

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

August 22, 1986

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. Lester S. Rubenstein, Director
PWR Project Directorate No. 2
Division of PWR Licensing-A
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Serial No. 86-496
E&C/WBR:hts:7887C
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNIT NOS. 1 AND 2
AMENDMENT TO OPERATING LICENSES DPR-32 AND DPR-37

Pursuant to 10CFR50.90, Virginia Electric and Power Company requests an amendment, in the form of changes to Operating License Nos. DPR-32 and DPR-37 for Surry Power Station Unit Nos. 1 and 2. The proposed changes will extend the duration of both full power Operating Licenses to 40 years from the date of issuance of the Operating Licenses. A license term of 40 years is permitted by 10CFR50.51 and is consistent with the original design considerations. Approval of the proposed amendments would also be consistent with recent NRC actions.

Surry Power station is currently licensed for a period of 40 years commencing with the issuance of the construction permit, which was issued for both units on June 25, 1968. The current licenses will therefore expire at midnight on June 25, 2008. This request would allow for 40 full years of operation by changing the license expiration dates to May 25, 2012 for Unit 1 (DPR-32) and to January 29, 2013 for Unit 2 (DPR-37). Attachment 1 provides the proposed changes to the Facility Operating Licenses for Surry Units 1 and 2. A Safety Evaluation and Environmental Assessment is provided in Attachment 2.

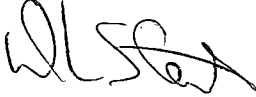
This request has been reviewed and approved by the Station Nuclear Safety and Operating Committee and the Safety Evaluation and Control staff. It has been determined that this request does not involve an unreviewed safety question as defined in 10CFR50.59 or a significant hazards consideration as defined in 10CFR50.92.

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Acc 11 w/ check 00
\$ 150
055666

We have evaluated this request in accordance with the criteria in 10CFR170.12.
A voucher check in the amount of \$150 is enclosed as an application fee.

Very truly yours,



W. L. Stewart

Attachments

- (1) Proposed Operating License changes
- (2) Safety Evaluation and Environmental Assessment
- (3) Voucher check for \$150

cc: Dr. J. Nelson Grace
Regional Administrator
NRC Region II

Mr. Albert F. Gibson, Acting Director
Division of Reactor Projects
NRC Region II

Mr. Chandu P. Patel
NRC Surry Project Manager
PWR Project Directorate No. 2
Division of PWR Licensing-A

Mr. William Holland
NRC Senior Resident Inspector
Surry Power Station

Mr. Charles Price
Department of Health
109 Governor Street
Richmond, Virginia 23219

COMMONWEALTH OF VIRGINIA)
)
CITY OF RICHMOND)

The foregoing document was acknowledged before me, in and for the City and Commonwealth aforesaid, today by W. L. Stewart who is Vice President - Nuclear Operations, of Virginia Electric and Power Company. He is duly authorized to execute and file the foregoing document in behalf of that Company, and the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 22 day of August, 19 86.

My Commission expires: February 25, 19 90.

Vicki S. Hull
Notary Public

(SEAL)

Line	Date	Invoice Number Or Description	Gross Amount	Discount	Net Amount
01	07/14/86	071415000 APPLICATION FEE	150.00		150.00
			150.00		150.00

Attached Check Issued As Payment Of Items Listed Above—Please Detach Stub And Cash Check Promptly.

Virginia Electric and Power Company d./b/a



Wachovia Bank and Trust Company N.A.
Asheville, North Carolina

Accounts Payable Check

66-15
531

Void If Not Cashed In 90 Days

Pay EXACTLY ONE HUNDRED FIFTY AND NO/100*****

To The Order Of
UNITED STATES NUCLEAR
REGULATORY COMMISSION
WASHINGTON DC

20555

Bk	Disb. Number	Date	Vendor Number	Amount
01	055666	07/23/86	018804	\$150.00

L.R. Hartman

Attachment 1

Proposed Changes to Operating Licenses

ATTACHMENT 1

SURRY UNITS 1 AND 2
OPERATING LICENSE CHANGES
40 YEAR OPERATING LICENSE

Unit 1: Revise license condition 4 to read, "This license is effective as of the date of issuance, and shall expire at midnight May 25, 2012."

Unit 2: Revise license condition 4 to read, "This license is effective as of the date of issuance, and shall expire at midnight January 29, 2013."

Attachment 2

Safety Evaluation and Environmental Assessment

SAFETY EVALUATION AND ENVIRONMENTAL ASSESSMENT
FOR A 40 YEAR OPERATING LICENSE
SURRY POWER STATION, UNITS 1 AND 2

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I. INTRODUCTION

The current operating licenses for Surry Units 1 and 2 expire 40 years from the date of issuance (June 25, 1968) of the construction permit. Because of the time required for construction, fuel loading and startup testing, the effective periods of Operating Licenses DPR-32 (Surry Unit 1) and DPR-37 (Surry Unit 2) are approximately 36 years and 35½ years respectively. Current NRC policy is to issue operating licenses for a 40 year period beginning with the date of issuance, consistent with the guidelines of 10CFR50.51 and Section 103.C of the Atomic Energy Act of 1954 (42 USC 2133.C), as amended.

