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50-400-02

I-JI-33  
9/13/84

Docket No. 50-324  
License No. DPR-62  
EA 81-77

'85 JAN -8 P3:05

Carolina Power and Light Company  
ATTN: E. E. Utley, Executive Vice President  
Power Supply and Engineering and  
Construction  
411 Fayetteville Street  
Raleigh, NC 27602



Gentlemen:

In your letter of October 30, 1981, responding to the Notice of Violation and Proposed Imposition of Civil Penalties, enclosed with our letter of October 1, 1981, you requested clarification of Violation C. Our letter of November 10, 1981, stated that we would respond to your request in a separate letter.

We agree with your position that the radiation protection requirements, established in a Radiation Work Permit (RWP), for work concerning the Unit 2 reactor water clean-up system valve were prepared by an individual whose qualifications satisfied ANSI N18.1-1971 and the Brunswick technical specifications. Our review of the RWP and interviews with the personnel involved indicated that the radiation control technician who was implementing the RWP was not given specific guidance in the event that radiological conditions changed. The RWP established protective clothing requirements and specified that health physics coverage was to be provided. It specifically stated that additional requirements would be "as determined by health physics". This statement on the RWP implied that the technician was authorized to establish such requirements as were necessary to assure that the work proceeded in a radiologically safe manner.

You assigned a radiation control technician to a job where he was obliged to control a potentially hazardous operation. The technician did not have sufficient experience to exercise the required control and he was not supported by explicit instructions which would have compensated for his inadequate experience.

With respect to the relation of Items A and C in the Notice of Violation, it was incidental that the same individual was involved in both violations. If this inadequately experienced technician had conducted an effective evaluation of the relevant hazards and prevented excessive exposure, you would still have been in violation of the technical specification regarding qualification of the technician.

NUCLEAR REGULATORY COMMISSION

Docket No. 50-400 Official Exh. No. JI 33  
 In the matter of Sharon Harris #1  
 Staff \_\_\_\_\_ IDENTIFIED   
 Applicant \_\_\_\_\_ RECEIVED   
 Intervenor  \_\_\_\_\_ REJECTED \_\_\_\_\_  
 Gen'l's Off'r \_\_\_\_\_  
 Contractor \_\_\_\_\_ DATE 9-13-84  
 Other \_\_\_\_\_ Witness \_\_\_\_\_  
 Reporter WRB

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

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PDR

In preparing your response you should follow the instructions in the Notice of Violation and Proposed Imposition of Civil Penalties, enclosed with our letter of October 1, 1981. Your response is requested within thirty days of the date of this letter.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter will be placed in the NRC Public Document Room.

Sincerely,

Original signed by  
Dudley Thompson

Dudley Thompson, Director  
Enforcement and Investigations  
Office of Inspection and Enforcement

cc: C. R. Dietz, Plant Manager

EI: IE *RHW*  
RHWessman/jh  
11/20/81

D: EI *DT*  
DThompson  
11/23/81

Carolina Power and Light Company - 3 -

Distribution:

PDR  
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 VStello, DED/ROGR  
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 HDenton, NRR  
 NMoseley, IE  
 JSniezek, IE  
 HThornburg, IE  
 FIngram, PA  
 JMurray, ELD  
 JLieberman, ELD (3)  
 JCrooks, AEOD  
 JCummings, OIA  
 Enforcement Coordinators, RI, RII, RIII, RIV, RV  
 TBrockett, IE  
 IE Files  
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 CP Book  
 APuglise, CON  
 EDO Reading File  
 JHannon, NRR

D. Johnson, Resident Inspector  
 Star Route 1  
 Post Office Box 208  
 Southport, NC 28461

Utilities Commission  
 ATTN: Mr. Robert Koger  
 Chairman  
 430 N. Salisbury St.  
 Raleigh, NC 27611

Division of Facility Services  
 ATTN: Dayne H. Brown, Chief  
 Radiation Protection Section  
 P. O. Box 12200  
 Raleigh, NC 27605

Office of the Attorney General  
 ATTN: Hon. Rufus L. Edmisten  
 Attorney General  
 Justice Building  
 P. J. Box 629  
 Raleigh, NC 27602

Docket No. 50-324  
License No. DPR-62  
EA 81-77

Carolina Power and Light Company  
ATTN: Mr. J. A. Jones, Senior Executive  
Vice President and Chief  
Operating Officer  
411 Fayetteville Street  
Raleigh, NC 27602

Gentlemen:

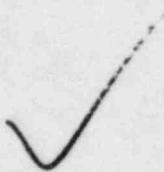
A special inspection conducted by the NRC Region II office on ~~July 27, 29~~ 1981, of activities at the Brunswick Unit 2 facility indicated that inadequacies in your external radiation exposure control program resulted in an individual receiving a quarterly occupational dose to the whole body in excess of 3 rems. On September 16, 1981, the Director of our Region II office met with your management to discuss our concerns about the exposure control program at Brunswick.

Our concern with regard to this overexposure is amplified in that survey data was available which should have indicated that the potential for significant radiation exposures existed during work on a reactor water cleanup system valve. However, adequate evaluation of the hazards related to changing radiological conditions was not performed which would have provided the necessary level of personnel protection. The overexposure resulted from a lack of adequate attention to the changing conditions. Radiation control requirements were established by a radiation control technician who did not meet the minimum experience level of ANSI N18.1-1971 as required by the Facility Technical Specifications. The individual's inexperience appears to have contributed to the overexposure.

