

JUN 12 2018



L-2018-124
10 CFR 50.90

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

RE: Turkey Point Nuclear Plant, Units 3 and 4
Docket Nos. 50-250 and 50-251
Renewed Facility Operating Licenses DPR-31 and DPR-41

Response to Request for Additional Information Regarding License Amendment Request 235, Technical Specifications Changes to Address Non-Conservative Actions for Containment and Control Room Ventilation Isolation Functions

References:

1. Florida Power & Light Company letter L-2017-198, License Amendment Request 235, Technical Specifications Changes to Address Non-Conservative Actions for Containment and Control Room Ventilation Isolation Functions, December 21, 2017 (ADAMS Accession No. ML17355A184)
2. USNRC email to R. Hess, Turkey Point Nuclear Generating Unit Nos. 3 and 4, Request for Additional Information Regarding License Amendment Request 235 (EPID L-2017-LLA-0425), May 16, 2018 (ML ML18136A724)

In Reference 1, Florida Power & Light Company (FPL) submitted license amendment request (LAR) 235 for Turkey Point Units 3 and 4. The proposed license amendments modify the Turkey Point Technical Specifications (TS) by modifying the Engineered Safety Features Actuation System (ESFAS) instrumentation requirements in order to resolve non-conservative actions associated with the Containment ventilation isolation and the Control Room ventilation isolation functions. The proposed license amendments additionally revise the Control Room ventilation isolation function to no longer credit Containment radiation monitoring instrumentation, eliminate redundant radiation monitoring instrumentation requirements, eliminate select core alterations applicability requirements, relocate radiation monitoring and Reactor Coolant System leakage detection requirements within the TS to align with their respective functions, and relocate the Spent Fuel Pool (SFP) area monitoring requirements to licensee controlled documents.

In Reference 2, the NRC staff requested additional information determined necessary to complete its review. The enclosure to this letter provides FPL's response to the request for additional information.

The supplements included in this response provide additional information that clarifies the application, do not expand the scope of the application as originally noticed, and should not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register*.

In accordance with 10 CFR 50.91(b)(1), a copy of the proposed TS changes associated with this RAI response is being forwarded to the designee for the State of Florida.

ADD 1
NRR

Turkey Point Nuclear Plant
Docket Nos. 50-250 and 50-251

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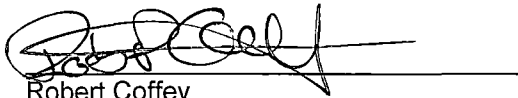
This letter contains no new or revised regulatory commitments.

Should you have any questions regarding this submission, please contact Mr. Robert Hess, Turkey Point Licensing Manager, at 305-246-4112.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the June 12 2018.

Sincerely,



Robert Coffey
Regional Vice President - Southern Region
Florida Power & Light Company

Enclosure:

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, Turkey Point Nuclear Plant
USNRC Senior Resident Inspector, Turkey Point Nuclear Plant
Ms. Cindy Becker, Florida Department of Health

Enclosure

FPL Response to NRC Request for Additional Information (RAI) Regarding LAR 235,
Technical Specifications Changes to Address Non-Conservative Actions for
Containment and Control Room Ventilation Isolation Functions

In Reference 1, Florida Power & Light Company (FPL) submitted License Amendment Request (LAR) 235, Technical Specifications Changes to Address Non-Conservative Actions for Containment and Control Room Ventilation Isolation Functions. In (Reference 2), the NRC Office of Nuclear Reactor Regulation, Radiation Protection and Consequences Branch (ARCB) requested the additional information identified below. FPL's response follows:

ARCB-RAI-1 (LOCA)

The proposed change deletes functional unit 9.c, "Containment Radioactivity - High," from TS Tables 3.3-2, 3.3-3 and 4.3-2. The NRC staff's review of radiological consequences for the design basis accidents in the Updated Final Safety Analysis Report (UFSAR) determined the loss of coolant accident (LOCA), fuel handling accident (FHA) and rod cluster control assembly (RCCA) ejection accident credit functional unit 9.c to isolate the normal mode of control room emergency ventilation system (CREVS) and establish the recirculation mode. In regards to the LOCA analysis, the licensee determined that the radiological consequence analysis did not need to be reanalyzed because the safety injection signal will provide a containment ventilation and control room isolation signal within the same time as that assumed in the current analysis of record as reflected in Turkey Point's UFSAR; therefore, there is no impact on the LOCA radiological consequences. However, it is not clear to the NRC staff why the timing is the same given the instrumentation differences. Therefore, explain why the timing for the control room isolation signal remains 30 seconds which accounts for the time to reach the signal, the diesel generator start time, load sequencing and damper actuation and positioning time, given the differences between the safety injection instrumentation and the containment radioactivity instrumentation.

