

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 29, 1981



R. H. LEASBURG
VICE PRESIDENT
NUCLEAR OPERATIONS

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. Robert A. Clark, Chief
Operating Reactors Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 451
NO/RMB:ms
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

PLANT UPGRATING PROGRAM
NORTH ANNA UNIT NOS. 1 AND 2

Vepco, in conjunction with Westinghouse Electric Corporation, is in the process of conducting feasibility studies in an effort to maximize the electrical plant power ratings of North Anna Unit Nos. 1 and 2. The incentive for conducting the uprating effort is that it will provide a cost effective means of increasing our generating capacity. The proposed uprating program under evaluation at this time consists of implementation in the near term of a steam pressure increase to maximize electrical output at the currently licensed thermal power level, followed by implementation of a core thermal power uprating upon completion of the engineering evaluation, plant safety analyses and licensing process.

The proposed steam pressure increase is designed to raise the design steam pressure at full load from 850 psia to 900 psia. Engineering evaluation and results of plant tests indicate that this 50 psi increase in secondary pressure will result in an increase in electrical output of approximately 5 MW. We are considering implementing this steam pressure increase in two phases.

Phase I would consist of implementation of a partial steam pressure increase of approximately 20 psi and would be achieved by increasing the reference reactor coolant average temperature (T_{AVG}) from 580.3°F to 582.8°F. $T_{AVG} = 580.3^\circ\text{F}$ corresponds to the current licensed reference value while $T_{AVG} = 582.8^\circ\text{F}$ is consistent with the average temperature value assumed in the FSAR accident analyses. Since the accident analyses assumed an average temperature conservative with respect to $T_{AVG} = 582.8^\circ\text{F}$, no accident reanalysis will be required. In order to implement this partial pressure uprating, it will be necessary to make several minor revisions to the Technical Specification, the

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Precautions, Limitations, and Setpoint (PLS) document, and the plant operating procedures. It is anticipated that this partial pressure increase can be implemented in the near term and will result in an increase in electrical plant output of approximately 2 MW_e.

Phase 2 would consist of implementation of the full 50 psi steam pressure increase and would be achieved by increasing the reference reactor coolant average temperature to 587.8°F. Since this value of T_{AVG} is higher than that assumed in the FSAR, implementation of the full pressure uprating will require reanalysis of the FSAR accident analyses affected by this increase in T_{AVG} as well as revision of the Technical Specifications, the PLS document, and the plant operating procedures.

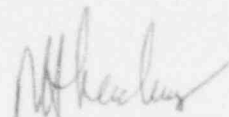
As indicated above, the overall uprating program consists of taking advantage of an increased electrical output available through a steam pressure increase while completing the licensing process necessary to implement a core thermal power uprating. This licensing process is anticipated to consist of completion of an engineering evaluation to identify the uprated core parameters and plant modifications required, completion of a plant systems review and accident reanalysis, preparation of a licensing document, review and approval of the license application by the NRC, and implementation of the required plant modifications. Based on initial scoping studies, the engineering evaluation has been initiated to determine the feasibility of uprating the NSSS thermal power from 2785 MW_t to 2910 MW_t. The thermal power rating of 2910 MW_t represents the Engineered Safety Features design rating presented in the FSAR and was used as the basis for accident analyses where demonstration of the adequacy of the Containment and Engineered Safety Features is concerned. A thermal power uprating to 2910 MW_t would result in an increase in electrical plant output of approximately 40 MW_e.

A preliminary schedule for completion of the North Anna Uprating Program is shown in Attachment 1. The schedule assumes that the NRC staff will be able to review the license application for the full pressure uprating without significantly delaying the review of the licensing application for core uprating scheduled for submittal in approximately November, 1982.

In order to determine if additional Vepco resources should be applied to preparation of a licensing package for a full steam pressure uprating as well as preparation of a licensing application for a core uprating, we would like to meet with the appropriate members of the NRC staff to discuss our North Anna uprating program. The objective of the meeting would be to solicit the NRC's support of our plant uprating program and to assess the availability of the NRC staff's resources to review the necessary licensing applications in accordance with our proposed schedule.

We would like to arrange this meeting as soon as possible and would appreciate any feedback which would assist in our determination of the feasibility of pursuing the plant uprating in the manner outlined. We will contact you to make arrangements for our meeting to discuss this matter.

