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JPN-93-054

U.S. Nuclear Regulatory Commission
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SUBJECT: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Response to Request for Additional Information Regarding Proposed Technical Specifications Change for a One-time Extension to Various Surveillance Intervals

REFERENCES:

1. NRC letter, J. E. Menning to R.E. Beedle dated July 6,1993, "Request for Additional Information regarding one-time surveillance interval extensions for the James A. FitzPatrick Nuclear Power Plant (TAC NO. M86766)."

2. NYPA letter, R. E. Beedle to NRC dated June 16, 1993 "Proposed Change to the Technical Specifications One-time Extension to Various Surveillance Intervals (JPTS-93-008)."

Dear Sir,

This letter responds to the NRC's request for additional information (Reference 1) concerning the Authority's application for an amendment to the James A. FitzPatrick Technical Specifications (Reference 2). This Technical Specification change would provide a one-time extension to the current intervals for certain safety/relief valve, snubber and excess flow check valve surveillances. The NRC questions followed by the Authority's response are contained in the attachment to this letter. This response considers the clarifications provided by the NRC on July 7, 1993.

If you have any questions, please contact Mr. J. A. Gray, Jr.

Very truly yours,

Ralph E. Beedle

attachment

cc: See next page

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This attachment responds to the NRC's request for additional information (Reference 1) concerning the Authority's application for an amendment to the James A. FitzPatrick Technical Specifications (Reference 2). The Technical Specification change would provide a one-time extension to the current intervals for certain safety/relief valve, snubber and excess flow check valve surveillances. The NRC questions are followed by the Authority's reply.

A. SAFETY/RELIEF VALVES

NRC Question 1

The submittal stated that the plant Target/Rock 2-stage SRVs have experienced significant setpoint drift. The staff has also received similar information regarding significant setpoint drift at other plants. Have there been circumstances similar to those at FitzPatrick where Target/Rock 2-stage SRVs were not tested for extended periods of time, and how were those SRV setpoints affected for the extended periods?

NYPA Response

The SRVs are required to open within 1% of the specified setpoints. SRV setpoint drift has caused the setpoint tolerance to be exceeded at the FitzPatrick Plant. A review of setpoint drift data reveals that there is no correlation between SRV installation time and setpoint drift. Figure 1 shows the results of this review. This data represents testing of 20 SRV topwork assemblies which have been in-service at the FitzPatrick plant from 1983 to 1992. The topworks are interchangeable, with each of the eleven SRVs having had several different topworks associated with it. However, each topwork has a unique serial number and has been traced back to the particular SRVs that it had been attached to since 1983.