FPL Response

The Turkey Point Updated Final Safety Analysis Report (UFSAR) cites the following for automatic control room isolation and Control Room Emergency Ventilation System (CREVS) actuation:

- High radiation signal from the Containment atmospheric particulate or gaseous radiation monitors
- High radiation signal from the Control Room normal air intake radiation monitors
- Safety Injection (SI) signal

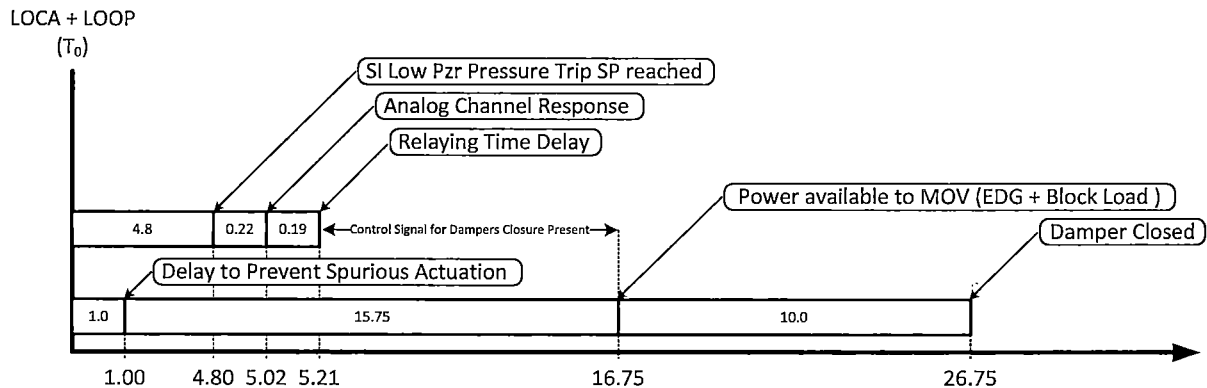
The CREVS actuation signal isolates the normal control room ventilation system and places the control room into a recirculation mode that draws fresh air from the CREVS emergency intake piping and recirculated air from the control room through a recirculation filter and supply fans. Consistent with the LOCA dose consequence analysis, UFSAR Table 14.3.5-1 credits 30 seconds for placing the CREVS in service upon receipt of a high radiation signal from either containment radiation monitor.

For the case of a LOCA with offsite power available, the table below demonstrates that an SI signal would place the CREVS in service in 15.22 seconds, i.e. within the 30 seconds currently analyzed.

Time (s)	Event
0	LOCA – Initiating Event
+4.8	SI Low Pressurizer Pressure Trip Setpoint reached (1730 psig)
+0.225	Analog Channel response time (Includes Transmitter & Comparator)
+0.19	Relaying time delay (Sum of all relay time delays involved in MOV actuation)
+10	Time required for Damper to travel close position
+15.22	CREVS in recirculation mode

For the case of a LOCA concurrent with a Loss of Offsite Power (LOOP), a maximum allowable of 15.75 seconds is credited for loading the Emergency Diesel Generator (EDG) and sequence load block 1, which powers the CREVS motor operated valves (MOV), supply fan, air handlers and

condenser. The EDG and sequencer would load in parallel to the SI protection relays. Since the SI signal is battery backed, the associated relays actuate in 5.21 seconds; i.e. the same as it would with offsite power available. In this scenario, an SI signal would place the CREVS in service within 26.75 seconds (16.75 seconds for motive power + 10 seconds for CREVS recirculation mode). The graphic below illustrates this scenario's timing.



ARCB-RAI-2 (RCCA ejection)

The proposed change deletes functional unit 9.c from TS Tables 3.3-2, 3.3-3 and 4.3-2. The NRC staff's review of radiological consequences for the design basis accidents determined the LOCA, FHA and RCCA ejection accident credit functional unit 9.c to isolate the normal mode of CREVS and establish the recirculation mode. In regards to the RCCA ejection accident analysis, Attachment 3, Section 2.1.2, "RCCA Ejection – Containment Release Event Analysis," states:

For the new Containment Release cases, the Control Room is isolated on a high radiation reading at the CR [control room] normal intake monitors. A 60 second delay is applied to account for the time to reach the setpoint (30 seconds), signal processing, and damper closure time for the automatic CR isolation case. Previously the isolation conservatively assumed 60 seconds.