Very truly yours,

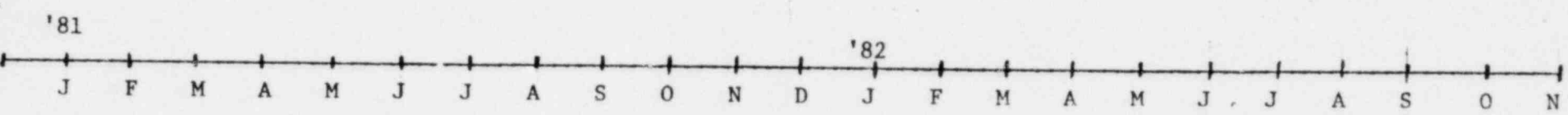
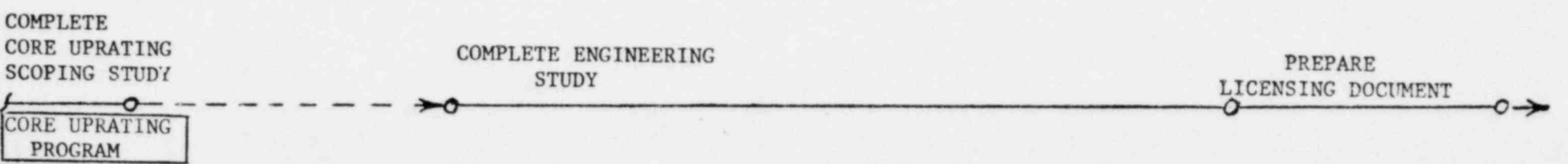
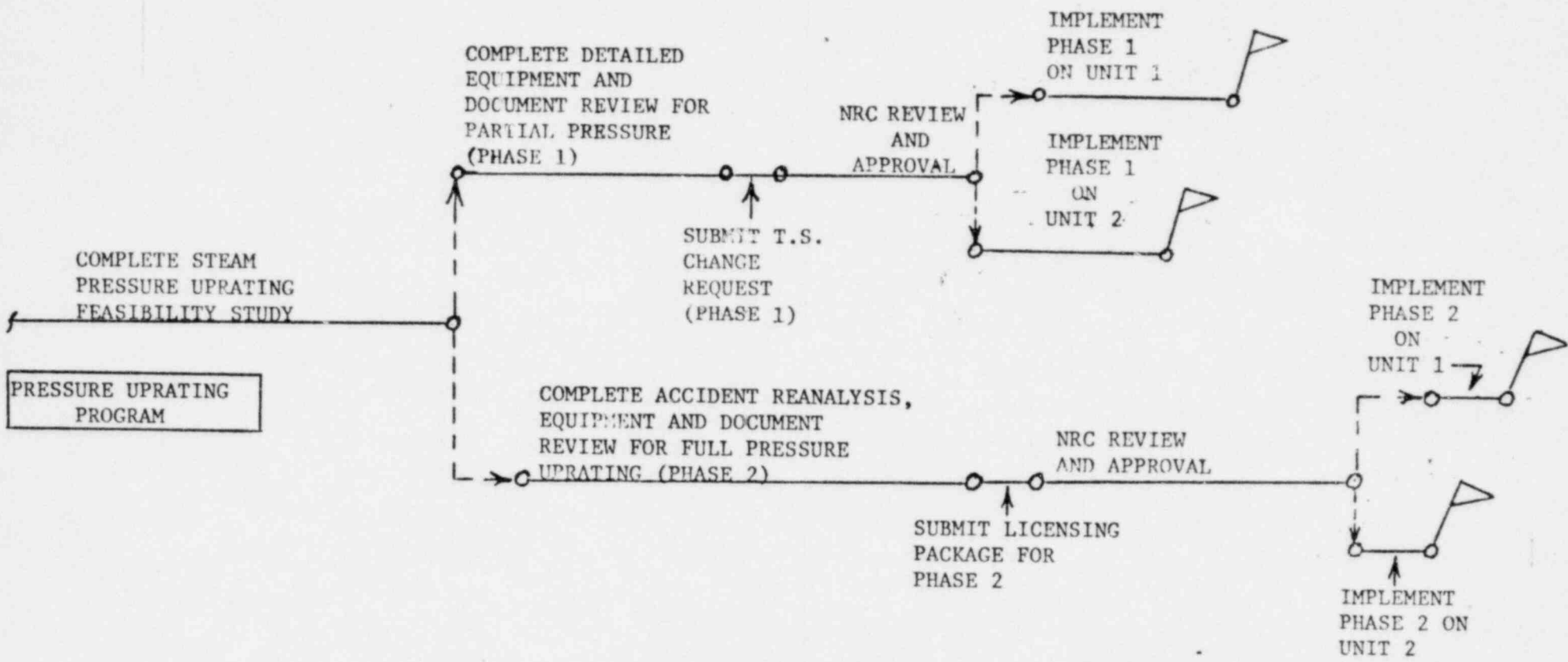


R. H. Leasburg
Vice President Nuclear Operations

Attachment

cc: Mr. James P. O'Reilly
Office of Inspection and Enforcement
Region II

SCHEDULE OVERVIEW
NORTH ANNA PLANT UPGRATING PROGRAM



ATTACHMENT 1

SCHEDULE OVERVIEW
NORTH ANNA PLANT UPGRATING PROGRAM

