



**Commonwealth Edison**  
One First National Plaza, Chicago, Illinois  
Address Reply to Post Office Box 767  
Chicago, Illinois 60690

December 13, 1983

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: LaSalle County Station Units 1 and 2  
Primary Containment Integrated Leak  
Rate Tests  
NRC Docket Nos. 50-373 and 50-374

- References (a): E. M. Gogol letter to H. R. Denton  
dated November 29, 1983.
- (b): E. M. Gogol letter to J. G. Keppler  
dated November 29, 1983.
- (c): R. H. Holyoak letter to Director of  
Nuclear Reactor Regulation dated  
July 28, 1982 (Unit 1).
- (d): G. J. Diederich letter to Director of  
Nuclear Reactor Regulation dated  
September 19, 1983 (Unit 2).
- (e): NRC Region III Inspection Report No.  
50-373/82-25.
- (f): NRC Region III Inspection Report No.  
50-374/83-23.

Dear Mr. Denton:

Commonwealth Edison Company has performed a preliminary review of pertinent facts regarding References (a) and (b). The purpose of this letter is to voluntarily provide on the Docket information for the NRC staff's consideration.

8312150090 831213  
PDR ADOCK 05000373  
P PDR

1. Legal Considerations

Please note that the Petitions for Emergency Relief do not request a hearing. Moreover, Mr. Gogol's address in Glencoe is more than fifty miles from both LaSalle County Station and Byron Station, and therefore, he has not demonstrated that he has standing to request such a hearing with respect to either station. Finally, the petitions are principally an attack on a standard incorporated in 10 CFR Part 50, Appendix J. This issue could not be entertained as a contention in an NRC hearing due to the provision of 10 CFR Section 2.758. To the extent the petitions raises a generic issue of any merit, they should be treated as a petition for rulemaking.

2001  
1/1

It is also noteworthy that the petitions raised no specific issues for LaSalle County Station Unit 2 or Byron Units 1 and 2. Furthermore, for LaSalle County Station Unit 2, it is noted that, pursuant to Technical Specification Special Test Exception 3.10.1, primary containment is not required until completion of the low power physics testing following initial fuel load and initial criticality.

## 2. Compliance with Requirements

The recent Primary Containment Integrated Leak Rate Tests (PCILRT) performed on LaSalle County Station Unit 1 (May, 1982) and Unit 2 (June, 1983) were performed to comply with 10 CFR Part 50, Appendix J and applicable standards, as described in the LSCS FSAR. The results obtained from these tests demonstrated that the primary containment structures (Units 1 and 2) are sound and meet all Federal leakage requirements.

## 3. Technical Adequacy

Commonwealth Edison Company believes that these tests produced data to support the conclusion that the primary containment leak rate is within requirements. The following are several of the steps taken at LaSalle County Station which support this belief.

- (a) The preoperational tests at LaSalle County Station Units 1 and 2 were drafted by the vendor, the A-E, or the NSSS Supplier and reviewed and approved by CECo. The test results were evaluated and approved by CECo. This review and approval is amply described in the LaSalle FSAR, but the following pages have been extracted for the purpose of explanation (Ref: FSAR section 14.2.3, page 14.2-7 for further detail). Figure 14.2-4 outlines the development, review and approval of preoperational tests, while Figure 14.2-6 details the review and approval of test results. Note that CECo Engineering is actively involved in both the procedure and test result review and approval. In this regard, a significant effort is involved by Engineering to review the procedure and the test results against test requirements and/or acceptance criteria which may be documented in the FSAR, SER, and Engineering Design documents. When Engineering approves test procedures or test results, we are assured that the test method is consistent with established design criteria and that the test results are consistent with objective acceptance criteria.

The ILRT performed for Units 1 and 2 were incorporated in preoperational tests PT-PC-101 and PT-PC-201, respectively. The review and approval by Engineering verified that all leak rates from penetrations, valves, and overall containment were demonstrated to be within the design limits which were established by the A/E and applicable Standards. FSAR Table 14.2-13 (attached) gives a brief outline of the ILRT for LaSalle including the requirement of compliance with 10 CFR 50, Appendix J.