In addition, UFSAR Section 14.2.6.4, "Dose Evaluation," states that for the containment release, the control room isolation occurs on high radiation on the containment radiation monitors and a 60 second delay time is conservatively applied to this release model. However, UFSAR Table 14.2.6-3, "Assumptions used for Rod Ejection Accident dose analysis," states that the time of the control room isolation for the containment release is 30 seconds on a high containment radiation signal.

It is not clear to the NRC staff which time is correct and why the timing is the same given the instrumentation differences. Therefore, explain which delay time is correct and then explain why the timing for the control room isolation signal remains 60 seconds which accounts for the time to reach the setpoint (30 seconds), signal processing, and damper closure time, given the differences between the control room normal intake instrumentation and the containment radioactivity instrumentation.

FPL Response

FPL acknowledges the discrepancy between UFSAR Section 14.2.6.4 and UFSAR Table 14.2.6-3 regarding the time credited for isolating the normal control room intake ventilation and placing the CREVS in service. The UFSAR Section 14.2.6.4 discussion is correct and consistent with the RCCA Ejection radiological dose consequence analysis; i.e. both the containment and the secondary release cases credit 60 seconds. UFSAR Table 14.2.6-3

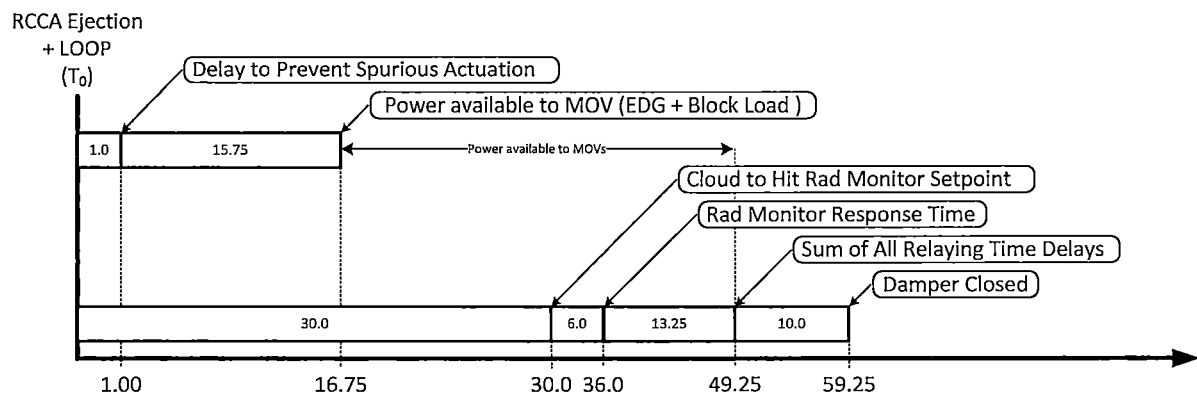
incorrectly lists the containment release case as 30 seconds. The editorial error has been entered into the Turkey Point corrective action program (CAP) for prompt correction.

Similar to the current LOCA analysis which lists in UFSAR Table 14.3.5-3, LOCA Inputs and Assumptions, the automatic control room isolation time as 30 seconds from a high containment radiation signal, automatic control room isolation from the same instruments would be 30 seconds for the RCCA Ejection containment release case. However, the current RCCA Ejection containment release analysis conservatively assumes a 60 second delay, as discussed in UFSAR Section 14.2.6.4. As such, crediting the control room radiation monitors for automatic control room isolation in the RCCA Ejection containment release case does not require additional analysis since the control room isolation time was not extended beyond the 60 seconds assumed in the current analysis.

The table below demonstrates that radiation from a RCCA ejection would isolate the control room and actuate the CREVS within 60 seconds by means of the control room normal intake radiation monitors.

Time (s)	Event
0	RCCA Ejection & release begins
+30	Control Room radiation monitor trip setpoint reached (2 mR/hr)
+6	Rad Monitor response time from input at Setpoint to output relays change
+13.25	Sum of all relays time delays involved in MOV actuation (maximum allowable)
+10	Time required for Damper to travel close position
+59.25	CREVS in recirculation mode

If offsite power is lost coincident with a RCCA ejection, motive power would be available from the EDG within a maximum allowable 16.75 seconds. Hence, emergency power would be present prior to the 30 seconds assumed for the radioactive cloud to actuate the control room radiation monitors. Therefore, a RCCA ejection with or without offsite power would not change the CREVS recirculation mode initiation time. The graphic below illustrates this scenario's timing.



References:

1. Florida Power & Light Company letter L-2017-198, License Amendment Request 235, Technical Specifications Changes to Address Non-Conservative Actions for Containment and Control Room Ventilation Isolation Functions, December 21, 2017 (ADAMS Accession No. ML17355A184)
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