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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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OFFICE OF SECRETARY
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In the Matter of	)	
	)	
COMMONWEALTH EDISON COMPANY	)	Docket Nos. 50-456
	)	50-457
(Braidwood Station, Units 1 and 2	)	

NRC STAFF THIRD SUPPLEMENTAL
RESPONSE TO INTERVENOR INTERROGATORIES

INTERROGATORY 28

Subsequent to these NRC findings, did Phillips-Getschow management suspend the engineering department support selection program for process and instrument piping and instrument tubing? If so, please describe in detail the circumstances and explain why this problem occurred and all corrective action taken. Please identify any documents which reflect these answers.

ANSWER (SUPPLEMENT)

The information in the initial answer to this interrogatory is all documented in NRC Inspection Report 50-456/83-09; 50-457/83-09, Details I, pages 24-31.

Commonwealth Edison Company (CECo) letter dated July 6, 1984 from L. O. DelGeorge to J. G. Keppler describes on pages 39 through 49 all the corrective actions being taken to correct this problem. These corrective actions plus the information in the inspection report provide the best insight as to why these problems occurred.

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INTERROGATORY 38

Please describe in detail any problems identified by Phillips-Getschow with field rerouted pipe, small bore heat number traceability and lack of Quality Control or ANI review of field addition or deletion of pipe bends or welds in or about April, 1983. What corrective actions, if any, were taken? Were these adequate? Please describe in detail and identify any documents which reflect such description. Has the NRC ever identified such problems or inadequacies? Please explain and identify any documents which reflect such identification and your response and corrective action, if any.

ANSWER (SUPPLEMENT)

The corrective actions proposed by the Applicant appear to be adequate if implemented properly. The Region III inspections of these actions are in progress and a final determination of adequacy has not been made.

INTERROGATORY 41

Has the NRC ever found that quality assurance deficiencies at Braidwood have resulted in construction of indeterminate quality in any area(s), but particularly including piping, electrical or HVAC? If so, please describe in detail the circumstances and explain why these problems occurred and what corrective action has been taken. Set forth any facts which demonstrate that such corrective action has been effective. Please identify any documents which reflect these answers.

ANSWER (SUPPLEMENT)

This answer provides supplemental information addressing why the issues occurred which are identified in the original answer to this interrogatory.

Inspection Report No. 50-456/82-05; 50-457/82-05 - Deficiencies In The Control of Mechanical Equipment Installation Work

The problems discussed in Report 82-05 appeared to occur because of a lack of approved installation and inspection procedures for mechanical equipment installation, and the failure of the Applicant once they had identified the problem, to report this to the NRC and take timely corrective action. The reasons for these problems and the corrective action taken are discussed in the following:

April 4, 1983, CECo letter from C. Reed to J. G. Keppler, NRC (with Attachments).

September 1, 1982, CECo letter from W. L. Steele to J. G. Keppler, NRC, Mechanical Equipment Erection.

October 8, 1982, CECo letter from T. R. Tramm to J. G. Keppler, NRC, 50.55(e) Report Concerning Mechanical Equipment Erection (with Attachment).

November 10, 1982, CECo memorandum from L. O. Del George to A. B. Davis, NRC, Braidwood Mechanical Equipment Erection (with Attachment).

Inspection Report No. 50-456/84-33; 50-457/84-31 documented inspections that confirmed that appropriate records had been established substantiating the proper installation of four reactor coolant pumps. Inspections to-date have not revealed that design significant deficiencies resulted from the lack of approved installation and inspection

procedures, however the Region III inspections of the corrective actions have not been completed.

Inspection Report No. 50-456/83-09; 50-457/83-09, HVAC Welding Controls

The problems identified in Report 83-09 appear to have been caused by a failure of Pullman Sheet Metal (PSM) to develop a corrective action program requiring a trend analysis of Correction Notices, failure to audit implementing procedures, lack of a traveler system for HVAC installation and QC inspections during welding were not of adequate scope and frequency. See the answer to Interrogatory 39 for a discussion of the traveler system. The Commonwealth Edison letters documented in the answers to Interrogatories 25 and 39 document the corrective actions taken by the Applicant to correct these problems. Inspections of these areas to-date indicates that the corrective actions are adequate, however, final resolution of these areas awaits the completion of these corrective actions and final inspections by Region III. See also the answers to Interrogatories 47, 48, and 49.