The violations described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties have been categorized at the levels described in accordance with the Interim Enforcement Policy published in the Federal Register, 45 FR 66754 (October 7, 1980). Accordingly, we propose to impose civil penalties in the amount of Forty Thousand Dollars for the violations set forth in the Appendix to this letter.

You are required to respond to the Appendix and in preparing your response you should follow the instructions specified in the Appendix. In addition to your response to the specific violations, please address the failure of your radiation control program to prevent this type of occurrence and how you plan to correct this failure. Your written reply to this letter and the Appendix will be the basis for determining whether additional enforcement actions are warranted.

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED



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OFFICE OF THE SECRETARY  
D.C.

THE HQ FILE COPY

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In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2 Title 10, Code of Federal Regulations, a copy of this letter with the enclosure will be placed in the NRC's Public Document Room.

Sincerely,

Original signed by  
Victor Stello -

Victor Stello, Jr., Director  
Office of Inspection and Enforcement.

Enclosure:  
Appendix - Notice of Violation and  
Proposed Imposition of Civil Penalties

cc w/encl:  
C. R. Dietz, Plant Manager

Distribution

PDR	CP Book	Utilities Commission
LPDR	APuglise, CON L-316	ATTN: Mr. Robert Koger
NSIC	EI Reading File	Chairman
TIC	EDO Reading File	Dobbs Building
ACRS (3)	JHannon, NRR	430 N. Salisbury St.
SECY		Raleigh, NC 27611
VStello, IE	D. Johnson, Res. Inspector	
RDeYoung, IE	Star Rt 1, P.O. Box 208	
NMoseley, IE	Southport, NC 28461	
JSniezek, IE		
HThornburg, IE	Division of Facility Services	
RWessman, IE	ATTN: Dayne H. Brown, Chief	
CA	Radiation Protection Service	
FIngram, PA	P.O. Box 12200	
JMurray, ELD	Raleigh, NC 17605	
JLieberman, ELD (3)		
JCrooks, AEOD	Office of the Attorney General	
JCummings, OIA	ATTN: Hon. Rufus L. Edmisten	
Enforcement Coordinators	Attorney General	
RI, RII, RIII, RIV, RV	Justice Building	
TBrockett, IE	P.O. Box 629	
IE Files	Raleigh, NC 27602	
Central Files		
CP Book		
HDenton, NRR		

WPU: JD	EI: IE	EL: IE	EI: IE	ELD	D: EI: IE	DD: IE	D: IE
9/22/81	JMetzger	TBrockett	RWessman	JMurray	DThompson	RCDeYoung	VStello
5520	9/ /81	9/2/81	9/3/81	9/ /81	9/24/81	9/ /81	9/ /81

APPENDIX

NOTICE OF VIOLATION

AND

PROPOSED IMPOSITION OF CIVIL PENALTIES

Carolina Power and Light Company  
Brunswick Unit 2

Docket No. 50-324  
License No. DPR-62  
EA 81-77

On July 17, 1981, a radiation worker at the licensee's facility (Brunswick Unit 2) in Southport, North Carolina received a whole body radiation dose of approximately 4.2 rems while repairing a valve with high radiation levels. The overexposure was reported, by telephone, on July 17, to the NRC Region II office. On July 27-29, 1981, a special NRC inspection was conducted which disclosed that the worker's radiation exposure had been monitored by a radiation control technician who had computed an allowable stay-time of 2 minutes, but had permitted the worker to remain on the job for approximately 6 minutes. The survey made by the licensee for this maintenance activity did not consider dynamic radiological conditions occurring during the maintenance which resulted in increased radiation levels. A major contributing factor to the resulting overexposure appears to be that the licensee's radiation control technician did not have the minimum experience required by the facility Technical Specifications.

Because the licensee failed to prevent an excessive radiation dose to a radiation worker, the Nuclear Regulatory Commission proposes to impose civil penalties in the cumulative amount of \$40,000 for this matter. In accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980) and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended ("Act"), 42 U.S.C. 2282, PL 96-295, and 10 CFR 2.205, the particular violations and their associated civil penalties are set forth below:

- A. 10 CFR 20.201(b) requires licensees to make or cause to be made such surveys as may be necessary to comply with the regulations in 10 CFR 20. A survey as defined in 20.201(a) is an evaluation of the radiation hazards incident to the use of radioactive material under a specific set of conditions.

Contrary to the above, surveys, including evaluations of the radiation hazards associated with the repair of a valve on July 17, 1981, were not conducted adequately to assure compliance with the whole body dose limits specified in 10 CFR 20.101(b) in that an individual received a quarterly whole body dose in excess of 3 rems.

This is a Severity Level III Violation (Supplement IV).  
(Civil Penalty - \$25,000).

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- B. 10 CFR 20.101(b) requires licensees to restrict the total occupational dose to the whole body of an individual in a restricted area to 3 rems during any calendar quarter.

Contrary to the above, an individual received a total occupational whole body dose of approximately 4.2 rems during the third calendar quarter of 1981.

This is a Severity Level III Violation (Supplement IV).  
(Civil Penalty - \$10,000).

- C. Technical Specification 6.3.1 requires that each member of the facility staff shall meet or exceed the minimum qualification of ANSI N18.1-1971 for comparable positions. Paragraph 4.5.2 of ANSI N18.1-1971 states, in part, that technicians in responsible positions shall have a minimum of two years of working experience in their specialty.

