

ENCLOSURE 3

VOGTLE ELECTRIC GENERATING PLANT  
REQUEST TO REVISE TECHNICAL SPECIFICATIONS  
INOPERABLE MAIN STEAM SAFETY VALVES

INSTRUCTIONS FOR INCORPORATION AND PROPOSED CHANGES TO THE  
TECHNICAL SPECIFICATIONS

The proposed change to the Vogtle Electric Generating Plant Technical Specification would be incorporated as follows:

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3/4 7-1\* and 3/4 7-2  
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\* Overleaf page containing no change

E3-1

TABLE 3.7-1

MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT WITH  
INOPERABLE STEAM LINE SAFETY VALVES

MAXIMUM NUMBER OF INOPERABLE  
SAFETY VALVES ON ANY  
OPERATING STEAM GENERATOR

MAXIMUM ALLOWABLE POWER RANGE  
NEUTRON FLUX HIGH SETPOINT  
(PERCENT OF RATED THERMAL POWER)

1	<del>67</del> 71
2	<del>65</del> 51
3	<del>43</del> 31

### 3/4.7 PLANT SYSTEMS

#### BASES

#### 3/4.7.1 TURBINE CYCLE

#### 3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line Code safety valves ensures that the Secondary System pressure will be limited to within 110% (1304 psig) of its design pressure of 1185 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a Turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Code, 1974 Edition. The total relieving capacity for all valves on all of the steam lines is 18,607,220 lbs/h which is 117% of the total secondary steam flow of  $15.92 \times 10^6$  lbs/h at 100% RATED THERMAL POWER. A minimum of two OPERABLE safety valves per steam generator ensures that sufficient relieving capacity is available for the allowable THERMAL POWER restriction in Table 3.7-1.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in Secondary Coolant System steam flow and THERMAL POWER required by the reduced Reactor trip settings of the Power Range Neutron Flux channels. The Reactor Trip Setpoint reductions are derived on the following basis:

For four loop operation

$SP = \frac{(X) - (Y)(V)}{X} \times (109)$		REPLACE WITH INSERT
Where:		
SP =	Reduced Reactor Trip Setpoint in percent of RATED THERMAL POWER,	
V =	Maximum number of inoperable safety valves per steam line,	
109 =	Power Range Neutron Flux-High Trip Setpoint for four loop operation,	
X =	Total relieving capacity of all safety valves per steam line in lbs/hour, and	
Y =	Maximum relieving capacity of any one safety valve in lbs/hour.	

INSERT FOR BASES 3/4.7.1.1

$$Hi \phi = (100/Q) \frac{(w_g h_{fg} N)}{K}$$

where:

- $Hi \phi$  = Safety Analysis power range high neutron flux setpoint, percent
- $Q$  = Nominal NSSS power rating of the plant (including reactor coolant pump heat), MWt
- $K$  = Conversion factor,  $947.82 \frac{\text{Btu/s}}{\text{MWt}}$
- $w_g$  = Minimum total steam flow rate capability of the operable MSSVs on any one steam generator at the highest MSSV opening pressure including tolerance and accumulation, as appropriate, in lb/s. For example, if the maximum number of inoperable MSSVs on any one steam generator is one, then  $w_g$  should be a summation of the capacity of the operable MSSVs at the highest operable MSSV operating pressure, excluding the highest capacity MSSV. If the maximum number of inoperable MSSVs per steam generator is three then  $w_g$  should be a summation of the capacity of the operable MSSVs at the highest operable MSSV operating pressure, excluding the three highest capacity MSSVs.
- $h_{fg}$  = Heat of vaporization for steam at the highest MSSV opening pressure including tolerance and accumulation, as appropriate, Btu/lbm.
- $N$  = Number of loops in the plant.

The values calculated must be reduced to account for instrument and channel uncertainties (typically 9 percent power). Therefore, the maximum plant operating power level would then be lower than the reactor protection system setpoint by an appropriate operating margin.