



Commonwealth Edison Company

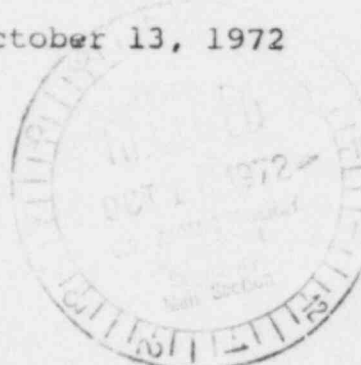
ONE FIRST NATIONAL PLAZA ★ CHICAGO, ILLINOIS

Address Reply to:

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October 13, 1972

Mr. Donald J. Skovholt
Assistant Director for
Operating Reactors
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545



Subject: Review of Dresden Station Facilities
to Resist Flooding Capabilities

Dear Mr. Skovholt:

Your letter of August 3, 1972 requested that the Dresden Station Facilities be reviewed in light of the flooding incident at Quad-Cities to provide assurance that Dresden Station is not susceptible to the same type of incident. The attached report provides our analysis of the Dresden Station facilities.

If you have further questions, please do not hesitate to call on us.

One original and 39 copies of this report are provided for your use.

Very truly yours,

L. D. Butterfield, Jr.
Nuclear Licensing Administrator

*Copies of drawings are
in 50-10 Attached to Ltr
dtd 10/13/72*

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Commonwealth Edison Company
Dresden Nuclear Power Station
Review of Engineered Safeguard System Designs
October 6, 1972

The design of engineered safeguards systems considering equipment submergence has been reviewed for the three Dresden Units and three areas of concern identified. No areas of concern were identified on Dresden Unit 1; on Units 2&3 it was determined that three safeguard systems could be submerged as a result of failures of equipment which was not designed to meet the criteria of Class I seismic construction or failure of a single Class I component. The three Dresden Unit 2&3 standby diesel generator cooling water pumps are located at Elevation 490'-8" in the cribhouse (see attached Drawing M-10). This is 17'-4" below high river water level of 508'-0". If a failure of the circulating water pumps or piping in the cribhouse occurred, the three (D-2, D-2/3, and D-3) diesel generator cooling water pumps would be submerged and inoperable. If a diesel generator cooling water pump or the associated piping should fail, it would result in submergence of the other two (2) pumps.

The four containment cooling water pumps on each Unit are located in the turbine buildings at Elevation 495'-0" (see attached Drawing M-5). These pumps are above the elevation of the condensate pump room (Elevation 469'-6") and the main condenser pit (Elevation 481'-0"). Although the containment cooling service water pumps are well above the lowest elevations in the turbine building, they are below river water level, therefore a failure of the circulating water system in a unit could result in submergence of the four containment cooling service water pumps for that unit. If failure of a containment cooling service water pump or the associated piping were postulated, it could result in submergence of the other three (3) pumps.

Redesign of the diesel generator cooling water system and containment cooling service water systems is in progress. The diesel generator cooling water pumps and motor will be replaced with equipment designed for submerged and dry operation. These pumps will be purchased in accordance with the original criteria. The present estimate indicates the new pumps will be delivered by late February 1973. The pumps will be installed as quickly as possible and should be available for testing and service by April 1973. To preclude submergence of the containment cooling service water pumps by circulating water, the main condenser pits will be sealed with Class I watertight access doors and ventilation closures. In addition, instrumentation to alarm water level in the condenser pit and trip the circulating water pumps will be provided as described in our Quad Cities report dated July 10, 1972. We plan to complete these designs the week of October 16, 1972. To preclude loss of all containment cooling water pumps on a unit due to a single failure in the containment cooling service water system, we are presently evaluating designs for separating the pumps by Class I, watertight barriers. We plan to complete this design by the week of October 30, 1972.

Continued operation of Dresden Units 2&3 is justified pending completion of the above described modification; because in the unlikely event one of the three safeguards systems is inoperable due to submergence, the units will be maintained in a safe condition. If the three diesel generator cooling water pumps are submerged making the diesel generator inoperable, the two units can be brought to the cold shutdown condition using normal procedures, equipment and off-site power. In the highly unlikely event the diesel generators are inoperable due to submergence of the cooling water pumps coincident with a total loss of off-site power supplies, the units would scram and reactor cooling would be provided by the isolation condensers supplied make-up water by the diesel-driven fire protection system pump.

If the four (4) containment cooling service water pumps on one unit are inoperable due to submergence, the affected unit will be brought to the cold shutdown condition using normal procedures and equipment. If the containment cooling service water pumps are inoperable coincident with a loss of off-site power, the affected unit will be brought to the cold shutdown condition using normal shutdown cooling equipment powered by the standby diesel generators. If the containment cooling service water pumps are inoperable coincident with a loss of the normal shutdown cooling system on the affected unit, reactor cooling will be provided by the main condenser or the isolation condenser.

JSA/mr