Contrary to the above, a radiation control technician with less than two years experience was serving in a responsible position, in that on July 17, 1981, this individual with fourteen months experience and training, established radiation protection requirements for work concerning the Unit 2 reactor water cleanup system filter "B" resin discharge valve without prior review of the requirements by a qualified technician or supervisor.

This is a Severity Level IV Violation (Supplement IV).  
(Civil Penalty - \$5,000).

Pursuant to the provisions of 10 CFR 2.201, Carolina Power and Light Company is hereby required to submit to this office within thirty days of the date of this Notice, a written statement or explanation including for each alleged violation: (1) admission or denial of the alleged violation; (2) the reasons for the violation if admitted; (3) the corrective steps which have been taken and the results achieved; (4) the corrective steps which will be taken to avoid further violations; and (5) the date when full compliance will be achieved. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

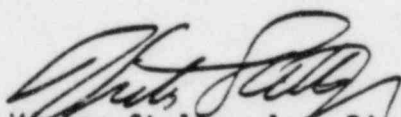
Within the same time provided for the response required above under 10 CFR 2.201, Carolina Power and Light Company may pay the civil penalties in the cumulative amount of Forty Thousand Dollars or may protest imposition of the civil penalties in whole or in part by a written answer. Should Carolina Power and Light Company fail to answer within the time specified, this office will issue an order imposing the civil penalties in the amount proposed above. Should Carolina Power and Light Company elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, such answer may (1) deny the violations listed in this Notice in whole or in part; (2) demonstrate extenuating circumstances, (3) show error in this Notice; or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties. Any written answer in accordance with 10 CFR 2.205 should

be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate by specific reference (e.g., giving page and paragraph numbers) to avoid repetition. Carolina Power and Light Company's attention is directed to the other provisions of 10 CFR 2.205 regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalties due, which have been subsequently determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282.

The responses directed by this Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Victor Stello, Jr., Director  
Office of Inspection and Enforcement

Dated at Bethesda, Maryland  
this 1st day of October 1981



Carolina Power & Light Company

October 30, 1981

File: 80-3513(B)

Serial No: 80-81-100

Mr. Victor Stello, Jr., Director  
Office of Inspection and Enforcement  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

EA 81-77  
Rec'd 11/3/81  
w/ \$35,000 check

**BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 90-325 AND 50-324  
LICENSE NOS. DPR-71 AND DPR-62  
RESPONSE TO NOTICE OF VIOLATION**

Dear Mr. Stello:

Carolina Power & Light Company (CP&L) has received IX Inspection Reports 50-324/81-16 and 50-325/81-16 for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2. CP&L has also received your letter of October 1, 1981 transmitting a Notice of Violation and Proposed Imposition of Civil Penalties (EA 81-77). The above-mentioned items do not contain any information of a proprietary nature.

Pursuant to 10CFR2.205, CP&L hereby encloses its check in the amount of thirty-five thousand dollars (\$35,000), payable to the Treasurer of the United States, in payment of Violations A and B; however, CP&L requests a clarification of Violation C and, therefore, is not enclosing remittance of the proposed civil penalty for this item. As required by 10CFR2.201, CP&L's response to the Notice of Violation issued with the Proposed Imposition of Civil Penalties is enclosed. The basis for our request for clarification of Violation C is also provided in our enclosed responses.

If you need any additional information, please contact us.

Sincerely,  
*[Signature]*  
W. E. Utley

Executive Vice President  
Power Supply and  
Engineering & Construction

W. E. Utley (0093)

Enclosure

cc: Mr. A. Herzfield

Mr. J. F. O'Reilly

Sworn to and subscribed before me this 30th day of October, 1981

My commission expires: October 4, 1986

*[Signature]*  
Notary Public



72-13054

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
IE INSPECTION REPORTS 50-324/81-16 AND 50-325/81-16  
RESPONSE TO NOTICE OF VIOLATION

IE Inspection Reports 50-324/81-16 and 50-325/81-16 identified three items that appear to be in noncompliance with NRC requirements. These items and Carolina Power & Light Company's response to each are addressed in the following text:

Violation A: (Severity Level III)

10CFR20.201(b) requires licensees to make or cause to be made such surveys as may be necessary to comply with the regulations in 10CFR20. A survey as defined in 20.201(a) is an evaluation of the radiation hazards incident to the use of radioactive material under a specific set of conditions.

Contrary to the above, surveys, including evaluations of the radiation hazards associated with the repair of a valve on July 17, 1981, were not conducted adequately to assure compliance with the whole body dose limits specified in 10CFR20.101(b) in that an individual received a quarterly whole body dose in excess of 3 rems.

(Civil Penalty - \$25,000)

Carolina Power & Light Company's Response

Carolina Power & Light Company acknowledges that this was a violation of NRC requirements. The cause for this violation was failure on the part of the individuals involved (two maintenance mechanics and one assigned radiation control technician) to recognize:

1. The potential for exceeding administratively allowable exposure limits due to the sudden increase in general area radiation exposure rates associated with a valve repair in the HPCS System.
2. The necessity to communicate this change in radiation exposure rates to their foreman and to the radiation control office for reevaluation/termination of the radiation control work permit under which the work was authorized (as required by the Brunswick Plant Operating Manual, Volume VIII, Radiation Control and Protection).

The radiation control and test technician assigned for providing job coverage had been assigned to the HPCS System repair for several days to provide radiation monitoring in areas having components with contact radiation exposure rates in the range of 20-30 R/hr. On being told of an increase in the exposure rate from 300 mR/hr to 30 R/hr on the valve under repair, he did not recognize the significance of this change to the radiological hazards for the work crew.



