



SVP-17-046

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U. S. Nuclear Regulatory Commission
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Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Regulatory Commitment Change Summary Report

Enclosed is the Exelon Generation Company, LLC (EGC) Regulatory Commitment Change Summary Report for Quad Cities Nuclear Power Station (QCNPS). The enclosure reports changes processed during the period June 1, 2016, through May 31, 2017. Revisions to commitments were processed in accordance with Nuclear Energy Institute (NEI) 99-04, "Guidelines for Managing NRC Commitment Changes."

Should you have any questions concerning this letter, please contact Mr. W. J. Beck at (309) 227-2800.

Respectfully,

A handwritten signature in black ink, appearing to read "K. Ohr", written over a light blue horizontal line.

Kenneth S. Ohr
Site Vice President
Quad Cities Nuclear Power Station

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

QCNPS Regulatory Commitment Change Summary Report
June 1, 2016 - May 31, 2017

Commitment Change Tracking Number: 16-01

Source Document: SVP letter dated 5/3/06

Change Approved On: 10/13/2016

Original Commitment Description

By Letter dated 5/3/06, Exelon provided a "Supplemental Response to Reports of Inspection of Nuclear Reactor Safeguards Interim Compensatory Measure - B.5.b." This submittal included the regulatory commitment identified below:

"Where feasible and practical, consistent with safe fuel handling practices, Exelon will make every attempt to pre-configure the spent fuel pool to enable direct placement of the expended assemblies from the vessel to the final distributed fuel pattern.* Where this is not feasible or practical, Exelon will distribute the fuel into the final pattern as soon as possible but no later than 60 days after subcriticality.

[NOTE: There may be extenuating circumstances associated with extended outages for major component replacement where this is not achievable. This will be handled on a case-by-case basis.]

*Exelon has determined that direct placement of the expended assemblies from the vessel to the final distributed fuel pattern is not feasible or practical if any of the conditions listed below apply:

- 1.) This practice would extend the refueling outage,
- 2.) This practice would require placing a freshly discharged fuel assembly into a spent fuel rack that utilizes Boraflex as a neutron poison, or
- 3.) This practice would conflict with Exelon/AmerGen commitments to the NRC related to discharge fuel assemblies and Boral and Boraflex coupon sample programs.

For exceptions noted above Exelon/AmerGen will distribute the fuel into the final pattern as soon as possible but no later than 60 days after subcriticality unless that would conflict with Exelon commitments to the NRC related to discharged fuel assemblies and Boral and Boraflex coupon sample programs."

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Revised Commitment Description

The Regulatory Commitment is now being revised as follows:

"Where feasible and practical, consistent with safe fuel handling practices, Exelon will make every attempt to pre-configure the spent fuel pool to enable direct placement of the expended assemblies from the vessel to the final distributed fuel pattern.* Where this is not feasible or practical, Exelon will distribute the fuel into the final pattern as soon as possible but no later than 60 days after subcriticality (Exception 1, 3, and 4 below) or 120 days after subcriticality in the situation of permanent shutdown (Exception 2 below).

[NOTE: There may be extenuating circumstances associated with extended outages for major component replacement where this is not achievable. This will be handled on a case-by-case basis.]

*Exelon has determined that direct placement of the expended assemblies from the vessel to the final distributed fuel pattern is not feasible or practical if any of the conditions listed below apply:

1. This practice would extend the refueling outage,
2. This practice would extend defueling the reactor vessel following permanent shutdown,
3. This practice would require placing a freshly discharged fuel assembly into a spent fuel rack that utilizes Boraflex as a neutron poison, or
4. This practice would conflict with Exelon commitments to the NRC related to discharged fuel assemblies and Spent Fuel Pool Neutron Absorber material coupon sample programs.

For Exceptions 1, 3, and 4 noted above, Exelon will distribute the fuel into the final pattern as soon as possible but no later than 60 days after subcriticality unless that would conflict with Exelon commitments to the NRC related to discharged fuel assemblies and Spent Fuel Pool Neutron Absorber material coupon sample programs."

