Commonwealth Edison
Quad Cities Nuclear Power Station
22710 206 Avenue North
Cordova, Illinois 61242
Telephone 309/654-2241

RAR-88-30

June 27, 1988

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 June, 1988, for Quad-Cities Station Units 1 and 2, DPR-29 and DPR-30. A summary of the safety evaluation is being reported in compliance with 10 CFR 50.59.

Thirty-nine copies are provided for your use.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

Gary Spell for
R. A. Robey
Services Superintendent

RAR/vmk

Enclosure

cc: I. Johnson
T. Watts/J. Galligan

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Modification M-4-1-85-24

Description

Modification M-4-1-85-24 will gang together two pipe whip restraints on HPCI turbine steam supply pipe 1-2305-10"B. Support plates will be connected from PWHP-9A to PWHP-9B by means of welding. This connection is needed to accommodate seismic loading on PWHP-9A. The seismic loading on PWHP-9A will be transferred to PWHP-9B which is stiff enough to absorb the additional loading and design pipe break loads. This modification will prevent bending or damaging PWHP-9A during seismic event.

Evaluation

The additional seismic support to PWHP-9A will ensure that the support will remain functional after a seismic event, and will then function as originally designed. The HPCI system will be fully functional at all times per original design requirements. All testing requirements outlined in the Technical Specification for the HPCI and emergency core cooling systems will be adhered to. Modifying pipe whip restraints to limit pipe whip will not change the bases for any technical specifications. The HPCI system will still adequately cool the core.

Modification M-4-1&2-84-32

Description

This modification involves the installation of additional cable tray supports in the Unit One and Unit Two turbine building. Additional supports were needed to correct a noticeable sagging of the cable trays. It was determined that the sagging was caused by the large amount of spacing between existing tray supports and the excessive amount of cables in the trays. The installation of the cable tray supports was done in accordance with S&L ECN's #QC-85S-07 and #QC-86S-06.

Evaluation

This modification will not adversely affect the safety of the plant. The additional cable tray supports increase the structural integrity of the cable tray system and do not create any new situation that has not been previously evaluated.

Modification M-4-1/2-84-11

Description

This modification was initiated to install an electrical cross-tie of the 125Vdc control power between 4KV switchgear 13-1 and 23-1. This modification was necessary for the station to meet the requirements of section III.G. of 10CFR50 Appendix R. This modification consisted of routing a cable in conduit between 4KV switchgear 13-1 and 23-1. This cross-tie is controlled by two (2) manually operated breakers. These breakers are located in the auxiliary compartments of the referenced switchgear. Both breakers must be closed to establish the cross-tie.

Evaluation

The function of the 125Vdc cross-tie is no different than the function of the reserve feed. The electrical independance of the control feed between switchgear will only be changed when the cross-tie is in use. The cross-tie will be used only in the event that a fire disables the main and reserve control feeds to 4KV buses 13-1 or 23-1. Therefore, the installation of the cross-tie will aid in insuring safe shutdown of the unit.

Modification M-4-1/2-84-013

Description

This modification was to install a one-hour rated fire wrap on the Unit 2 480V alternate feed to the 1/2 D.G. Cooling Water Pump. The modification insures the availability of the pump in the event of a fire in zone TB-1. This will comply with 3M's fire wrap installation procedure, existing conduits supports are to be relocated. The relocation will prevent the need to wrap the cable pan currently connected to the supports. This is required if the length f a support connected to wrapped conduit is less than 18 inches.

Evaluation

The modification does not interfere with any existing safety-related systems or equipment. The equipment effected will perform the same functions previous to the modification, so there is no safety concern.

Modification M-4-1/2-85-1

Description

In accordance with NRC I.E. Bulletin 80-11, all masonry walls at Quad-Cities Station were walked down and classified as safety-related or non-safety related. A wall is considered safety-related if its failure, particularly during a seismic event, could result in damage to safety-related equipment. Walls 15 and 171 were previously qualified using the arching theory techniques. Due to NRC objection to this technique, these walls will now be modified to meet the acceptance criteria.

