

2018 Nine Mile Point Unit 1 Initial NRC Examination
Operating Examination Administration

The following information discusses Nine Mile Point's position regarding the scenario guide keyed Technical Specification LCO entries for event #5 of Scenario #2, Trip of RPS UPS 172.

Background:

Event #5 of scenario #2 included a trip of RPS UPS 172, resulting in a loss of power to RPS bus 12. Operator actions included but were not limited to re-energizing RPS bus 12 from the backup power supply, I&C bus 130A. When Scenario #2 was originally submitted in the draft operating exam submittal, the keyed technical specification for event #5 was specific to the applicable LCO following completion of the procedural actions to re-energize RPS bus 12. With RPS bus 12 power being transferred to I&C bus 130A, a 14 day LCO for TS 3.6.3 must be entered, per N1-OP-40 precaution and limitation D.10.

During NRC prep validation week, the week of 11/5/18, the keyed answer for event #5 was changed to address the applicable transitory technical specification LCO entries which would be required during the time RPS bus 12 was de-energized. A list of the required technical specifications that need to be analyzed for this condition are found in N1-OP-40, Attachment 6.

During the administration of the scenario on 12/3/18, it was identified that not all keyed technical specification entries listed in the scenario guide, as changed during NRC prep validation week, were fully correct. Additionally, some required technical specification entries are beyond the scope of what can reasonably be expected of a single SRO applicant in a scenario setting.

The Unit 1 Shift Operations Superintendent (SOS) and Regulatory Assurance were contacted and were involved with determining the station's position on the applicable technical specification LCO entries listed below, for this event. The following table includes the keyed answers originally listed in the scenario guide compared to the appropriate technical specifications and the station's position on how the individual specifications should be graded.

Unit 1 2018 NRC Exam - Scenario #2 Event #5 Analysis

Keyed Answer Per the Scenario Guide	Station Position on Required LCO Entry
7 day LCO per TS 3.1.2	7 day LCO per TS 3.1.2 for the liquid poison squib valve.
7 day LCO per TS 3.6.11	7 day LCO per TS 3.6.11 for Reactor Water Level Instruments and Suppression Chamber Water Temperature Instruments, requiring action 2 of TS 3.6.11. However, these instruments were not identified on the Attachment 6 for the applicants to evaluate. Since Attachment 6 was intended to be an all-inclusive list, the applicants should not be penalized for not identifying the specifications associated with these instruments. A procedure change, adding these instruments to the attachment is forthcoming.

Keyed Answer Per the Scenario Guide	Station Position on Required LCO Entry
1 hour LCO per TS 3.1.8	Disagree - A second 15 day LCO should be entered. In order to determine this, a detailed electrical print review is required and is beyond the scope of what should be expected of a license applicant within the time restrictions of scenarios. Without that electrical print review, the applicant will not be able to determine with certainty that a 1 hour action statement is not required.
36 hour LCO per TS 3.4.4	Disagree - A 7 day LCO per TS 3.4.4 should be entered. A 36 hour LCO for a loss of both trains was appropriate prior to the 10kw heater being removed from technical specifications in the recent past, since the 10KW heater is common to both trains.

The following table lists additional technical specification requirements not originally keyed.

14 day LCO TS 3.6.3. Per N1-OP-40 P&L D.10, with RPS bus 12 power being transferred to I&C bus 130A, a 14 day LCO for TS 3.6.3 must be entered. This is an administrative requirement captured in an operating procedure intended to track the time the RPS bus is on the backup power supply since a more appropriate specification does not exist. A formal commitment was not able to be located. Since the condition is not specifically identified in technical specifications, failure to recognize this will likely result in a gap in the procedure use competency.

The SOS has evaluated time of entry requirements for TS 3.6.3. The station's position is that we would start the LCO time from the moment the RPS bus is lost, but a strict read of the procedure per Note a. of the P&L indicates the LCO is entered when the RPS bus is energized from the backup power supply. A procedure change for clarity is forthcoming.

Additionally, it would not be appropriate to apply TS 3.0.1 due to a containment spray pump being inoperable from the unaffected EDG. The SOS and Regulatory Assurance concur with that assessment since the normal and emergency power supplies to the Power Board 103 components are both available. This was the case during the scenario. A containment spray pump from the unaffected EDG was out of service.

EC Isolation, TS 3.6.2.c - Since the pressure transmitters for the logic come from RPS 12 and there is one for each EC and since that transmitter effects one channel in both trip systems, the limiting action would be to isolate both ECs within one hour, which would require a one hour shutdown LCO for both ECs being inoperable. This is actually the limiting LCO, which is contrary to the 7 day limiting LCO discussed in the N1-OP-40 P&L D.10.b which states the following: " When an RPS bus is de-energized, the loads required to be energized to function must be declared inoperable and the applicable Technical Specifications apply. In RUN, the most restrictive of these are 7 day shutdown LCOs. (Attachment 6).

With conflicting procedure guidance, it is recommended this TS not be graded. A procedure change is forthcoming.

Drywell leak rate of rise recorder, TS 3.2.5 – per the T.S. bases enough drywell indications were available that no entry into an LCO for T.S. 3.2.5 is required.
Radwaste Radiation Monitor, ODCM 3.6.14-1 – additional sampling required
Remote Shutdown Panel Instrumentation, TS 3.6.13 – various notification actions
OGESMS and OG Rad monitors, ODCM 3.6.14-2 – additional sampling per ODCM
Torus Level Transmitters, Drywell Pressure Monitors, and Containment High Range Rad monitor, TS 3.6.11 - 14 day special report
Containment Monitoring System (Foxboro), TS 3.6.11 – The Foxboro component no longer exists and was removed from technical specifications but was erroneously left in N1-OP-40, Attachment 6. NMP is revising the procedure to remove the line item for Containment Monitoring System (Foxboro) and replace it with Reactor Water Level Instruments and Suppression Chamber Water Temperature Instruments which were not originally called out in Attachment 6.

