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POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT



JOHN D. LEONARD, JR.  
Resident Manager

P.O. BOX 41  
Lycoming, New York 13093  
315-342-3840

September 26, 1979  
JAFP 79-519

Boyce H. Grier, Director  
United States Nuclear Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, PA. 19406

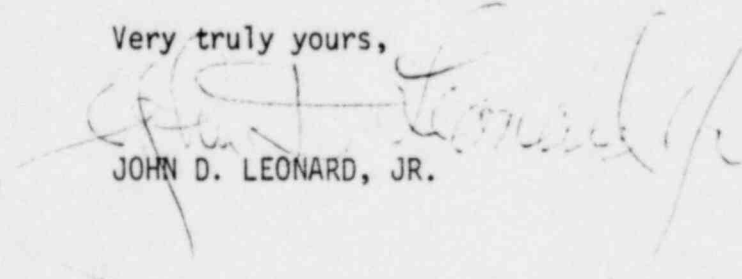
SUBJECT: NRC IMMEDIATE ACTION LETTER 79-15  
MANAGEMENT REVIEW OF INSTRUMENT ROOT VALVE LINEUP PROCEDURES

Dear Mr. Grier:

As directed by the Immediate Action Letter No. 79-15, dated September 13, 1979, a management review was conducted concerning the omission of certain instrument root valves from a lineup check list.

This review is attached for your perusal as requested by this letter.

Very truly yours,

  
JOHN D. LEONARD, JR.

JDL:brp  
Attachment

- CC: G. T. Berry, PASNY, NYO
- P. W. Lyon, PASNY, NYO
- R. J. Pasternak, PASNY, JAF
- G. A. Wilverding, PASNY, NYO
- E. C. Abbott, PASNY, JAF
- M. C. Cosgrove, PASNY, JAF
- H. N. Keith, PASNY, JAF
- Document Control Center

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POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT



JOHN D. LEONARD, JR.  
Resident Manager

P.O. BOX 41  
Lycoming, New York 13093

September 25, 1979  
JAFP 79-514

315-342-3840

MEMORANDUM TO: R.J. PASTERNAK

FROM: J.D. LEONARD, JR.

SUBJECT: MANAGEMENT REVIEW OF INSTRUMENT ROOT VALVE LINE UP PROCEDURES - COMPLETED BY R. J. PASTERNAK ON 21 SEPTEMBER 1979

I have studied your review in detail. It is my belief that the basic information in the review is accurate. I have personally questioned the Assistant to the Operations Superintendent and the Instrumentation and Control Superintendent and it is factual that a positive check was made by them of an instrumentation system in order to insure that all valves would be covered. Had this system been any system containing multiple instruments, this error of omission should have become immediately apparent.

With respect to your conclusions, I do not fully agree with the second conclusion. I desire only that you implement a revision to Administrative Procedure 1.4 which would require the department superintendent to concur within one normal business day of a temporary change. I do not concur that the Superintendent of Power should also be required to review a temporary change within two business days of the change. The latter is not administrative control but rather an administrative impediment. The department head is completely responsible for the procedures generated in his department. He is, de facto, the expert in these procedures. If, on a regular basis, review by two people, one of which is a senior licensed operator, plus the concurrence of the department head cannot prevent a temporary procedure from exceeding the "intent provisions" of our guidelines, then the people making these reviews and concurrences are not fulfilling the responsibilities placed upon them. If this becomes apparent, corrective action should be addressed in this direction, not by adding another stop gap measure by having the Superintendent of Power review "everything."

I also desire that you review with all department superintendents the importance of using the terms specifically listed and defined in the Technical Specifications, the glossary of terms in the GE Boiling Water Reactor Systems description books and the terminology utilized in the FSAR. Although

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MEMORANDUM TO: R.J. PASTERNAK  
FROM: J.D. LEONARD, JR.  
SUBJECT: REVIEW OF INSTRUMENT ROOT VALVE  
LINE UP PROCEDURES, ETC.