Inspection Report No. 50-456/83-09; 50-457/83-09, Material Traceability

As described in Report 83-09 the problems and concerns identified by the Staff were caused by the failure to clearly mark installed piping components with heat or mark numbers, and the failure to require QC inspectors to document their inspection to verify correct material installation. As stated in the supplemental answer to Interrogatory 42 a lack of understanding of procedural requirements could have caused the above. The Applicant's corrective action, Materials Traceability

Verification (MTV) Program, to perform a 100% verification of installed safety related piping materials is documented in Report 83-09; in the CECo letter, July 6, 1984, L. O. Del George to J. G. Keppler, NRC, Attachment B; and in the 10 CFR 50.55(e) report submitted to NRC by the July 29, 1983 CECo letter, E. D. Swartz to J. G. Keppler. The Region III Staff has monitored the implementation of the MTV Program including the disposition of nonconformances. The National Board of Boiler and Pressure Vessel Inspectors were invited by the Applicant to review the results of the MTV program including the disposition of all nonconformances. CECo's letter, July 8, 1985 from L. O. Del George to J. G. Keppler, NRC, documents their preliminary evaluation of the results of the MTV program. Region III's evaluation and closeout of these actions awaits the issuance of a final report by the Applicant to be followed by the final Region III inspections to review and evaluate the adequacy of the actions taken.

Inspection Report No. 50-456/83-09; 50-457/83-09, Routing of Small Bore Piping

These concerns and problems including the apparent reasons why they occurred are discussed in the supplemental answer to Interrogatory 28.

Inspection Report No. 50-456/83-09; 50-457/83-09, Piping Bends

Pages 12 and 13 of Details Section I of Report 83-09 discuss this problem, which was a failure to properly document the caliper identification number on cold bending data reports. This apparently occurred because of a failure to follow the requirements of the Phillips Getschow

Company (PGC) Quality Assurance Manual. The corrective actions are described in the CECo letter of July 6, 1984 from L. O. Del George to J. G. Keppler, NRC, Attachment A, page 13; and in CECo letter, August 31, 1984, E. D. Swartz, to J. G. Keppler, NRC, page 13a of the Attachment. The corrective actions appear to be adequate, however the final inspections by the Staff to determine that they were effectively carried out have not yet been conducted.

Inspection Report No. 50-456/83-09; 50-457/83-09, Dimensional Checks of Piping

Pages 10 and 11 of Details Section I of Report 83-09 discuss this problem which was a failure to inspect piping components for the correct physical dimensions during receipt inspection. It appears that this happened because of a misunderstanding between CECo and PGC as to who was responsible for the dimensional inspections. The corrective action is described in CECo letter, July 6, 1984 from L. O. DelGeorge to J. G. Keppler, NRC, Attachment A, pages 11 and 12. The corrective actions appear to be adequate, however the final inspection by the Staff to determine that they were effectively carried out have not yet been conducted.

Inspection Report No. 50-456/84-17; 50-457/84-17, Piping Minimum Wall

Pages 3 through 7 of the Details of Report 84-17 document this problem which was a failure to take timely and effective action to prevent the installation of corroded pipe once the problem had been identified. The corrective actions are described in CECo's letter,

November 28, 1984, from D. L. Farrar to J. G. Keppler. The Applicant, submitted 10 C.F.R. § 50.55(e), 30-day Report 84-10 describing the corrective action by letter from E. D. Swartz to J. G. Keppler, NRC, dated July 20, 1984. Interim reports have been submitted to NRC Region III dated 9/18/84, 11/2/84, 12/12/84, 2/27/85, and 5/2/85. Final Staff review and closeout of these issues awaits completion of the corrective actions. This problem occurred because the piping was not properly stored to prevent corrosion and once the corrosion was identified the piping was not controlled to prevent installation.