- (b) Calibration of containment instrumentation (NBS traceable) was performed within six months prior to the test.
- (c) Verification of the ability of the instrumentation system to calculate an accurate PCILRT was made by use of the Instrument Selection Guide formula (ANSI/ANS 56.8).
- (d) An induced leakage test was performed to verify the validity of the measurement system (ANSI/ANS N45-4 and ANSI/ANS 56.8). By performance of this test (which allows a measured leak from the containment and then verifies that this leak will be added to the calculated rate), assurance is provided that proper calculation methods, sensor placement, and modeling has been performed:
- (e) By periodic data calculations and raw data inspections, it is verified that data in each subvolume does not deviate drastically from expected norms (i.e. a check is made for malfunctioning equipment).
- (f) More instrumentation is utilized per subvolume than required. To obtain an accurate leakage rate at least 28 RTD's and 6 dewcells were used.
- (g) The calculations were performed per the requirement that the 95% confidence level be less than 75% of the calculated allowable leakage rate ( $L_A$ ) at the peak accident pressure ( $P_A$ ). This provides assurance that even with errors, there is 25% margin from the actual leakage limit. The LSCS Unit 1 PCILRT final 95% confidence level leakage rate was 61.9% of  $L_A$  while Unit 2 PCILRT was 36.1% of  $L_A$ . This reflects substantial conservatism in the methodology.
- (h) The tests were performed at  $P_A$  (as required by 10 CFR Part 50, Appendix J) for the entire period of at least 24 hours. In reality, the containment pressure following a LOCA would be at  $P_A$  for only a short period of time following the event and actual pressure would be significantly lower during most of the time. This reduced pressure will decrease the leakage through the containment to even a lower rate and reflects additional conservatism of the methodology.

#### 4. NRC Review

- (a) Commonwealth Edison Company submitted the results of the PCILRT for LaSalle County Station, as required by 10 CFR 50 Appendix J, by References (c) and (d). These reports included:
  - (1) a description of test instrumentation used

- (2) specific location of containment instrumentation locations
  - (3) a description of the test method
  - (4) a description of the data acquisition system
  - (5) the sequence of events
  - (6) copies of computer results (for both the Type A and induced tests)
  - (7) graphs of containment air mass, temperature, and pressure data
  - (8) interpretation of test results
  - (9) a listing of local leakage rate results
  - (10) calculations used for determining the primary containment leakage rate.
- b) The NRC Region III Inspectors witnessed both the LaSalle County Station Units 1 and 2 PCILRT tests and the NRC independently calculated leakage rates. This demonstrated excellent agreement of results. This is documented in References (e) and (f).

### Conclusions

Commonwealth Edison Company believes that the PCILRT tests at LaSalle County Station have been conducted in a professional manner and have been performed to comply with 10 CFR 50, Appendix J and applicable standards, as described in the LSCS FSAR. The methodology utilized at LaSalle contains various conservatisms. The tests were witnessed by NRC Region III inspectors. The data, in great detail, was submitted as required to NRR. The results indicate conformance to 10 CFR 50, Appendix J.

To the extent that Mr. Gogol has technical disagreement with the methodology promulgated by the law, he has not provided any technical details of the alleged "severe errors, defects, and loopholes". He has similarly failed to reference any specific correspondence that substantiates that "...the Nuclear Regulatory Commission Staff, the American Nuclear Society, Oak Ridge National Laboratory, and Sargent and Lundy were notified of it years ago." Furthermore, Mr. Gogol has failed to note the resolution, positions taken, or other disposition by the NRC, ANS, ORNL, and S&L. The fact that these organizations allegedly did not promulgate the changes in methodology that Mr. Gogol is recommending may accurately reflect the consensus of the government and of the industry that those changes are technically without basis.



December 13, 1983

Finally, it is noted that Mr. Gogol's demands for relief are without merit. Commonwealth Edison Company has clearly demonstrated that the containment leak rates at LaSalle County Station Unit 1 and 2 and Byron Unit 1 were performed according to regulatory requirements, and, in fact, resulted in leakage rates which are within the limits mandated by the law. This has been verified and documented by the NRC Region III inspectors.

To the best of my knowledge and belief the statements contained herein are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison and contractor employees. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Very truly yours,

