Exelon Generation®

4300 Winfield Road
Warrenville, IL 60555
630 657 2000 Office

RS-18-116 10 CFR 50.90

September 28, 2018

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Application to Revise Technical Specifications to Adopt TSTF-476, "Improved BPWS Control Rod Insertion Process (NEDO-33091)," Revision 1

References:

1. TSTF-476, "Improved BPWS Control Rod Insertion Process (NEDO-33091)," Revision 1, dated May 23, 2007
2. 72 FR 29004, "Notice of Availability of Model Safety Evaluation and Model License Amendment Request on Technical Specification Improvement Regarding Use of the Improved Banked Position Withdrawal Sequence for General Electric Boiling Water Reactors Using the Consolidated Line Item Improvement Process," dated May 23, 2007

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (EGC) is submitting a request for an amendment to the Technical Specifications (TS) for Clinton Power Station (CPS), Unit 1.

The proposed change adds a footnote to TS Table 3.3.2.1-1, "Control Rod Block Instrumentation." In addition, TS Bases Sections 3.1.6, "Control Rod Pattern," and 3.3.2.1, "Control Rod Block Instrumentation," are revised to allow CPS to reference a new Banked Position Withdrawal Sequence (BPWS) shutdown sequence.

The changes are consistent with NRC approved Industry Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-476, Revision 1, "Improved BPWS Control Rod Insertion Process (NEDO-33091)." The availability of this TS improvement was announced in the Federal Register on May 23, 2007, (i.e., Reference 2).

This request is subdivided as follows.

- Attachment 1 provides a description and assessment of the proposed change, as well as confirmation of applicability.
- Attachment 2 provides a markup of the affected TS page.
- Attachment 3 provides a markup of the affected TS Bases pages. The TS Bases pages are provided for information only and do not require NRC approval.
- Attachment 4 provides a list of regulatory commitments made in this submittal.

The proposed change has been reviewed by the Plant Operations Review Committee in accordance with the requirements of the EGC Quality Assurance Program.

EGC requests approval of the proposed change by September 2, 2019. Once approved, the amendment will be implemented within 30 days. This implementation period will provide adequate time for the affected station documents to be revised using the appropriate change control mechanisms.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), EGC is notifying the State of Illinois of this application for license amendment by transmitting a copy of this letter and its attachments to the designated State Official.

Should you have any questions concerning this letter, please contact Mr. Kenneth M. Nicely at (630) 657-2803.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 28th day of September 2018.

Respectfully,

Patrick R. Simpson
Manager – Licensing

Attachments:
1. Description and Assessment
2. Proposed Technical Specifications Changes (Mark-Up)
3. Proposed Technical Specifications Bases Changes (Mark-Up) (For Information Only)
4. Summary of Regulatory Commitments

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector – Clinton Power Station
Illinois Emergency Management Agency – Division of Nuclear Safety

ATTACHMENT 1
Description and Assessment

1.0 DESCRIPTION

This letter is a request to amend Facility Operating License No. NPF-62 for Clinton Power Station (CPS), Unit 1.

The proposed change adds a footnote to Technical Specifications (TS) Table 3.3.2.1-1, "Control Rod Block Instrumentation." In addition, TS Bases Sections 3.1.6, "Control Rod Pattern," and 3.3.2.1, "Control Rod Block Instrumentation," are revised to allow CPS to reference an improved optional Banked Position Withdrawal Sequence (BPWS) for use during reactor shutdown.

The new BPWS is described in Topical Report NEDO-33091-A, Revision 2, "Improved BPWS Control Rod Insertion Process," dated July 2004, and approved by the NRC by Safety Evaluation (SE) dated June 16, 2004 (ADAMS ML041700479). Technical Specification Task Force (TSTF) change traveler TSTF-476, Revision 1, "Improved BPWS Control Rod Insertion Process (NEDO-33091)" was announced for availability in the Federal Register on May 23, 2007.

2.0 PROPOSED CHANGES

Consistent with NRC-approved TSTF-476, Revision 1, the proposed TS and Bases changes include:

- Revised TS Table 3.3.2.1-1, "Control Rod Block Instrumentation," to add a footnote that allows operators to bypass the rod pattern controller if conditions for the optional BPWS shutdown process are satisfied.