Post-Exam Comment Resolution –Simulator Scenario NRC-2, Event #5

Scenario #2, Event #5

Facility Recommendations:

Exelon re-evaluated Tech Spec applicability for the loss of Reactor Protection System (RPS) Uninterruptable Power Supply (UPS) 172. They determined the scenario guide incorrectly identified applicable TS LCO action requirements. Additionally they determined the N1-OP-40 guidance related to Technical Specification action statement applicability for loss of the RPS UPS was wrong.

1. Accept key answer that TS LCO 3.1.2 would be entered as a 7 day action requirement.
2. Do not grade on application of TS LCO 3.6.11 for reactor water level instruments and suppression chamber water temperature instruments as the N1-OP-40 Attachment 6 which addresses which TS apply for loss of RPS bus failed to list these instruments.
3. Do not grade the allowed outage time (AOT) for TS LCO 3.1.8 as determination would require detailed electrical print review, beyond the scope of exam within scenario time limitations.
4. Do not grade the allowed outage time for TS 3.4.4 as the procedure attachment erroneously listed heater operability, which would lead to incorrectly determining a 36 hour AOT vice the appropriate 7 day AOT.
5. Grade failure to enter TS 3.6.3 as a procedure competency, not a tech spec competency because TS entry is only for time-tracking purposes. TS 3.6.3 (emergency diesel generator and offsite power source TS) does not actually apply to an RPS Bus on a backup power supply.
6. Grade entry into TS 3.0.1 (due to concurrent inoperability of a containment spray pump) as an error, because TS 3.0.1 should not be entered since TS 3.6.3 is only entered for time-tracking purposes.
7. Do not grade the allowed outage time for TS 3.6.2.c because it is in conflict with a statement in Procedure N1-OP-40 that the most limiting AOT for loss of an RPS bus is a 7 day shutdown LCO.

NRC Comment Resolution:

The NRC generally agrees with the licensee's position on the TS LCO grading associated with the event associated with loss of the RPS Bus (and the subsequent re-energization on backup power). The key (the scenario guide) will be changed as recommended in Items 2, 3 and 4 above. The procedure expectation to enter TS LCO 3.6.3 for administrative time-tracking purposes will be included in the scenario guide.

However, the NRC disagrees with Licensee Recommendation Item #7. While the P&L did incorrectly state that the most restrictive applicable LCO was a 7 day shutdown LCO, this error did not appear to factor into the evaluation of TS LCO 3.6.2.c by any of the applicants during the exam. All applicants reviewed TS LCO 3.6.2.c and made a determination of applicability and allowed outage time based on their knowledge of that specification and their system knowledge of the effects of the loss of the RPS bus on the emergency condensers. The key (the scenario guide) will be changed to include TS LCO 3.6.2.c in the scenario guide as an expected LCO entry with an allowed outage time of 1 hour, which is required to be identified by the SRO applicant.

Discussion:

The scenario, as originally proposed by the licensee stated that the plant would be in a 14 day LCO per 3.6.3 and that the applicable EDG would be declared inoperable. Additionally, it stated that TS LCOs 3.6.3, 3.1.2, 3.1.6, 3.1.8, 3.4.4, and 3.4.5 would apply throughout the transient. However, during onsite prep, validators mis-identified entry into TS 3.6.3 as an error in the scenario guide, reference to which was subsequently deleted. In an attempt to elaborate on the TS applicability, allowed outage times were listed as in the guide as "7 day LCO for TS 3.1.2", "7 day LCO for TS 3.6.11", "1 hour LCO for TS 3.1.8" and "36 hour LCO for TS 3.4.4".

Research after administration of the examination identified a number of errors in N1-OP-40, "Reactor Protection and ATWS Systems" including the following:

- Precaution and Limitation (P&L) D.10 directs "entry" into TS 3.6.3 for the "applicable EDG" when the RPS Bus is placed on backup power. The Unit 1 Shift Operations Superintendent and the station's Regulatory Assurance group evaluated P&L D.10 and determined that the procedure intended entry into the specification solely as an administrative method of tracking extended operation without RPS on normal power, since Tech Specs do not address the situation. It was not intended to actually declare an EDG inoperable, nor did the procedure expect operators to follow any TS rules regarding implementation of TS LCO action statements relating to this "entry." Facility staff have identified that the procedure does not adequately explain expectations, since literal interpretation of the procedure as currently written would incorrectly lead an operator to follow through on compliance with TS regarding entry into TS LCO 3.6.3. Additionally, the procedure states entry into TS 3.6.3 is required when the bus is placed on backup power when the actual intention was to track time the RPS bus was not on normal power, rather than time that it was placed on backup power. The licensee recognizes the procedure guidance was deficient and stated a procedure change would be forthcoming.
- Attachment 6 was intended to comprehensively list the Tech Spec LCOs and actions for a loss of the RPS bus. However, the list was not adequate. It did not list reactor water level or suppression chamber water temperature instruments (Facility Recommendation #2 above). It incorrectly identified TS LCO entry related to 10kw heaters that had been removed from the facility. The procedure states, *"When an RPS bus is de-energized, the loads required to be energized to function must be declared inoperable and the applicable Technical Specifications apply. In RUN, the most restrictive of these are 7 day shutdown LCOs. (Attachment 6)"*. This statement was incorrect and in conflict with implementation of listed TS LCO 3.6.2, which would require a 1 hour shutdown requirement. However, during follow up questioning the procedure conflict was not a factor in the TS evaluation by the applicants.