Nebraska Public Power District

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August 31, 1989

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: Proposed Change No. 69 to the Cooper Nuclear Station Technical Specifications, Low-Low Set, NRC Docket No. 50-298, DPR-46

In accordance with the applicable provisions of 10CFR50, the Nebraska Public Power District (the District) requests changes to the Cooper Nuclear Station (CNS) Technical Specifications as specified in Attachment 1. The proposed changes include revisions to the setpoint tolerance on the Low-Low Set Safety/Relief Valve pressure switches, a revision to the format and location of the Low-Low Set specifications to be equivalent to the Standard Technical Specifications and corrections to typographical errors in instrument I.D. numbers.

Attachment 1 contains a detailed description of each proposed change, along with a No Significant Hazards Consideration evaluation conducted in accordance with 10CFR50.92. The applicable revised Technical Specification pages are also attached. By copy of this letter and the attachments, the appropriate State of Nebraska Official is being notified of these proposed changes, in accordance with 10CFR50.91(b).

This Proposed Change incorporates all revisions to the CNS Facility Operating License through Amendment 130, dated May 24, 1989. The appropriate Safety Review Committees have reviewed this Proposed Change.

In addition to the signed original, 37 copies are also submitted for your use. Copies are being sent to the NRC Region IV Office and the CNS Resident Inspector in accordance with 10CFR50.4(b)(2).

A001
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Should you have any questions or concerns, please contact this office.

L. G. Kuncl
Nuclear Power Group Manager

LGK:dmr28-1.TS
Attachment

cc: U.S. Nuclear Regulatory Commission
Region IV
Arlington, TX

NRC Senior Resident Inspector
Cooper Nuclear Station

Harold R. Borchart
State of Nebraska
Division of Radiological Health

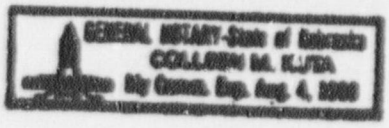
STATE OF NEBRASKA)
)SS
PLATTE COUNTY)

L. G. Kuncl, being first duly sworn, deposes and says that he is an authorized representative of the Nebraska Public Power District, a public corporation and political subdivision of the State of Nebraska; that he is duly authorized to submit this request on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

L. G. Kuncl

Subscribed in my presence and sworn to before me on this 31st day of August, 1989.

NOTARY PUBLIC



Revised Technical Specifications for
Proposed Change No. 69 Low-Low Set

Revised Pages:		
	53	85
	54	165
	59	165a
	76	180

Proposed Change No. 69 to the Cooper Nuclear Station Technical Specifications involves three separate changes, as follows:

a) TS 3.7.A.6 and 4.7.A.6, add Low-Low Set (LLS) Technical Specifications (TS) equivalent to the Standard Technical Specifications and delete LLS TS on Table 3.2.B (page 7).

b) Revise the setpoint tolerance on the Low-Low Set Safety/Relief (S/RV) Valve pressure switches from ± 10 psig to ± 20 psig.

c) Table 3.2.B (pages 1 and 2), revise typographical errors in instrument I.D. numbers.

These proposed changes are described below in detail, and evaluated with respect to 10CFR50.92.

Description of the Proposed Changes

a. The first proposed change would delete the Low-Low Set (LLS) S/RV setpoints from Table 3.2.B (page 7) and insert new LLS Technical Specifications, equivalent to the Standard Technical Specifications, in Sections 3.7.A.6 and 4.7.A.6 on page 165. Also, the LLS Bases on page 85 will be deleted and a LLS Bases Section will be added on page 180.

The current LLS Technical Specifications are located in Section 3.2. Specification 3.2.B states that the instrumentation listed in Table 3.2.B, that initiates or controls core and containment cooling systems, is required to be operable when the system(s) it initiates or controls is required to be operable, as specified in Section 3.5. However, there is no specification in Section 3.5 for LLS. The only system in Section 3.5 which is even related to LLS is the Automatic Depressurization System (ADS). The LLS function of the S/RVs is not, however, associated with ADS. The LLS logic uses the two lowest set, non-ADS S/RVs. Therefore, the Limiting Conditions for Operation and Action Statements specified for ADS in Section 3.5 do not really apply for LLS.