For Exception 2 noted above, Exelon will distribute the fuel into the final pattern as soon as possible but no later than 120 days after subcriticality in the situation of permanent shutdown unless that would conflict with Exelon commitments to the NRC related to discharged fuel assemblies and Spent Fuel Pool Neutron Absorber material coupon sample programs.

Justification For Revision

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Statement 1 justification - "This practice would extend defueling the reactor vessel following permanent shutdown."

NF-AA-309, Attachment 1, Step 3B provides two options for discharging fuel from the reactor, either into a 1-in-5 pattern or a 1-in-2 pattern. On permanent shutdown of the unit at some sites, it is not practical to offload the final core to the spent fuel pool in a 1-in-5 pattern as there are physically not enough rack spaces to accommodate the final core in this configuration. However, there is enough space in the spent fuel pool racks to accommodate the final core in a 1-in-2 pattern.

In order to comply with the thermal dispersion requirements with the fuel from the final core in a 1-in-2 pattern, 120 days must pass since the reactor was shutdown (time since the fuel operated in a critical reactor) prior to placing the final core in the spent fuel pool.

Waiting 120 days after permanent shutdown to offload the core is not practical. Decommissioning cannot commence until the core is offloaded and the Certification of Permanent Fuel Removal has been submitted to the NRC (10CFR50.82(a)(5)). The certification requires removal of all fuel from the reactor vessel. Any delay in the start of decommissioning results in the continuation of activities by both Exelon and the NRC associated with an operating unit that are not relevant to a permanently shutdown unit. The consequences of which is delays in placing the unit in a nonoperational status and unnecessary expenditures.

Therefore, Exelon has determined that it is "not feasible and practical" in all situations to place the fuel in the final distributed pattern during defueling of the reactor vessel following permanent shutdown and revised the commitment accordingly.

Statement 2 justification - "...Exelon will distribute the fuel into the final pattern as soon as possible but no later than 60 days after subcriticality (Exception 1,3, and 4 below) or 120 days after subcriticality in the situation of permanent shutdown (Exception 2 below)."

NF-AA-309 Attachment 1 Step 3B allows placement of the fuel from the final core in a 1-in-2 pattern 120 days after discharge (time since the fuel operated in a critical reactor). This 120 day limitation is one of the thermal dispersion requirements. Because placement of any portion of the final core in the spent fuel pool in a 1-in-2 pattern prior to 120 days after permanent shutdown results in the thermal dispersion requirements not being met, the commitment was updated from compliance "no later than 60 days" to adding "or 120 days after subcriticality in the situation of permanent shutdown."

In the exception section of the commitment, the 120-day allowance is only used for the situation of permanent shutdown. For the other exceptions, the time to comply is unchanged.

Additionally, the purpose of this commitment is to comply with the regulation which requires the ability to maintain or restore spent fuel pool cooling capabilities under the circumstances associated with loss of large areas of the plant due to the explosions or fire. The probability of loss of large areas of the plant due to explosions or fire is small. Increasing the time to comply with the thermal dispersion requirements in the situation of permanent shutdown does not significantly impact this probability. Permanent shutdown is a one-time event.

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As written, the revised commitment results in a site determining whether it is possible to distribute the fuel into the final 1-in-5 pattern on permanent shutdown. If it is feasible, then the site must directly place the fuel into the final 1-in-5 pattern. For these sites where it is not feasible to distribute all discharged fuel into a 1-in-5 pattern, the 1-in-5 pattern will be used to the extent feasible and the remainder of the fuel will be directly placed in a 1-in-2 pattern. Additionally, sites with fuel in a 1-in-2 pattern and with 2-hour and 5-hour EDMG (Extensive Damage Mitigation Guidelines)mitigating actions, must comply with the 2-hour actions for 120 days following permanent shutdown (time since the fuel operated in a critical reactor).

The revised commitment does not allow any new distributed final fuel patterns or any new EDMG mitigating actions. Consequently, the ability to maintain or restore spent fuel pool cooling capabilities under the circumstances associated with loss of large areas of the plant due to explosions or fire is not changed. Therefore, the commitment as revised is considered acceptable for use.