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October 1, 1998

LTR: BYRON-98-0276  
FILE: 2.01.0700

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

Subject: Commonwealth Edison's (ComEd's) Revised Response to the NRC's Request for Additional Information (RAI) for Improved Technical Specifications (ITS) Beyond Scope Changes (BYS)

Byron Nuclear Power Station, Units 1 and 2  
Facility Operating Licenses NPF-37 and NPF-66  
NRC Docket Numbers: 50-454 and 50-455

Braidwood Nuclear Power Station, Units 1 and 2  
Facility Operating Licenses NPF-72 and NPF-77  
NRC Docket Numbers: 50-456 and 50-457

References: G. Stanley and K. Graesser (ComEd) letter to USNRC, "Conversion to the Improved Standard Technical Specifications," dated December 13, 1996

The purpose of this letter is to transmit ComEd's revised responses to the NRC's RAI for the ITS Beyond Scope Changes (BYS). The responses are clarifications due to further discussions with the staff reviewers on the individual requests beyond the allowed deviation from the NUREG standard and current licensing basis. The responses to the RAI questions are contained in the Attachment, Revised Response to NRC RAI for ITS BYS.

The RAI contains questions and comments stemming from the NRC's initial review of a ComEd request (Reference 1) to amend the Current Technical Specifications (CTS) for Byron Units 1 and 2 and Braidwood Units 1 and 2. The amendments to the RAI responses were requested in order to adopt the Improved Technical Specifications of NUREG-1431, Revision 1.

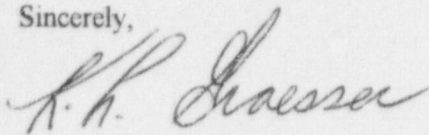
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Addressed in the attachment are the beyond scope changes BYS 3.0, 5.0, 6.0, and 8.0 that have not been closed during our review process.

Please address any comments or questions regarding this matter to our Nuclear Licensing Department.

Sincerely,



Kenneth L. Graesser  
Site Vice President  
Byron Nuclear Power Station

KG/KG/clb

Attachment: Response to NRC RAI for ITS Beyond Scope Changes

cc: Regional Administrator - RIII  
Senior Resident Inspector - Braidwood  
Senior Resident Inspector - Byron  
Office of Nuclear Facility Safety - IDNS

Attachment

Byron / Braidwood

Revised Response to NRC RAI for ITS Beyond Scope Changes (BYS)  
(Improved Technical Specification Submittal)

<b>NRC RAI Number</b>		<b>NRC Issued</b>	<b>Date</b>	<b>RAI Status</b>
BYS	3.0		1/16/98	Closed

**NRC Description of Issue**

DOC L.7

JFD P.16

ITS LCO 3.3.2, Condition M

CTS Table 3.3-3, Action 15a

The proposed change involves the action completion time for restoring an inoperable instrumentation channel for the auxiliary feedwater pump (AFWP) suction transfer function on low pressure. The proposed TS change would specify 48 hours for restoration of an inoperable AFW actuation instrumentation channel plus an additional 72 hours after declaring an associated AFW pump inoperable before going to mode 3. The staff finds this unacceptable because the ITS permits only 48 hours for an inoperable instrument channel to be restored before going to mode 3. As a separate action, the ITS specifies 72 hours for restoration of an inoperable AFW pump. The actions associated with an inoperable instrumentation channel and an inoperable AFW pump are not combined in the ITS or in the current Byron and Braidwood TS. As justification for the above proposed TS changes, the licensee stated "Typically, it is inappropriate for one train of actuation instrumentation to require a shutdown in a shorter completion time than if the component is inoperable." The staff finds this justification to be inadequate in that instrumentation restoration action times are typically shorter than associated component action times and no basis for the proposed new action is provided.

Comment: Provide additional justification for the proposed change.

**ComEd Response to Issue**

Revised Response: ComEd withdrew this Beyond Scope change and adopted Current Licensing Basis. This change was provided in our ITS Section 3.3 submittal Revision E.

Original Response: No change. CTS Table 3.3-3 (Functional Unit 6g) Action 15a requires declaring the associated AF pump inoperable immediately whenever an ESFAS channel for "AF Pump Suction Transfer on Suction Pressure-Low" is inoperable. ITS LCO 3.3.2 (Functional Unit 6f) Condition M is proposed as the appropriate action requirements associated with this Function. ITS Condition M is proposed with a Completion Time of 48 hours to restore a single inoperable channel of the "AF Pump Suction Transfer on Suction Pressure-Low" Function. If restoration of the instrument channel is not completed in 48 hours, Condition N is entered and the AF train is immediately declared inoperable. In accordance with ITS LCO 3.7.5, "Auxiliary Feedwater System," a Completion Time of 72 hours is allowed for restoring the AF train to operable status. This is consistent with CTS 3.3.2, Table 3.3-3, Functional Unit 6g and Action 15a. As stated in DOC 3.3-L7, it is inappropriate for one train of the actuation instrumentation to require a shutdown in a shorter Completion Time than if the component is inoperable. The 48 hour Completion Time for restoration of the instrumentation channel is considered appropriate due to: 1) the capability of the channel on the operable ESFAS train to actuate a suction transfer on the unaffected AF train, 2) the fact that the preferred source (i.e., the CST) is available and aligned, and monitored every 12 hours, 3) the capability of manually realigning the AF pump suction to the Essential Service Water System from the Main Control Room, and 4) the availability in the Main Control Room of a low suction pressure alarm from the operable channel, a CST low level alarm, CST level indication, and other instrumentation to alert the Operator during this interval. ComEd continues to pursue this change.