For this reason, the District proposes to delete the LLS valve setpoints from Table 3.2.B, along with the LLS Bases on page 85, and insert specific LLS Technical Specifications and Bases in Sections 3.7.A.6 and 4.7.A.6. Also, Table 4.2.B on page 76 will be revised to change the title of the table from: "ADS System Test and ..." to: "ADS System/Low-Low Set Test and ...."

The Technical Specification (TS) proposed for Sections 3.7.A.6 and 4.7.A.6 does not change the valve setpoints. This proposed change does, however, contain a change in the setpoint tolerances. The setpoint tolerance change is described in detail in Item b. below. Also, the new LLS Technical Specifications (TS) contain specific Action Statements for the Low-Low Set function of the Safety/Relief Valves. The LLS Action Statements are equivalent to the Standard Technical Specifications (STS). The proposed new LLS TS do not contain the STS Surveillance Requirements. This is because the current CNS TS, Section 4.2.B and Table 4.2.B, already contain Channel Functional, Logic System Functional and Simulated Automatic Actuation test requirements and calibration frequencies. The current CNS test and calibration frequencies required by TS 4.2.B are equal to, or better than, the STS.

The specific proposed new LLS Technical Specifications, as shown on the attached revised page 165, include the following changes:

1) a Limiting Condition for Operation which requires the Low-Low Set Function of the Safety/Relief Valves to be operable any time there is irradiated fuel in the reactor vessel and the reactor coolant temperature is greater than or equal to 212°F;

2) an Action Statement in Section 3.7.A.6.a.1 that allows 14 days to repair one inoperable Low-Low Set valve function or be in hot standby within 12 hours and cold shutdown within the following 24 hours;

3) an Action Statement in Section 3.7.A.6.a.2 that allows 12 hours to be in hot standby and an additional 24 hours to be in cold shutdown with the Low-Low Set Function of both valves inoperable;

4) addition of the LLS valve pressure switch setpoints and tolerances in Section 3.7.A.6.b; and

5) deletion of the LLS valve setpoints and tolerances from Table 3.2.B.

b. The District proposes to revise the setpoint tolerance on the pressure switches NBI-PS-51 A, B, C, and D. These pressure switches control the opening and closing of the Low-Low Set (LLS) function of the Safety/Relief Valves (S/RVs). The current setpoints for NBI-PS-51 A-D, contained on page 59, all have a tolerance of ± 10 psig. The District proposes to revise the tolerance on the NBI-PS-51A-D setpoints to ± 20 psig.

The Low-Low Set Relief Logic controls the two non-ADS safety/relief valves (S/RVs) with the lowest opening setpoints. When any S/RV has opened and the high reactor pressure scram setpoint (1045 psig) has been exceeded, the LLS Relief Logic is armed. The LLS Relief Logic, once armed, lowers the opening and closing setpoints of the two LLS S/RVs. Thus, after the initial blowdown, during an operational transient (such as inadvertent MSIV closure) or an accident (small or intermediate break LOCA), the LLS S/RVs control subsequent blowdowns.

The purpose of the LLS Relief Logic is to eliminate subsequent S/RV actuations, or if that is not possible, to increase the time between subsequent S/RV actuations. This modification was required to restore the safety margin for the structural integrity of the torus and S/RV discharge piping, due to the thrust loads induced during certain transients and accidents, that were not considered in the original design.

In addition to decreasing both the opening and closing setpoint of the two LLS S/RVs, the range between the opening and closing setpoint is larger than the normal S/RV range. Thus, the Low-Low Set (LLS) logic controls all S/RV actuations subsequent to initial blowdown, by providing S/RV actuation at a lower pressure and by reducing reactor pressure further due to the larger blowdown range. This serves to release more energy per blowdown. Depending upon the load case, this larger energy release may be sufficient to eliminate subsequent S/RV actuations. However, even if subsequent S/RV actuations are not eliminated, the larger blowdown range will increase the time it takes the reactor to repressurize, thus increasing the time between subsequent S/RV actuations. Increasing the time between subsequent S/RV actuations reduces thrust loads on the torus and S/RV discharge piping in two ways. First, there are less actuations, and therefore, less blowdowns. Also, the increased time between actuations allows time for the water leg in the S/RV discharge piping to clear.

There are three possible situations where instrument drift (and therefore instrument tolerance) could impact the ability of Low-Low Set to perform its required safety function. First, the opening setpoint of either valve could drift high. Second, the closing setpoint of either valve could drift low. Finally, both the opening and closing setpoints could drift too close together on either valve, reducing the blowdown range.