- Revised TS Section 3.1.6 Bases to allow use of an optional BPWS during plant shutdown.

- Revised TS Section 3.3.2.1 Bases to allow bypassing of the rod pattern controller during the optional BPWS shutdown sequence.

3.0 BACKGROUND

The background for this application is as stated in the model SE in NRC's Notice of Availability published on May 23, 2007 (72 FR 29004), the NRC Notice for Comment published on May 3, 2006 (71 FR 26118), and TSTF-476, Revision 1.

In addition, a conforming change is made to the CPS TS to make them consistent with NUREG-1434, which was the starting point for the TSTF-476 markup. Specifically, in the past, at CPS, applying footnote (c) to the Rod Pattern Controller (RPC) Mode 2 Applicability requirement was unnecessary because the pre-TSTF-476 purpose of footnote (c) was simply to establish the percentage of rated thermal power below which the RPC had to be operable, and at CPS the RPC is required to be operable over the entire operating range of Mode 2. However, post-TSTF-476, the footnote has the secondary purpose of clarifying when the RPC may be bypassed. Therefore, applying footnote (c) to the RPC Mode 2 applicability requirement

is now necessary in order to use the improved shutdown process. If the plant is being shut down without using the improved shutdown process, the operability requirements of the RPC are unaffected by the addition of footnote (c) to the Mode 2 Applicability. Therefore, in order to be consistent with NUREG-1434, TSTF-476, and the associated evaluations, it is being applied to the Mode 2 RPC Applicability.

4.0 TECHNICAL ANALYSIS

Exelon Generation Company, LLC (EGC) has reviewed NEDO-33091-A, Revision 2, and the NRC SE dated June 16, 2004, as well as TSTF-476, Revision 1, and the model SE published on May 23, 2007 (72 FR 29004) as part of the consolidated line item improvement process (CLIIP) Notice for Comment. EGC has applied the methodology in NEDO-33091-A, Revision 2 to the develop the proposed TS changes. EGC has also concluded that the justifications presented in TSTF-476, Revision 1, and the model SE prepared by the NRC are applicable to CPS, Unit 1, and justify this amendment for the incorporation of the changes to the CPS TS.

As discussed above in the Background discussion, applying the existing portion of TS footnote (c) (i.e., With THERMAL POWER $\leq$ 16.7% RTP) to the Mode 2 RPC requirement is a non-technical change that does not affect current TS requirements since power is always less than 16.7% when the plant is in Mode 2. Also, since TSTF-476-A and the model SE prepared by the NRC both assume that the new clause is added onto footnote (c) and that the revised footnote is applied to the Mode 2 RPC requirement, the addition of footnote (c) onto the CPS Mode 2 RPC requirement is necessary for the CLIIP evaluations to apply. Therefore, applying the new clause in footnote (c) to Mode 2 is a necessary component of the TSTF and the model SE.

5.0 REGULATORY ANALYSIS

A description of this proposed change and its relationship to applicable regulatory requirements and guidance was provided in the NRC Notice of Availability published on May 23, 2007 (72 FR 29004), the NRC Notice for Comment published on May 3, 2006 (71 FR 26118), and TSTF-476, Revision 1.

5.1 Regulatory Commitments

As discussed in the model SE published in Federal Register on May 23, 2007, for this TS improvement, the following plant-specific verifications/commitments were performed. The safety evaluation for NEDO-33091-A explained that the potential for the control rod drop accident (CRDA) will be eliminated by the following changes to the operational procedures, which CPS commits to make prior to implementation.

1. Before reducing power to the low power setpoint (LPSP), operators shall confirm control rod coupling integrity for all rods that are withdrawn. Control rods that have not been confirmed coupled must be fully inserted prior to power reduction to the LPSP. No action is required for fully-inserted control rods.

If a shutdown is required and all rods which are not confirmed coupled cannot be fully inserted prior to the power dropping below the LPSP, then the original/standard BPWS must be adhered to. The original/standard BPWS can be found in Licensing Topical Report NEDO-21231, "Banked Position Withdrawal Sequence," January 1977, and is referred to in NUREG-1433 and NUREG-1434.

