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RAR-90-11

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Director of Nuclear Reactor Regulations
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Enclosed please find a listing of those changes, tests, and experiments completed during the month of January 1990, for Quad-Cities Station Units 1 and 2, DPR-29 and DPR-30. In addition, several items completed during the previous year are being submitted. This is in response to a request by the previous NNR Project Manager to conduct a review of 1989 safety evaluations. A summary of the safety evaluations are being reported in compliance with 10CFR50.59 and 10CFR50.71(e).

Thirty-nine copies are provided for your use.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

R.A. Robey
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Technical Superintendent

RAR/LFD/vmk

Enclosures

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Special Test #1-121

Description

Special Test No. 1-121 was completed on April 6, 1989. The purpose of this test was to determine the Reactor Core Isolation Cooling System Steam Line High Flow Setpoint. Per Technical Specifications Table 3.2-1, the RCIC system is designed to isolate at less than 300 percent of rated steam flow. Steam line flow is measured as a differential pressure across a flow elbow installed in the steam supply line. The instrumentation, which is used to isolate RCIC on high differential pressure, is located locally in the RCIC corner room on instrument rack 2201-58. This test measured the differential pressure developed under test conditions and then determined a value corresponding to 300 percent of rated steam flow using a formula provided by General Electric.

Evaluation

It was determined that no 10CFR50.59 Safety Evaluation was required for this special test.

Special Test #2-89

Description

Special Test No. 2-89 was completed on January 16, 1989. The purpose of this test was to determine the Reactor Core Isolation Cooling System Steam Line High Flow Setpoint. Per Technical Specifications Table 3.2-1, the RCIC system is designed to isolate at less than 300 percent of rated steam flow. Steam line flow is measured as a differential pressure across a flow elbow installed in the steam supply line. The instrumentation, which is used to isolate RCIC on high differential pressure, is located locally in the RCIC corner room on instrument rack 2201-58. This test measured the differential pressure developed under test conditions and then determined a value corresponding to 300 percent of rated steam flow using a formula provided by General Electric.

Evaluation

It was determined that no 10CFR50.59 Safety Evaluation was required for this special test.

Procedure Change QAP 300-2, Revision 24
Conduct of Shift Operations

The change is to the calculation used to determine the radwaste discharge rate. A requirement was added to have the fish pumps off for the duration of the discharge. This is done to prevent pumping the discharge to the spray canal. The lift pumps were removed from the flow rate calculation since they are no longer used.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because this change had no impact on the possibility of an accident. It only reflects current operating conditions.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because requiring the fish pumps to be off during a discharge only affects the fish hatchery in the spray canal which has no consequences on the possibility of an accident.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this change reflected the fact that the lift pumps are not used and that it is preferable not to pump the discharge to the spray canal using the fish pumps.

Procedure Change QOS 1300-1, Revision 11
RCIC Monthly and Quarterly Test

This change clarified certain steps involving quarterly flow rate testing. To change component names to match labelling in control room, change test parameters for quarterly testing of Unit One RCIC and to delete steps involving a RHR/Core Spray fill system alarm which should not be related to RCIC system operation.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because changes clarified steps and provided more details, therefore the probability of an occurrence should be reduced.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because basic testing method remains unchanged, therefore no new possibility for an accident is created.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because revised test procedure still meets all Tech Spec requirements for system operability.

Procedure Change QTP 1100-1, Revision 8
Core Verification

This change included a step to ensure distribution of completed core verification was performed in accordance with CECo nuclear procedures. Grammatical changes were also made.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because core verification is still completed as before.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the core is still verified prior to reactor operation.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because core verification is unchanged.

Safety Evaluation #89-217
Incomplete Modification M-4-1-86-017
Install Light Activated Sensor on Roll-O-Matic Filters

Modification M-4-1-86-017 was incompleated. Three control systems consisting of light activated sensors for filter movement were installed, tested and operation authorized. The four remaining filters will not have the new system installed.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the FSAR does not discuss the control system for the advancement of the filters. Both control systems, however, will advance the filter media as designed.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the control system for the filters is not discussed in the FSAR.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the Tech Specs do not discuss the control system for the filters.