As long as the op ng setpoint for each Low-Low Set S/RV is below the opening setpoint of e lowest set non-LLS S/RV, the LLS logic will control subsequent actuations and instrument drift will not affect the ability of LLS to perform its safety function. The opening setpoint for the high LLS S/RV was established to accommodate more than a ± 20 psig tolerance. The high valve opening setpoint plus a 20 psig drift in the high direction (1025 + 20 = 1045 psig), along with the maximum technical specification allowed downward drift of the lowest set non-LLS S/RV (1080 - 11 = 1069 psig), still provides significant margin to ensure that the LLS S/RVs control subsequent actuations. Drift of the opening setpoint in the downward direction (i.e. a lower opening pressure) is not a concern, as long as a minimum 90 psig blowdown range is maintained. In fact, provided blowdown is at least 90 psig, a lower opening pressure is more conservative, since less energy is built up between S/RV actuations further reducing loads on the torus and S/RV discharge piping.

As stated in References 1 and 4, the actual limit on the blowdown range is that it must be adequate to ensure a minimum of five-seconds between subsequent S/RV actuations. This five-second limit provides adequate time for the water leg in the S/RV discharge piping to clear, reducing the loads on the discharge piping and the torus. For Cooper Nuclear Station, the design blowdown range (established in References 1, 2 and 3) is 90 psig.

This 90 psig blowdown range provides approximately 30 seconds between subsequent S/RV actuations, which both reduces the number of actuations and provides time for the water leg to clear.

Once again, it can be shown that the LLS S/RV opening and closing setpoints were set to ensure at least a 90 psig blowdown range with more than a ± 20 psig tolerance on the setpoint instruments. For the high valve, assuming a 20 psig downward drift in the opening setpoint (1025 - 20 = 1005 psig), and a 20 psig upward drift in the closing setpoint (875 + 20 = 895 psig), the blowdown is 110 psig (1005 - 895 = 110 psig). For the low valve, the minimum blowdown, assuming a 20 psig drift in both instruments, is 100 psig. Thus, assuming a 20 psig drift in the most disadvantageous direction for both the opening and closing setpoints on either valve, adequate margin exists to ensure that the blowdown range is above the required 90 psig.

The only other area where LLS setpoint tolerance could affect safety is if the closing setpoint drifted below the MSIV low pressure trip, causing an inadvertent MSIV closure that otherwise would not occur. However, the closing setpoint on both LLS valves is set at 875 psig. Therefore, the closing setpoint can easily accommodate a 20 psig drift (875 - 20 = 855 psig) without falling below the MSIV low pressure trip setpoint of 825 psig, including margin for a 20 psig upward drift of the MSIV trip setpoint (825 + 20 = 845 psig).

From the discussion above, it can be seen that the opening and closing setpoints on the LLS S/RVs were established to accommodate at least a ± 20 psig tolerance. Further, a ± 20 psig tolerance has no negative affect on the ability of the LLS logic to perform its safety function.

The analyses performed in References 1 and 4 show that the LLS function is satisfied with only one of the two LLS S/RVs operating. Thus, the two valve arrangement provides redundancy. Also, in the analyses, the lower valve is assumed to fail which means the valve with the higher opening setpoint can satisfy the LLS design function. Since the two valves are redundant, the analyses show that given the most limiting single failure (complete failure of the lower valve) and maximum drift of pressure setpoints on the operable valve in the most disadvantageous directions, LLS still accomplishes its design safety function.

While a small tolerance, such as ± 10 psig as is currently contained in the CNS Technical Specifications, may be appropriate for plants with analog devices controlling valve setpoints, this small tolerance is not appropriate for plants such as Cooper Nuclear Station where standard RPS type pressure switches are used. The District has currently installed the most accurate pressure switches that could be found, with the appropriate qualifications for this application. These switches have an accuracy of ± 1% of the upper range limit (1750 psig) or ± 17.5 psig. These switches are Static-O-Ring 9TA-B45-NX-C1A-JJTTX6. These switches perform well within their specified repeatability accuracy (± 17.5 psig), but they are not accurate to ± 10 psig and have drifted outside this specification.

