



Consumers
Power
Company

COPY

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 786-0550

June 29, 1973

Mr. John F. O'Leary
Director of Licensing
US Atomic Energy Commission
Washington, DC 20545



Re: Docket 50-155
DPR-6
Proposed TS 39

Dear Mr. O'Leary:

Transmitted herewith as Attachment A are three (3) executed and thirty-seven (37) conformed copies of a Request for Change to the Technical Specifications of License DPR-6, Docket 50-155, issued to Consumers Power Company on May 1, 1964 for the Big Rock Point Plant.

This proposed change (No 39) is submitted as a result of the study performed pursuant to Mr. Angelo Giambusso's request of December 18, 1972 regarding the consequences of postulated pipe failures outside the containment structure at the Big Rock Point Plant.

The study of the postulated break, also submitted, is in two parts. The results of these studies are contained in Attachments B and C, respectively.

Attachment B - Effect of Compartment Pressurization Due to Pipe System Break Outside Containment

Attachment C - Evaluation of the Effects of Jet Thrust and Pipe Whip Due to Pipe System Break Outside Containment

These studies were performed by Bechtel Corporation at Consumers Power Company's request.

The results of the stress analysis performed for the main steam and feed-water lines (which are the only lines of concern) reveal that total stresses are in all cases less than 50% of the value allowed by the evaluation criteria and in many cases less than 25% of the criteria allowed values. Based on these stress levels, we consider a break in lines not to be credible and thus have concluded that the modifications discussed in Attachments B and C are not required. In addition to the low stress levels, we have determined that the nil ductility

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transition temperature for the type of material used in the main steam and feed-water lines (ASTM A-106 GrB) is approximately 70°F. The piping system design is such that these lines are not pressurized during plant operations to full operating pressures unless the temperatures are several hundred degrees above this temperature. Thus, essentially no potential exists for brittle type failures.

In order to further reduce the probability that this piping might crack in a ductile manner, we are proposing to expand the scope and increase the frequency of the ASME Section XI, In-Service Inspection Program. This expanded inspection program would include all circumferential welds in the main steam line from the containment penetration to the turbine stop valve and the feed-water line from the containment penetration to the main feed-water pump discharge valve. The piping in these lines is seamless. All circumferential welds in these lines will be inspected during a ten-year period, the first period commencing in 1974. Further, we will upgrade the pipe tunnel leak detection system such that it is sensitive to small leaks and we are proposing a Technical Specifications limit requiring plant shutdown if a leak rate from the main steam and feed-water lines of greater than one gallon per minute develops. These actions will ensure that if a crack were to develop, it would be detected at an early stage prior to progressing to a point of major pipe failure.

Proposed Technical Specifications Change No 39 (Attachment A) is submitted for your consideration assuming that you will agree that the more rigorous in-service inspection and leak detection programs are an acceptable alternative to plant modifications. When you indicate agreement, we will proceed with the necessary equipment purchases to implement the leak detection system. It is estimated that this leak detection system can be operational about three months after purchasing action is started.

Yours very truly,

Gerald J. Walke (Signed)

RBS/mel

Gerald J. Walke
Nuclear Fuels Administrator

CC: BHGrier, USAEC

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CLASS	UNCLASS XX	PROP INFO	INPUT X	NO CYS REC'D 40	DOCKET NO: 50-155		

DESCRIPTION:
Ltr re our 12-18-72 ltr, trans the following:

PLANT NAME: Big Rock

ENCLOSURES:
ATTACHMENT A - Request for Change to the Tech Specs (Change No. 39)

under separate cover

FOR ACTION/INFORMATION 7-6-73 AB

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