This report has been prepared to support the extension of the Surry Unit 1 and 2 operating licenses approximately 4 and 4½ years respectively, to provide for 40 years of operation. The requested expiration dates for the operating licenses are as follows:

<u>Unit</u>	<u>Issuance of Full Power OL</u>	<u>Requested OL Expiration Date</u>
1	May 25, 1972	May 25, 2012
2	January 29, 1973	January 29, 2013

This report summarizes the safety, environmental, ALARA and economic reviews that have been performed to demonstrate that this request to amend the operating licenses does not involve an unreviewed safety question or a significant hazards consideration.

II. SAFETY EVALUATION

The request for the extension of the operating licenses is based on the fact that a 40 year operating life was considered by the NSSS Vendor (Westinghouse Electric Corporation) and Architect Engineer (Stone and Webster Engineering Corporation) during the design and construction of the plant. A 40 year design life, however, does not preclude that some equipment may require repair and/or replacement during the lifetime of the station. Design features have been incorporated which provide for the inspectability of structures, systems and equipment. The surveillance, inspection, testing and maintenance practices which have been implemented in accordance with applicable codes, standards and the facility Technical Specifications, provide assurance that degradation in plant equipment will be identified and corrected.

In accordance with 10CFR50.49, "Environmental Qualification of Electrical Equipment Important to Safety for Nuclear Power Plants", aging analyses have been performed for safety-related electrical equipment identifying qualified lifetimes for this equipment. These lifetimes are incorporated into plant equipment maintenance and replacement practices to ensure that safety-related electrical equipment remains qualified and available to perform its safety function regardless of the overall age of the plant.

Reactor vessel material analyses have shown that the expected cumulative neutron fluence on the reactor vessel will not be a limiting consideration for a 40 year operating life. Periodic analysis of the surveillance specimens inside the reactor also allows for monitoring the actual cumulative effects of neutron fluence. Periodic vessel inservice inspection and testing requirements provide additional assurance that any degradation will be identified.

On-site storage of spent nuclear fuel will be available through the year 2008. In addition, the U.S. Department of Energy should make available off-site storage and disposal, under the Nuclear Waste Policy Act of 1982, before 2008. Therefore, storage of spent fuel generated after 2008 is not a concern.

No new safety concerns are introduced by this proposed amendment since (1) a 40 year life was considered in the design of the plant and since (2) new or revised accident analyses, plant modifications, procedure changes, UFSAR revisions and Technical Specification revisions are not required. Note however, that since the issuance of the operating licenses, numerous modifications have been implemented to enhance safety and to address issues such as Appendix R, Reg. Guide 1.97, ALARA (see Section IV), Equipment Qualification, and the TMI-2 Lessons Learned (NUREG 0737).

III. ENVIRONMENTAL ASSESSMENT

The Surry 1&2 Final Safety Analysis Report (FSAR) and Environmental Report were prepared in support of the original License Application which requested an operating license for each unit for a term of 40 years. Therefore 40 years of operation was considered in the preparation of the Environmental Report. However, the Environmental Report is not always clear with respect to the maximum number of years of operation covered by the evaluations. For example, normal operational releases are provided in terms of an annual impact and the economic analysis is based on a 30 year useful life, which was a standard assumption for these types of evaluations. The useful life assumed in these economic evaluations, however, has no bearing on the actual number of years a station can be safely operated.

Veeco has determined that the operation of the Surry Units for an additional 4-4½ years would not alter the favorable conclusions reached in the Environmental Report, because the extension of the operating license does not involve any plant modifications or plant procedure changes which could adversely impact the environment. The station's radiological monitoring programs and two studies performed since the issuance of the Environmental Report have further demonstrated that the station is not adversely impacting the environment. These two studies were a 316(a) Thermal Effluent Impact Study (1977) which examined the ecological impact on the river segment encompassing Surry Power Station, and a 316(b) Cooling Water Intake Structure Study (1980) which examined the survival rate of fish impinged on the river intake screens. These reports have been submitted to the Virginia State Water Control Board. Operation of the station is further regulated by a National Pollutant Discharge Elimination System permit.

The population growth in areas surrounding the station has also been reviewed. From census data obtained in 1980, it has been concluded that the population within the 10 mile Emergency Planning Zone (EPZ) of the station is growing at a rate slightly greater than originally predicted in the Environmental Report. This does not impact the conclusions in the Environmental Report since the areas around the station are still primarily rural and are relatively low in population.

