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July 2, 1980
Fort St. Vrain
Unit No. 1
P-80201

50-267

Mr. Jim Miller
Chief, Special Projects Branch
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Fort St. Vrain Unit No. 1
Helium Circulator Inspection

Dear Mr. Miller:

In accordance with the Fort St. Vrain Technical Specifications SR 5.2.17 and SR 5.2.18, helium circulator serial number C-2102 was removed from service and inspected during our last refueling outage.

The objective of this inspection effort was threefold.

1. To determine if there was any abnormal wear or degradation of components and to confirm the integrity of the helium circulator pelton wheels given the problems experienced with cavitation and cracking of the previous pelton wheel design.

2. Based on the findings of the inspection determine a program and schedule for future helium circulator inspections.

3. Based on the findings of items 1 and 2 above submit a report to the Nuclear Regulatory staff for review with recommendations for a continuing program of helium circulator inspections.

With reference to the first of these three objectives we are transmitting herewith three (3) copies of General Atomic Company's report GA-C15847 which provides the results of the helium circulator inspection. There were no unusual signs of abnormal wear or component degradation. Inspection of the pelton wheels revealed no evidence of destructive cavitation or curvic coupling cracking. In general, the inspection did not reveal any major areas of concern.

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With reference to the second and third objectives we have evaluated the results of the inspection and based on these results we have reached the following conclusions with reference to an ongoing inspection program.

1. SR 5.2.17, Helium Circulator Pelton Wheels, should be deleted and combined with SR 5.2.18, Helium Circulators. The pelton wheels can be inspected as a part of the overall helium circulator surveillance program. Based on the findings of the pelton wheel inspection there is no need to establish a separate inspection program or different time frame of pelton wheel inspection versus overall helium circulator surveillance.

2. Based on the results of the inspection and the performance of the helium circulators it is felt that an inspection frequency of 15 years could be justified in lieu of the 10 years presently specified. Given the importance of helium circulators, however, we would propose to conduct the next inspection on a 10 year cycle. We will utilize the results of this next 10 year inspection to re-establish, as may be dictated by the inspection results, the next inspection cycle.

3. We would propose to continue volumetric, surface, and subsurface examination for the turbine wheel, pelton wheel, and compressor rotor for the next inspection cycle although it would appear that visual examination would be adequate. As indicated in item 2 above we will re-evaluate the results of the next 10 year inspection to establish the need and extent of volumetric, surface, and subsurface examination.

The above recommended program is essentially described in the proposed draft revisions to the Fort St. Vrain Technical Specifications transmitted to you on March 31, 1980 (P-80064). As indicated in P-80064, Public Service Company requests Nuclear Regulatory Commission review of the proposed in-service inspection program.

Very truly yours,

Don Warembourg

Don W. Warembourg
Manager, Nuclear Production
Fort St. Vrain Nuclear
Generating Station

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