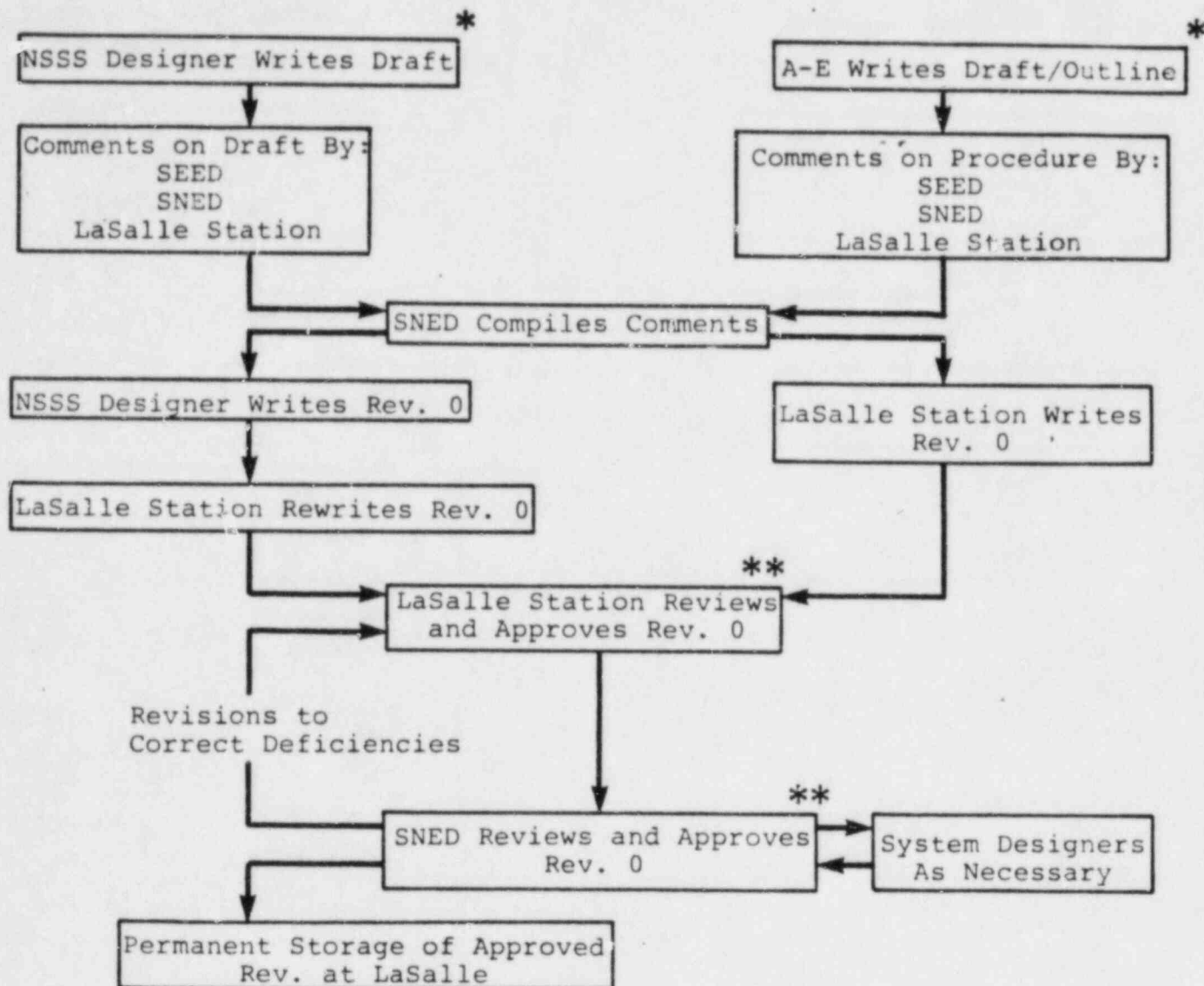
*C. W. Schroeder* 12/13/83

C. W. Schroeder  
Nuclear Licensing Administrator

lm

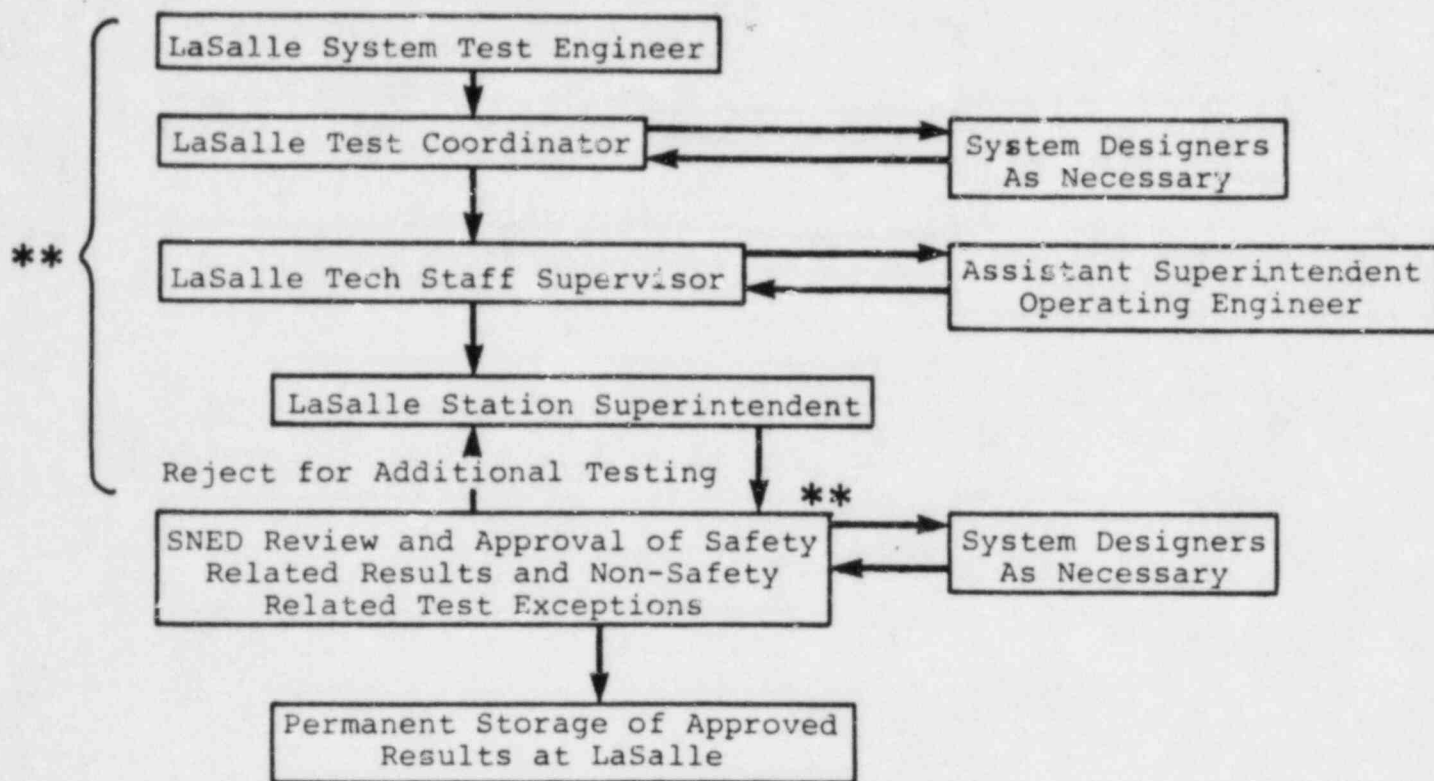
cc: Mr. J. G. Keppler, Region III  
NRC Resident Inspector - LSCS  
P. P. Steptoe - IL&B

7755N



Notes:

- \* Development of procedures
- \*\* Review and approval of procedures and revisions to procedures



Note:

\*\* Review and approval of test and retest results.

TABLE 14.2-13

PRIMARY CONTAINMENT INTEGRATED STRUCTURAL/LEAK RATE TEST

PT-PC101

TEST OBJECTIVES

1. Verify overall primary containment integrity by pressurizing it to the calculated peak test pressure and conducting integrated leak rate measurements on the primary containment.

SYSTEM INITIAL CONDITIONS AND PREREQUISITES

1. Construction tests are completed and approved.
2. All isolation valves must be fully operable.
3. Isolation valves and connected piping have been installed and hydrotested from the reactor vessel to the outside isolation valve.
4. All primary containment anchors have been installed.
5. All local leak rate testing is completed and copies of data sheets are available for this procedure. Type "B" and "C" will be performed during preoperational testing as part of this procedure.
6. Temporary system for pressurizing the containment is available.
7. All containment closures (equipment hatch, drywell head, etc.) are in place.
8. Containment ventilation system is available.
9. Cooling water system to containment ventilation system is available.
10. Test instrumentation is in place and functional.
