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Regulatory File Cy.

October 8, 1971

Re Docket No. 50-247

Dr. Peter A. Morris, Director
Division of Reactor Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Dr. Morris:

This letter is to inform you of 12 changes in the design of Indian Point Unit No. 2, and to request your concurrence that these design changes are acceptable. Discussions held with your representatives and representatives of the Division of Compliance on September 27 and October 1 of this year, concerning these 12 items, concluded with the concurrence that these changes represent no safety problem and are acceptable equivalent design. The enclosure lists these items with the appropriate FSAR page references and includes a brief description of each item.

Very truly yours,

William J. Cahill, Jr.
Vice President

enc.

LISTING OF DESIGN CHANGES TO THE INDIAN POINT UNIT NO. 2 PLANT

Change No. 1 - FSAR Reference Question 4.4.3 (top of Page 4.4.3-11), and Figure 6.2-1

As a result of discussions with the Regulatory Staff on the Safety Injection System, certain new valve positions were required on the High-Head Injection System. This necessitated the addition of four check valves on the high-head safety injection lines to accommodate the new valve positions on the motor operated valves and prevent a source of primary system leakage.

Change No. 2 - FSAR Reference Page 5.3-4, Page 11.2-12 and Page 11.2-13

As a result of discussions with the Regulatory Staff concerning Technical Specification requirements for monitoring both the containment atmosphere for radioactivity to determine primary system leakage and the requirements for monitoring the plant vent an additional monitor train consisting of a duplicate of the original monitor train was added to the plant. This change results in a separate monitor train available for both the containment atmosphere monitoring and the plant vent monitoring.

Change No. 3 - FSAR Reference Page 5.2-11

FSAR Page 5.2-11 states that the containment ventilation supply and exhaust duct isolation butterfly valve operators will have spring returns. This design change consists of replacing the spring returns and the operators, with air piston operators, each with a separate accumulator air supply, on each valve. These new operators, each with individual accumulator supplies, meet all of the same criteria required for the spring loaded isolation valve operators and are considered an equivalent design.

Change No. 4 - FSAR Reference Page 6.2-27

A criterion was stated on this FSAR page, that a maximum operating time of 10 seconds will be achieved for all valves receiving a safety injection signal. This criteria was not fulfilled on the operating times of four valves associated with the boron injection tank.

a. The actual opening for valves 1822A and 1822B was 11.3 seconds. Con Edison has evaluated the effect of this opening time on the accident analysis presented in the FSAR. These valves are required to be open to allow high concentration boric acid to be injected in the event of a steam break accident. This injection, however, can not take place until the primary system pressure transient reduces

the pressure in the primary system to below approximately 1500 psi. As shown in FSAR Section 14, the pressure in the primary system following a steam break accident does not fall to 1500 psi for approximately 27 seconds. Therefore, sufficient margin still exists to assure that boron injection is available in the event of this occurrence. It should also be pointed out that in the 10 second operating time period as stated in the criteria, these valves are approximately 95% open, and therefore, no safety problem exists.

b. Valves 1821 and 1831 had an actual closing time of 11.8 seconds. The requirement for a valve closing time is to prevent all the fluid in the boron injection tank from running out and causing a problem with loss of suction at the pumps. A low level alarm which actuates the closing of the valve has a set point which has been determined based upon a 20 second time period between the initiation of the low level alarm and running the boron injection tank dry, conservatively assuming three SI pumps operating at maximum flow. An 11.8 second closing time, therefore, allows more than enough margin for the associated concern.

Change No. 5 - FSAR Reference Figure 9.3-2

This FSAR figure shows a drain line to the bottom of the spent fuel storage pit. The design change consists of removing this drain line. As far as safety is concerned, this represents a preferable design, since it prevents any possibility of inadvertent draining of the spent fuel storage pit. If draining this pit would ever be required, it would be accomplished by the use of portable pumps and piping.