The assigned radiation control and test technician also failed to exercise his authority to stop the work for reevaluation as per Brunswick Plant Operating Manual, Volume I, Book 2, Administrative Instruction AI-23, Responsibility and Enforcement of the BSEP Radiation Protection Program.

All three personnel involved in the incident have been counseled by their supervisors, and appropriate disciplinary action taken. The radiation control and test technician was removed from field coverage until retraining was accomplished and it was determined (through examination) that he was fully qualified to resume normal field duties. A summary of this incident and corrective actions taken was presented at the July 1981 monthly employee information meeting for plant personnel.

This event was reviewed in detail with all radiation control and test technicians with emphasis placed on recognizing plant areas where rapid radiological changes are likely to occur and the need to quickly reassess the radiological protection requirements and notify radiation control supervision once these changes do occur. It was stressed that certain conditions may require work to be halted while the reassessment is being conducted. The technician's authority to stop work for reevaluation was emphasized.

Full compliance on this item has been achieved.

§ 101(b) - Security (201 III)

101(b) requires licensees to restrict the total occupational whole body dose of an individual in a restricted area to 3 rads per calendar quarter.

Contrary to the above, an individual received a total occupational whole body dose of approximately 4.2 rads during the third calendar quarter of 1981.

(Civil Penalty - \$10,000)

Carolina Power & Light Company's Response

Carolina Power & Light Company acknowledges that this was a violation of NRC requirements. The cause for this violation was a sudden increase in general area radiation exposure rates without adequate assessment of the radiation hazards produced.

The individual involved was assigned to work in areas outside the radiation control areas for the remainder of 1981.

To prevent this event from occurring in the future, in addition to the normal radiation measurement devices, alarming dosimeters will be employed in future maintenance work in EMCU where the possibility exists for significant radiation exposures and/or potentially rapid changes in area dose rates. Engineering evaluations are being performed on the EMCU valving components and system operation in an effort to improve operability and maintenance frequency. The objective is to minimize the amount of maintenance activities conducted in this type environment.

Corrective action for this item has already been completed.



... of the facility  
... of ANSI N13.1-1971  
... of ANSI N13.1-1971 applies, in  
... shall have a minimum of  
... in the operating

... to the operator, a radiation control technician with less than two  
... in a responsible position, is that on  
... 1981, this individual with fourteen months experience and  
... established radiation protection requirements for work con-  
... the Unit No. 2 Reactor Water Cleanup System filter "B" resin  
... valve without prior review of the requirements by a qualified  
... or supervisor.

... Penalty - \$3,000)

Carolina Power & Light Company's Response

Carolina Power & Light Company (CP&L) is unable to understand the allegation  
as expressed in Violation C and respectfully requests the Commission to  
clarify the allegation. Until CP&L has received such clarification, the  
Company is unable to admit or deny alleged Violation C.

In clarifying the allegation, it is important for the Commission to  
understand that the radiation protection requirements for work concerning  
the Unit No. 2 Reactor Water Clean-up System filter B resin discharge  
were established by an individual whose qualifications satisfy  
ANSI N13.1-1971 and in accordance with Brunswick Technical Specifications.  
These radiation protection requirements were established in a radiation  
work permit which was issued in accordance with Brunswick Plant Operating  
Manual, Volume VIII, Radiation Control & Test Procedures, NCAI - 0230,  
Title & Use of Radiation Work Permits.

The radiation control and test technician who is apparently the person  
mentioned in Violation C was assisting in the implementation of the  
radiation protection requirements on July 17, 1981. As CP&L has acknowl-  
edged in its response to Violation A, that technician failed to recognize  
the significance of changes in circumstances which occurred on July 17,  
and made an error in judgment in carrying out his assigned task.

**CP&L**  
 Carolina Power & Light Company  
 Raleigh, N. C. 27602

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 (4)  
**COPY**

December 23, 1981

DESIGNATED ORIGINAL

Certified By

*James Harrison*

File: NG-3513(B)

Serial No.: NO-81-2106

Mr. Richard C. DeYoung, Director  
 Office of Inspection and Enforcement  
 U. S. Nuclear Regulatory Commission  
 Washington, D.C. 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
 DOCKET NOS. 50-325 AND 50-324  
 LICENSE NOS. DPR-71 AND DPR-62  
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION

Dear Mr. DeYoung:

Carolina Power & Light Company (CP&L) has received IE Inspection Reports 50-324/81-16 and 50-325/81-16 and Mr. Victor Stello's letter of October 1, 1981 transmitting a Notice of Violation and Proposed Imposition of Civil Penalties (EA 81-77). CP&L has also received the November 23, 1981 letter of Mr. Dudley Thompson, responding to our request for a clarification of Violation C. The above-mentioned items do not contain any information of a proprietary nature.

Pursuant to 10CFR2.205, CP&L hereby encloses its check in the amount of five thousand dollars (\$5,000.00), payable to the Treasurer of the United States, in payment of Violation C. As required by 10CFR2.201, CP&L's response to Violation C issued with the Proposed Imposition of Civil Penalties is also enclosed. Our letter of October 30, 1981 provided a check in the amount of thirty-five thousand dollars (\$35,000) in payment of Violations A and B, accompanied by our responses to both violations.

8202250378  
 YA PDR

If you should need any additional information, please contact my staff.

