



OFFICE OF THE SECRETARY

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555

Enclosure 1 IN RESPONSE, PLEASE REFER TO: M840323A

March 30, 1984

ACTION - Keppler Cys: Dircks Roe Rehm Stello Denton DeYoung GCunningham.

MEMORANDUM FOR: William J. Dircks, Executive Director for Operations

FROM: Samuel J. Chilk, Secretary

SUBJECT: STAFF REQUIREMENTS - DISCUSSION/POSSIBLE VOTE ON FULL POWER OPERATING LICENSE FOR LASALLE-2, 10:00 A.M., FRIDAY, MARCH 23, 1984, COMMISSIONERS' CONFERENCE ROOM, D.C. OFFICE (OPEN/CLOSED--EX. 5)

The Commission was briefed in closed session on a status report on allegations regarding LaSalle-2.

The Commission, in open session, unanimously authorized staff's issuance of a full power operating license amendment for LaSalle-2.

(NRR) License issued 3/23/84

* The Commission requested additional information from staff on the QA program severity level four violations at Byron. The Commission asked staff to include a report on construction QA in each future FPOL presentation.

(Region III) (SECY Suspense: 4/6/84)

* The Commission requested that staff make public the March 21 memorandum on QA at LaSalle.

(Region III)

The Commission also heard from C. Reed, Vice President-Nuclear, Commonwealth Edison.

* memo to Secy 4-9-84.

- cc: Chairman Palladino Commissioner Gilinsky Commissioner Roberts Commissioner Asselstine Commissioner Bernthal Commission Staff Offices PDR - Advance DCS - 016 Phillips

Rec'd CH. EIC Date... 4-9-84 Time...

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ENCLOSUREBASES FOR THE STAFF'S CONFIDENCE IN THE QUALITY OF THE CONSTRUCTION OF
LASALLE UNIT 2

The staff is confident of the quality of construction of LaSalle County Unit 2. The reasons for this confidence are as follows:

1. LaSalle County Unit 1 has operated for two years with only one major failure attributable to the Quality Assurance Program. That failure was a composition material seal on the Feedwater System check valve. The problem appears to be generic to the industry and is being addressed by the licensee.
2. Region III has expended over 30,000 man-hours of inspection time on the LaSalle County site. The number of inspections is summarized as follows:

<u>Year</u>	<u>Number of Inspections</u>
1973	3
1974	4
1975	10
1976	12
1977	13
1978	34
1979	44
1980	56
1981	42
1982	57
1983	57
Totals	372

There were no Severity Level III or above items of noncompliance identified for construction inspections at LaSalle Units 1 or 2.

3. Region III has closely scrutinized activities on site as can be seen from the above data and is confident of the quality of construction.
4. Based on numerous allegations prior to licensing of both Unit 1 and Unit 2 Region III has conducted reinspections of numerous construction activities. In each case, the plant was constructed as required per design reports with few exceptions.
5. The special NRC inspection conducted in 1982 at the Byron Station did not identify significant construction problems.

The reinspection program conducted as a result of this inspection was performed because of concerns regarding the qualifications of quality control inspectors. This reinspection program did not identify any hardware problems which required rework. This gives the staff further confidence in the company's quality assurance program.

6. As a part of the operational readiness review for Unit 1, NRC required an independent review of Sargent and Lundy's design methods and design controls. Teledyne Corporation was selected by the NRC staff for this independent review which used a randomly selected plant piping system as a vehicle for the review. This review established that proper design methods and positive design controls were utilized by the Architect Engineer and CECO for LaSalle project piping and structural design.

7. As a result of various allegations relating to the installation of HVAC systems at LaSalle, the NRC required an independent review of HVAC systems. This was performed by C. F. Braun Company. The review, although identifying some deficiencies, concluded that the design and installation of LaSalle HVAC systems was adequate.

All deficiencies identified as open at the time of C. F. Braun's report have been closed and corrective actions verified by CECO site QA surveillance 82-708. Since Unit 2 was in large part complete at the time of C. F. Braun's site activities, the results are felt to apply equally to Unit 2. Further, the results of additional inspections by CECO site QA on Unit 2 systems were consistent with the results report by C. F. Braun.