2. After reactor power drops below the LPSP, rods may be inserted from notch position 48 to notch position 00 without stopping at the intermediate positions. However, it is recommended that operators insert rods in the same order as specified for the original/standard BPWS as much as is reasonably possible. If a plant is in the process of shutting down following improved BPWS with the power below the LPSP, no control rod shall be withdrawn unless the control rod pattern is in compliance with standard BPWS requirements.

A summary of these regulatory commitments is provided in Attachment 4.

In addition to the procedure changes specified above, the NRC previously concluded, based on its review of NEDO-33091-A, that no single failure of the boiling water reactor control rod drive (CRD) mechanical or hydraulic system can cause a control rod to drop completely out of the reactor core during the shutdown process. Therefore, the proper use of the improved BPWS will prevent a CRDA from occurring while power is below the LPSP. EGC has verified, in accordance with NEDO-33091-A, Revision 2, that no single failure of the boiling water reactor CRD mechanical or hydraulic system can cause a control rod to drop completely out of the reactor core during the shutdown process.

6.0 NO SIGNIFICANT HAZARDS CONSIDERATION

Exelon Generation Company, LLC (EGC) requests adoption of TSTF-476, Revision 1, "Improved BPWS Control Rod Insertion Process (NEDO-33091)," which is an approved change to the standard technical specifications (STS), into the Clinton Power Station (CPS), Unit 1, Technical Specifications (TS). The proposed change adds a footnote to TS Table 3.3.2.1-1, "Control Rod Block Instrumentation." In addition, TS Bases Sections 3.1.6, "Control Rod Pattern," and 3.3.2.1, "Control Rod Block Instrumentation," are revised to allow CPS to reference an improved optional Banked Position Withdrawal Sequence (BPWS) for use during reactor shutdown.

EGC has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

   Response: No

   The proposed change modifies the TS to allow the use of the improved BPWS during shutdowns if the conditions of NEDO-33091-A, Revision 2, "Improved BPWS Control

Rod Insertion Process," July 2004, have been satisfied. The justifications to support the specific TS changes are consistent with the approved topical report and TSTF-476, Revision 1. Since the change only involves changes in control rod sequencing, the probability of an accident previously evaluated is not significantly increased, if at all. The consequences of an accident after adopting TSTF-476 are no different than the consequences of an accident prior to adopting TSTF-476. Therefore, the consequences of an accident previously evaluated are not significantly affected by this change. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   Response: No

   The proposed change will not introduce new failure modes or effects and will not, in the absence of other unrelated failures, lead to an accident whose consequences exceed the consequences of accidents previously evaluated. The control rod drop accident (CRDA) is the design basis accident for the subject TS changes. This change does not create the possibility of a new or different kind of accident from an accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No

   The proposed change, TSTF-476, Revision 1, incorporates the improved BPWS, previously approved in NEDO-33091-A, into the CPS TS. The CRDA is the design basis accident for the subject TS changes. In order to minimize the impact of a CRDA, the BPWS process was developed to minimize control rod reactivity worth for boiling water reactor plants. The proposed improved BPWS further simplifies the shutdown control rod insertion process, and in order to evaluate it, the NRC followed the guidelines of Standard Review Plan Section 15.4.9, and referred to General Design Criterion 28 of Appendix A to 10 CFR Part 50 as its regulatory requirement. The TSTF stated the improved BPWS provides the following benefits: (1) Allows the plant to reach the all-rods-in condition prior to significant reactor cool down, which reduces the potential for re-criticality as the reactor cools down; (2) reduces the potential for an operator reactivity control error by reducing the total number of control rod manipulations; (3) minimizes the need for manual scrams during plant shutdowns, resulting in less wear on control rod drive (CRD) system components and CRD mechanisms; and (4) eliminates unnecessary control rod manipulations at low power, resulting in less wear on reactor manual control and CRD system components. The addition of procedural requirements and verifications specified in NEDO-33091-A, along with the proper use of the BPWS will prevent a CRDA from occurring while power is below the low power setpoint (LPSP). The net change to the margin of safety is insignificant. Therefore, this change does not involve a significant reduction in a margin of safety.

Based on the above, EGC concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of no significant hazards consideration is justified.