Yours very truly,  
Original Signed By  
E. E. UTLEY

E. E. Utley  
Executive Vice President  
Power Supply and  
Engineering & Construction

WRM/lr (3172)

Enclosures

cc: Mr. R. A. Hartfield  
Mr. J. P. O'Reilly ✓

E. E. Utley, having been first duly sworn, did depose and say that the information contained herein is true and correct to his own personal knowledge or based upon information and belief.

*EAM*

\_\_\_\_\_  
Notary (Seal)

My commission expires: Oct. 4, 1986

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
IE INSPECTION REPORTS 50-324/81-16 AND 50-325/81-16  
SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION

IE Inspection Reports 50-324/81-16 and 50-325/81-16 identified three items that appear to be in noncompliance with NRC requirements. Carolina Power & Light Company's response to Violation C is addressed in the following text:

Violation C: (Severity Level IV)

Technical Specification 6.3.1 requires that each member of the facility staff shall meet or exceed the minimum qualification of ANSI N18.1-1971 for comparable positions. Paragraph 4.5.2 of ANSI N18.1-1971 states, in part, that technicians in responsible positions shall have a minimum of two years of working experience in their speciality.

Contrary to the above, a radiation control technician with less than two years experience was serving in a responsible position, in that on July 17, 1981, this individual with fourteen months experience and training, established radiation protection requirements for work concerning the Unit No. 2 Reactor Water Cleanup System filter "B" resin discharge valve without prior review of the requirements by a qualified technician or supervisor. (Civil Penalty - \$5,000)

Carolina Power & Light Company's Response:

Carolina Power & Light Company acknowledges that this was a violation of NRC requirements. The cause for this violation was that the radiation control technician assumed responsibility for establishing radiation protection requirements for work when he was not qualified according to ANSI N18.1-1971 as required by Brunswick plant Technical Specifications.

This event was reviewed in detail with all radiation control technicians and the need to assure that radiation protection requirements are established by ANSI qualified technicians was emphasized. The procedure for issuance of Radiation Work Permits (RWPs) is being revised to provide for approval levels commensurate with radiation exposure levels and to provide more explicit guidance on suspending RWPs for reevaluation of radiological protection requirements when radiation exposure rates change significantly during the course of conducting work. This procedure change is expected to be completed by December 31, 1981.



Certified By *Thomas Harrison*



Carolina Power & Light Company

October 30, 1981

File: NG-3513(B)

Serial No: NO-81-1782

Mr. Victor Stello, Jr., Director  
Office of Inspection and Enforcement  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

*EA-81-77  
Rec'd 11/3/81  
w/\$35,000 check*

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-325 AND 50-324  
LICENSE NOS. DPR-71 AND DPR-62  
RESPONSE TO NOTICE OF VIOLATION

Dear Mr. Stello:

Carolina Power & Light Company (CP&L) has received IE Inspection Reports 50-324/81-16 and 50-325/81-16 for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2. CP&L has also received your letter of October 1, 1981 transmitting a Notice of Violation and Proposed Imposition of Civil Penalties (EA 81-77). The above-mentioned items do not contain any information of a proprietary nature.

Pursuant to 10CFR2.205, CP&L hereby encloses its check in the amount of thirty-five thousand dollars (\$35,000), payable to the Treasurer of the United States, in payment of Violations A and B; however, CP&L requests a clarification of Violation C and, therefore, is not enclosing remittance of the proposed civil penalty for this item. As required by 10CFR2.201, CP&L's response to the Notice of Violation issued with the Proposed Imposition of Civil Penalties is enclosed. The basis for our request for clarification of Violation C is also provided in our enclosed responses.

If you need any additional information, please contact us.

Yours very truly,

*E. E. Utley*

E. E. Utley  
Executive Vice President  
Power Supply and  
Engineering & Construction

WRM/lr (0693)

Enclosures

cc: Mr. R. A. Hartfield  
Mr. J. P. O'Reilly

Sworn to and subscribed before me this 30th day of October, 1981

My commission expires: October 4, 1986

*Franklin M. Moran*  
Notary Public



*8112010130  
XA POC*

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
IE INSPECTION REPORTS 50-324/81-16 AND 50-325/81-16  
RESPONSE TO NOTICE OF VIOLATION

IE Inspection Reports 50-324/81-16 and 50-325/81-16 identified three items that appear to be in noncompliance with NRC requirements. These items and Carolina Power & Light Company's response to each are addressed in the following text:

Violation A: (Severity Level III)

10CFR20.201(b) requires licensees to make or cause to be made such surveys as may be necessary to comply with the regulations in 10CFR20. A survey as defined in 20.201(a) is an evaluation of the radiation hazards incident to the use of radioactive material under a specific set of conditions.

Contrary to the above, surveys, including evaluations of the radiation hazards associated with the repair of a valve on July 17, 1981, were not conducted adequately to assure compliance with the whole body dose limits specified in 10CFR20.101(b) in that an individual received a quarterly whole body dose in excess of 3 rems.

(Civil Penalty - \$25,000)

Carolina Power & Light Company's Response

Carolina Power & Light Company acknowledges that this was a violation of NRC requirements. The cause for this violation was failure on the part of the individuals involved (two maintenance mechanics and one assigned radiation control technician) to recognize:

1. The potential for exceeding administratively allowable exposure limits due to the sudden increase in general area radiation exposure rates associated with a valve repair in the RWCU System.
2. The necessity to communicate this change in radiation exposure rates to their foreman and to the radiation control office for reevaluation/termination of the radiation work permit under which the work was authorized (as required by the Brunswick Plant Operating Manual, Volume VIII, Radiation Control and Protection).

