkansas 72801.

Dated at Rockville, Maryland, this 6<sup>th</sup> day of July 1990.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard F. Dudley, Acting Director  
Project Directorate IV-1  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation