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10 CFR 50.90

February 21, 2022

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

R. E. Ginna Nuclear Power Plant
Renewed Facility Operating License No. DPR-18
NRC Docket No. 50-244

Subject: Application to Revise R. E. Ginna Technical Specification 3.1.8, “PHYSICS TESTS Exceptions – MODE 2”

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Constellation Energy Generation, LLC (CEG) requests an amendment to the Technical Specifications (TS) for R. E. Ginna Nuclear Power Plant (Ginna).

The proposed License Amendment Request (LAR) revises Ginna Technical Specifications (TS) 3.1.8, “PHYSICS TESTS Exceptions – MODE 2,” to allow one power range neutron flux channel to be bypassed, rather than tripped (in accordance with TS 3.3.1 for an inoperable channel), when that channel is used during the performance of physics testing in MODE 2. This application is taken directly from NRC-approved traveler TSTF-315, without exception.

CEG has determined that there are no significant hazard considerations associated with the proposed change and that the change qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9).

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

There are no commitments contained in this amendment application.

CEG requests approval of the proposed amendment by February 21, 2023. Once approved, the amendment shall be implemented within 60 days after approval.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), CEG is notifying the State of New York 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 Jessie Hodge at (610) 765-5532.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 21st day of February 2022.

Respectfully,

David T. Gudger

David T. Gudger
Sr. Manager - Licensing
Constellation Energy Generation, LLC

Enclosure: Evaluation of Proposed Changes

Attachment: 1. Markup of Technical Specifications and Technical Specifications Bases Pages (red texts)

cc: USNRC Region I, Regional Administrator w/ attachments
USNRC Senior Resident Inspector, Ginna "
USNRC Project Manager, Ginna "
A. L. Peterson, NYSERDA "

Enclosure

Evaluation of Proposed Changes

R. E. Ginna Nuclear Power Plant

Renewed Facility Operating License No. DPR-18

Docket No. 50-244

Subject: Application to Revise R. E. Ginna Technical Specification 3.1.8, "PHYSICS TESTS Exceptions – MODE 2"

1.0 SUMMARY DESCRIPTION

In accordance with the provisions of Title 10 of the Code of Federal Regulations (10 CFR) 50.90, “Application for amendment of license, construction permit, or early site permit,” Constellation Energy Generation, LLC (CEG) is requesting a license amendment to Renewed Operating License No. DPR-18 for the R. E. Ginna Nuclear Power Plant (Ginna). The proposed License Amendment Request (LAR) revises Ginna Technical Specifications (TS) 3.1.8, “PHYSICS TEST Exceptions – MODE 2,” to allow one power range neutron flux channel to be bypassed, rather than tripped (in accordance with TS 3.3.1 for an inoperable channel), when that channel is used during the performance of physics testing in MODE 2.

The following discussion covers one portion of the low power physics test program that would take advantage of the proposed amendment; however, the proposed TS change may be applied throughout the TS 3.1.8 Applicability.

During the performance of bank reactivity worth measurements using the Dynamic Rod Worth Measurement (DRWM) process, one power range neutron flux channel is used to provide input to the Advanced Digital Reactivity Computer (ADRC). The Control Rod Worth Test is used to measure the reactivity worth of all control banks and the shutdown bank. The selected test bank is inserted fully from the withdrawn position in a continuous motion and then withdrawn fully out of the core. While the flux is recovering, the reactivity computer adjusts the flux signals recorded during insertion for static spatial effects. Reactivity is then computed from the adjusted flux signals using inverse point kinetics equations. The calculated reactivity is then adjusted for dynamic spatial effects. The remaining banks are tested in the same manner in sequence.

When the DRWM process is currently used, one power range neutron flux channel to be connected to the ADRC is placed in the tripped condition to comply with TS 3.3.1 Condition D. This results in a partial reactor trip indication on the status panel. No further Required Actions under TS 3.3.1 Condition D are necessary, i.e., the inoperable channel is in the tripped condition and THERMAL POWER complies with TS 3.1.8 (less than or equal to 5% RTP). However, those TS 3.3.1 Conditions are entered and cannot be exited, and the inoperable channel must be maintained in the tripped condition, until the normal system configuration is restored. The cables are then disconnected from the back of that Nuclear Instrumentation System (NIS) power range drawer and connected to the ADRC NIS field connectors. With one channel tripped, this places the power range NIS trip logic in a one-out-of-three coincidence status such that a spurious high signal on any of the other three channels would result in a reactor trip.

The change proposed in this amendment application would eliminate the requirement to trip the power range channel that has been disconnected from its detector and connected to the ADRC. This would place that channel in a state of bypass and place the NIS trip logic in a two-out-of-three coincidence status, precluding spurious signals on one other channel from causing a reactor trip.

This LAR application is taken directly from NRC-approved traveler TSTF-315 (Reference 1) without exception. NRC has also approved the implementation of this traveler on a plant-specific basis for TVA’s Watts Bar Nuclear Plant, Unit 1 and Wolf Creek (References 2 and 3, respectively).

2.0 DETAILED DESCRIPTION

The proposed amendment would revise TS 3.1.8 such that, in addition to allowing test exceptions from the listed TSs, the number of required channels for TS 3.3.1, “RTS Instrumentation,” Functions 2, 5, and 16.e may be reduced from “4” to “3”. The specific change involves inserting the following text into TS 3.1.8:

> “and the number of required channels for LCO 3.3.1, "RTS Instrumentation," Functions 2, 5, and 16.e, may be reduced to 3 required channels”

Functions 2, 5, and 16.e in TS Table 3.3.1-1 are the:

- Power Range Neutron Flux – High; and Power Range Neutron Flux – Low reactor trips (Functions 2.a and 2.b);

- Overtemperature ΔT reactor trip (for Function 5, inputs from the power range neutron flux channels are used to determine the magnitude of the $f_1(\Delta t)$ axial power imbalance penalty discussed in Note 1 of TS Table 3.3.1-1); and

- Power Range Neutron Flux P-10 Interlock (Function 16.e).

The power range neutron flux channels are also associated with TS Table 3.3.1-1 Functions 16.b, 16.c, and 16.d; however, the Applicability for those Functions is limited to MODE 1 whereas the Applicability of TS 3.1.8 is MODE 2 during PHYSICS TESTS. Corresponding changes will also be made to the TS Bases for the TS 3.1.8 revision. Attachment 1 provides the TS markups and an information-only copy of the associated TS Bases changes. No changes to the Updated Final Safety Analysis Report (UFSAR) will be required in conjunction with this amendment application.

3.0 TECHNICAL ANALYSIS

The NIS provides indication, alarm, control, and trip signals along with the capability to monitor neutron flux over the complete range from reactor shutdown to 120 percent full power. The system monitors up to 200 percent full power for an abnormal condition and computes the rate-of-flux changes for the Source and Intermediate Range channels. The system also generates permissive and level trip signals, which are then coupled to the logic matrices of the RTS. This interface either allows power changes based upon proper functioning of the next range of measurement instrumentation or shuts down the reactor as unsafe operating limits are approached.

Startup operation or a power increase requires a permissive signal from the higher range instrumentation channels before the lower range level trips can be manually blocked by the operator. A one-of-two Intermediate Range permissive signal (P6) is required before Source Range level trip blocking can be initiated by the plant operator. The Intermediate Range level trip and low-range Power Range level trip can only be blocked by the plant operator after satisfactory operation and permissive information are obtained from two-of-four Power Range channels. Individual blocking switches are provided at the control board so that the low-range Power Range trip and Intermediate Range trip can be independently blocked.

These trips are automatically reactivated when any three of the four Power Range channels are below the permissive (P10) level, thus ensuring automatic activation of more restrictive trip protection. The reactor plant protection afforded by the high-range Power Range trips is never blocked.

As stated previously, one of the steps currently taken to prepare for a physics test is placing a Power Range channel in a tripped condition and a one-out-of-three logic scheme. Due to this logic configuration, reactor trips are known to have occurred when spurious signals were generated.

Implementation of the proposed amendment will result in one power range channel being in a bypassed state during physics testing. In this configuration, there will be three available channels with a two-out-of-three coincidence logic required to actuate the reactor trip functions associated with power range neutron flux. As required by LCO 3.1.8, physics testing will be performed while the reactor is in MODE 2 at a power level of less than or equal to 5% RATED THERMAL POWER (RTP).

While in the proposed physics testing configuration, a postulated single failure will not prevent the power range neutron flux channels from actuating as designed and satisfying the required logic coincidence for a reactor trip.

There is one control function that uses power range channel inputs, rod control automatic rod speed and direction (power-load mismatch). The power-load mismatch channel takes the difference between nuclear power (average of all four power range channels) and a signal of turbine load (first-stage turbine pressure) and passes it through a high-pass filter such that only a rapid change in flux or power causes rod motion. The power-load mismatch compensation serves to speed up system response and to reduce transient peaks.

At the 5 percent or less power level, rod control is in manual and is not affected by the testing configuration. Therefore, an assumed failure affecting this control function does not have to be considered for the testing configuration. In addition, the NIS system utilizes a power mismatch bypass switch that will allow a power range signal input to the rod speed control system to be bypassed during testing. To compensate for this signal loss to the rod control system, the voltage level output from the next alternate power range channel is doubled. Bypass of any one power range channel will not impact the input from the other three power range channels for this portion of the control signal. Therefore, this control system is not adversely affected by the proposed change.

Other factors that should also be considered are that the reactor trip function of the intermediate range detectors will be unaffected by the proposed amendment and, therefore, will be available to mitigate a reactivity transient at low power. The low trip function for the power range monitors (setpoint of 24%) will still be present with three available channels at a two-out-of-three coincidence logic for a reactor trip. Further, the high trip setpoints for the power range monitors are decreased during startup of the reactor from the normal 108% setpoint to a value less than or equal to 85%. This setpoint reduction provides an additional measure to limit a reactivity excursion.

In its review of TSTF-315, the NRC staff discussed three issues with the Westinghouse Owners Group (WOG). The staff requested the WOG to provide historical data of spurious signals from excore detectors during physics testing that resulted in reactor trips and requested information on back-up protection during MODE 2. The staff also asked whether

additional analysis had been performed to cover all accident conditions during MODE 2 operation. The WOG identified four instances of trips that were caused by spurious signals. The WOG also stated that there is no specific analysis of all accidents for MODE 2 operation since accidents mitigated by the power range neutron flux channels are normally bounded by the full power condition rather than MODE 2 conditions.

During physics testing, LCO 3.1.8 requires that the reactor power level be kept at less than or equal to 5% RTP, the lowest operating reactor coolant system loop average temperature be kept at greater than or equal to 530°F, and SHUTDOWN MARGIN (SDM) be kept within the limits specified in the CORE OPERATING LIMITS REPORT (COLR) so that the fuel design criteria are not violated. Under the proposed change, the power range neutron flux trip would remain available and functional in a two-out-of three coincidence logic configuration. In addition, the intermediate range neutron flux trip provides back-up protection during low power operation. During physics testing the plant is held in a stable state with minimal changes in steam or feed flow. LCO 3.1.8 is applicable for physics testing that is typically performed at the beginning of the fuel cycle with minimum fuel burnup and decay heat. The SDM is maintained above the required values and procedural controls are in place for monitoring plant parameters.

Considering the preceding, the low thermal power level of the reactor, and a potential reduction in unnecessary plant transients, the proposed amendment will not significantly impact the safe operation of the plant. Also, the proposed amendment does not deviate from the NRC-approved traveler TSTF-315 (Reference 1).

4.0 REGULATORY ANALYSIS

4.1 Applicable Regulatory Requirements/Criteria

The following NRC requirements and guidance document are applicable to the review of the proposed change.

