



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 26, 1979

Docket No. 50-295

Mr. D. Louis Peoples
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. Peoples:

RE: ADVANCE RELIEF GRANTED FOR INSERVICE INSPECTION REQUIREMENTS
(SECOND 40-MONTH PERIOD) FOR ZION UNIT NO. 1

By letter dated October 1, 1979 you requested advance relief for certain non-destructive examinations (NDE) which were part of your June 28, 1978 revised Inservice Inspection (ISI) program.

The specific relief requested, the Code requirements, your basis for the request, and our evaluation are presented in the enclosure. Based on our review, imposition of those requirements would, in our view, result in hardships or unusual difficulties without a compensating increase in the level of quality of safety. Therefore, pursuant to 10 CFR 50.55a(g) (6)(i), we grant the advance relief that you have requested from the inservice inspection requirements of the ASME Code. Therefore, you are authorized, and should proceed, to implement that part of the second 40-month proposed program of your October 1, 1979 submittal as identified in the enclosure.

We have determined that (1) the granting of this advance relief for these items does not involve a significant increase in the probability or consequences of accidents previously considered nor a decrease in safety margins and thus does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Mr. D. Louis Peoples
Commonwealth Edison Company

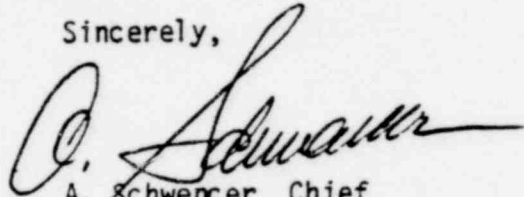
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Furthermore, we have determined that the granting of this advance relief for these items from ASME Code requirements does not authorize a change in effluent types or total amounts nor an increase in power level. Therefore, we have concluded that the granting of this relief is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4) that an environmental statement, or negative declaration and environmental impact appraisal, need not be prepared in connection with this action.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosures:

1. List of Advanced Relief
Granted
2. Notice of Issuance

cc: w/enclosures
See next page

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Mr. D. Louis Peoples
Commonwealth Edison Company

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October 26, 1979

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LIST OF ADVANCE RELIEF GRANTED
ZION UNIT 1
INSERVICE INSPECTION PROGRAM
REQUESTS FOR RELIEF
(SECOND FORTH MONTH PERIOD)

1. Request relief from performing visual and surface or volumetric examination of the reactor vessel closure head cladding and visual examination of the reactor pressurizer, and steam generator vessel cladding. (Items B1.13, B1.14, B2.9, and B3.8, Examination Categories B-I-1 and B-I-2).

Code Requirement

Visual and surface or volumetric examination of the reactor vessel closure head cladding shall include at least six patches (each 36 sq. in.) evenly distributed in the closure head. Visual examination of the reactor vessel cladding shall include at least six patches (each 36 sq. in.) evenly distributed in accessible sections of the vessel shell. The examinations performed during each inspection interval shall cover 100% of the patch areas.

Visual examination of the pressurizer and steam generator vessel cladding shall include at least one patch (36 sq. in.) near each manway in the primary side of the vessel. The examinations performed during each inspection interval shall cover 100% of the patch areas. The examination of the patch areas in the pressurizer and steam generator may be performed at or near the end of the inspection interval.

Licensee Basis for Requesting Relief

The design of these vessels accounts for the stress loads to be adequately accommodated by the ferritic base material which is examined volumetrically as required by other examination categories. Additional technical guidance is provided by later editions of Section XI where cladding examinations are no longer required.

Evaluation

Examination of the reactor vessel head cladding patches and the pressurizer and steam generator vessel cladding is impractical to perform because of the relatively high radiation levels present in the areas required to be visually examined. Other examinations which will be performed on these components will give more meaningful data about the structural acceptability of the components. These examinations have been found to be suitable alternatives for the visual examinations of the vessels cladding and the visual and surface or volumetric examination of the vessel head cladding.

Examination of the reactor vessel cladding is also impractical to perform because of the necessity to remove the fuel and core barrel to accomplish the visual examination required. Examination Category B-N-1, which the licensee has committed to perform, requires visual examination of the reactor vessel interior in accessible areas above and below the reactor core during normal refueling outages at approximately three-year intervals. This examination in conjunction with the volumetric examinations performed on shell and nozzle welds will provide adequate assurance of the structural integrity of the reactor vessel.

The staff finds that the examinations which will be performed by the licensee on the reactor vessel head, reactor vessel, pressurizer, and steam generator will provide data necessary to determine the structural integrity of these components and concludes that relief from the required examinations of the components cladding may be granted as requested.

2. Request relief from stamping or physically marking welds for identification and location as required by Appendix I - 6200.

Code Requirement

Weld identification and location shall be shown as a "Weld Identification Plan." (Weld Locations, I-6210) Low stress stamps and vibratooling may be used to permanently identify each weld. Marking applied after final stress relief of the component shall not be any deeper than 1/64 in.

Licensee Basis for Requesting Relief

This marking was not performed at the time of the preservice inspection. As an alternative, a means of establishing a uniform datum point for each weld is maintained by procedurally describing datum or reference points such that subsequent relocation of the examination area can be achieved with an accuracy of 0.5 inches. Experience has shown the above alternative to be adequate in describing inspections and results. The need for such marking, the resulting radiation exposure of personnel and the potential for introducing undue stresses in the components are not considered necessary in lieu of the alternatives.

Evaluation

The Code does not require physical marking or stamping of welds but does require that welds be identified and shown on a Weld Identification Plan. The licensee's system and procedures for identifying welds meets the Code requirements and therefore relief is not required.

3. Request relief from volumetric examination of integrally welded supports for piping and reactor coolant pumps. (Items B4.9 and B5.4, Examination Category B-K-1)

Code Requirement

Volumetric examinations performed during each inspection interval shall cover 25% of the integrally-welded supports. This includes the welds to the pressure-retaining boundary and the base metal beneath the weld zone and along the support attachment member for a distance of two support thicknesses.

Licensee Basis for Requesting Relief

The piping system integrally welded supports are attached to the pipe by fillet welds. The configurations of such welds is such that volumetric examinations will not provide meaningful results. Surface examination will be performed on integrally welded attachments as an alternative to the volumetric examination.

Two of the reactor coolant pumps have integrally welded supports. The geometric configuration and nature of the materials of the pump support welds are such that ultrasonic examination cannot be performed as required by IWB-2600. Surface examinations will be performed as an alternative. The other two pumps have no welds in this category and therefore, the examination requirements are not acceptable.

Evaluation

Volumetric examination of the integrally welded supports is impractical to perform because of the welds design, geometry, or materials of construction of the components. The licensee has committed to subject these welds to surface examinations. Based on the loading conditions of these types of welds, flaws would most likely generate at the weld surface and thus be detectable by surface examination which the licensee has committed to perform. The examination method to be employed is considered acceptable in providing assurance that the supports' structural integrity will be maintained. The staff concludes that relief from the volumetric examination may be granted.