Inspection Report No. 50-456/84-09; 50-457/84-09, Clearance of Installed Components

Pages 3 and 4 of the Details of Report 84-09 identify numerous safety related items in close or direct contact with one another. The Applicant's letter documenting the corrective actions are documented in the Staff's answer to Interrogatory 41 except the following two letters were not mentioned; CECo letter, November 7, 1984 from D. L. Farrar to J. G. Keppler; and CECo letter, February 13, 1985 from D. L. Farrar to J. G. Keppler. This problem occurred because specific clearance guidelines were not specified by the Architect Engineer or CECo in each contractors specifications. At the time of the Region III inspection CECo was depending on final walkdown inspections to detect problems of this type. Final inspections by the Staff to evaluate the effectiveness of the corrective actions are yet to be conducted.

INTERROGATORY 52

Have any quality assurance weaknesses or deficienies at Braidwood been caused by management action or inaction? If so, please describe in detail. Have any adverse personnel actions (for example, termination, demotion, transfer or suspension) been taken by Commonwealth Edison and/or its contractors against any person(s) because of QA deficiencies or weaknesses? If so, please identify the circumstances and persons involved, including names and addresses, and identify any documents reflecting such instances and their resolution.

ANSWER (SUPPLEMENT)

NRC Region III had expressed concerns about weaknesses in the Commonwealth Edison Company (CECo) management control systems (letter from J. G. Keppler, NRC Region III, to J. J. O'Connor, CECo, February 2, 1983) and the need for more aggressive CECo management involvement in and support of the CECo QA program (letter from J. G. Keppler, NRC Region III, to J. J. O'Connor, CECo, May 7, 1984). These statements were not made because Region had identified specific quality assurance deficiencies caused directly by management action or inaction. Rather, Region III made these statements as a result of the large number of concerns and violations identified by the Staff. We believed that these were an indicator of management problems. Management is ultimately responsible for all those actions under its purview.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

COMMONWEALTH EDISON COMPANY

(Braidwood Nuclear Power Station Units 1 and 2)

Docket No. 50-456
50-457

AFFIDAVIT OF JAMES W. MUFFETT

I, James W. Muffett, being first duly sworn do depose and state:

1. I am employed as a Reactor Inspector, in the Materials and Processes Section, Engineering Branch, Division of Reactor Safety, Region III, U.S. Nuclear Regulatory Commission, 799 Roosevelt Road, Glen Ellyn, Illinois, 60137.

2. I have provided the supplemental answer to Interrogatory 24. This answer is true and correct to the best of my knowledge, information and belief.

James W Muffett
James W. Muffett

Sworn to and subscribed before me
this 26 day of Sept 1985
Marcia J Smith
Notary Public

My Commission Expires 9/8/86

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

COMMONWEALTH EDISON COMPANY

(Braidwood Nuclear Power Station
Units 1 and 2

Docket No. 50-456
50-457

AFFIDAVIT OF JAMES W. MUFFETT

I, James W. Muffett, being first duly sworn do depose and state:

1. I am employed as a Reactor Inspector, in the Materials and Processes Section, Engineering Branch, Division of Reactor Safety, Region III, U.S. Nuclear Regulatory Commission, 799 Roosevelt Road, Glen Ellyn, Illinois, 60137.

2. I have provided the supplemental answer to Interrogatory 38. This answer is true and correct to the best of my knowledge, information and belief.

James W Muffett
James W. Muffett

Sworn to and subscribed before me
this 20 day of Sept 1985
Marcia J. Smith
Notary Public

My Commission Expires 3/5/86

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	
COMMONWEALTH EDISON COMPANY	Docket No. 50-456 50-457
(Braidwood Nuclear Power Station Units 1 and 2	

AFFIDAVIT OF WILLIAM S. LITTLE

I, William S. Little, being first duly sworn do depose and state:

1. I am employed as the Director, Braidwood Project, in the Division of Reactor Projects, U.S. Nuclear Regulatory Commission, Region III, 799 Roosevelt Road, Glen Ellyn, Illinois, 60137.