The Standard Technical Specifications (STS) show a setpoint tolerance of ± 20 psig. Also, a review of other plants with similar LLS designs shows that a tolerance of ± 20 or ± 25 psig has been approved by the NRC.

c. The third proposed change would make typographical corrections to Table 3.2.B (pages 1 and 2) on pages 53 and 54 of the CNS Technical Specifications. The corrections are to the Reactor Low Pressure pressure switch instrument I.D. numbers. On page 53, the Instrument I.D. No. for the Reactor Low Pressure pressure switches should be changed from NBI-PS-52 A1, A2, C1, and C2 to only NBI-PS-52 A2 and C2. On page 54, the Instrument I.D. No. for the Reactor Low Pressure (Injection Valve Permissive), NBI-PS-52 A1, A2, C1, and C2, should be changed to NBI-PS-52 A2 and C2. Also on page 54, the I.D. No. for Reactor Low Pressure (Recirc. Discharge Permissive) should be changed from NBI-PS-52A and C to NBI-PS-52 A1 and C1. In addition, on pages 53 and 54 the Reactor Low Pressure pressure switches NBI-PIS-52B and D (Injection Valve Permissive) should be clarified to show that Switch No. 2 controls this function. Also, on page 54, Switch No. 1 is added to NBI-PIS-52B and D (Recirc. Discharge Permissive).

During the 1988 refueling outage, the dual contact NBI-PS-52A and C pressure switches were replaced with four single contact switches. The District submitted Proposed Change No. 50 to the CNS Technical Specifications, which included revisions to these same Instrument I.D. numbers. The replacement of the switches was reviewed and approved in the Safety Evaluation that accompanied License Amendment No. 121. However, the changes made in Change No. 50 contained typographical errors. The changes proposed in Change No. 69 do not affect any hardware, these are only corrections to the Instrument I.D. numbers.

Pressure Switches NBI-PS-52 A1 and C1 provide a closing signal to the Reactor Recirculation discharge valves. Switches A2 and C2 provide a pressure permissive signal to the Core Spray (CS) and Residual Heat Removal (LPCI) injection valves, which allows the injection valves to open if an injection signal is present. Thus, Table 3.2.B (page 1) is being corrected to show only Switches A2 and C2 providing the CS injection valve permissive and Table 3.2.B (page 2) is being corrected to show only Switches A2 and C2 providing the LPCI injection valve permissive and Switches A1 and C1 providing the recirculation discharge valve closing signal. The switch number is being placed next to NBI-PIS-52B and D to clarify which contact of the dual contact switch performs the function. This is an editorial clarification.

Evaluation of this Amendment with Respect to 10CFR50.92

A. The proposed Technical Specification Change is judged to involve no significant hazards based on the following:

1. Does the proposed License Amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Evaluation:

a. The first proposed change would delete the LLS setpoints on Table 3.2.B (page 7) and add LLS Technical Specifications equivalent to the Standard Technical Specifications in Sections 3.7.A.6 and 4.7.A.6. The current LLS Technical Specifications contain the correct setpoints, but there are no action statements which are directly applicable to the Low-Low Set function of the S/RVs. The setpoints will remain the same and the setpoint tolerance will change as proposed in Change b. below. Also, Action Statements equivalent to the Standard Technical Specifications will be added. The surveillances are currently conducted, and the testing requirements will remain, in Specification 4.2.B and Table 4.2.B. However, the title of Table 4.2.B will be corrected to reflect both ADS and LLS testing requirements.

This change has no effect on the probability or consequences of any accident, since the change is primarily editorial in that it relocates the LLS specifications from Section 3.2 to Section 3.7.A.6 and 4.7.A.6. In addition, this change adds specific LLS Action Statements, equivalent to those approved by the NRC in the Standard Technical Specifications, where previously no specific requirements existed.

b. The second proposed change is to revise the setpoint tolerance on the pressure switches (NBI-PS-51A-D) controlling the Low-Low Set (LLS) relief function of the safety/relief valves in the Cooper Nuclear Station Technical Specifications. The current setpoint tolerance on NBI-PS-51 A, B, C and D is ± 10 psig. The District proposes to change this tolerance to + 20 psig.