The function of both masonry walls remains unchanged and structural reinforcements do not interfere with surrounding equipment.

Evaluation

This modification will ensure the capability of block walls 15 and 171 to withstand a DBE SEISMIC event without failure to surrounding safety-related equipment. According to the FSAR, evaluations have not been made to assess the malfunctions of these walls, however, the NRC I.E. Bulletin 80-11 required that masonry blockwalls are reinforced and/or rebuilt to withstand a seismic event. Since these walls have been reinforced, the margin of safety has been increased.

Modification M-4-2-84-7

Description

Modification M-4-2-84-7 replaced the four mechanical Industrial Timer Corporation timers used for initiating the Residual Heat Removal (RHR) system on low reactor water level or high drywell pressure. The four mechanical timers were replaced with three solid state Agastat time delay relays and one contact off an existing HFA relay. This modification was initiated because the mechanical timers had a tendency to stick and failed to reset properly. The new solid state time delay relays reset automatically when the initiation signal is removed.

Evaluation

Modification M-4-2-84-7 changed the type of time delay device, but did not alter any of the RHR system logic circuitry. Consequently, no new safety concern was created by this modification. In fact, the new solid state time delay relays are more reliable than the mechanical timers. Therefore, the probability of a failure of the RHR system circuitry is reduced.

Modification M-4-2-85-24

Description

M-4-2-85-24 was implemented to modify Jet Impingement Restraint JIHP-6 on line 2-2305-10" (HPCI Turbine Steam Supply line) to accommodate seismic loading on Pipe Whip Restraint PWHP-5. This modification was initiated due to a re-analysis of the HPCI line.

The base plates were removed, and new base plates and gusset plates were installed as per ECN QC 855-03.

Evaluation

The modification of JIHP-6 will not affect the operation of HPCI, and does not change any previous FSAR evaluations. This modification will increase the reliability of HPCI during a seismic event by providing additional support integrity to the HPCI turbine steam supply line.

Modification M-4-2-85-39

Description

M-4-2-85-39 replaced the 'B' steam extraction elbow on line 2-3105A-24" located below the 'B' low pressure turbine. The old carbon steel elbow had been eroded from the steam. The new elbow is made of a low alloy steel material (1.25% CR - .50% Mo), and is expected to eliminate the erosion-corrosion problem.

Evaluation

By replacing the present carbon steel extraction with one made from 304L Stainless Steel, the chances of wall thinning (erosion-corrosion) from occurring has been reduced. Therefore, the integrity of the Extraction Steam System has been increased as the possibility for a line break during operation at this point has been reduced. The new elbow by design is a like-for-like replacement except for the use of better erosion-corrosion resistant material, which does not change the design or operability characteristics of the Extraction Steam System. Therefore, the possibility of an accident or malfunction as previously evaluated in the FSAR is not created.

The Technical Specifications remain unchanged by this modification, therefore, the basis of the Technical Specification and its Margin of Safety is not reduced.

Modification M-4-2-87-71

Description

The purpose of this modification is to add vibration isolator assemblies to the Main Steam Line Low Pressure Switches 2-261-30A, B, C, D located on instrument rack 2252-1. Installation of the isolators will help to eliminate spurious actuation of the switches due to excessive vibration at the switch mounting. The switch will be mounted on a plate. Another plate is mounted to the instrument rack, and the vibration isolators are sandwiched between the plates. The conduit and tubing attached to the switch are replaced with more flexible types to isolate the switch.

Evaluation

This modification does not change the switch performance requirements or function, and therefore does not affect the margin of safety used for the basis of any technical specification. The limiting safety system settings are not changed as a result of this modification, and the low pressure isolation of the main steam lines at 850 psig minimum will still protect against rapid reactor depressurization and the resulting rapid cooldown of the vessel.