

DRAFT
ABB:mm
9/10/84

NOTE FOR FILES

SUBJECT: ZION ENFORCEMENT BOARD

Met with staff on this issue today. Requested that they set up an enforcement conference with Zion. Key points to remember:

1. Original tests on a similar piping rig gave leakage of 120.
2. Subsequent tests on the installed rig gave leakage of 420.
3. 420 would exceed Tech. Spec. limit.
4. 10CFR 100 values not exceeded.
5. Subsequent test on another rig identical to the actual rig gave results of 120.
6. Licensee thinks that installed rig may have had an air leak where the air supply was hooked to it during the test.
7. If the preponderance of evidence indicates that the leak rate was 450 which exceeds the Tech Spec. limit, we will go with a Severity Level III. If the preponderance of evidence does not indicate that, it will be a Severity Level IV.

A. B. Davis, Deputy
Regional Administrator

FOIA-85-136

B/16

9/6/84

Technical Specifications Paragraph 3.9.5.A requires that containment integrity, as defined by Paragraph 1.0 C, not be isolated whenever a nuclear core is installed in the reactor unless the reactor is in the cold shutdown condition and the shutdown margin is $\geq 1\% \Delta K/K$. Paragraph 1.0 C requires that the containment leakage satisfy Technical Specification Paragraph 3.19A among other requirements, in order to satisfy ^{the} containment integrity definition.

Technical Specifications Paragraph 3.10 requires that containment integrity be demonstrated through periodic testing in accordance with 10 CFR 50, Appendix J. Paragraph 4.10 which applies to such periodic tests establishes the maximum allowable leakage rate to be less than or equal to 0.1 per cent of the containment volume per 24 hours at the design basis accident pressure.

Contrary to the above on February 15, 1984 an instrument maintenance mechanic found the equalizing valve on differential pressure transmitter DPDT-RV85 open providing a vent path from the containment building ^{results from} to the auxiliary building. A flow test conducted on the penetration when added to the previously measured containment leakage rate results showed that ^{the} containment leakage rate exceeded the maximum allowable ^{the design-basis} of 0.1 wt % / day at accident pressure. The valve was last "verified" closed on May 5, 1983.

The above violation has been evaluated as a Severity Level III problem
(Supplement I)

Civil Penalty - \$ 40,000

Wetzel

1. Persons Contacted

Commonwealth Edison Co.

C. Baer, Technical Staff Engineer

* K. Gracov, Station Superintendent

~~T. Kelly, Engineering Assistant, Technical Staff~~

W. Kuntz, Station Superintendent

* A. Dekat, Assistant Technical Staff Engineer

T. Punt, Technical Staff Engineer

* N. Vales, Assistant Technical Staff Engineer

NEC

* M. Holgren, Senior Resident Inspector

* F. Manning, Resident Inspector

* Helco process attending the exit meeting of August 29, 1954

The inspectors also contacted other license personnel including members of the Technical and maintenance departments.

2. LER 84-005 - Unit 2
a. Unit

On February 15, 1984 the licensee found the squelching valve on the valve manifold of instrument SPD-2185 open. Since the instru- ment has its low pressure side open to the auxiliary building the open squelching valve provided a vent path from the containment to the auxiliary building. The licensee closed the valve immediately and conducted an inspection of all similar manifolds which could generate a flow path from containment. No problems were found.

L. Tony Dunn, Containment Section

The licensee prepared a modification to replace this fair value

manifold with a ^{isolation} bypass valve. The request noted that the modification has been completed on Unit 2. The Unit 1 change

is planned for the next refueling outage in the near future. The squel- ching valve for SPD-2185 has been locked closed to prevent a recurrence.

C. Effect of Open Valve on Containment Integrity

The licensee performed a flow test on a similar manifold to determine the magnitude of the leakage through the open equalizing valve. At 47 psig (Pa) a leak rate of 120 scfh was reported. The initial LER reported a combined leakage rate (RV-85 plus 1983 Type B + C test results) of 141 scfh which is well below the Technical Specification limit of 475 scfh @ 47 psig. Approximately 10 weeks later, during a unit outage, the licensee performed a test on the actual penetration and measured a flow rate of 3.5 scfm which when corrected to the flowmeter calibration pressure gave a true flow rate of 7.175 scfm or 430.5 scfh. It was determined that the original test of 120 scfh was incorrect because no pressure correction factor had been applied. The pressure at the flowmeter was not ~~therefore~~ measured during the first test.

The licensee wrote a revised LER on May 3, 1984 still claiming that the overall leakage^(451.8 scfh) had not exceeded the Technical Specification limit.

It is the NRC position that the measured leakage rate from RV85 must be added to the known containment leakage rate the latter being the last Type A test results (1980), corrected to accident pressure, and corrected to account for any measured degradation in penetration leakage rate. The inspector reviewed the results of the licensee's test on the ~~actual~~ RV85 penetration and performed the necessary corrections to obtain the overall containment leakage rate at the time of the event as noted below:

1980 Type A test results @ $P_e = L_{em} = 0.007$ wt %/day

1980 Type A test results @ $P_a = L_{am} = \frac{(L_{em})(L_a)}{L_e} = 0.0113$ wt %/day

where, $L_e = 0.062$ wt %/day as determined during the preoperational

$$L_a = 0.1 \text{ wt \% / day} = 475 \text{ scf/hr}$$

$$L_{am} = 0.0113 \times \frac{475}{0.1} = 53.6 \text{ scf/hr.}$$

From Type B and C tests performed in 1980 and 1984 the following deterioration was noted:

$$1980 \text{ Type B + C "as left"} = 6.93 \text{ scf/hr}$$

$$1984 \text{ Type B + C "as found"} = 28.81 \text{ scf/hr}$$

Deterioration 1980 to 1984 using "minimum leakage pathway"

$$= \frac{1}{2} (28.81) - \frac{1}{2} (6.93) = 10.94 \text{ scf/hr.}$$

Overall containment leakage ^{note} at time of event = measured EVES leakage rate + 1980 Type A test @ P_a + Type B+C 1980-1984 deterioration = $430.5 + 53.6 + 10.9 = 495.0 \text{ scf/hr}$

Therefore, it is the NRC's position that with the equalizing valve open the containment did not meet the requirements of the Technical Specifications, paragraphs 3.9.5.A; 1.0.C.5.;

2.10.2.4.10 and "in item 1" above - (see 100-17-01)

d. Length of the Equalizing Value was Open

It is to be noted that the value was already determined that it is clear that during the June 1982 integrated look rate test. A series of more recent records showed that the instrument was last calibrated on

March 9, 1983 and a value lineup was last performed on May 5,

1983. The instrument calibration date is meaningless, since ~~the instrument~~ is disconnected from the manifold. The value lineup "revised" the value ~~and the value was not the same as the value of the instrument~~

It is clear, however, the LER also states that the value "... is extremely hard to operate due to possible internal air leaking."

Therefore placing the May 5, 1983 indication in question. Also, all that can be stated is that:

(1) the value was positively clear during the June 1982 ILRT

(2) the value may have been clear on May 5, 1983 and opened for some

unknown reason during the period of May 5, 1983 to February 15,