



Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, Ohio 43449-9760

Guy G. Campbell
Vice President - Nuclear

419-321-8588
Fax: 419-321-8337

License Number NPF-3

Serial Number 2673

Docket Number 50-346

November 1, 2000

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555-0001

Subject: Change to Technical Specification Bases 3/4.7.1.1, Turbine Cycle – Safety Valves
(LAR 00-0004)

Ladies and Gentlemen:

This letter submits a page of the Davis-Besse Nuclear Power Station (DBNPS), Unit Number 1, Technical Specification (TS) Bases 3/4.7.1.1, Turbine Cycle – Safety Valves, which contains an administrative change. This change is being made to remove extraneous discussion regarding Main Steam Safety Valve locations, setpoints, and capacities. This administrative change affects only the TS Bases and is not related to any change to the Technical Specifications.

The following statements, as shown on the attached marked-up TS Bases page, are being deleted from TS Bases 3/4.7.1.1:

These requirements are, respectively, met as follows:

1. Nine safety valves are installed per steam generator.
2. The relief capacity of two of the nine safety valves per steam generator is 583,574 lbs/hr each, and the capacity of the remaining seven is 845,759 lbs/hr each.
3. A minimum of two OPERABLE safety valves per steam generator, with a combined total relief capacity of at least 1,167,148 lbs/hr, one with a setpoint not greater than 1050 psig (+/-1%), and one with a setpoint not greater than 1100 psig (+/-1%).
4. The total relieving capacity of all safety valves on both main steam lines is 14,175,000 lbs/hr which is 120 percent of the total secondary system flow of 11,760,000 lbs/hr at 100 percent of RATED THERMAL POWER. A maximum

A001

Docket Number 50-346
License Number NPF-3
Serial Number 2673
Page 2

safety valve setpoint pressure of 1100 psig (+/-1%) assures main steam system pressure remains below 110 percent, or 1155 psig.

The statements being deleted do not constitute the basis or reason for any TS Limiting Condition for Operation or Surveillance Requirement; therefore, they are not required in accordance with 10 CFR 50.36(a). Furthermore, equivalent information is contained within the actual TS itself or in DBNPS Updated Safety Analysis Report Section 5.2.2.3, "Overpressure Protection." Accordingly, this is an administrative change and has no adverse effect on nuclear safety.

The FirstEnergy Nuclear Operating Company requests that this revised TS Bases page be issued by the NRC by December 31, 2000.

Should you have any questions or require additional information, please contact Mr. David H. Lockwood, Manager – Regulatory Affairs, at (419) 321-8450.

Very truly yours,

 
MAR

Attachments

cc: J. E. Dyer, Regional Administrator, NRC Region III
S. P. Sands, NRC/NRR Project Manager
D. J. Shipley, Executive Director, Ohio Emergency Management Agency, State of Ohio
(NRC Liaison)
K. S. Zellers, NRC Region III, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

Docket Number 50-346
License Number NPF-3
Serial Number 2673
Attachment 1

MARKED UP TS BASES PAGE

INFORMATION ONLY

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one or more main steam line code safety valves inoperable,

- a. operation in MODES 1, 2 and 3 may proceed provided that, within 4 hours, either
 1. the inoperable valve is restored to OPERABLE status, or
 2. a) the High Flux Trip Setpoint is reduced per Equation 3.7-1 below, and
 - b) there are a minimum of two OPERABLE safety valves per steam generator, at least one with a setpoint not greater than 1050 psig ($\pm 1\%$)*, and
 - c) no OPERABLE safety valve has a setpoint greater than 1100 psig ($\pm 1\%$)*;
- otherwise
- b. be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.
- c. The provisions of Specification 3.0.4 are not applicable.

Equation 3.7-1: $SP = \frac{Y}{Z} \times W$

where,

- SP = Reduced High Flux Trip Setpoint (Not to exceed W)
W = High Flux Trip Setpoint for four pump operation as specified in Table 2.2-1
Y = Total OPERABLE relieving capacity per steam generator based on a summation of individual OPERABLE safety valve relief capacities per steam generator in lbs/hr
Z = Required relieving capacity per steam generator of 6,585,600 lbs/hr

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5, are applicable for the main steam line code safety valves.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

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% of its design pressure of 1050 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 safety valve set pressure and relieving capacities are in accordance with Section III of ASME Boiler and Pressure Vessel Code, 1971 Edition. The Code requires the following:

1. At least two pressure-relief valves are required to provide relieving capacity for steam systems.
2. The capacity of the smallest pressure-relief valve shall not be less than 50 percent of that of the largest pressure-relief device.
3. The set pressure of one of the pressure-relief devices shall not be greater than the maximum allowable working pressure of the system at design temperature.
4. Total rated relieving capacity of the pressure-relief devices shall prevent a rise of more than 10 percent above system design pressure at design temperature under any pressure transients anticipated to arise.

