VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

August 8, 1979

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. A. Schwencer, Chief
Operating Reactors Branch No. 1
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Serial No. 634
LQA/DWSjr:jab

Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Dear Mr. Denton:

AMENDMENT OF OPERATING LICENSES
SURRY POWER STATION UNIT NOS. 1 AND 2
PROPOSED TECHNICAL SPECIFICATION CHANGE NO. 79

Pursuant to 10 CFR 50.90, the Virginia Electric and Power Company hereby requests an amendment, in the form of changes to the Technical Specifications, to Operating Licenses DPR-32 and DPR-37 for the Surry Power Station, Unit Nos. 1 and 2. The proposed changes are enclosed and have been designated as Change No. 79.

IE Bulletin 79-06A, item 13 requires the Licensee to no longer depend on Pressurizer level for safety injection actuation coincident with low pressurizer pressure. As a result, actuation from only low pressurizer pressure using a (2/3) logic is proposed. Dependence on (2/3) low pressurizer pressures to actuate safety injection is conservative and consistent with other protective functions. (2/3) logic will also give increased reliability and testability needed for long term operation.

The coincidence arrangement of pressurizer pressure and level was originally designed to prevent false actuations of the SI system in the event of spurious pressurizer pressure or level signals. Removal of the level signal will eliminate all dependency on level for SI protection. Therefore, whenever system pressure is below 1700 psig, SI will be initiated regardless of the water volume present. This is a conservative way of insuring the core receives cooling.

Issuance of these specifications by NRC should allow for installation and procedural changes. Therefore, the license should indicate the specification to be effective following installation at the earliest cold shutdown condition.

The enclosed changes have been reviewed and approved by the Station Nuclear Safety and Operating Committee and the System Nuclear Safety and

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Operating Committee. It has been determined that this request does not involve an unreviewed safety question.

We have evaluated this request in accordance with the criteria specified in 10 CFR 170.22. The staff should be able to determine that this request does not involve a significant hazards consideration. Accordingly, this request has been determined to be Class III for Unit 1. The duplicate revision for Unit 2 has been designated Class I. A check in the amount of $4,400.00 is attached in payment of the amendment fees.

Very truly yours,

C. M. Stallings

C. M. Stallings
Vice President-Power Supply
and Production Operations

Attachments:
(1) Change No. 79
(2) Check in amount of $4,400.00

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

COMMONWEALTH OF VIRGINIA)
) S. S.
CITY OF RICHMOND)

Before me, a Notary Public, in and for the City and Commonwealth aforesaid, today personally appeared C. M. Stallings, who being duly sworn, made oath and said (1) that he is Vice President-Power Supply and Production Operations, of the Virginia Electric and Power Company, (2) that he is duly authorized to execute and file the foregoing Amendment in behalf of that Company, and (3) that the statements in the Amendment are true to the best of his knowledge and belief.

Given under my hand and notarial seal this 8th day of August, 1979.

My Commission expires January 20, 1981.

Robert M. Neil
Notary Public

(SEAL)

to generator signals actuating the SIS active phase. The SIS active phase is also actuated by a high containment pressure signal brought about by loss of high enthalpy coolant to the containment. This actuation signal acts as a backup to the low pressurizer pressure actuation of the SIS and adds diversity to protection against loss of coolant.

Signals are also provided to actuate the SIS upon sensing the effects of a steam line break accident. Therefore, SIS actuation following a steam line break is designed to occur upon sensing high differential steam pressure between the steam header and steam generator line or upon sensing high steam line flow in coincidence with low reactor coolant average temperature or low steam line pressure.

The increase in the extraction of RCS heat following a steam line break results in reactor coolant temperature and pressure reduction. For this reason protection against a steam line break accident is also provided by low pressurizer pressure actuating safety injection.

Protection is also provided for a steam line break in the containment by actuation of SIS upon sensing high containment pressure.