7.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

ATTACHMENT 2
Proposed Technical Specifications Changes (Mark-Up)

Clinton Power Station, Unit 1

Facility Operating License No. NPF-62

REVISED TECHNICAL SPECIFICATIONS PAGES

3.3-18

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
1. Rod Pattern Control System			
a. Rod withdrawal limiter	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.6 SR 3.3.2.1.9
	(b)	2	SR 3.3.2.1.2 SR 3.3.2.1.5 SR 3.3.2.1.7 SR 3.3.2.1.9
b. Rod pattern controller	1[(c)],2 (c)	2	SR 3.3.2.1.3 SR 3.3.2.1.4 SR 3.3.2.1.5 SR 3.3.2.1.7 SR 3.3.2.1.9
2. Reactor Mode Switch-Shutdown Position	(d)	2	SR 3.3.2.1.8

(a) THERMAL POWER greater than the RWL HPSP.

(b) THERMAL POWER > 29.2% RTP and less than or equal to the RWL HPSP.

(c) With THERMAL POWER ≤ 16.7% RTP, except during the reactor shutdown process if the coupling of each withdrawn control rod has been confirmed

(d) Reactor mode switch in the shutdown position.

ATTACHMENT 3
Proposed Technical Specifications Bases Changes (Mark-Up)
(For Information Only)

Clinton Power Station, Unit 1

Facility Operating License No. NPF-62

REVISED TECHNICAL SPECIFICATIONS BASES PAGES

B 3.1-34
B 3.1-37
B 3.3-42
B 3.3-43
B 3.3-45
B 3.3-48

BASES

APPLICABLE SAFETY ANALYSES (continued)	Control rod patterns analyzed in Reference 2 follow the banked position withdrawal sequence (BPWS) described in Reference 8. The BPWS is applicable from the condition of all control rods fully inserted to 16.7% RTP (Ref. 9). For the BPWS, the control rods are required to be moved in groups, with all control rods assigned to a specific group required to be within specified banked positions (e.g., between notches 08 and 12). The banked positions are defined to minimize the maximum incremental control rod worths without being overly restrictive during normal plant operation. The generic BPWS analysis (Ref. 8) also evaluated the effect of fully inserted, inoperable control rods not in compliance with the sequence, to allow a limited number (i.e., eight) and distribution of fully inserted, inoperable control rods. Rod pattern control satisfies the requirements of Criterion 3 of the NRC Policy Statement.
LCO	Compliance with the prescribed control rod sequences minimizes the potential consequences of a CRDA by limiting the initial conditions to those consistent with the BPWS. This LCO only applies to OPERABLE control rods. For inoperable control rods required to be inserted, separate requirements are specified in LCO 3.1.3, "Control Rod OPERABILITY," consistent with the allowances for inoperable control rods in the BPWS.
APPLICABILITY	In MODES 1 and 2, when THERMAL POWER is ≤ 16.7% RTP, the CRDA is a Design Basis Accident (DBA) and, therefore, compliance with the assumptions of the safety analysis is required. When THERMAL POWER is > 16.7% RTP, there is no credible control rod configuration that results in a control rod worth that could exceed the 280 cal/gm fuel damage limit during a CRDA (Ref. 9). In MODES 3, 4, and 5, since the reactor is shut down and only a single control rod can be withdrawn from a core cell containing fuel assemblies, adequate SDM ensures that the consequences of a CRDA are acceptable, since the reactor will remain subcritical with a single control rod withdrawn.

(continued)

When performing a shutdown of the plant, an optional BPWS control rod sequence (Ref. 10) may be used provided that all withdrawn control rods have been confirmed to be coupled. The rods may be inserted without the need to stop at intermediate positions since the possibility of a CRDA is eliminated by the confirmation that withdrawn control rods are coupled. When using the Reference 10 control rod sequence for shutdown, the rod pattern controller may be bypassed in accordance with the allowance provided in the Applicability Note for the Rod Pattern Controller in Table 3.3.2.1-1.

In order to use the Reference 10 BPWS shutdown process, an extra check is required in order to consider a control rod to be "confirmed" to be coupled. This extra check ensures that no Single Operator Error can result in an incorrect coupling check. For purposes of this shutdown process, the method for confirming that control rods are coupled varies depending on the position of the control rod in the core. Details on this coupling confirmation requirement are provided in Reference 10. If the requirements for use of the BPWS control rod insertion process contained in Reference 10 are followed, the plant is considered to be in compliance with BPWS requirements, as required by LCO 3.1.6.