~~These requirements are, respectively, met as follows:~~

- ~~1. Nine safety valves are installed per steam generator.~~
- ~~2. The relief capacity of two of the nine safety valves per steam generator is 583,574 lbs/hr each, and the capacity of the remaining seven is 845,759 lbs/hr each.~~
- ~~3. A minimum of two OPERABLE safety valves per steam generator, with a combined total relief capacity of at least 1,167,148 lbs/hr, one with a setpoint not greater than 1050 psig (+/- 1%), and one with a setpoint not greater than 1100 psig (+/- 1%).~~
- ~~4. The total relieving capacity of all safety valves on both main steam lines is 14,175,000 lbs/hr which is 120 percent of the total secondary system flow of 11,760,000 lbs/hr at 100 percent of RATED THERMAL POWER. A maximum safety valve setpoint pressure of 1100 psig (+/- 1%) assures main steam system pressure remains below 110 percent, or 1155 psig.~~

INFORMATION ONLY

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1.1 SAFETY VALVES (Continued)

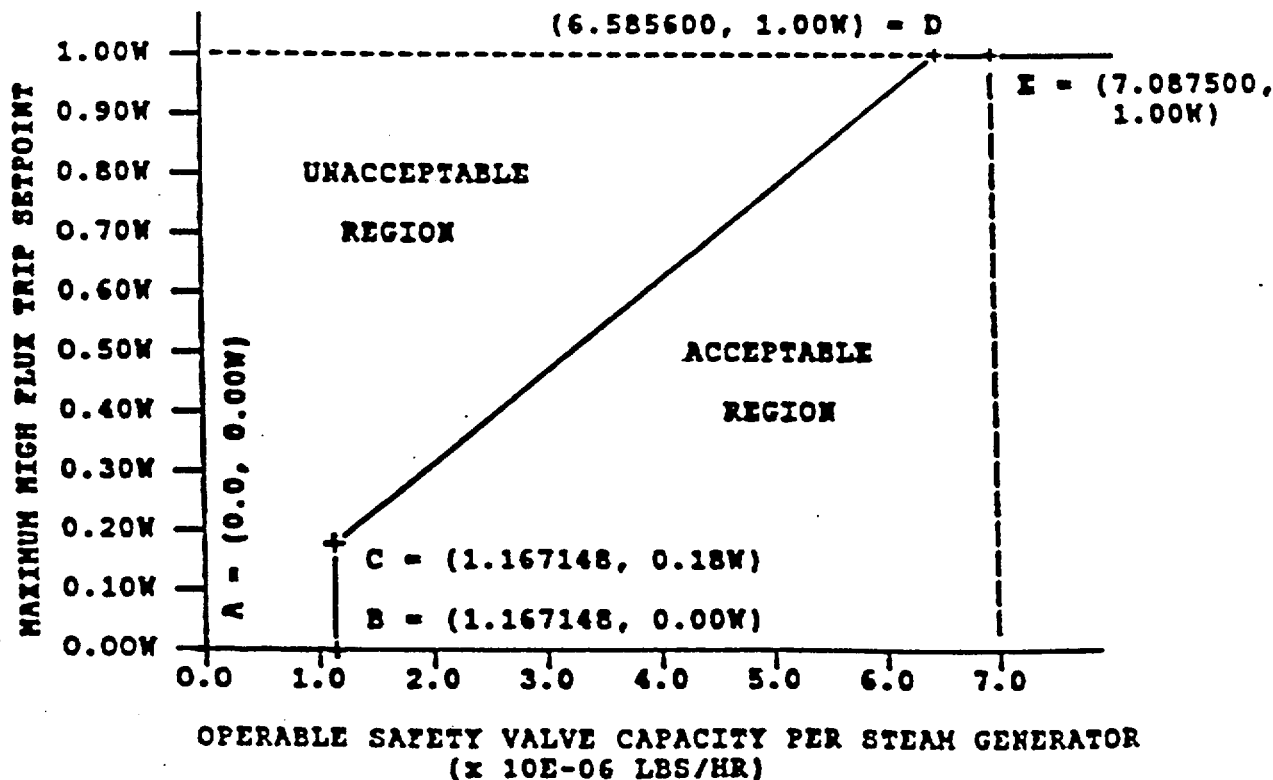
STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the High Flux channels. The reactor trip setpoint reductions are derived on the following bases:

$$SP = \frac{Y}{Z} \times W$$

where:

- SP = Reduced High Flux Trip Setpoint (Not to exceed W)
- W = High Flux Trip Setpoint for four pump operation as specified in Table 2.2-1
- Y = Total OPERABLE relieving capacity per steam generator based on a summation of individual safety valve relief capacities per steam generator in lbs/hr
- Z = Required relieving capacity per steam generator of 6,585,600 lbs/hr

This equation is graphically represented below. Operation is restricted to the area below and to the right of line A.



Docket Number 50-346
License Number NPF-3
Serial Number 2673
Attachment 2

TYPED REVISED TS BASES PAGE

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% of its design pressure of 1050 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 safety valve set pressure and relieving capacities are in accordance with Section III of ASME Boiler and Pressure Vessel Code, 1971 Edition. The Code requires the following:

1. At least two pressure-relief valves are required to provide relieving capacity for steam systems.
2. The capacity of the smallest pressure-relief valve shall not be less than 50 percent of that of the largest pressure-relief device.
3. The set pressure of one of the pressure-relief devices shall not be greater than the maximum allowable working pressure of the system at design temperature.
4. Total rated relieving capacity of the pressure-relief devices shall prevent a rise of more than 10 percent above system design pressure at design temperature under any pressure transients anticipated to arise.

Docket Number 50-346
License Number NPF-3
Serial Number 2673
Attachment 3

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THE SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER – REGULATORY AFFAIRS (419-321-8450) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS

DUE DATE

None