The radiation control and test technician assigned for providing job coverage had been assigned to the RWCU System repair for several days to provide radiation monitoring in areas having components with contact radiation exposure rates in the range of 20-30 R/hr. On being told of an increase in the exposure rate from 300 mr/hr to 30 R/hr on the valve under repair, he did not recognize the significance of this change to the radiological hazards for the work crew.

The assigned radiation control and test technician also failed to exercise his authority to stop the work for reevaluation as per Brunswick Plant Operating Manual, Volume I, Book 2, Administrative Instruction AI-23, Responsibility and Enforcement of the BSEP Radiation Protection Program.

All three personnel involved in the incident have been counseled by their supervisors, and appropriate disciplinary action taken. The radiation control and test technician was removed from field coverage until retraining was accomplished and it was determined (through examination) that he was fully qualified to resume normal field duties. A summary of this incident and corrective actions taken was presented at the July 1981 monthly employee information meeting for plant personnel.

This event was reviewed in detail with all radiation control and test technicians with emphasis placed on recognizing plant areas where rapid radiological changes are likely to occur and the need to quickly reassess the radiological protection requirements and notify radiation control supervision once these changes do occur. It was stressed that certain conditions may require work to be halted while the reassessment is being conducted. The technician's authority to stop work for reevaluation was emphasized.

Full compliance on this item has been achieved.

Violation B (Severity Level III)

10CFR20.101(b) requires licensees to restrict the total occupational dose to the whole body of an individual in a restricted area to 3 rems during any calendar quarter.

Contrary to the above, an individual received a total occupational whole body dose of approximately 4.2 rems during the third calendar quarter of 1981.

(Civil Penalty - \$10,000)

Carolina Power & Light Company's Response

Carolina Power & Light Company acknowledges that this was a violation of NRC requirements. The cause for this violation was a sudden increase in general area radiation exposure rates without adequate assessment of the radiation hazards produced.

The individual involved was assigned to work in areas outside the radiation control areas for the remainder of 1981.

To prevent this event from occurring in the future, in addition to the normal radiation measurement devices, alarming dosimeters will be employed in future maintenance work in RWCU where the possibility exists for significant radiation exposures and/or potentially rapid changes in area dose rates. Engineering evaluations are being performed on the RWCU valving components and system operation in an effort to improve operability and maintenance frequency. The objective is to minimize the amount of maintenance activities conducted in this type environment.

Corrective action for this item has already been completed.



Violation C: (Severity Level IV)

Technical Specification 5.3.1 requires that each member of the facility staff shall meet or exceed the minimum qualification of ANSI N18.1-1971 for comparable positions. Paragraph 4.5.2 of ANSI N18.1-1971 states, in part, that technicians in responsible positions shall have a minimum of two years of working experience in their specialty.

Contrary to the above, a radiation control technician with less than two years experience was serving in a responsible position, in that on July 17, 1981, this individual with fourteen months experience and training, established radiation protection requirements for work concerning the Unit No. 2 Reactor Water Cleanup System filter "B" resin discharge valve without prior review of the requirements by a qualified technician or supervisor.

(Civil Penalty - \$5,000)

Carolina Power & Light Company's Response

Carolina Power & Light Company (CP&L) is unable to understand the allegation as expressed in Violation C and respectfully requests the Commission to clarify the allegation. Until CP&L has received such clarification, the Company is unable to admit or deny alleged Violation C.

In clarifying the allegation, it is important for the Commission to understand that the radiation protection requirements for work concerning the Unit No. 2 Reactor Water Clean-up System filter B resin discharge valve were established by an individual whose qualifications satisfy ANSI N18.1-1971 and in accordance with Brunswick Technical Specifications. These radiation protection requirements were established in a radiation work permit which was issued in accordance with Brunswick Plant Operating Manual, Volume VIII, Radiation Control & Test Procedure, RC&T - 0230, Issue & Use of Radiation Work Permits.

The radiation control and test technician who is apparently the person referred to in Violation C was assisting in the implementation of the radiation protection requirements on July 17, 1981. As CP&L has acknowledged in its response to Violation A, that technician failed to recognize the significance of changes in circumstances which occurred on July 17, 1981 and made an error in judgment in carrying out his assigned task.

OCT 02 1981

Carolina Power and Light Company  
ATTN: Mr. J. A. Jones, Senior Executive  
Vice President and Chief  
Operating Officer  
411 Fayetteville Street  
Raleigh, NC 27602

Gentlemen:

Subject: Report Nos. 50-325/81-16 and 50-324/81-16

This refers to the special safety inspection conducted by Mr. G. L. Troup of this office on July 27-29, 1981, of activities authorized by NRC License Nos. DPR-62 and DPR-71 for the Brunswick facility. Our preliminary findings were discussed with Mr. C. R. Dietz, Plant Manager, at the conclusion of the inspection.

Areas examined during the inspection and our findings are discussed in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors.

The enforcement action related to this inspection was addressed to the Carolina Power and Light Company in a letter from the Director of the Office of Inspection and Enforcement dated October 1, 1981.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed report will be placed in the NRC's Public Document Room. If the report contains any information that you believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you: (a) notify this office by telephone within ten days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven days are available for your review, please notify this office promptly so that a new due date may be established. Consistent with section 2.790(b)(1), such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part thereof sought to be withheld, and a full statement of the reasons on the basis of which it is claimed that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, the report will be placed in the Public Document Room.