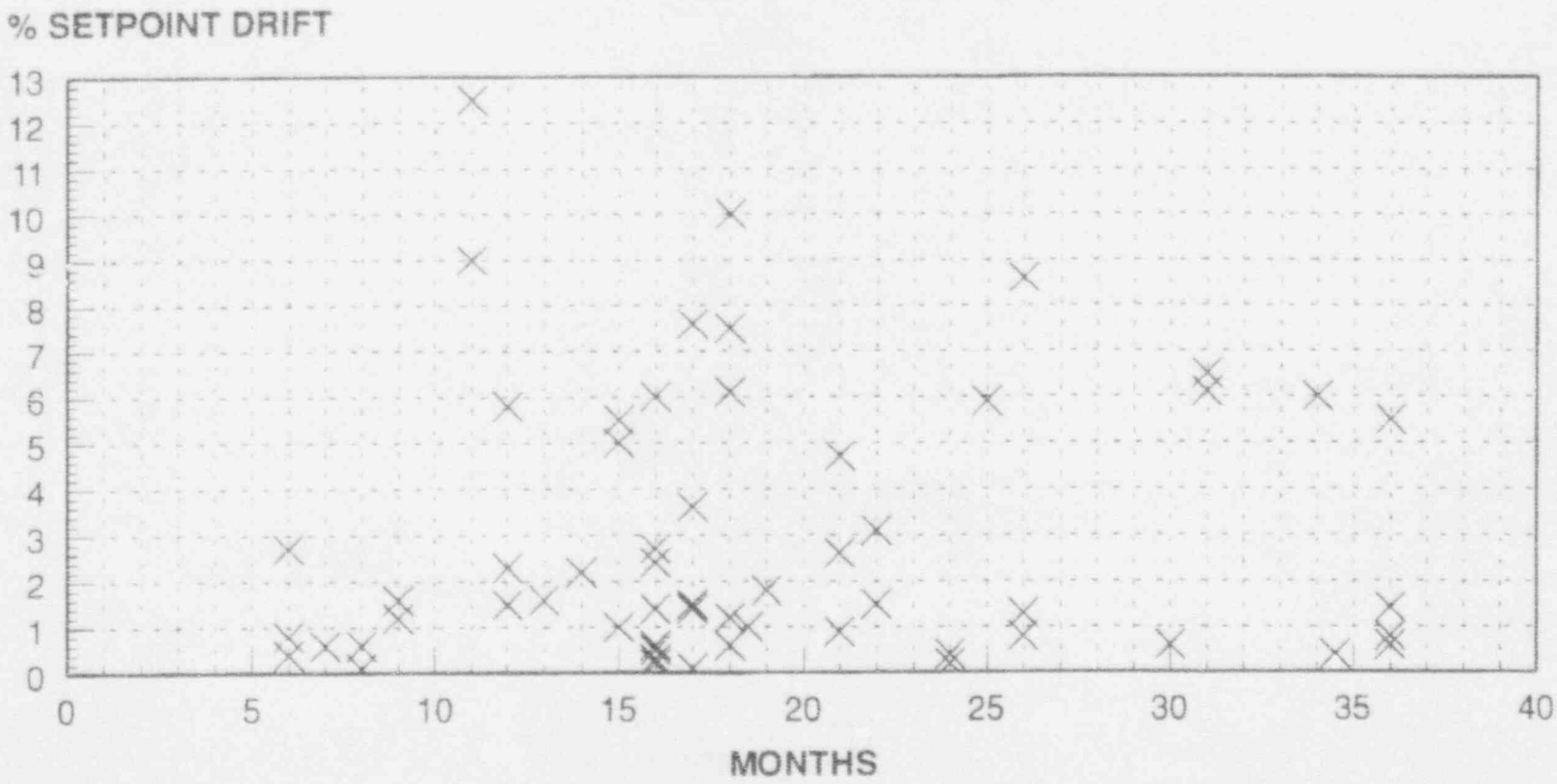
For this surveillance extension request, the time interval between testing the SRVs is approximately 36 months. For this time frame (~ 34 to 36 months), four topworks had setpoint drifts under 1.5% and two topworks that had setpoint drifts of approximately 5.5% and 6%. There are also instances of topworks installed on SRVs for a short duration that have had very high setpoint drifts. In conclusion, there is no discernable pattern or correlation between time and percent drift.

The Authority has not surveyed other utilities to collect SRV setpoint drift and topwork installation time data. The Authority considers the FitzPatrick SRV setpoint drift data to be representative of industry experience with Target/Rock 2-stage SRVs. For this reason, the Authority concludes that there is no direct correlation between SRV topwork installation time and percent drift.

Figure 1

SRV Setpoint Drift

(1983 - 1992)



NRC Question 2

The staff has had recent discussions with the Boiling Water Reactor Owners Group (BWROG) representatives regarding the resolution of the Target/Rock 2-Stage setpoint drift issue. These discussions indicate that the pilot disk-to-seat sticking would be lessened significantly by reducing the large concentrations of oxygen in the pilot valve area with a catalyst coating on the pilot valve surface areas. A second measure would be to install additional pressure-sensing power actuation equipment to assure that the valves open at the correct setpoints. Has the licensee endorsed these recommendations and what is the licensee's schedule for implementation of specific measures to improve setpoint performance?

NYPA Response

The Authority is a member of the SRV Setpoint Drift Committee and endorses the above recommendations. The Authority plans to install pilot valve disks that have been coated with a catalyst in half of the SRVs during the 1995 refueling outage as recommended by BWROG. Should this method be successful at reducing valve setpoint drift, the remaining SRVs will have coated pilot disks installed during the subsequent refueling outage. If this method fails to reduce the setpoint drift problem, the Authority will consider implementing the second BWROG recommendation which is to install additional pressure-sensing power actuation equipment. The Authority may also consider other methods to reduce SRV setpoint drift as they become available.

B. SNUBBERS

NRC Question 1

Please describe the test and inspection results from the last snubber surveillances (i.e., number and types of failures).

NYPA Response

During the last surveillance test, 69 snubbers were functionally tested. Out of the 69 tested, 2 failures were identified (JAF-128, and JAF-271). JAF-128 failed as a result of being out of tolerance in the compression mode. Inspection of this snubber revealed that an incorrect tension poppet had been installed in the compression side of the snubber. The failure of snubber JAF-271 was due to its inability to lockup when in the compression mode. Inspection of this snubber revealed no discernable reason for the failure. This snubber tested satisfactorily after the poppets, springs, and valve body were replaced.