The proposed change has been evaluated to determine whether applicable regulations and requirements continue to be met. CEG has determined that the proposed change does not require any exemptions or relief from the applicable regulatory requirements. The following current applicable regulations and regulatory requirements were reviewed in making this determination:

Ginna was licensed using the 1967 Atomic Industrial Forum General Design Criteria (AIF-GDC) and to the draft version of RG 1.22 issues as Safety Guide 22. The Ginna UFSAR discusses the adequacy of the Ginna design relative to the 1972 version of the General Design Criteria (GDC) in 10 CFR 50, Appendix A.

GDC-13 requires that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. [UFSAR 3.1.2.2.4]

GDC-20 requires that the protection systems(s) shall be designed (1) to initiate automatically the operation of appropriate systems including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety. [UFSAR 3.1.2.3.1]

GDC-21 requires that the protection system(s) shall be designed for high functional reliability and testability. [UFSAR 3.1.2.3.2]

GDC-22 through GDC-25 and GDC-29 require various design attributes for the protection system(s), including independence, safe failure modes, separation from control systems, requirements for reactivity control malfunctions, and protection against anticipated operational occurrences. [UFSAR 3.1.2.3.3, 3.1.2.3.4, 3.1.2.3.5, 3.1.2.3.6, and 3.1.2.3.10]

Regulatory Guide 1.22 discusses an acceptable method of satisfying GDC-20 and GDC-21 regarding the periodic testing of protection system actuation functions. These periodic tests should duplicate, as closely as practicable, the performance that is required of the actuation devices in the event of an accident. [UFSAR 1.8.1.22 for Safety Guide 22, the predecessor of RG 1.22.]

10 CFR 50.55a(h) requires that for nuclear power plants with construction permits issued before January 1, 1971, protection systems must be consistent with their licensing basis or may meet the requirements of IEEE Std. 603–1991 and the correction sheet dated January 30, 1995.

There will be no changes to the RTS instrumentation design such that compliance with any of the regulatory requirements and guidance documents above would come into question. The evaluations performed by Constellation Energy Generation, LLC (CEG) confirm that R. E. Ginna Nuclear Power Plant (Ginna) will continue to comply with all applicable regulatory requirements.

4.2 Precedent

- In Reference 1, NRC approved Industry/TSTF Standard Technical Specification Change Traveler, TSTF-315
- In Reference 2, NRC issued a license amendment for Facility Operating License No. NPF-90 for Watts Bar Nuclear Plant, Unit 1
- In Reference 3, NRC issued a license amendment for Wolf Creek - Revision to Technical Specification 3.1.8, 'PHYSICS TESTS Exceptions - MODE 2.'.

4.3 No Significant Hazards Consideration

CEG proposes changes to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License No. DPR-18 for R. E. Ginna. The proposed change revises Ginna TS 3.1.8, “PHYSICS TESTS Exceptions – MODE 2,” to allow one power range neutron flux channel to be bypassed, rather than tripped (in

accordance with TS 3.3.1 for an inoperable channel), when that channel is used during the performance of physics testing in MODE 2. Ginna operating experience supports this TS revision. No adverse impact to safety and reliability is expected as a result of such a change.

An evaluation of the proposed change has been performed in accordance with 10 CFR 50.91(a)(1) regarding no significant hazards considerations using the standards in 10 CFR 50.92(c). A discussion of these standards as they relate to this amendment request follows:

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

Response: No.

Overall protection system performance will remain within the bounds of the previously performed accident analyses since there are no permanent hardware changes. The design of the RTS instrumentation will be unaffected; only the manner in which the system is connected for short duration physics testing is being changed to allow the temporary bypass of one power range channel. The reactor protection system will continue to function in a manner consistent with the plant design basis since a sufficient number of power range channels will remain OPERABLE to assure the capability of protective functions, even with a postulated single failure. All design, material, and construction standards that were applicable prior to the request are maintained.

The proposed change will allow the temporary bypass of one power range neutron flux channel during the performance of low power physics testing in MODE 2. This results in a change to the coincidence logic from one-out-of-three under the current TS (with a trip imposed on the channel used for physics testing) to two-out-of-three under the proposed TS (the channel used for physics testing would be in a bypassed state). However, this two-out-of-three coincidence logic still supports required protection and control system applications, while reducing plant susceptibility to a spurious reactor trip.