8. During the course of construction at LaSalle, CECO Site Quality Assurance has initiated numerous special inspections (overinspections) to monitor work activities and to further verify proper compliance with the QA program and specification requirements. These overinspections were in excess of the normal QC inspections. They ranged from independent testing agency (Conam) personnel assigned to perform random visual weld inspections of the various contractors, to formalized programs of complete overinspection prior to acceptance of the work. The following is a tabulation of the types of activities performed by CECO LaSalle Site QA to further assure the adequacy of plant construction and, were above and beyond those required by the CECO QA program or project specifications.

- a. Assignment of a Conam inspector to monitor safety-related cable pulls to assure procedural requirements were met.
- b. Assignment of a Conam inspector to monitor housekeeping and cable pan cleanliness during the cable pulling activities.
- c. Special CECO Site QA surveillances to verify proper cable routing. This consisted of checks at various nodes in cable trays and risers to assure that the proper cables were at the location.
- d. After problems were identified in Unit 1, special CECO Site QA surveillances were performed in Unit 2 to assure that MCC breaker settings were correct.

- e. For Unit 2, a new inspection program was instituted by CECo Site QA, and titled the Unit Concept Inspection Program. The purpose of this program was to provide an additional level of assurance in the quality of the facilities and equipment installed at the LaSalle County Nuclear Station. The inspections were performed using the basic design documents to assure that the completed work conformed to design requirements. During the period of September 1982 to October 1983, forty-four (44) Unit Concept Inspections were performed by the Independent Inspection Agency (Conam) under the guidance of CECo Site QA.
- f. A trend analysis was performed. The nature of the deficiencies and the frequency of their occurrence particular to the inspected items, indicated that no adverse trends existed. The Unit Concept Inspection Program has provided another level of assurance that LaSalle County Unit 2 is constructed in accordance with the design requirements.
- g. For safety related coating work, CECo's Level III Coating Inspector from the Operational Analysis Department performed bi-weekly surveillances of Category I coating work in addition to normal site QA surveillances.
- h. As a result of NRC concerns during Unit 1 startup, CECo purchased a digital torque wrench tester which has been used by Conam to independently spot-check site contractor's torque wrenches for adherence to calibration requirements. This over check has shown that torque wrench calibration activities were being properly carried out for the various site contractors.
- i. 100% overinspection by the independent testing agency (Conam) of all safety related HVAC hanger welding performed prior to August 1980. Reduced levels of overinspection continued until completion of all safety related HVAC hanger work.
- j. A mandatory hold point was established requiring Conam to inspect all HVAC ductwork moved into the building from May 1980 through early 1982. This action was taken to assure adequacy of inspections and quality of ductwork stitch welds.
- k. Mandatory hold points were established requiring 100% verification of the safety related calibration documentation for station instruments calibrated by Cataract, the Site calibration contractor. The verification was performed by CECo Site QA for 6 months to assure acceptable documentation of calibration activities.
- l. A special program was initiated to assure the conformance of purchased ASME Section III valves to minimum wall thickness requirements. This program was completed by Conam under the direction of CECo Site QA.

m. In addition to random inspection of welds, Conam inspectors were assigned to perform general surveillance activities. The surveillances consisted of monitoring various Site contractor field work activities for conformance to specification. This activity was in addition to the surveillance activities of CECo Site QA.

9. The CECo Quality Assurance Department has authority to stop work independent of the Production Department and has not shown a reluctance to do so when conditions warrant this action. The following summarizes stop work actions initiated by Commonwealth Edison.

<u>Year</u>	<u>Reason Organization</u>	<u>Period of for Stop Work</u>	<u>Stop Work</u>
1976	Foley	QA Program Inadequacies	2 Months
1977	Zack	QA Program & QA Inspection Inadequacies	2 1/2 Months
1978	CECo-Production	Inadequate Procedures	4 Weeks
	Maintenance Foley	Welding QC Problems	3 Weeks
1979	Midway	QC Inspection Inadequacies	1 Week
	Zack	Inspection & Installation Procedures (CEA)	15 Months
	B. F. Shaw	Procedures (Coatings)	6 Months
	Rockwell Engr.	Procedures (Coatings)	3 Months
	Commercial Concrete	Procedures (CEA's)	Permanent
	Inryco	Shop Inspection Problems	1 Month
	MCC Powers	Hold Points	
	Regulator	Passed	2 Months
	Johnson Controls	Personnel Qualification	4 1/2 Months
	Mid City	Inspection & Installation Procedures (CEA)	11 1/2 Months
	Walsh	Inspection & Installation Procedures (CEA)	6 Months
Reactor Controls	Inspection & Installation Procedures (CEA)	16 Months	
Reactor Controls	Welder Qualification Documentation	2 Weeks	
Zack	Welding Inspection	1-6 Months	
1980	Reactor Controls	Design Control & Installation Procedures (Hanger Design)	5 Months
	G. E. Startrec	QC Inspections & Material Control	2 1/2 Months
	Tech-Sil	QC Procedures & Inspections	2 Months