Response to NRC RAI Dated 01/16/98

<b>NRC RAI Number</b>	<b>NRC Issued</b>	<b>Date</b>	<b>RAI Status</b>
BYS 5.0		1/16/98	Open - ComEd Action Required

**NRC Description of Issue**

DOC M.15  
JFD P.3  
ITS SR 3.4.1.4 Note  
CTS SR 4.2.3.5

The Surveillance Frequency Note not requiring verification of the measured RCS total flow (by performance of a precision calorimetric heat balance) is increased to 7 days after reaching  $\geq 90\%$  RTP. Although the current plant TS do not specify a time limit for this calibration, they do require the RCS total flow rate to be determined by precision heat balance measurement prior to completion of physics tests. In addition, the STS specify a 24-hour time interval once 90% RTP is reached. Since the 7 day frequency has previously been approved for Vogtle, it appears that this proposed change is generic and should be requested and justified through the WOG as a generic change to the WOG STS. Therefore, it is not approved as a plant-specific change at this time.

Comment: Revise the submittal to adapt the STS.

**ComEd Response to Issue**

Revised Response: Byron and Braidwood's Current Licensing Basis (CLB) does not require a time limit for completing the precision calorimetric heat balance. The measurement is completed prior to the completion of Physics Testing, during the initial ascent to full power. Current requirements verify that the measurement instrumentation is calibrated within 7 days prior to the performance of the calorimetric. The performance of the calorimetric is done as close to full power as possible to get a more accurate indication of reactor power. ComEd performs this measurement at 98% Rated Thermal Power (RTP). If there are any unexpected delays in the ascent from 90% to 98% RTP, the more restrictive completion time of 24 hours to perform the surveillance could be missed and could result in an unnecessary issuance of an LER. The calorimetric test is performed every eighteen months during the initial ramp to 100% RTP. Initial setup time of the measurement equipment takes approximately two days and performance of the test about 2 hours. Since this parameter does not normally change significantly, there is no need to perform this test in the first 24 hours after reaching 90% RTP. During the performance of the last two precision calorimetric heat balances, there was only a 0.2% and a 0.43% deviation between the actual precision heat balance measurements and the computer calculations, with both measurements finding the computer reading to be higher than the actual calorimetric heat balance measurement. Several other utilities have also included this change in their ITS submittals, which was originally submitted to WOG by Byron/Braidwood as WOG-99 and has been under review by the NRC as TSTF-282 since May 29, 1998. ComEd continues to pursue this change which is still more conservative than our CLB.

Original Response: No change. The NRC has previously approved the 7-day Frequency for SR 3.4.1.4 for Vogtle, Ginna, and Zion on a plant specific basis. In addition, several other utilities have also included this change in their ITS submittals. This change was originally submitted by Byron/Braidwood and approved by the Westinghouse Owner's Group (WOG) as WOG-99, and has been under TSTF review since November 19, 1996. ComEd continues to pursue this change.

Response to NRC RAI Dated 01/16/98

<b>NRC RAI Number</b>		<b>NRC Issued</b>	<b>Date</b>	<b>RAI Status</b>
BYS	6.0		1/16/98	Closed

**NRC Description of Issue**

DOC L.28

JFD P.44

ITS LCO 3.4.3

CTS LCO 3.4.9.1

The proposed change, P/T Limits Action for P/T limits, would require placing the unit in mode 5 rather than in mode 5 with RCS pressure < 500 psig. Keeping the RCS pressure < 500 psig at RCS temp of 200°F is essential to maintaining P/T limits. The current Byron TS require this condition be achieved in 30 hours and the ITS allows 36 hours. This is already a relaxation in action time. To further delay the RCS pressure reduction will increase risk. Also there is the possibility that Action C may not be entered if Action B.2 is completed, i.e., when the RCS temperature is ≤ 200°F but the RCS pressure is still > 500 psig. Therefore, there is no requirement to immediately go into Action C to restore the parameters to ≤ 500 psig. Therefore, this change is unacceptable.

Comment: Revise the submittal to retain the 500 psig RCS pressure requirement.



