NOV 7 1967

Mr. John T. Conway
Executive Director
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Conway:

This letter describes a current problem at the Jersey Central Power and Light Company, Oyster Creek Plant, that may cause some delay in the construction schedule.

During the field hydrostatic pressure test of the pressure vessel and connected primary piping, a small leak was detected coming from one of the 137 control rod guide tubes. Inspection of the interior of the pressure vessel disclosed a circumferential crack approximately six inches in length in an Inconel seal weld between the control rod stub tube and the pressure vessel. The stub tube is basically an alignment tube for the control rod guide tube. The pressure vessel was fabricated by Combustion Engineering, Incorporated.

Dye penetrant examination of the other stub tube welds in the vessel following the discovery of the crack revealed positive indications of at least surface cracking in 107 of the remaining 136 welds. The cause and depth of the cracks have not been fully determined at this time; however, 13 of the welds have been ground and all of the cracks disappeared after less than one-fourth of an inch of the weld metal had been removed.

Since the cause and magnitude of the problem have not yet been determined, it is not known to what extent, if any, repairs will delay construction. As a minimum, corrective action will involve grinding out all of the observed cracks to determine their depth and direction. Furthermore, metallurgical examinations of weld samples and additional stress analyses must be conducted and evaluated. The General Electric Company and Combustion Engineering, Incorporated, are actively investigating this problem.

Division of Compliance representatives and their metallurgical consultant were at the site on October 31 and November 1, 1967, for the purpose of reviewing the problem. Preliminary information indicates that the Niagara Mohawk Power Corporation has checked fifty percent of these welds in its pressure vessel and no cracks were detected. The Niagara Mohawk vessel was also fabricated by Combustion Engineering and the design and fabrication methods of the stub tubes are identical with the Oyster Creek vessel.

We will keep you informed of significant developments concerning this matter.

Sincerely yours,

(signed) Harold E. Price

Harold L. Price
Director of Regulation

bcc: Office of the Chairman (2)
Commissioner Ramey
Commissioner Tape
Commissioner Johnson
General Manager (2)
General Counsel (2)
Secretariat (2)
R. D. O'Neill, OCR (2)
P. A. Morris, DRL
H. K. Shapar, GC
W. G. Dooly, REG
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H. L. Price, REG
C. A. Nelson, INS
R. W. Kirkman, CO:I
R. F. Fraley, ACRS (3)
E. G. Case, DRS
J. J. Fouchard, PI
M. Shaw, RDT
L. Kornblith, Jr., CO
L. D. Low, CO

See earlier concurrences

OFFICE ▶	CO	CO	DRL	GC	REG	REG	OCR
SURNAME ▶	JPO'Reilly:ej RHEngelken	LDLow	PAMorris		MMMann	HLPrice	
DATE ▶	11/6/67	11/6/67	11/6	11/6		11/6/67	11/7/67

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Mr. John T. Conway
Executive Director
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Conway:

This letter describes a current problem at the Jersey Central Power and Light Company, Oyster Creek Plant, that may cause some delay in the construction schedule.

During the field hydrostatic pressure test of the pressure vessel and connected primary piping, a small leak was detected coming from one of the 137 control rod guide tubes. Inspection of the interior of the pressure vessel disclosed a circumferential crack approximately six inches in length in an Inconel seal weld between the control rod stub tube and the pressure vessel. The stub tube is basically an alignment tube for the control rod guide tube.

The subject weld was a shop weld made during the fabrication of the pressure vessel by Combustion Engineering, Incorporated, and had been inspected by magnetic particle and dye penetrant inspection methods. The pressure vessel had satisfactorily passed the hydrostatic pressure test required by the ASME Code prior to being shipped to the reactor site.

Dye penetrant examination of the other stub tube welds in the vessel following the discovery of the crack revealed positive indications of at least surface cracking in 108 of the remaining 136 welds. The cause and depth of the cracks have not been fully determined at this time; however, 13 of the welds have been ground and all of the cracks disappeared after less than one-fourth of an inch of the weld metal had been removed.

Since the cause and magnitude of the problem have not yet been determined, it is not known to what extent, if any, repairs will delay construction. As a minimum, corrective action will involve grinding out all of the observed cracks to determine

their depth and direction. Furthermore, metallurgical examinations of weld samples and additional stress analyses must be conducted and evaluated. The General Electric Company and Combustion Engineering, Incorporated, are actively investigating this problem.

Division of Compliance representatives and their consultant were at the site on October 31 and November 1, 1967, for the purpose of reviewing the problem and to determine whether it is applicable to other pressure vessels. Preliminary information indicates that the Niagara Mohawk and Power Company has checked fifty percent of these welds in their pressure vessel and no cracks were detected. The Niagara Mohawk vessel was also fabricated by Combustion Engineering and the design and fabrication methods of the stub tubes are identical with the Oyster Creek vessel.

We will provide you with additional information if there are any significant developments.

We will keep you informed of significant developments concerning this matter.

Sincerely yours,

Harold L. Price
Director of Regulation

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E. G. Case, DRS

bcc (continued)
J. J. Fouchard, PI
M. Shaw, RDT
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L. D. Low, CO

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SURNAME ▶	JPO'Reilly:ej RHEngelken	LDLow	PAMorris		MMMann	HLPrice	
DATE ▶	11/2/67		11/3/67	11/2			

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