SIS actuation injects highly borated fluid into the Reactor Coolant System in order to counter the reactivity insertion brought about by cooldown of the reactor coolant which occurs during a steam line break accident.

in order to prevent excessive cooldown of the reactor coolant system. This mitigates the effect of an accident such as steam break which in itself causes excessive coolant temperature cooldown.

Feedwater line isolation also reduces the consequences of a steam line break inside the containment, by stopping the entry of feedwater.

Setting Limits

1. The high containment pressure limit is set at about 10% of design containment pressure. Initiation of Safety Injection protects against loss of coolant [2] or steam line break [3] accidents as discussed in the safety analysis.

2. The high-high containment pressure limit is set at about 50% of design containment pressure. Initiation of Containment Spray and Steam Line Isolation protects against large loss of coolant [2] or steam line break accidents [3] as discussed in the safety analysis.

3. The pressurizer low pressure setpoint for safety injection actuation is set substantially below system operating pressure limits. However, it is sufficiently high to protect against a loss-of-coolant accident as shown in the safety analysis.[2]

4. The steam line high differential pressure limit is set well below

TABLE 3.7-2

ENGINEERED SAFEGUARDS ACTION

FUNCTIONAL UNIT	1 MIN. OPERABLE CHANNELS	2 MIN. DEGREE OF REDUNDANCY	3 PERMISSIBLE BYPASS CONDITIONS	4 OPERATOR ACTION IF CONDITIONS OF COLUMN 1 OR 2 EXCEPT AS CONDITIONED BY COLUMN 3 CANNOT BE MET
1 SAFETY INJECTION				
a. Manual	1	0		Cold Shutdown
b. High Containment Pressure (Hi Setpoint)	3	1		Cold Shutdown
c. High Differential Pressure between any Steam Line and the Steam Line Header	2/non-isolated loop	1/non-isolated loop		Cold Shutdown
d. Pressurizer Low Low Pressure	2	1	Primary Pressure less than 2000 psig except when reactor is critical	Cold Shutdown
e. High Steam Flow in 2/3 Steam Lines with Low T_{avg} or Low Steam Line Pressure	1/steamline 2 T_{avg} signals 2 Steam Pressure Signals	*** 1 1	Reactor Coolant average temperature less than 547°F during heatup and cooldown.	Cold Shutdown
2 CONTAINMENT SPRAY				
a. Manual	2	**		Cold Shutdown
b. High Containment Pressure (Hi Hi Setpoint)	3	1		Cold Shutdown

** - Must actuate 2 switches simultaneously

*** - With the specified minimum operable channels the 2/3 high steam flow is already in the trip mode

TABLE 3.7-4

ENGINEERED SAFETY FEATURE SYSTEM INITIATION LIMITS INSTRUMENT SETTING

NO.	FUNCTIONAL UNIT	CHANNEL ACTION	SETTING LIMIT
1	High Containment Pressure (High Containment Pressure Signal)	a) Safety Injection b) Containment Vacuum Pump Trip c) High Pressure Containment Isolation d) Safety Injection Containment Isolation e) F.W. Line Isolation	≤5 psig
2	High High Containment Pressure (High High Containment Pressure Signal)	a) Containment Spray b) Recirculation Spray c) Steam Line Isolation d) High High Pressure Containment Isolation	≤25 psig
3	Pressurizer Low Low Pressure	a) Safety Injection b) Safety Injection Containment Isolation c) Feedwater Line Isolation	≥1,700 psig
4	High Differential Pressure Between Steam Line and the Steam Line Header	a) Safety Injection b) Safety Injection Containment Isolation c) F.W. Line Isolation	≤150 psi
5	High Steam Flow in 2/3 Steam Lines	a) Safety Injection	≤40% (at zero load) of full steam flow ≤40% (at 20% load) of full steam flow
		b) Steam Line Isolation c) Safety Injection Containment Isolation d) F.W. Line Isolation	≤110% (at full load) of full steam flow
	Coincident with Low T_{avg} or Low Steam Line Pressure		≥541°F T_{avg} ≥500 psig steam line pressure