**ComEd Response to Issue**

No change. ComEd agrees with the NRC statement, "... there is the possibility that Action C may not be entered if Action B.2 is completed, i.e., when the RCS temperature is less than or equal to 200°F but the RCS pressure is still greater than or equal to 500 psig." The Byron/Braidwood P/T limits curves in the PTLR may not necessarily require RCS pressure to be less than or equal to 500 psig to be within acceptable limits, as is currently the case for the Byron/Braidwood P/T limits curves at 200°F. Therefore, Condition C may not be applicable. Entry into Condition C is MODE dependent. Whenever the Unit is less than or equal to 200°F (i.e., MODE 5) and the pressure and temperature (P/T) limits are not restored, ITS Condition C must be entered. Upon entry into MODE 5 with the P/T limits still not restored (i.e., regardless of whether RCS pressure is above or below 500 psig), Condition C is applicable and must be entered to restore RCS pressure and temperature to within the P/T limits. In addition, the entry conditions for Condition A (unit in MODE 1, 2, 3, or 4), and therefore, Condition B (Required Action and associated Completion Time of A not met), are no longer applicable based on entry into MODE 5 (provided Required Action A.2 has been completed), and Conditions A and B are exited. Specifying any MODE 5 actions in Conditions A or B is technically incorrect and against the ITS rules of usage since once the Unit reaches MODE 5, these Conditions are exited. With the changes proposed by ComEd, it is clear that when the Unit is in MODES 1, 2, 3, or 4, only Conditions A and B apply. When the Unit is in any MODES other than MODES 1, 2, 3, or 4, Condition C applies. Under the requirements of the NUREG, given the situation with RCS pressure greater than or equal to 500 psig in MODE 5 and the P/T limits not restored Conditions B and C would both apply. This would lead to confusion for the Operator since the Required Actions are different. Furthermore, the Operator is to follow Required Actions for a Condition for which the entry Conditions no longer are applicable. ComEd believes this to be a "broke" in the NUREG, created in the conversion from CTS to ITS. ComEd disagrees with the staff's statement, "The current Byron TS require this condition be achieved in 30 hours and the ITS allows 36 hours. This is already a relaxation in action time." Both the Byron and Braidwood CTS contain actions to restore the RCS pressure and temperature to within limits in 30 minutes, or be in hot standby (MODE 3) in the next 6 hours and reduce RCS temperature to less than 200°F (MODE 5) within the following 30 hours. These same requirements are contained in ITS as Required Actions (RA) A.1 (Restore to within limits in 30 minutes), B.1 (Be in MODE 3 in 6 hours), and B.2 (Be in MODE 5 in 36 hours). ComEd continues to pursue this change.

Response to NRC RAI Dated 01/16/98

<b>NRC RAI Number</b>	<b>NRC Issued</b>	<b>Date</b>	<b>RAI Status</b>
BYS 8.0	1/16/98		Open - ComEd Action Required

**NRC Description of Issue**

DOC L.14

JFD P.4

ITS SR 3.4.18.2

CTS SR 4.4.1.5.2.2

The Surveillance Frequency is proposed to be changed from 2 hours to 4 hours for verifying boron concentration prior to opening an isolation valve in an isolated loop. The justification given for this proposed change cites the amount of time to sample and confirm the concentration results. However, the Surveillance Frequency does not define the amount of time for sampling but merely the time the Surveillance should be completed prior to opening either the hot or cold leg isolation valve. Operating experience has shown that completing this Surveillance within 2 hours of opening an isolation valve provides reasonable assurance that the boron concentration difference will remain within acceptable limits until the loop is unisolated. This has not been justified for the longer time period and, therefore, we do not find the proposed change acceptable.

Comment: Revise the submittal to retain the 12 hour surveillance frequently.

**ComEd Response to Issue**

Revised Response: ComEd continues to pursue changing two hours to four hours in ITS SR 3.4.18.2 for verifying boron concentration of the isolated loop due to the difficulty in meeting the current sampling frequency. The Chemistry Department currently has difficulty collecting the RCS sample of the isolated loop from inside containment, transporting the sample to the lab, performing the analysis, and informing the control room management of the results prior to the expiration of the two-hour time limit. For the unisolated loop, in order to meet the prerequisite sample line purge time, it takes approximately one hour to collect the RCS sample from the High Radiation Sample System and transfer it to the laboratory, and another 30 minutes to analyze the sample. After verification of the sample results, the Chemistry Department must notify the Operations personnel of the results. Due to the short amount of time left to perform the operation of stroking open the LSIVs, the two-hour time frame may expire due to other activities ongoing in the control room. This would then delay returning the unit to power operations due to the requirement to perform another sample prior to opening the LSIVs and unisolating the loop. The increased time allowance of four hours would reduce the concern in restoring an isolated RCS loop and would prevent unnecessary delays. In addition, once an RCS loop is filled there is no possible dilution path. Two 2" loop drains penetrate the isolated portion of the RCS loop, and neither of these lines are possible dilution sources to the isolated loop. ComEd continues to pursue changing two hours to four hours in ITS SR 3.4.18.2 for verifying boron concentration of the isolated loop. This change will be provided in our comprehensive ITS Section 3.4 closeout submittal Revision K upon NRC's concurrence with the ComEd Responses to the ITS Beyond Scope RAI.

Original Response: ComEd will revise ITS SR 3.4.18.2 to retain the 2 hour Surveillance Frequency. This change will be provided in our comprehensive ITS Section 3.4 closeout submittal revision upon NRC's concurrence with the ComEd Responses to the ITS Beyond Scope RAI.