SAFETY EVALUATION

MODIFICATION TO SAFETY

INJECTION ACTUATION SYSTEM

SURRY POWER STATION, UNITS 1 AND 2

I. INTRODUCTION

The licensee, Virginia Electric and Power Company, in its submittal of August 8, 1979, proposed certain modifications to the safety injection actuation system logics for Surry Power Station, Units 1 and 2, in response to Item 3 of IE Bulletin No. 79-06A dated April 14, 1979.

Prior to IE Bulletin No. 79-06A, safety injection was initiated by the trip of one of three channels of low pressurizer pressure coincident with low pressurizer level. This arrangement prevented false actuation of the Safety Injection System in the event of a spurious pressurizer pressure or level signal. IE Bulletin No. 79-06A directed licensees to trip the low pressurizer level bistables such that when the pressurizer pressure reaches the low setpoint, safety injection would be initiated, regardless of pressurizer level.

As a result of this action, which has placed Surry Power Station, Units 1 and 2 in a one-out-of-three trip condition, a spurious pressurizer pressure signal would result in an unwanted safety injection. To alleviate this situation, the licensee has proposed the following modifications and Technical Specification changes.

II. EVALUATION

The proposed modification to the safety injection actuation system consists of removing the pressurizer level signal from each of the pressurizer level/pressure channel trips and converting the system to a two-out-of-three logic based only on low pressurizer pressure, thus eliminating all dependency on pressurizer level for SI protection. The instrumentation logic receives pressurizer pressure signals from three of the four pressure transmitters and initiates a safety injection actuation when two of the three signals reach the low pressure set-point of 1700 psig. These modifications satisfy the requirements of IEEE Std. 279-1971 and other applicable standards and will be implemented following installation at the earliest cold shutdown condition.

III. CONCLUSION

Based on our review of the electrical, instrumentation and control aspects of the licensee's submittal, we conclude that the proposed modifications to the safety injection actuation system logic satisfy the requirements of IEEE Std. 279-1971 and that the associated Technical Specifications are correct; and, therefore, are acceptable.