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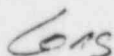
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Carolina Power and Light Company

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Should you have any questions concerning this letter, we will be glad to discuss them with you.

Sincerely,




James P. O'Reilly  
Director

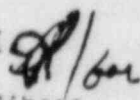
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and 50-324/81-16


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C. R. Dietz, Plant Manager

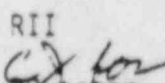
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Document Management Branch  
State of North Carolina

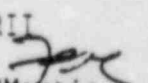
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UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA ST., N.W., SUITE 3100  
 ATLANTA, GEORGIA 30303

Report Nos. 50-324/81-15 and 50-325/81-16

Licensee: Carolina Power and Light Company  
 411 Fayetteville Street  
 Raleigh, NC 27602

Facility Name: Brunswick

Docket Nos. 50-324 and 50-325

License Nos. DPR-62 and DPR-71

Inspection at Brunswick plant near Southport, North Carolina

Inspectors:	<u><i>G. L. Troup</i></u>	<u>9/3/81</u>
	G. L. Troup	Date Signed
	<u><i>T. R. Collins</i></u>	<u>9/3/81</u>
	T. R. Collins	Date Signed
Approved by:	<u><i>C. M. Hosey</i></u>	<u>9/3/81</u>
	C. M. Hosey, Acting Section Chief	Date Signed
	Technical Inspection Branch	
	Engineering and Technical Inspection Division	

SUMMARY

Inspection on July 27-29, 1981

Areas Inspected

This routine, unannounced inspection involved 31 inspector-hours onsite reviewing the circumstances surrounding the exposure of a worker to radiation in excess of the whole body regulatory limit and general observation of health physics practices, including posting, labeling and control, instruments and equipment, and housekeeping.

Results

In the areas inspected, three violations were identified (exceeding quarterly whole body dose limit, inadequate survey of radiation hazards; and failure to ensure technicians in responsible positions met ANSI N18.1-1971 criteria).



## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*C. R. Dietz, General Manager, Brunswick Plant
- R. E. Morgan, Plant Operations Manager
- \*G. J. Oliver, Manager, Environmental and Radiation Control
- \*R. F. Queener, Project Specialist, Radiation Control
- \*L. F. Tripp, Radiation Control Supervisor
- E. H. Norwood, Training Coordinator
- \*J. L. Kiser, ALARA Specialist
- R. M. Poulk, Regulatory Specialist
- \*C. S. Bohanan, Regulatory Specialist
- R. D. Pasteur, E&C Supervisor

Other licensee employees contacted included 2 technicians and 1 mechanic.

#### Other Organizations

##### CP&L Corporate Office

- \*B. H. Webster, Manager, Environmental and Radiation Control

##### NRC Resident Inspectors

- \*D. F. Johnson
- \*L. W. Garner

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on July 29, 1981 with those persons indicated in paragraph 1 above. The general manager acknowledged the two violations which had been identified and the inspectors comments regarding the observations during the plant tours. The General Manager was informed on August 26, 1981, that failure of the radiation control technician who permitted the work on the reactor water cleanup system valve to continue without performing an adequate evaluation to meet the experience requirements of ANSI N18.1-1971 would also be considered a violation.

### 3. Licensee Action on Previous Inspection Findings

Not inspected.

## 4. Unresolved Items

Unresolved items were not identified during this inspection.

## 5. Notification of Overexposure

On July 17, 1981, the licensee notified a Region II radiation specialist by telephone that an overexposure had occurred on that date. The individual who was overexposed received a whole body dose for the third calendar quarter of 4212 mrem; the NRC limit is 3000 mrem per quarter. A second individual received a whole body dose for the quarter of 2188 mrem, which is less than the NRC limit but exceeded the licensee's administrative control limit of 1000 mrem per quarter.

## 6. Description of Event

- a. On July 17 work was initiated in Unit 2 under radiation work permit (RWP) 717-12 to attempt to free up the reactor water cleanup system (RWCU) filter "B" resin discharge valve (valve 33-B) so it could be operated. Attempts to manually operate the valve on the morning of the 17th were unsuccessful. On the afternoon of the 17th two groups of mechanics were sent in to attempt to open the valve. Radiation levels near the valve were 50-300 mR/hr.
- b. The first group (mechanics "A" and "B"), accompanied by radiation control technician "C" entered the valve area and loosened the piping flanges. The valve could be operated after the flanges were loosened and the valve was cycled by one of the mechanics. The mechanics exited the area. Radiation control technician "C" then started to collect a airborne activity sample and took a radiation survey of the work area; a radiation level of 30R/hr was measured on valve 33-B.
- c. Mechanics "D" and "E" were preparing to enter the area to tighten the piping flanges and complete the work, accompanied by radiation control technician "F". Upon exiting the area, technician "C" informed technician "F" of the high radiation levels in the work area. Technician "F" told mechanics "D" and "E" that, based on the 30R/hr radiation level, their allowable stay time would be 2 minutes. The mechanics stated that it would take longer than that just to enter and exit the area. After further discussion, it was agreed that the mechanics would accomplish the work as quickly as possible and would exit the area if they encountered any problems. The mechanics entered the area, tightened the flanges, installed the valve operator and exited the area. The valve was opened and closed approximately three times during the work. Mechanics "D" and "E" were in the area for approximately 6 minutes.
- d. Upon exiting the area, Mechanics "D" and "E" read their low range (0-200 mrem) dosimeters and found that the dosimeters were off-scale. The high range dosimeters (0-5 Rem) indicated 4.5 Rem for mechanic "D"

and 2.2 Rem for mechanic "E". Subsequent evaluation of the TLD's indicated a total dose for the 3rd quarter for mechanic "D" of 4.21 Rem and 2.19 Rem for mechanic "E". Mechanics "A" and "B" both received doses of 220 mrem, based on dosimeter readings.