BASES

REFERENCES (continued)

6. NEDO-21778-A, "Transient Pressure Rises Affected Fracture Toughness Requirements for Boiling Water Reactors," December 1978.

7. ASME, Boiler and Pressure Vessel Code.

8. NEDO-21231, "Banked Position Withdrawal Sequence," January 1977.

9. USAR, Section 7.6.1.7.3.

10. NEDO 33091-A, Revision 2, "Improved BPWS Control Rod Insertion Process," July 2004.

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1.a. Rod Withdrawal Limiter (continued)

power function channels are considered OPERABLE when control rod withdrawal is limited to no more than four notches from the original position of the selected control rod. (By design, a single control rod that has been inserted for scram time testing, for example, can be continuously withdrawn to its previous position without establishing a new withdrawal limit.)

Nominal trip set points are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Values between successive CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor power), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., analog trip module) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drive, and severe environment errors (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The RWL is assumed to mitigate the consequences of an RWE event when operating > 29.2% RTP. Below this power level, the consequences of an RWE event will not exceed the MCPR, and therefore the RWL is not required to be OPERABLE (Ref. 3).

1.b. Rod Pattern Controller

The RPC enforces the banked position withdrawal sequence (BPWS) to ensure that the initial conditions of the CRDA analysis are not violated. The analytical methods and assumptions used in evaluating the CRDA are summarized in References 4 and 5. The BPWS requires that control rods be moved in groups, with all control rods assigned to a

4, 5, and 6. The standard

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1.b. Rod Pattern Controller (continued)

specific group required to be within specified banked positions. Requirements that the control rod sequence is in compliance with BPWS are specified in LCO 3.1.6, "Control Rod Pattern."

When performing a shutdown of the plant, an optional BPWS control rod sequence (Ref. 6) may be used if the coupling of each withdrawn control rod has been confirmed. The rods may be inserted without the need to stop at intermediate positions. When using the Reference 6 control rod insertion sequence for shutdown, the rod pattern controller may be bypassed if it is not programmed to reflect the optional BPWS shutdown sequence, as permitted by the Applicability Note for the RPC in Table 3.3.2.1-1.

The Rod Pattern Controller Function satisfies Criterion 3 of the NRC Policy Statement. Since the RPC is a backup to operator control of control rod sequences, only a single channel would be required to be OPERABLE to satisfy Criterion 3 (Ref. 5). However, the RPC is designed as a dual channel system and will not function without two OPERABLE channels. Required Actions of LCO 3.1.3, "Control Rod OPERABILITY," and LCO 3.1.6 may necessitate bypassing individual control rods in the Rod Action Control System (RACS) to allow continued operation with inoperable control rods or to allow correction of a control rod pattern not in compliance with the BPWS. The individual control rods may be bypassed as required by the conditions, and the RPC is not considered inoperable provided SR 3.3.2.1.9 is met.

standard

Compliance with the BPWS, and therefore OPERABILITY of the RPC, is required in MODES 1 and 2 with THERMAL POWER $\leq$ 16.7% RTP. When THERMAL POWER is > 16.7% RTP, there is no possible control rod configuration that results in a control rod worth that could exceed the 280 cal/gm fuel damage limit during a CRDA. In MODES 3 and 4, all control rods are required to be inserted in the core. In MODE 5, since only a single control rod can be withdrawn from a core cell containing fuel assemblies, adequate SDM ensures that the consequences of a CRDA are acceptable, since the reactor will be subcritical.

2. Reactor Mode Switch-Shutdown Position

During MODES 3 and 4, and during MODE 5 when the reactor mode switch is required to be in the shutdown position, the core is assumed to be subcritical; therefore, no positive reactivity insertion events are analyzed. The Reactor Mode Switch-Shutdown Position control rod withdrawal block ensures that the reactor remains subcritical by blocking control rod withdrawal, thereby preserving the assumptions of the safety analysis.

The Reactor Mode Switch-Shutdown Position Function satisfies Criterion 3 of the NRC Policy Statement.

(continued)

An exception is taken to RPC OPERABILITY when complying with the optional BPWS control rod sequence during the reactor shutdown process if the coupling of each withdrawn control rod has been confirmed.