Safety Evaluation #89-519
Modification M-4-2-89-152
Interlocks Installed on Refuel Bridge Fuel Handling Machine

This modification was installed as a corrective action per potential significant event report PSE-89-006 titled "New fuel bundles drop while in fuel pool". The PSE occurred on 9-21-89 at Quad Cities Unit 1 (see PSE-89-006 for details).

This modification installed an additional electrical interlock that prevented raising the hoist on the fuel moving machine while the hoist is loaded unless the grapple is fully closed and in the engage position. This modification is contained in the G.E. fuel moving panel located on the refuel bridge.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because the modification will add an additional feature to the interlock system to enhance the safe movement of fuel.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because this modification added an additional interlock protection to an evaluated condition.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this modification increased the margin of safety while moving fuel.

Safety Evaluation #89-617
IPCLRT Software Changes

The IPCLRT software was adapted to allow compatibility with the new Revision 21 of PRIMOS. The software was modified to collect point history data thereby bypassing the Honeywell computer.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because software is not evaluated or described in the FSAR.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the accuracy of the software will be qualified and since it only processes test data, it should not result in an accident or malfunction.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because software is not described in the Technical Specifications.

Safety Evaluations #90-24 and #90-25
Reactor Recirculation and Reactor Water Cleanup
System Decontamination

During the Unit 2 Refuel Outage decontamination of piping associated with the Reactor vessel was performed, the Reactor Water Cleanup Piping was performed with fuel in the vessel and the vessel head removed. The decontamination chemicals did not enter the vessel during this process.

The Recirculation Pump Suction and Discharge Piping was also decontaminated. This was done with the fuel removed from the vessel. The vessel head was in place but not tensioned. Water level in the vessel was maintained below the core area of the vessel. The decontamination chemicals were flushed from the vessel prior to reloading fuel.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased since metallurgy effects are minimal because the solvent corrosion rates are less than the original allowances. 304 stainless steel coupons were placed in the decontamination flow path and analyzed upon completion of the project for assurance of the actual corrosion rates. Water purity effects are minimal because the reactor coolant were returned to a conductivity and a TOC level that is acceptable to station chemistry.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the effects of residual solvent in the system was determined to be negligible. Reactor Coolant is cleaned and returned to a conductivity and a TOC level which is acceptable to the station chemistry staff. Station radiation protection procedures were followed throughout the decontamination. During resin transfer to the solidification truck, the affected areas of the reactor building was evacuated. Access into the drywell during the process was strictly controlled by station health physicists. The level of the solvent in the recirculation system risers and annulus was continuously monitored. Since SMAD has reviewed the material/solvent interface for materials within the core and has accepted the solvent for use, the consequences of a failure in the level controls causing a spill into the core are negligible.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the decontamination project was performed in accordance with the existing Technical Specifications. The reactor was maintained in the shutdown or refuel mode with all interlocks in the shutdown or refuel position.

Safety Evaluation #90-27
Unit One and Unit Two Technical Specification Combination

This safety evaluation combined Unit One and Two Technical Specifications.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because this proposed Tech Spec change does not deal with accident precursors or equipment malfunctions and, therefore, cannot impact safety consequences as previously evaluated in the FSAR. This change is not a technical change, but is strictly administrative.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because this proposed Tech Spec change, being administrative in nature, does not create the possibility of an accident or malfunction of a different type because no technical change is proposed. No equipment or system modification is involved.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because no technical change is proposed. This proposal only involves combining two nearly identical documents into one to minimize the potential for confusion and to enhance control of the documents.

Safety Evaluation #90-48
Core Monitoring Code SPR Fix Installation

A review of the thermal limits code and core monitoring code was installed to correct the cold predictor and backup functions.

1. The probability of an occurrence or the consequence of an accident, or malfunction of equipment important to safety as previously evaluated in the Final Safety Analysis Report is not increased because this revision involves a computer program which has no functional control over any equipment and, therefore, cannot increase the probability of an occurrence or the consequences of an accident.
2. The possibility for an accident or malfunction of a different type than any previously evaluated in the Final Safety Analysis Report is not created because the functions being changed provide no information to the operator and the computer has no functional control over any equipment.
3. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because this code does calculate MFLCPR which is used to maintain the proper margin to the MCPR safety limit, however, the functions being changed have no impact on that calculation.