11. A-c electrical power available.
12. A-c and d-c electrical control power available.



TABLE 14.2-13 (Cont'd)

13. Containment isolation valves will be closed by normal means (i.e., by using the motor, air operator, etc.). No preliminary exercising will be done.

#### SAFETY PRECAUTIONS

1. Verify that all safety and construction tags have been removed from all equipment to be operated.
2. In order to minimize temperature transients the following precautions should be observed:
  - a. Minimize or eliminate the need for operating any equipment within the primary containment during the course of this test.
  - b. No heat sources should be energized nor should hot or cold fluids be circulated through heat exchangers, coolers, etc., within the primary containment boundary.
3. A complete survey must be made to locate and remove any instrumentation, light bulbs, etc., which may be damaged by high external pressure.
4. Access control shall exist during the course of the test.

#### TEST PROCEDURE

1. Type "B" and "C" local leak rate tests will be conducted.
2. Drywell to suppression pool vacuum breaker leak rate test will be conducted.
3. An integrated leak rate test will be conducted in accordance with 10 CFR 50, Appendix J.
4. A low-pressure bypass leakage test will be conducted.

#### ACCEPTANCE CRITERIA

1. All leak rates from penetrations, valves, and overall containment are demonstrated to be within design limits.
2. The leakage rate for the low-pressure bypass leakage test is demonstrated to be within design limits.