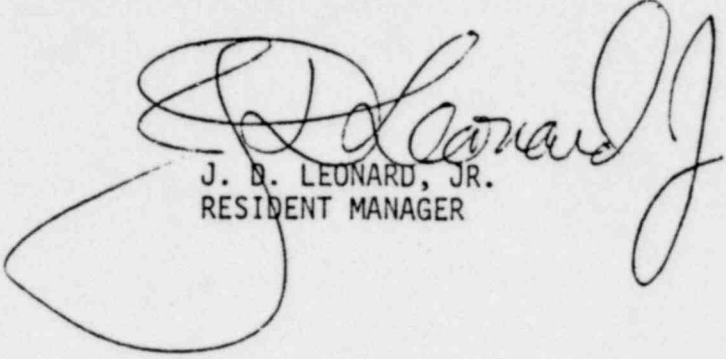
September 25, 1979  
JAFP 79-514

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the misunderstanding regarding the terminology of "root valve" appears to be an isolated case, the results are serious enough to warrant careful attention to the terminology that we use in operating and maintaining this plant.

The other recommendations made in your conclusions should be implemented promptly.

JDL:brp  
CC: E. C. Abbott  
H. N. Keith  
P. W. Lyon  
Document Control Center



J. D. LEONARD, JR.  
RESIDENT MANAGER

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POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT



JOHN D. LEONARD, JR.  
Resident Manager

P.O. BOX 41  
Lycoming, New York 13093  
—  
315-342-3840

September 21, 1979  
SOP-79-092

MEMORANDUM TO: J. D. Leonard

FROM: R. J. Pasternak

SUBJECT: Management Review of Instrument Root Valve Line Up Procedures

REFERENCE: 1) Letter Boyce H. Grier, Director Region I, USNRC to J. D. Leonard - Docket No. 50-333, IAL No. 79-15 dated September 13, 1979.

2) Memorandum J. D. Leonard, Jr. to R. J. Pasternak (JAFN-79-483)

Per your directive, I have reviewed the preparation of valve line check lists with respect to the line up of instrument systems and offer the following information:

BACKGROUND:

In February of 1975 during Instrument Surveillance testing of primary containment pressure instrumentation, it was found that associated rack isolation valves and root valves were closed. The closure of these valves negated the protective function provided by the primary containment pressure instrumentation. Corrective action initiated at that time included the generation of a valve line up entitled "Instrument Penetration Root Valve Line Up." This line up covered root valves on instrument sensing lines which penetrated the primary containment. It augmented existing instrument valve line up contained in Instrument Surveillance Procedure F-ISP-73 titled "Pre-Startup Instrument Line Up" which encompassed all instrument valves not just root valves. Double verification of instrument root valve line up for those on sensing lines associated with the primary containment, following refueling, has been the practice since that time. This is in addition to the instrument valve line up of F-ISP-73 which is also performed prior to start up from refueling.

In June of 1977, the Authority assumed sole responsibility for the operation and maintenance of JAF and at that time issued Plant Standing Order No. 1, "Continual Implementation of Existing Plant Procedures." This Standing Order allowed existing procedures to remain in effect until superseded or cancelled. Both of the existing procedures concerning instrument valve line up remained in effect and were controlled in accordance with JAF Administrative Procedure AP 1.4, as safety related procedures.

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MEMORANDUM TO: J. D. Leonard  
FROM: R. J. Pasternak  
SUBJECT: Management Review of Instrument Root Valve Line Up Procedures

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In June, 1979, an inspection of JAF was conducted by representatives of the USNRC Region I Office of Inspection and Enforcement. During the inspection the inspectors noted several problems with instrument valves. These included incomplete tagging of instrument root and rack mounted valves and incomplete instrument valve line ups. As a result the Authority committed to (1) tag all safety-system instrument valves (2) revise F-ISP-73 to ensure a complete check off list and (3) implement the new valve check off list prior to plant startup. In addition, the Authority committed to perform independent verification of instrument valve positions until these changes have been made. A program to implement the above commitments was initiated. The instrument valve line ups of F-ISP-73 were changed from a listing of instrument valves by system to a listing of valves by instrument rack to facilitate valve line up checks. Discussions were held between supervisory members of the Operating and Instrumentation and Control Departments concerning instrument root valves. "Instrument Root Valve" was interpreted by the I & C representatives to mean the isolation valve at the instrument rack whereas "Instrument Root Valve" was interpreted by the Operations representatives to be the root or first valve on the sensing line from the process piping. The purpose of the discussion was to clarify that instrument root valves were included in the revised F-ISP-73 lineups. By the definition of "Instrument Root Valve" used by the I & C personnel, they were being tagged and included in the line up. For Example: both parties inspected the instrument valve associated with the level switches for the scram discharge volume. In this case since the sensing lines did not go to an instrument rack, the first valve in line was tagged and included in the lineup. It was then assumed by the Operations representative that I & C revised lineups included instrument root valves not contained in the "Instrument penetration Root Valve Line Up." \* The I & C representative did not include the "root valve" on the revised F-ISP-73 valve line up being under the impression that they were included in the "Instrument Penetration Root Valve Line Up" performed by the Operations group.

