



Commonwealth Edison

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DMB

March 16, 1984

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: LaSalle County Station Units 1 and 2
Confirmatory Action Letter dated 11/28/83
NRC Docket Nos. 50-373 and 50-374

Dear Mr. Keppler:

The purpose of this letter is to document that, on March 14, 1984, Commonwealth Edison Company provided Messrs. R. D. Walker and W. Guldmond with copies of the enclosed memo from G. J. Diederich to C. W. Schroeder dated March 13, 1984.

If there are any further questions regarding this matter, please contact this office.

Very truly yours,

CW Schroeder 3/16/84

C. W. Schroeder
Nuclear Licensing Administrator

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cc: R. D. Walker
NRC Resident Inspector - LSCS

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March 13, 1984

TO: C. Schroeder

SUBJECT: RESPONSE TO CONFIRMATORY ACTION LETTER DATED 11/28/83 ACTION D-
"REPORT THE RESULTS OF ALL TESTS AND INSPECTIONS PROMPTLY TO THE NRC
RESIDENT INSPECTOR, AND SUBMIT A WRITTEN REPORT OF THESE RESULTS TO
THE REGION III OFFICE WITHIN 14 DAYS OF THEIR OCCURRENCE."

The 1B21-F010A and B Feedwater tilting disc check valves experienced forty-four days of unit operation in mode 1, 2, or 3 (run, startup, or hot shutdown) since maintenance was performed on the valves in November of 1983. The inspection and testing completed 2/29/84 indicated no soft seat degradation. Maintenance was performed to improve the disc to body seat alignment.

The valves were local leak rate tested on 2/17/84 while the unit was in cold shutdown for scheduled testing and maintenance. The corrected type C leak rate for 1B21-F010B was 0.47 scfh. A leak rate for 1B21-F010A could not be determined since the test volume could not be pressurized with air to greater than approximately 10 PSIG. The required test pressure is 39.6 PSIG.

Internals of both valves were subsequently inspected to verify integrity. The 1B21-F010A disc was found not aligned with the body seat. Instead, the disc was positioned completely to one side with a 0.051 inch clearance between the hinge pin shoulder and the disc bushing on the opposite side. This misalignment resulted in a 0.058 inch maximum clearance between the disc soft seat and body seat. After manually cycling the disc open three times, the disc completely seated in the body seat. The as found condition was attributed to the large combined clearance (0.051 inch) between the hinge pin shoulders and the disc bushings. During unit operations the valve was free to move horizontally within the 0.051 inch clearance. After all flow through the valve was secured, the disc would swing to the closed position. However, if the disc and body seat were not aligned, the disc would not slide into the seat due to the combined effects of the disc to body seat misalignment and the friction effects between the soft seat and body seat. The hinge pin shoulder to disc bushing clearances were subsequently reduced to 0.011 inch and 0.010 inch (total of 0.021 inch). The valve was retested on 2/25/84 and the corrected leak rate determined to be 8.8 scfh. It should be noted that some of the 8.8 scfh would be the result of the other test volume isolation valve 1B21-F011A leaking. This manual valve is known to leak and is scheduled for maintenance at the next planned outage of sufficient length.

Accessible portions of the 1B21-F010A soft seat were also thoroughly inspected for any indications of degradation. The soft seat appeared unchanged from initial installation in November 1983, i.e., there were no surface indications and the material exhibited a realistic elastic property when prodded with a metal instrument. The feedwater temperature and pressure appear not to have affected the accessible portions of the soft seat.

The 1B21-F010B valve internals were inspected on 2/21/84. Again, there were no indications of thermal or pressure effects on the soft seat. However, there were slivers of soft seat material present, some still attached and others separated from the soft seat. The slivers were less than 0.001 inch thick and varied in length up to approximately six inches.

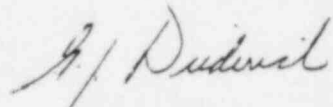
The slivers originated from the feedwater pump side of the soft seat immediately adjacent to the disc face. The formation and removal of the slivers did not affect the sealing capability of the soft seat. The presence of the slivers implies they were formed during the leak rate test pressurization of the test volume. The soft seat also exhibited scuff marks on approximately the bottom third. These scuff marks were the result of the disc being slightly misaligned with the body seat in the vertical axis. When the test volume was pressurized, the disc was forced into the seat resulting in the soft seat scuff marks. This indication should be considered normal soft seat wear and as evidenced by the leak rate results does not affect the sealing capability.

In order to minimize the soft seat wear during disc compression into the body seat, eccentric disc bushings were machined to center the disc with respect to the body seat. The eccentric bushings' offset was 0.012 inch. The hinge pin shoulder to disc bushing clearance was reduced to 0.020 inch and 0.009 inch (total of 0.029 inch) for the same reasons discussed for the 1B21-F010A valve. The valve was retested on 2/29/84. The corrected leak rate was 0.65 scfh.

In conclusion, there were no apparent environmental effects on the soft seats for the given operating period. The soft seat indications, the slivers and scuff marks, did not affect the sealing capability of the valve. The cause of these indications should be eliminated or reduced by the more precise alignment of the disc to body seat, but should not be considered an abnormal degradation of the soft seat. Maintenance on the Unit Two Feedwater Check Valves 2B21-F010A and B will similarly be performed to more precisely align the disc to body seat.

In reference to item D of the subject C.A.L. it has been determined by a LaSalle onsite review that the augmented testing and inspection program has been completed for LaSalle Units 1 and 2 based on the following:

1. The inspection results of the soft seat material during the February outage.
2. The previous history of the molded soft seat material experienced at LaSalle Unit 1. This history obtained during unit operation from August 1982 to September 1983 combined with the information obtained during this past unit operation indicates that the type C leakage failures occur due to an alignment problem as opposed to failure of the molded seal.
3. The experience obtained from other users identified in C. W. Schroeder letter to J. G. Keppler, dated December 14, 1984, indicated that the soft seat seals, as a minimum, lasted one refueling cycle.
4. Molded EPR is in place rather than the previously identified vulcanized EPR which experienced failure at the vulcanized joint in November 1983.
5. As stated in C. W. Schroeder letter to J. G. Keppler dated January 31, 1984, the schedule to obtain a fully qualified soft seat material by test is expected to take approximately 10 months. This time frame would permit reevaluation of the current design of the seat and implementation of any changes during the first refuel of unit one which is consistent with numbers 2 and 3 above.



G. J. Diederich
Superintendent
LaSalle County Station