



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

Docket No. 50-382

AMENDMENT TO INDEMNITY AGREEMENT NO. B-92
AMENDMENT NO. 2

Effective **DEC 18 1984**, Indemnity Agreement No. B-92, between Louisiana Power and Light Company and the U.S. Nuclear Regulatory Commission, dated February 9, 1983, as amended, is hereby further amended as follows:

Item 2a. of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 2 - Amount of financial protection

a. \$1,000,000 (From 12:01 a.m., February 9, 1983 to 12 midnight, **DEC 17 1984** inclusive)

\$160,000,000* (From 12:01 a.m., **DEC 18 1984**)

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 3 - License number or numbers

SNM-1913 (From 12:01 a.m., February 9, 1983 to 12 midnight, **DEC 17 1984** inclusive)

NPF-26 (From 12:01 a.m., **DEC 18 1984**)

Item 5 of the Attachment to the indemnity agreement is amended by adding the following:

* and, as of August 1, 1977, the amount available as secondary financial protection.

Nuclear Energy Liability Policy (Facility Form) No. MF-117 issued by
Mutual Atomic Energy Liability Underwriters.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION



Jerome Saltzman, Assistant Director
State and Licensee Relations
Office of State Programs

Accepted _____, 1984

By _____
LOUISIANA POWER AND LIGHT COMPANY

Enclosure 4

ASSESSMENT OF THE EFFECT OF LICENSE DURATION ON MATTERS DISCUSSED
IN THE FINAL ENVIRONMENTAL STATEMENT FOR THE WATERFORD STEAM
ELECTRIC STATION, UNIT 3

INTRODUCTION

The Final Environmental Statement (FES) for the operation of the Waterford Steam Electric Station, Unit 3 was published in September 1981. As that time it was staff practice to issue operating licenses for a period of 40 years from the date of the construction permit. This would represent approximately 30 years of operating life.

By letter dated March 18, 1983, the applicant requested that the operating license (OL) for Waterford Steam Electric Station, Unit 3, when issued, have a duration of 40 years from the date of OL issuance. The assessment contained herein is made for those issues affected by a 40-year license duration.

DISCUSSION

The staff has reviewed the Waterford 3 FES to determine which aspects considered in the FES are affected by the duration of the operating license. In general, the FES assesses various impacts associated with operation of the facility in terms of annual impacts and balances these against the anticipated annual energy production benefits. Thus, the overall assessment and conclusions would not be dependent on specific operating life. There are, however, a few areas in which a specific operating life of 30 years was assumed. These are as follows:

1. Radiological assessments are based on a 15-year plant midlife.
2. Uranium fuel cycle impacts are based on one initial core load and 29 annual refuelings.
3. Community characteristics. The evaluation and findings in the FES are applicable to 40 years of operation; therefore, no further appraisal is necessary in this area.
4. Probabilistic assessment of severe accidents. The evaluation and findings in the FES are applicable to 40 years of operation, therefore, no further appraisal is necessary in this area.
5. Economic considerations. The evaluation and findings in the FES are applicable to 40 years of operation. Annual costs and savings would merely be extended. One-time costs would be spread over more years and would be less on an annual basis. Therefore, no further appraisal is necessary in this area.

EVALUATION

The staff's appraisal of the significance of the use of 40 years of operation rather than 30 as it affects the two areas above which were not covered by the evaluations and findings in the original FES (i.e., items 1 and 2) is presented in the following discussion:

1. Radiological Assessment of Normal Operations

The NRC staff has calculated dose commitments to the human population residing around nuclear power reactors to assess the impact on people from radioactive material released from these reactors. The annual dose commitment is that dose that results from a one year intake of radioactive materials and would be received over a period of 50 years following intake. However, for the majority of radionuclides considered in this analysis, the total dose from a one year intake occurs during the year of intake.

To perform the dose assessment, the staff assumes environmental conditions that would exist at the midpoint of plant life. This assumption accounts for the effect of the buildup of deposited radionuclides in the soil in succeeding years of operations.

Because it was staff practice to issue operating licenses for a period of 40 years from the date of CP issuance, allowing ten years for completion of construction would result in an effective operating life of 30 years. Thus, the 15 period was chosen for radiological environmental assessment purposes as the midpoint of plant operation and was used for the calculations in the Waterford 3 Final Environmental Statement (FES). For a 40 year license the 20 year period should be chosen for the assessment.

The staff has evaluated LP&L's request for a 40 year license and finds that increasing the buildup period from 15 to 20 years will increase the annual dose commitment by less than 10%. This increase is due primarily to ingestion of the longer-lived radionuclides deposited in the environment. Table J-4 of the FES indicates that the dose commitment to bone, the most critical organ, via the ingestion pathway is about 12 mrem for each year of plant operation. The 10 CFR Part 50, Appendix I design objectives is 15 mrem maximum. Thus an increase of as much as 10% in the most critical pathway (to about 13 mrem) remains below the regulatory guidelines.

2. Uranium Fuel Cycle Impacts

The impacts of the uranium fuel cycle are based on 30 years of operation of a model LWR. The fuel requirements for the model LWR were assumed to be one initial core load and 29 annual refuelings of approximately 1/3 core change for each refueling for an equivalent of 10.7 full core loads over 30 years (slightly more than 0.35 core per year average). Thus, the average annual fuel requirement for a 40 year license is slightly lower than compared to the annual fuel requirement for a 30 year license.

The net result would be a small reduction in the annual fuel requirement for the model LWR. This small reduction would not lead to changes in the impacts of the uranium fuel cycle. The staff, therefore, judges that there would not be any changes to the Waterford Unit 3 FES Table 5.13 (S-3) that would be necessary to consider 40 years of operation. If anything, the values in Table 5.13 become more conservative when a 40-year period of operation is considered.

CONCLUSION

The staff reviewed the Waterford 3 FES and determined that only a few of the areas related to its NEPA analysis discussed in the FES were tied directly to a 30-year operating period. We have concluded, based on the reasons discussed in the sections above, that the impacts associated with a 40-year license duration are not significantly different from those associated with a 30-year license duration and are not significantly different from those assessed in the Waterford 3 FES.