2. I have provided the supplemental answers to Interrogatories 28 and 41, and the answer to Interrogatory 52. These answers are true and correct to the best of my knowledge, information and belief.

William S. Little

Sworn to and subscribed before me
this 19th day of Sept 1985

Notary Public

My Commission Expires 2/8/86

LEONARD G. MCGREGOR

Organization: Nuclear Regulatory Commission, Region III

Title: Senior Resident Inspector - Braidwood Station

Grade: GG-14

Birth Date: August 26, 1935

Education: South Dakota State College
Civil Engineering, 1954

Experience:

1984 to Present	Senior Resident Inspector (Operations) - Braidwood, IL - Supervisor for Senior NRC Construction Resident, Construction Resident Inspector and office personnel. Plans, supervises, and conducts inspections at the Braidwood site, to ascertain licensee compliance, public health and safety. Represents the NRC to the licensee, state and local officials, and the news media (NRC).
1982 to 1984	Senior Resident Inspector (Construction) - Braidwood, IL - Manages Resident Inspector Site Office. Responsible for NRC's inspection program and other regulatory activities at the Braidwood Station. Conducts inspections and represents the NRC to the Licensee, State of Illinois and Local Officials, and the news media.
1981 to 1982	Acting Section Chief, Reactor Projects Section 2B - Responsible for coordinating and controlling inspection activities related to construction and operation of assigned nuclear power plants (NRC).
1980 to 1981	Project Inspector - Supervised inspection plans for operating Boiling Water and Pressurized Water Nuclear Power Reactors. Coordinated NRC Resident Inspectors and inspection program at assigned sites (NRC).
1978 to 1980	Reactor Inspector - Reactor Operations and Nuclear Support Branch - Inspect Boiling Water and Pressurized Water Power reactors in operation, test, and startup (NRC).
1978 to 1978	Lead Mechanical Startup Engineer - Startup and preoperational testing of Salem Unit 2. Supervised 14 startup engineers.

1976 to 1978	Director of Transportation - Responsible for operation, budget, scheduling, training and safety. Supervisory responsibility for 42 people (U.S. Navy).
1972 to 1976	Certified Nuclear Power Plant Shift Supervisor/NPP Maintenance Supervisor/NPP Operation Supervisor - Directed the operations for all nuclear maintenance shops and deck crew on a floating nuclear power plant. Supervised reactor refueling team and plant operations. Certified as a Shift Supervisor (U.S. Army).
1967 to 1972	Certified Nuclear Power Plant Shift Supervisor, Inspector/Instructor - Accountability for the safe operation of a nuclear power plant, as follows: as member of Inspector General Team, inspecting nuclear power plants within the U.S., evaluating electrical malfunctions, and subsequently writing reports on cause of malfunction and method of correction; purchasing special tools and equipment, and inspecting them at manufacturers for refueling the reactors; Instructor for training shift operational personnel. Additionally, certified Nuclear Power Plant Shift Supervisor for nuclear power (pressurized water) plants (U.S. Army and U.S. Navy).
1966 to 1967	Senior Instructor/Certified Shift Supervisor - Designed and implemented an automated supply system for naval nuclear power plant located in extremely isolated areas. Instructing personnel in the operation and maintenance of nuclear power plants, electrical systems, r. ctor refueling, reactor control rod drives, water distillation radioactive waste reprocessing and radioactive waste shipments. Tested and moved SNAP-7C Portable Nuclear Generator to remote Antarctic site.
1962 to 1965	Certified Shift Supervisor - Operational instructor and electrical instructor for nuclear power plants. Authored regas procedures for SNAP-7C Portable Nuclear Generator. Performed field maintenance and testing on same in Antarctica. Authored Control Rod Drive Removal inspection, repair and installation procedures for pressurized nuclear power plant. Authored defueling and refueling procedures for pressurized nuclear power plants.