The proposed change will not affect the probability of any event initiators. There will be no change to normal plant operating parameters or accident mitigation performance.

The proposed change will not alter any assumptions or change any mitigation actions in the radiological consequence evaluations in the USAR.

Therefore, the proposed 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.

There are no permanent hardware changes nor are there any changes in the method by which any safety-related plant system performs its safety function. This change will not affect the normal method of power operation or change any operating parameters. No performance requirements will be affected.

No new accident scenarios, transient precursors, failure mechanisms, or limiting single failures are introduced as a result of this amendment. There will be no adverse effect or challenges imposed on any safety-related system as a result of this amendment.

The proposed amendment does not alter the design or performance of the Ginna Nuclear Instrumentation System (other than as discussed above), or Relay Protection System used in the plant protection systems.

Therefore, the proposed change does not create the possibility of a new of different kind of accident from any previously evaluated.

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

Response: No.

There will be no effect on the manner in which safety limits or limiting safety system settings are determined nor will there be any effect on those plant systems necessary to assure the accomplishment of protection functions. There will be no impact on the overpower limit, departure from nucleate boiling ratio (DNBR) limits, heat flux hot channel factor (F_Q), nuclear enthalpy rise hot channel factor ($F\Delta H$), loss of coolant accident peak cladding temperature (LOCA PCT), peak local power density, or any other margin of safety. The radiological dose consequence acceptance criteria listed in the Standard Review Plan will continue to be met.

The proposed change does not eliminate any RTS surveillances or alter the Frequency of surveillances required by the Technical Specifications. The nominal RTS and Engineered Safety Features Actuation System (ESFAS) trip setpoints (TS Bases Tables B 3.3.1-1 and B 3.3.2-1), RTS and ESFAS allowable values (TS Tables 3.3.1-1 and 3.3.2-1), and the safety analysis limits assumed in the transient and accident analyses [(UFSAR Table 15.0-6)] are unchanged. None of the acceptance criteria for any accident analysis is changed. The potential reduction in the frequency of spurious reactor trips would effectively increase the margin of safety or, at a minimum, be risk-neutral.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, CEG concludes that the proposed amendment does not involve a 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.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change requirements 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 amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or 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 amendment 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 amendment.

6.0 REFERENCES

1. Industry/TSTF Standard Technical Specification Change Traveler, TSTF-315, approved by letter from William D. Beckner (NRC) to James Davis (NEI) dated June 29, 1999. (ML20209B346)

2. Amendment Number 28 to Facility Operating License No. NPF-90 for Watts Bar Nuclear Plant, Unit 1, TAC No. MA9519, dated September 13, 2000. (ML003750004)

3. Wolf Creek - Revision to Technical Specification 3.1.6, 'PHYSICS TESTS Exceptions - MODE 2.' dated October 1, 2002 (ML022830354)

ATTACHMENT 1

Markup of Technical Specifications and Technical Specifications Bases Pages (red texts)

R. E. Ginna Nuclear Power Plant

Renewed Facility Operating License No. DPR-18

Docket No. 50-244

TS and TSB Pages

3.1.8-1
B 3.1.8-5
B 3.1.8-6

INSERT 1

and the number of required channels for LCO 3.3.1, "RTS Instrumentation," Functions 2, 5, and 16.e, may be reduced to 3 required channels

INSERT 2

One Power Range Neutron Flux channel may be bypassed, reducing the number of required channels from 4 to 3.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 PHYSICS TESTS Exceptions - MODE 2

LCO 3.1.8 During the performance of PHYSICS TESTS, the requirements of

LCO 3.1.3, "Moderator Temperature Coefficient (MTC)";

LCO 3.1.4, "Rod Group Alignment Limits";

LCO 3.1.5, "Shutdown Bank Insertion Limit";

LCO 3.1.6, "Control Bank Insertion Limits";

LCO 3.4.2, "RCS Minimum Temperature for Criticality"

may be suspended, provided:

INSERT 1

a. THERMAL POWER is maintained ≤ 5% RTP;

b. RCS lowest loop average temperature is ≥ 530°F; and

c. SDM is within the limits specified in the COLR.