The safety function of the Low-Low Set (LLS) Relief Logic is to reduce the number of (and increase the time between) subsequent safety/relief valve (S/RV) actuations, following the initial pressure peak during an operational transient or accident, to reduce the thrust loads on the torus and S/RV discharge piping. The LLS modification was necessary to restore the safety margin for the structural integrity of the torus and S/RV discharge piping. By reducing the number of subsequent S/RV actuations, and increasing the minimum time between actuations, the loads are reduced to within the design margin. The LLS relief function of the S/RVs accomplishes its

safety function by lowering the opening and closing setpoints of the two non-ADS S/RVs with the lowest setpoints and increasing the range between the opening and closing setpoints of the two valves. This function is armed once any S/RV opens and the high reactor pressure scram setpoint (1045 psig) is exceeded. The increased blowdown range allows the release of more energy from the vessel per each blowdown and allows time for the water leg in the S/RV discharge piping to clear. This increases the time for reactor pressure to increase back to the LLS setpoint, reducing, or in some cases eliminating subsequent actuations.

The analytical limits on the setpoints for the Cooper Nuclear Station Low-Low Set S/RV function were established in NEDE-22197 (Reference 1). The opening setpoint is required to be $\leq$ 1050 psig, the closing setpoint is required to be $\geq$ 825 psig and the blowdown range is required to be greater than or equal to 90 psig (modified from 100 psig stated in NEDE-22197 by a letter from General Electric dated April 20, 1983, Reference 2). The 1050 psig upper limit is set to ensure that the LLS S/RVs do control subsequent blowdowns. This means that the opening setpoint must be below the lowest normal S/RV setpoints (1080 $\pm$ 11 psig) by enough margin that the LLS valves will be the ones that open on subsequent actuations, even accounting for maximum drift of the setpoint instruments on both valves. The closing setpoint limit is $\geq$ 825 psig, to ensure that the LLS S/RVs close before the Main Steam Isolation Valve (MSIV) trip occurs on low pressure (reference CNS Technical Specification 2.1.A.6). The purpose of the lower limit is to ensure that LLS does not inadvertently cause an MSIV isolation. The analytical limit on the blowdown range must be set such that there will be at least 5 seconds between subsequent S/RV actuations, to allow the water leg in the S/RV discharge piping to clear. In NEDE-22197 (Reference 1), the calculated time between subsequent S/RV actuations for Cooper Nuclear Station, assuming a 100 psig blowdown range, was approximately 34 seconds, assuming failure of the LLS S/RV with the lowest opening setpoint (worst single failure). General Electric also concluded that the actual blowdown range at CNS of 90 psig would result in approximately 30 seconds minimum time between S/RV actuations (reference GE letters dated April 20, 1983, and April 4, 1989, References 2 and 3). Thus, the 90 psig blowdown installed at CNS provides significant margin over the minimum of a 5 second water leg clearing time.

The actual opening setpoints for the CNS LLS S/RVs are 1025 psig and 1015 psig. It can be seen that, if the highest set LLS valve drifts +20 psig (1025 + 20 = 1045 psig) and the lowest set normal S/RV drifts down by the Technical Specification allowed tolerance of -11 psig (1080 - 11 = 1169 psig), the LLS valve will control subsequent S/RV actuations, with significant margin, and the LLS S/RV will

perform its intended safety function. Also, the actual closing setpoint for both LLS valves is 875 psig. If either valve were to drift -20 psig (875 - 20 = 855 psig), the main steamline isolation valve low pressure trip instrument could drift up by +20 psig (825 + 20 = 845 psig) and the LLS valve closure would still occur before MSIV isolation on low pressure. The opening and closing setpoints 1025 psig and 875 psig and 1015 psig and 875 psig are also set such that a minimum of 90 psig blowdown is assured assuming a 20 psig drift of both instruments in the worst case directions (1025 - 20 = 1005 psig; 1015 - 20 = 995 psig, and 875 + 20 = 895 psig). Thus, provided neither valve exceeds the maximum opening setpoint, or drifts below the minimum closing setpoint, and provided the opening and closing setpoints are at least 90 psig apart, LLS will fulfill its safety function. As has been shown, the setpoints for the CNS LLS S/RVs were established to accommodate a setpoint tolerance of ± 20 psig.

This change is also consistent with the Standard Technical Specifications. Therefore, with the limits specified in this proposed change, the LLS function of the S/RVs will perform its safety function and will not increase the probability or consequences of any accident.

c. The third proposed change revises typographical errors in Technical Specification Table 3.2.B (pages 1 and 2). During the 1988 refueling outage, the two dual element pressure switches, NBI-PS-52A and C were replaced with four single element switches, NBI-PS-52 A1, A2, C1 and C2. The A1 and C1 contacts provide a closing signal to the Reactor Recirculation discharge valves between 185 and 235 psig and the A2 and C2 contacts provide a pressure permissive to the Core Spray and Low Pressure Coolant Injection (LPCI) injection valves at ≤ 450 psig.