The revised instrument valve lineups of F-ISP-73 were implemented as a temporary change in accordance with AP 1.4, "Control of Plant Procedures" and JAF Technical Specifications. The dates of approval for the temporary changes were September 1, 2, and 3, 1979. It was felt at the time the intent of the procedure was not being changed. The instrument valve lineups were revised from a system orientation to an instrument rack orientation and assumed redundant checks of the instrument root valves were eliminated. The revised instrument valve line up of F-ISP-73 were performed and for those instrument valves which had not been tagged, a double verification was performed. Plant Operating Procedure OP-65, "Start-up and Shut-down Procedure," cold startup check off was revised on August 31, 1979 to include a sign off by I & C that instrument valve line up was complete. Prior to plant startup on September 3, 1979 I & C had completed the required instrument valve lineups including double verification where required and sign off on OP-65 cold startup check list. In addition, operations had completed among their various valve lineups, a double valve line up of instrument root valves on lines that penetrate the primary containment. Plant startup commenced at 1345 on September 3, 1979 following completion of surveillance testing and the cold startup check off indicating that all requirements, including those related to instrument valve lineups, were satisfactory for plant startup.

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During authority management review of the valve lineups performed, prior to startup, in conjunction with a NRC inspection being conducted at that time on the same subject, it was determined that root valves on lines not penetrating the primary containment had not been subject to a valve line up check prior to plant startup. This was immediately brought to the attention of plant management and NRC Inspectors on site. Further discussions were held that date (September

\* This was the lineup used prior to this startup by operations to insure a double check of drywell instrumentation.

MEMORANDUM TO: J. D. Leonard Page -3-  
FROM: R. J. Pasternak  
SUBJECT: Management Review of Instrument Root Valve Line Up Procedures

12, 1979) with Region I concerning the corrective measures to be taken to resolve the deficiency of incomplete instrument root valve lineups.

IMMEDIATE CORRECTIVE ACTION:

Immediate corrective action was initiated to resolve the discrepancy in accordance with Reference (1). This included:

- 1) Suspension of power escalation until double verification of the remaining instrument root valves was completed. This was accomplished on September 13, 1979. The original F-ISP-73 valve line up was compared to Revised F-ISP-73 and Operations "Instrument Penetration Root Valve Line Up" to identify those instrument root valves which had been omitted. Double verification was performed on these valves. In addition, all the valves that were checked were denoted on plant drawings and those instruments whose root valves had not been previously checked were classified as non-safety related, or in those cases where it was not obvious that it was not safety related, added to the list. The latter category resulted in eighteen instruments being added to the list. Instruments that were added included level instruments on HPCI and RCIC steam line drain pots, RHR Heat Exchanger Level Control Main Steam Line Leak Detection instruments and other plant instruments. These valves were also subject to a double verification during this period. The results of this review indicated all safety related instrument root valves were open. One non-safety related instrument root valve was found to be in the closed position. The instrument involved, 14 PS 47A, monitors pressure between two motor operated valves in the "A" core spray system and is a Quality Assurance Category II instrument. It has no automatic protective function and only alerts the operator via an annunciator of possible valve leakage. The root valve was reopened at the time of inspection.
- 2) A meeting of the Plant Operating Review Committee (79-053) was held on September 13, 1979 to review the revised instrument valve line up requirements. The committee reviewed the corrective action that had been accomplished and concurred that requirements of Reference (1) were being met. In addition, it also reviewed the temporary changes to F-ISP-73 that precipitated the omission of certain root valves, and did not accept the temporary change pending a permanent revision, which corrected this omission.
- 3) Operations Surveillance Procedure F-ST-40H, "Instrument Valve and Instrument Root Valve" was prepared incorporating instrument valve lineups performed by the I & C Department with instrument root valve lineups performed by the Operations Department into one procedure. The root valve line up portion of the new ST included those root valves previously lined up in accordance with the original F-ISP-73, the original "Instrument Penetration Root Valve Line Up", and any instrument root valve added as a result of item 1, above. This new procedure was reviewed by PORC at meeting 79-056 which recommended approval. The procedure was approved by the Resident Manager and the Operations Superintendent on September 18, 1979 and incorporated into the Operations Surveillance Program on September 19, 1979. The new procedure required double valve line up of instrument valves and instrument root valves to be performed until tagging of instrument valves is complete.