APPLICABILITY: During PHYSICS TESTS.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	SDM not within limit.	A.1	Initiate boration to restore SDM to within limit.	15 minutes
		AND		
		A.2	Suspend PHYSICS TESTS exceptions.	1 hour
B.	THERMAL POWER not within limit.	B.1	Open reactor trip breakers.	Immediately
C.	RCS lowest loop average temperature not within limit.	C.1	Restore RCS lowest loop average temperature to within limit.	15 minutes

LCO 3.1.3, "Moderator Temperature Coefficient (MTC)";

LCO 3.1.4, "Rod Group Alignment Limits";

LCO 3.1.5, "Shutdown Bank Insertion Limit";

LCO 3.1.6, "Control Bank Insertion Limits";

LCO 3.4.2, "RCS Minimum Temperature for Criticality".

When these LCOs are suspended for PHYSICS TESTS, the fuel design criteria are preserved as long as the power level is limited to ≤ 5% RTP, the reactor coolant temperature is kept ≥ 530ºF, and SDM is within the limits specified in the COLR.

The PHYSICS TESTS include measurement of core nuclear parameters or the exercise of control components that affect process variables. Among the process variables involved are AFD and QPTR, which represent initial conditions of the plant safety analyses. Also involved are the movable control components (control and shutdown rods), which are required to shut down the reactor. The limits for these variables are specified for each fuel cycle in the COLR.

PHYSICS TESTS meet the criteria for inclusion in the Technical Specifications, since the components and process variable LCOs suspended during PHYSICS TESTS meet Criteria 1, 2, and 3 of the NRC Policy Statement.

LCO

This LCO allows the reactor parameters of MTC and minimum temperature for criticality to be outside their specified limits to conduct PHYSICS TESTS in MODE 2, to verify certain core physics parameters. In addition, it allows selected control and shutdown rods to be positioned outside of their specified alignment and insertion limits. Operation beyond specified limits is permitted for the purpose of performing PHYSICS TESTS and poses no threat to fuel integrity, provided the SRs are met.

INSERT 2

The requirements of LCO 3.1.3, LCO 3.1.4, LCO 3.1.5, LCO 3.1.6, and LCO 3.4.2 may be suspended during the performance of PHYSICS TESTS provided:

INSERT 1

a. THERMAL POWER is maintained ≤ 5% RTP;

b. RCS lowest loop average temperature is ≥ 530°F; and

c. SDM is within the limits specified in the COLR.

APPLICABILITY

This LCO is applicable when performing low power PHYSICS TESTS. The applicable PHYSICS TESTS are performed in MODE 2 at HZP.

ACTIONS

A.1 and A.2

If the SDM requirement is not met, boration must be initiated promptly. A Completion Time of 15 minutes is adequate for an operator to correctly align and start the required systems and components. The operator should begin boration with the best source available for the plant conditions. Boration will be continued until SDM is within limit.

Suspension of PHYSICS TESTS exceptions requires restoration of each of the applicable LCOs to within specification within 1 hour.

B.1

When THERMAL POWER is > 5% RTP, the only acceptable action is to open the reactor trip breakers (RTBs) to prevent operation of the reactor beyond its design limits since a MODE change has occurred. Immediately opening the RTBs will shut down the reactor and prevent operation of the reactor outside of its design limits.

C.1

When the RCS loop with the lowest T_{avg} is < 530°F, the appropriate action is to restore T_{avg} to within its specified limit. The allowed Completion Time of 15 minutes provides time for restoring T_{AVG} to within limits without allowing the plant to remain in an unacceptable condition for an extended period of time. Operation with the reactor critical and with temperature below 530°F could violate the assumptions for accidents analyzed in the safety analyses.