Technical Specification Change No. 50 was submitted to the NRC to reflect the change in Instrument I.D. numbers on Table 3.2.B and was approved as License Amendment No. 121. However, typographical errors were introduced into Table 3.2.B in Change No. 50 that are being corrected in this proposed Change. In particular, NBI-PS-52 A1, A2, C1 and C2 will be changed to NBI-PS-52 A2 and C2 on page 53 and 54 of the CNS Technical Specifications and NBI-PS-52 A and C on page 54 is changed to NBI-PS-52 A1 and C1.

Since this proposed change only corrects typographical errors in Instrument I.D. Numbers, it does not increase the probability or consequences of any accident previously evaluated.

2. Does the proposed License Amendment create the possibility for a new or different kind of accident from any accident previously evaluated?

Evaluation

a. The first proposed change deletes the LLS setpoints in Table 3.2.B and adds LLS specifications, equivalent to the Standard Technical Specifications (STS), in Sections 3.7.A.6 and 4.7.A.6.

This change provides action statements which identify specific actions to be taken upon loss of one or both LLS S/RV valves. The current CNS Technical Specifications do not contain any specific action statements directly applicable to the LLS S/RV logic.

There are no changes to the LLS S/RV setpoints or the hardware associated with the LLS logic. This change does incorporate the change in setpoint tolerance which is described, evaluated and justified in b. below.

Since this change moves the LLS Technical Specification from TS 3.2.B to 3.7.A.6/4.7.A.6, adds STS Action Statements and incorporates the changes in setpoint tolerance justified in b. below, this change cannot create any new or different kind of accident.

b. The second proposed change, from a ± 10 psig tolerance to ± 20 psig tolerance on the LLS S/RV opening and closing setpoints, cannot create any new or different kind of accident. The Low-Low Set Relief Function of the S/RVs is designed to mitigate thrust loads on the torus and S/RV discharge piping due to subsequent S/RV actuations. The thrust loads occur when there is not enough time between the subsequent S/RV actuations to allow the water leg to clear. The water leg is caused by water being drawn up into the S/RV discharge piping and condensation of steam remaining in the discharge piping following a blowdown. The design requirement for the LLS function of the S/RVs at Cooper Nuclear Station is that there must be at least 5 seconds between subsequent S/RV actuations.

The LLS S/RV setpoints were established to accommodate a tolerance of at least ± 20 psig. It has been shown by analysis (References 1, 2 and 3) that the LLS S/RVs will perform their safety function with the setpoints drifted to the maximum analytical limits in any of the three possible instrument drift scenarios. The three scenarios being the opening setpoint drifts high, the closing setpoint drifts low or the opening and closing setpoint on one valve drift too close together. The maximum analytical opening setpoint is 1050 psig, the minimum analytical closing setpoint is 825 psig and the minimum analytical blowdown range is 90 psig. With a 20 psig drift

of each opening and closing setpoint in the most disadvantageous directions, the analytical limits are not exceeded. Therefore, revising the setpoint tolerance from ± 10 psig to ± 20 psig will not exceed the allowed analytical limits for the system, and therefore, ensures the safety function of LLS.

The LLS S/RV function has been analyzed on both a generic and a CNS plant specific basis (NEDE-22223 and NEDE-22197, respectively). Also, the NRC has accepted the LLS design both generically and for CNS (April 26, 1983, Letter D. B. Vassallo to H. C. Pfefferlen and License Amendment No. 83 with LLS Safety Evaluation Report, respectively). It has, therefore, been previously shown that the LLS S/RV function will mitigate thrust loads on the torus and S/RV discharge piping, without creating any new kind of accident.

Therefore, the only function of the LLS logic is to mitigate the consequences of previously analyzed accidents and transients. The CNS LLS design has been previously accepted to fulfill the required mitigation function. It has been shown that, with the S/RV setpoints drifted by ± 20 psig, the analytical limits are not exceeded and the LLS logic provides the intended safety function. Therefore, this change cannot create any new or different kind of accident.

c. Change number three is a purely editorial change which corrects typographical errors in the Instrument I.D. numbers of the reactor low pressure pressure switches in Table 3.2.B. The plant configuration is as described in License Amendment No. 121; this change only corrects typographical errors in the Technical Specification table. Since this change does not involve any hardware changes, no new or different kind of accident can be created.