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MEMORANDUM TO: J. D. Leonard  
FROM: R. J. Pasternak  
SUBJECT: Management Review of Instrument Root Valve Line Up Procedures

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- 4) A schedule for completion of instrument valve tagging has been formalized requiring those instrument valves in areas normally accessible during operation to be tagged by October 26, 1979 and those in inaccessible areas, prior to startup from an extended outage (greater than 30 days) or a refueling outage.

SAFETY SIGNIFICANCE:

An instrument valve line using the original F-ISP-73 was conducted in December, 1978 prior to plant start up, following the last refueling outage. This line up indicated instrument valves to be in the proper position. At that time, Administrative controls such as a Work Activity Control Procedure 10.1.1, "Procedure for Control of Maintenance" and 10.1.2., "Equipment and Personnel Protective Tagging", provided a mechanism to ensure if equipment, including instrument root valves, were removed from service in accordance with Technical Specification requirements and that equipment was properly returned to service. Any change in root valve position for maintenance, since the last valve line up, would have been controlled by these procedures. Changes in instrument root valve position during conduct of operations, would have been accomplished in accordance with technical specifications and controlled by Operating Department Standing Order No. 1, "Operating Staff Responsibilities and Authorities," and No. 4, "Shift Relief and Log Keeping." Instrument surveillance testing, which requires change of position of instrument valves, is done in accordance with approved surveillance test procedures which include return to normal requirements. The requirement for valve lineups provides a redundant check to administrative controls during extended operating periods for controlled evolutions which could state valve position and a primary check against inadvertent actions which could change valve position. A backup check to inadvertent valve positions is the surveillance test program. Surveillance testing is performed in engineered safeguard systems periodically and following maintenance on the system. This testing is intensified prior to start-up from an extended shutdown and in many cases would detect improper valve line up including instrument root valves. The adequacy of the existing controls was exhibited by the review discussed in (1), above where no safety-related instrument root valves were found to be in the improper position.

CONCLUSIONS:

The inadvertent omission of instrument root valves from F-ISP-73 was the result of poor communications caused by a misinterpretation of terms. The events and circumstances surrounding this incident were unique and the event represents an isolated case.

The administrative controls currently in effect address those items necessary to ensure safe operation of the plant. The actions taken by plant personnel were consistent with existing plant procedures. The problem arose not from plant personnel not following procedures or the procedures not there to follow, but rather from misinterpreted communications. The area where increased attention is perhaps warranted deals with use of temporary changes. Two items are recommended along these lines:

- 1) Review by plant personnel of AP 1.4, "Control of Plant Procedures," emphasizing the intent of these actions dealing with temporary changes.
- 2) Revision to AP 1.4 dealing with temporary changes that would require Department Superintendent concurrence within one normal business day of the change, and Superintendent of Power concurrence within two business days of the change.

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MEMORANDUM TO: J. D. Leonard  
FROM: R. J. Pasternak  
SUBJECT: Management Review of Instrument Root Valve Line Up Procedures

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In addition, the Superintendent of Power should formalize Department meetings to enhance the exchange of information of plant evolutions. Continued adherence to existing administrative controls in conjunction with the above recommendations should preclude events of a similar nature reoccurring.

*E. C. Abbott for*

Superintendent of Power

RJP:jjh

CC: E. Abbott  
H. Keith

1534 287