NRC Question 2

During the proposed extension period will the service life for certain snubbers expire? If so, address consequences and evaluate actions to ensure snubber operability.

NYPA Response

There are 17 hydraulic snubbers that would have exceeded their service life prior to January, 1995. These 17 snubbers will be removed and replaced with newly rebuilt units during the September, 1993 maintenance outage. Therefore, there will not be any snubbers that will have exceeded their service life during the proposed extension period.

NRC Question 3

Are there any indications of age-related snubber degradation (especially for hydraulic snubbers)? Provide vendor data on recommended intervals between functional testing.

NYPA Response

There are no indications of age-related degradation of any snubbers, either hydraulic or mechanical. The are no vendor recommendations for intervals between functional testing of snubbers. The only requirement for functional testing of snubbers is contained in the Technical Specifications.

C. EXCESS FLOW CHECK VALVES

NRC Question 1

Please provide a compilation of test dates and results for the excess flow check valves.

NYPA Response 1

There are 81 instrument line excess flow check valves installed in instrument lines at the FitzPatrick plant. These valves are tested once per operating cycle for proper operation per Technical Specification 4.7.D.1.B. The following provides the test dates and results for the last 12 years.

Test date	Test results
8/2/80	all passed
2/9/82	all passed
8/23/83	all passed
5/8/85	all passed
4/2/87	all passed
10/28/88	all passed
6/2/90	2 failed: 02-3EFV-31F, 29-EFT-34B
10/5/92	3 failed: 02-3EFV-25, 02-3EFV-31M, 29-EFV-34B

NRC Question 2

Identify the manufacturer and model number of these valves and provide any available industry performance data on these valves, such as the number of failures reported in the NPRDS.

NYPA Response

The manufacturer is Marotta Scientific Controls and the model number is FVL16G. These valves are not defined within the component scope of NPRDS since their size is less than 1¼ inch. The Authority does not have any other industry performance data for these valves.

NRC Question 3

Please discuss PASNY's basis for concluding that the excess flow check valves were not expected to degrade while the plant was shutdown for the extended outage that ended in January 1993.

NYPA Response

All 81 of the excess flow check valves were tested near the end of the 14 month extended outage in October of 1992. The results of this test indicated 3 valve failures. Due to the low number of failures at that time, it can be concluded that these valves did not degrade during the extended 14 month outage.

Excess flow check valves were not subject to an operating environment during the 14 month outage. Degradation to the valves is expected to occur due to the long term effects of pressure and dirt which occurs while the plant is in operation. Historical data from past performances of this surveillance test shows that these valves have a very low failure rate even during power operation.

NRC Question 4
NRC Question 5

Provide a list of the excess flow check valves that were tested during the extended outage that ended in January 1993.

If the list of excess flow check valves affected by the submittal is different from the list of valves in Inservice Testing Program Relief Request V-28, please provide a list of the affected valves.

NYPA Response to Questions 4 and 5

All 81 of the excess flow check valves required to be tested by Technical Specifications 4.7.D.1.b were tested during the extended outage which ended in 1993. These are the same valves contained in relief request V-28 for the Inservice Testing Program.

NRC Question 6

Please discuss the length of time involved in testing all excess flow check valves, the possible impact of attempting to test all valves during the three week maintenance outage in September 1993, and the efforts that would be involved if a percentage of the valves were required to be tested (i.e., 30%, 50%, or 70%).

NYPA Response

Excess flow check valve testing is performed in conjunction with the Reactor Pressure Vessel (RPV) System Leakage Test. This test is performed once every refueling outage and is not scheduled to be performed during the upcoming maintenance outage. The purpose of the RPV System Leakage Test is to demonstrate the integrity of the RPV and the attached Class I piping systems. During this test, the RPV is pressurized to approximately 1000 psig. Excess flow check valve testing is performed when the RPV pressure is $\geq$ 600 psig.

The time required to perform all of the excess flow check valve testing is approximately 24 hours. However, the preparation time necessary to perform valve lineups and to pressurize the reactor is approximately two days. Another day is required for vessel depressurization and valve lineup restoration after the completion of testing. Therefore, approximately four days are required to perform this test. The time involved in testing some percentage of the valves (i.e., 30%, 50%, or 70%) is almost the same as testing all of them. The setup time and restoration time after the completion of testing will remain the same in all cases. Therefore, performing a percentage of the excess flow check valve testing would not significantly reduce the level of effort required to do this test.