Change No. 6 - FSAR Reference Page 9.2-20, Figure 9.2-1

This figure shows accumulators or surge tanks connected to each charging pump line. The design change consists of deleting these accumulators or surge tanks. The initial design, which included these accumulators, incorporated them as a possible solution to any vibration problems which might develop. It has been determined that a preferable manner of eliminating vibration is proper support of the lines. The Indian Point Unit No. 2 design has more than

adequate pipe support and during hot functional testing, no noticeable vibration occurred in these lines, therefore, obviating the need for the accumulators.

Change No. 7 - FSAR Reference Page 3.2.3-10, Page 3.2.3-11

The description under the heading "Bottom Nozzle" has changed such that 2/3 of the assemblies for the initial core loading for Indian Point Unit No. 2 (Regions 2 and 3, 128 assemblies) will consist of a new design that will use a perforated plate to support the fuel rods, rather than several cross-arms. It is felt that the use of a single perforated plate with a similar flow characteristic to the cross-arm design is an overall safety improvement as fewer pieces of metal will be used in the fuel assembly. This modification is therefore considered an equivalent and acceptable design.

Change No. 8 - FSAR Reference Page 3.2.3-19, Page 13.2-2

The reference startup source rod material, Polonium-Beryllium has been changed to Plutonium-Beryllium. The reason for this change was a combination of the questionable future availability of Polonium, and the uncertain scheduling for startup since Polonium has a relatively short lifetime precluding significant advance fabrication, whereas the Plutonium is readily available and has a very long lifetime. The Plutonium-Beryllium sources will have the same approximate source strength as the Polonium-Beryllium, and is considered a preferable material for a source rod.

Change No. 9 - FSAR Reference Page 6.2-8, 6.7-12, 6.7-13 and 6.7-15

Statements on these pages refer to level alarms for the containment and recirculation sumps inside the containment which sound in the control room. This design change consists of replacing this simple audible alarm with a level indicating device with indicating lights for each of these sumps in the control room. It is felt that this replacement is a superior design in that actual level information available to the control room operator is preferable to a simple audible alarm.

Change No. 10 - FSAR Reference Page 6.7-13

This reference states that individual compartment radiation detectors are provided in the ventilation exhaust ducts for the RHR loop

compartments in the PAB. The monitors were not installed due to the addition of a separate monitor train on the plant vent which will detect the presence of gaseous radioactivity exhausted from these loop compartments in the PAB if leakage occurred. This change does not result in a degradation of safety or the possibility of an unmonitored release since the PAB ventilation system is monitored for radioactivity as it exhausts through the plant vent.

Change No. 11 - FSAR Reference Page 8.2-4

This reference describes the 480 volt electrical system and states that one diesel generator set is connected to bus 5A, one to bus 6A, and the other to bus 2A. After discussions with the Regulatory Staff concerning the original design of this system, the automatic transfer scheme between buses was changed. This change is reflected in other sections of the FSAR, but for completeness, the sentence on the referenced Page 8.2-4 should be changed to read that the other diesel generator set is connected to bus 2A and/or 3A.

Change No. 12 - FSAR Reference Page 11.2-19

This reference states that the primary coolant tritium activity will be maintained to no more than 2.5 microcuries per cc. The statement was intended to reflect an expectation of maximum activity of tritium, not a limit on its activity. This was reflected in the Technical Specifications 3.1.D.1, which sets an overall limit on primary system activity, and 3.9.B and C which sets limits on radioactive releases from the plant. The change, therefore, would consist of deleting this sentence's apparent limit and placing reliance on the Technical Specifications as setting the appropriate limit on primary coolant activity and radioactive release for all isotopes.

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Dr. Peter A. Morris	1		

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Ltr re 9-27 & 10-1-71 meetings with DRL & DOC..requesting concurrence that 12 changes in the design of Indian Point #2 are acceptable & trans:

ENCLOSURES:

Listing of Design Changes to the Indian Point Unit No. 2 Plant..

(1 cy encl rec'd)

REMARKS:

(Rec'd for docketing 11-10-71)

(Local PDR - Montrose, N. Y.)

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