BASES

ACTIONS (continued)

C.1 and C.2

If one Reactor Mode Switch-Shutdown Position control rod withdrawal block channel is inoperable, the remaining OPERABLE channel is adequate to perform the control rod withdrawal block function. Required Action C.1 and Required Action C.2 are consistent with the normal action of an OPERABLE Reactor Mode Switch-Shutdown Position Function to maintain all control rods inserted. Therefore, there is no distinction between Required Actions for the Conditions of one or two channels inoperable. In both cases (one or both channels inoperable), suspending all control rod withdrawal immediately, and immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies will ensure that the core is subcritical, with adequate SDM ensured by LCO 3.1.1, "SHUTDOWN MARGIN (SDM)." Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and are therefore not required to be inserted. Action must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted.

SURVEILLANCE REQUIREMENTS

As noted at the beginning of the SR, the SRs for each Control Rod Block instrumentation Function are found in the SRs column of Table 3.3.2.1-1.

The Surveillances are also modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains control rod block capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. ~~7~~ 8) assumption of the average time required to perform channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that a control block will be initiated when necessary.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.1.8 (continued)

the shutdown position, since testing of this interlock with the reactor mode switch in any other position cannot be performed without using jumpers, lifted leads, or movable limits. This allows entry into MODES 3 and 4 if the Frequency is not met per SR 3.0.2. The 1 hour allowance is based on operating experience and in consideration of providing a reasonable time in which to complete the SRs.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.3.2.1.9

LCO 3.1.3 and LCO 3.1.6 may require individual control rods to be bypassed in RACS to allow insertion of an inoperable control rod or correction of a control rod pattern not in compliance with BPWS. With the control rods bypassed in the RACS, the RPC will not control the movement of these bypassed control rods. Individual control rods may also be required to be bypassed to allow continuous withdrawal for determining the location of leaking fuel assemblies or adjustment of control rod speed. To ensure the proper bypassing and movement of those affected control rods, a second licensed operator or other qualified member of the technical staff must verify the bypassing and movement of these control rods is in conformance with applicable analyses. Compliance with this SR allows the RPC and RWL to be OPERABLE with these control rods bypassed.

REFERENCES

1. USAR, Section 7.6.1.7.

2. USAR, Section 15.4.2.

3. NEDE-24011-P-A, "General Electric Standard Application for Reload Fuel" (latest approved revision).

4. NEDO-21231, "Banked Position Withdrawal Sequence," January 1977.

5. NRC SER, Acceptance of Referencing of Licensing Topical Report NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel, Revision 8, Amendment 17," December 27, 1987.

6. NEDC-30851-P-A, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988.

7. GENE-770-06-1, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

6. NEDO 33091-A, Revision 2, "Improved BPWS Control Rod Insertion Process," July 2004.

ATTACHMENT 4
Summary of Regulatory Commitments

The following list identifies those actions committed to by Exelon Generation Company, LLC, (EGC) for Clinton Power Station. Any other actions discussed in the submittal represent intended or planned actions by EGC, are described only for information, and are not regulatory commitments.

COMMITMENT	COMMITTED DATE OR "OUTAGE"	COMMITMENT TYPE	
		ONE-TIME ACTION (YES/NO)	PROGRAMMATIC (YES/NO)
Changes will be made to operational procedures to ensure that before reducing power to the low power setpoint (LPSP), operators shall confirm control rod coupling integrity for all rods that are withdrawn. Control rods that have not been confirmed coupled must be fully inserted prior to power reduction to the LPSP. If a shutdown is required and all rods which are not confirmed coupled cannot be fully inserted prior to the power dropping below the LPSP, then the original/standard Banked Position Withdrawal Sequence (BPWS) must be adhered to.	Upon implementation of the proposed change	No	Yes
Changes will be made to operational procedures to ensure that after reactor power drops below the LPSP, rods may be inserted from notch position 48 to notch position 00 without stopping at the intermediate positions. However, it is recommended that operators insert rods in the same order as specified for the original/standard BPWS as much as is reasonably possible. If a plant is in the process of shutting down following improved BPWS with the power below the LPSP, no control rod shall be withdrawn unless the control rod pattern is in compliance with standard BPWS requirements.	Upon implementation of the proposed change	No	Yes