<u>Year</u>	<u>Reason Organization</u>	<u>Period of for Stop Work</u>	<u>Stop Work</u>
	Tech-Sil	Design & Manufacturer Control	2 1/2 Months
	Morrison, S&L; NSC	Hanger Design Control	3 Weeks
1982	Walsh Tech Engrs. Sargent & Lundy	As built measurements Whip restraint design changes	2 Days 6 Days
	Cataract Incorp.	QA procedures implementation (Limited scope stop work)	2 Months

10. The Commonwealth Edison Company corporate Quality Assurance Department has conducted routine on site audits of LaSalle County Site Construction independent of its onsite Quality Assurance Organization. A summary of the results of these audits is as follows:

<u>Year</u>	<u>Number of Audits</u>	<u>Findings¹</u>	<u>Observation²</u>	<u>Totals</u>
1975	2	11	10	21
1976	2	1	6	7
1977	2	16	3	19
1978	2	20	12	32
1979	2	21	8	29
1980	2	14	6	20
1981	2	4	5	9
1982	5	15	8	23
1983	3	7	5	12
Totals	22	109	63	172

11. Commonwealth Edison Company onsite Quality Assurance Department conducts routine onsite audits and surveillances of LaSalle County Site construction independent of its contractor Quality Control inspectors. A summary of the results of these audits is as follows:

a. Audits of Site Construction Activities

<u>Year</u>	<u>Number Of Audits</u>	<u>Findings¹</u>	<u>Observation²</u>	<u>Totals</u>
1974	2	2	0	2
1975	46	56	35	91
1976	46	106	65	171

1. Finding - Item of noncompliance or deficiency to established documents or requirements which requires clarification or corrective action.
2. Observation - An item for discussion but not considered to be a noncompliance or violation.

<u>Year</u>	<u>Number Of Audits</u>	<u>Findings¹</u>	<u>Observation²</u>	<u>Totals</u>
1977	53	69	134	203
1978	71	114	92	206
1979	97	156	131	287
1980	124	155	118	273
1981	63	48	50	98
1982	58	60	44	104
1983	50	76	100	176
1984 (thru 2/15)	<u>1</u>	<u>0</u>	<u>3</u>	<u>3</u>
Totals	611	841	772	1614

b. Surveillance of Site Construction Activities

<u>Year</u>	<u>Number of Surveillances</u>
1974	9
1975	52
1976	222
1977	458
1978	646
1979	581
1980	728
1981	831
1982	755
1983	765
1984 (thru 2/15)	<u>19</u>
TOTAL	5076

12. Commonwealth Edison Company's onsite Quality Assurance Department has retained an independent testing agency to perform inspections and tests for many years. A summary of these inspections and tests is as follows:

AREA OF WORK

Concrete Expansion Anchors
Bolting
Welding
General Construction

33824 Inspection Reports

- 1 Finding - Item of noncompliance or deficiency to established documents or requirements which requires clarification or corrective action.
- 2 Observation - An item for discussion but not considered to be a noncompliance or violation.

NON-DESTRUCTIVE EXAMINATIONS

Magnetic Particle	
Penetrant Testing	
Radiography	25,242 Examination Reports
Leak Testing	
U. T.	

UNIT CONCEPT INSPECTIONS

-- 44 Inspection Reports

13. Commonwealth Edison Contractors have performed many audits of their construction activities. A summary of the audits performed by the major site contractors is as follows:

<u>Contractor</u>	<u>Number of Audits</u>
Morrison	632
Foley	303
Walsh	61
RCI	54
MCC Powers	7
Totals	1057