#### 7. Personnel Exposure

- a. 10 CFR 20.101 (b) allows the licensee to permit an individual to receive a total occupational dose of 3 Rem per calendar quarter, provided that the allowable lifetime dose is not exceeded and a Form NRC-4 has been completed. An inspector reviewed the exposure history for mechanics "D" and "E" and determined that both individuals had completed Form NRC-4, their allowable lifetime doses had been determined and that the exposure received, when added to their accumulated doses, did not exceed their allowable lifetime doses.
- b. Mechanic "D" received a whole body dose for the quarter of 4.21 Rem, which exceeds the allowable dose of 3 Rem. This is a violation of 10 CFR 20.101(b) (324/81-16-01).

#### 8. Internal Exposure

Because of the contamination levels encountered in the area, and the penetration of a highly radioactive system, the RWP for the work required air-supplied respirators be worn. After completion of the work, mechanics "D" and "E" received whole body counts to check for any internal exposure. Neither individual showed any detectable internal radioactivity.

#### 9. Surveys

- a. 10 CFR 20.201(b) requires that the licensee make such surveys as may be necessary for him to comply with the regulations in 10 CFR 20. As defined by 10 CFR 20.201 (a), "survey" means an evaluation of the radiation hazards, including measurement of radiation levels.
- b. The initial radiation surveys performed for the RWP showed radiation levels of 50-300 mr/hr. Following the initial phase of the work (breaking the flanges), radiation levels of 30 R/hr were measured. Although the radiation levels had increased by a factor of 100 from those measured prior to the start of work, no action was taken by the radiation control technician covering the job to: (a) stop work, (b) inform his supervision of the increase in levels, or (c) take additional surveys of the work area prior to allowing the mechanics to enter the area. A survey taken in the area after the overexposure had been identified showed radiation levels of 40-47 R/hr at contact with the piping and valve 33-B and 30 R/hr at approximately 18" from the piping.

- c. After technician "C" had informed him of the 30 R/hr radiation level, technician "F" had established a stay time of 2 minutes for the mechanics. When told that the work could not be accomplished in 2 minutes, rather than stopping work and evaluating the situation or informing the supervisor, he permitted them to enter the area to accomplish the work "as quickly as possible." The initial evaluation of stay time was discarded without adequate evaluation of the consequences on doses. Also, the stay time, based on the licensee's administrative exposure limit, neglected the previous exposures received by both mechanics during the quarter.
- d. The above conditions represent inadequate evaluations of working conditions which affected the ability to comply with the exposure limits of 10 CFR 20.101 (b). Consequently, they comprise an inadequate survey as defined by 10 CFR 20.201(b). This is a violation (324/81-16-02).
- e. An inspector reviewed the training records for mechanic "D" and technician "F". Mechanic "D" had last attended radiation safety retraining in October 1980. Technician "F" has worked in the radiation control group for approximately 14 months, including training periods. Technical Specification 6.3.1 states, in part, "Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions. Paragraph 4.5.2 of ANSI N18.1-1971 states "Technicians in responsible positions shall have a minimum of two years of working experience in their specialty." The technician lacked the experience to be considered "qualified for a responsible position." His actions with regard to changing radiological conditions appeared to be a contributing factor to the overexposure. The inspector stated that failure of the technician to meet the experience requirements of ANSI N18.1-1971 was a violation of Technical Specifications 6.3.1 (324/81-16-03).

#### 10. Subsequent Actions

- a. Following the determination that an overexposure had occurred, the licensee conducted a critique on July 17, 1981. A licensee management representative informed the inspectors that the specific actions taken as a result of the critique will be described in the report to be submitted in accordance with 10 CFR 20.405. The preliminary corrective actions were discussed with an inspector.
- b. As mechanic "D" had exceeded the NRC quarterly limit of .3 rem and the licensee's annual administrative limit of 5 rem, and mechanic "E" was approaching the annual administrative limit, both mechanics were transferred to non-radiological work for the remainder of the year. Technician "F" has been removed from work with the survey group and will receive additional training and requalification before he returns to this type of work.



### 11. Posting, Labeling and Control

An inspector reviewed the licensee's posting and control of radiation areas, high radiation areas, contamination areas, radioactive materials areas and the labeling of radioactive material during tours of the plant. No violations or deviations were observed.

### 12. Instruments and Equipment

An inspector observed a variety of radiological instruments (portable survey instruments, portal monitors, personnel friskers, pocket dosimeters) in use and available for use, checked calibration stickers, performed battery checks for selected portable instruments in the health physics office for proper operations. The inspector had no further questions.

### 13. Facility Tour

- a. An inspector observed the licensee's current practices for plant housekeeping and contamination control. The inspector observed no buildup of trash or debris, and personnel were observed properly using friskers upon exits of radiation controlled areas.
- b. A licensee representative stated that they have hired an outside contractor to perform the services of plant housekeeping and decontamination, which reports directly to the Radiation Control Section. The inspector concluded based upon his observations that plant housekeeping and contamination control were being adequately controlled. The inspector had no further questions.