3 Does the proposed License Amendment involve a significant reduction in a margin of safety?

Evaluation

a. The first proposed change adds LLS specific specifications to the CNS Technical Specifications. This change includes adding specific Action Statements and maintaining the current opening and closing setpoints. The proposed revision to the setpoint tolerance described in b. below is also incorporated.

This proposed change adds specifications which are equivalent to the Standard Technical Specifications. This change has no effect on the margin of safety, since it does not affect the setpoints of the LLS S/RVs, the blowdown range or the surveillance testing performed. The only changes are the

format and location within the CNS Technical Specifications (TS) and adding specific Action Statements, which clarify the CNS TS.

This change, therefore, does not reduce the margin of safety.

b. The change from a ± 10 psig tolerance on each setpoint to ± 20 psig tolerance does propose to relax a requirement which could affect the ability of the LLS logic to perform its safety function. However, the current ± 10 psig tolerance is very conservative. The setpoints were established to accommodate at least a ± 20 psig tolerance. With the opening and closing setpoints drifted to the analytical limits (which exceed a 20 psig drift), the calculated time between subsequent S/RV actuations (assuming the worst case single failure of one of the two LLS S/RVs) is approximately 30 seconds. The calculated time required for the water leg to clear is 5 seconds. Thus, with a ± 20 psig tolerance, the margin provided for the LLS logic to perform its safety function is clearly adequate and is conservative. Note that the opening setpoints of 1025 and 1015 psig on the high and low valve, respectively, provide a minimum tolerance of 25 psig on the high valve to the analytical maximum opening setpoints of 1050 psig. Also, the closing setpoint of 875 psig provides a 50 psig tolerance to the analytical lower limit of 825 psig. Also, the opening and closing setpoints are set far enough apart such that both setpoints can drift together by 25 psig each and the required 90 psig blowdown range is maintained.

The relaxation of the tolerance on the setpoints, therefore, does not actually affect the margin of safety of the LLS logic, unless the tolerance is increased beyond the analytical limits. Therefore, the increase in the tolerance to ± 20 psig does not reduce the margin of safety.

The Standard Technical Specifications provide an opening setpoint with a 20 psig allowable tolerance for both LLS S/RVs. The proposed ± 20 psig tolerance at CNS meets this same requirement. In addition to the fact that this proposed change has no impact on safety margin, it meets the practical consideration of setting a reasonable and achievable setpoint tolerance. The pressure switches that control the LLS S/RVs must be effective over the entire design pressure range of the reactor coolant pressure boundary (0 - 1528 psig). Since a good pressure switch would be expected to have an accuracy of ± 1% of the upper range limit, it is clear that a tolerance of ± 10 psig is not practically achievable.

Based on the above, the relaxation of the setpoint tolerance for the LLS S/RV setpoints is not considered to reduce the margin of safety.

c. The proposed change to correct typographical errors in Table 3.2.B clearly does not reduce any margin of safety. This change only corrects the Instrument I.D. numbers and does not affect any hardware, operation or testing of any plant equipment.

B. Additional basis for proposed no significant hazards consideration determination:

The Commission has provided guidance concerning the application of standards for determining whether a significant hazards consideration exists by providing certain examples (48CFR14870). The examples include: (i) A purely administrative change..., (iii) A change that constitutes an additional limitation..., and (vi) A change which...may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria.... The District considers proposed Change a. to fit examples (i) and (iii), proposed Change b. to fit example (vi) and proposed Change c. to fit example (i).

References

1. NEDE-22197, General Electric Company, December 1982, "Low-Low Set Relief Logic System and Lower MSIV Water Level Trip for Cooper Nuclear Station".

2. Letter G-HP-3-036, R.H. Lube (GE) to L.C. Lessor (NPPD), dated April 20, 1983, "S/RV Low-Low Set Setpoints, P.O. 190139".

3. Letter LLC-15-89, L.L. Chi (GE) to M. Boyce (NPPD), dated April 4, 1989, "Basis for Cooper Low-Low Set Setpoints".

4. NEDC-24359, General Electric Company, August 1981, "Evaluation of Mark I S/RV Load Cases C5.1, C5.2, and C5.3 for the Cooper Nuclear Station".