IV. ALARA REVIEW

A formal ALARA Program was implemented on January 1, 1983. A Corporate ALARA Manual and Station ALARA Manuals were developed to provide the guidelines and procedures to execute the Program. In addition, the Company approved a Radiation Protection Plan (RPP) in early 1984 which also addresses the ALARA Program. A Transition Plan was developed to serve as a means of effecting the transition from the current radiation protection program to that described in the RPP. The Corporate ALARA Manual and Station ALARA Manuals are being incorporated into procedures implementing the ALARA program specified in the RPP. The procedures will enhance personnel training requirements, direct management participation on the station and corporate ALARA committees, and increase emphasis to the ALARA concept. The Company also sponsors an awards program for employees submitting exposure saving suggestions.

Annual personnel exposures are decreasing due to the increased emphasis on ALARA. Important modifications being implemented at Surry to further reduce personnel exposure include: permanent reactor head shields, bottom mounted thermocouples, removal of nonessential large bore snubbers, quick opening transfer tube closures, computerized photo documentation of the plant for ALARA preplanning, multiple stud tensioner/detensioner for the steam generators' primary manways, and chemical decontamination of contaminated systems. In addition, over 30,000 square feet of contaminated area has been reclaimed since 1984. Over 220 ALARA suggestions have been submitted at Surry since January, 1983. Over 105 of these suggestions have been approved and over 60 have already been implemented.

Based on management's commitment to the ALARA concept, the implementation of exposure saving modifications, and ongoing programs to reduce exposure, the occupational exposure expected to be expended during the period covered by the requested amendment is not a significant consideration.

V. ECONOMIC EVALUATION

Operation of Surry Power Station beyond its current operating license period will be a considerable benefit to us and to our residential, commercial and industrial customers. Nuclear generated electricity is the least expensive power generated and sold by the company. The additional years of plant operation allowed by the proposed change would defer the need to install replacement base load capacity and defer the need for substantial additional capital expenditures. The continued operation of the station would also be beneficial to the tax base and to the economy of the surrounding areas.

VI. UNREVIEWED SAFETY QUESTION EVALUATION

The proposed license change to permit a 40 year operating life does not constitute an unreviewed safety question as defined in 10CFR50.59 since:

- a. The proposed amendment will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety and previously evaluated in the Updated Final Safety Analysis Report since no changes are required to the design or operation of the station. This amendment does not involve any new or revised accident analyses, physical modifications to the plant, plant procedures changes, UFSAR revisions or Technical Specifications revisions. The proposed license extensions are within the original design considerations for the station and the current surveillance, inspecting, testing and maintenance practices provide assurance that degradation in plant equipment will be identified and corrected throughout the lifetime of the facility.
- b. The proposed amendment will not create a possibility for an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report since no changes are required to the design or operation of the station.
- c. The implementation of this modification will not reduce the margin of safety as defined in the basis of any Technical Specification since the proposed change does not affect the Technical Specifications or any of the accident analyses which form the basis for the Technical Specifications.

VII. SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

The proposed revisions to the Facility Operating Licenses for Surry Power Station do not involve any changes in the design or operation of the station, but only contemplate a change to the expiration dates of the current licenses. These extensions are within the range permissible by the Commission's regulations, specifically 10CFR50.51. In addition, a finding of no significant hazards consideration is consistent with recent NRC actions on applications of this type (Reference Baltimore Gas and Electric, Calvert Cliffs).

As discussed in detail in this report, the proposed extension will have no significant impact on the safe operation of the plant or present an undue risk to the health and safety of the public.

The proposed license amendment to permit a 40 year operating life does not constitute a significant hazards consideration as defined in 10CFR50.92 since:

1. The proposed amendment does not involve a significant increase in the probability or consequences of any accident previously evaluated since no changes are required to the design or operation of the station. This amendment does not involve new or revised safety analyses, physical plant modifications, procedure changes, UFSAR Revisions or Technical Specification revisions. The proposed license extensions are within the original design considerations for the station and the current surveillance, inspection, testing and maintenance practices provide assurance that degradation in plant equipment will be identified and corrected throughout the lifetime of the facility.
2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated since no changes are required to the design or operation of the station.
3. The proposed amendment does not involve a significant reduction in a margin of safety since no changes are required to the design or operation of the station and since the amendment does not involve new or revised safety analyses, procedure changes, UFSAR revisions or Technical Specification revisions. The current surveillance, inspection, testing and maintenance practices provide assurance that degradation in plant equipment will be identified and corrected throughout the lifetime of the facility.

Based on the above considerations, we contend that the extension of Surry's operating licenses in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of accidents previously considered, nor create the possibility of a new or different kind of accident and will not involve a significant reduction in a safety margin. Therefore, we conclude that there is no significant hazards consideration associated with the proposed revision to Surry operating licenses.

VIII. CONCLUSIONS

Based on the evaluations presented above, an operating license amendment to provide for 40 years of operation does not involve an unreviewed safety question or a significant hazards consideration, and is reasonable and consistent with the (1) original design considerations, (2) previous environmental assessments, (3) current maintenance, surveillance and inspection programs and (4) NRC regulations and policy.