

AUG 10 1990

Docket No. 70-1100

Combustion Engineering, Inc.  
ATTN: Mr. C. R. Waterman  
Acting Vice President - Nuclear Fuel  
Nuclear Power Systems  
1000 Prospect Hill Road  
Windsor, Connecticut 06095-0500

Gentlemen:

Subject: Inspection Report No. 70-1100/90-02

This letter refers to your letter dated April 24, 1990.

During an inspection of your facility on November 27-30, 1989, an NRC inspector requested copies of the nuclear safety evaluations conducted to determine the safety of fuel rod turret transfer carts in certain observed configurations. In particular, evaluations of carts parked perpendicular to each other and carts parked perpendicular to a graphite surface table were requested. Since the individual responsible for conducting and maintaining such evaluations was unavailable during the inspection, this was made an Unresolved Item. To assure that fuel was handled safely pending resolution of the issue, your staff agreed to take measures to prevent carts from being stored closer than 12 inches when perpendicular to each other and to assure that a 12-inch spacing was maintained around the table when fuel-bearing components were on the table.

The Unresolved Item was followed up with the responsible individual during an inspection on February 12-16, 1990. The inspector was told that the questioned interactions had been evaluated, but that no records had been retained. Because Section 2.9 of your license application, which has been incorporated into your NRC license by reference, requires retention of records of such evaluations, and Section 4.1.5 of the application requires that all process/equipment/facility changes be reviewed and approved in writing, a Notice of Violation was issued with our letter to you dated March 26, 1990.

In your April 24 response you stated that you did not believe that license requirements regarding the cited violation had been violated. The basis for that belief was that a "bounding" criticality safety evaluation covering the use of fuel rod transfer carts was performed, documented and appropriate records were on file at the time of the original inspection. However, you acknowledged that the explicit analysis of the perpendicular fuel rod transfer cart configuration was never done. Further, during an inspection conducted on June 4-8, 1990, the inspector reviewed the analysis of the cart configurations in question conducted by the Senior Criticality Safety Specialist in December 1989. That analysis was not performed in accordance with Program Document PR-3, "Criticality Safety Program," in that the results of the analysis were

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Combustion Engineering, Inc.

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not reviewed by a second qualified individual. Thus, the information provided in your letter did not constitute a sufficient basis for withdrawing the violation, and the violation stands as issued. Actions taken by your staff to complete the analysis in accordance with criticality safety program requirements will be examined during a subsequent inspection, and no further submittal on your part is necessary.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:  
Malcolm R. Knapp

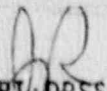
Malcolm R. Knapp, Director  
Division of Radiation Safety  
and Safeguards

cc:

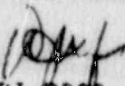
A. E. Scherer, Director, Nuclear Licensing  
C. B. Brinkman, Manager, Washington Nuclear Operations  
Public Document Room (PDR)  
Local Public Document Room (LPDR)  
Nuclear Safety Information Center (NSIC)  
State of Connecticut

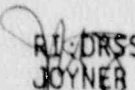
bcc:

RI Docket Room (w/concurrences)  
J. Roth, DRSS  
G. Bidinger, NMSS  
J. Joyner, DRSS  
M. Austin, DRSS

  
RI: DRSS  
ROTH/cy/mk  
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RI: DRSS  
BORES  
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RI: DRSS  
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JOYNER  
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KNAPP  
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RL CE 90-02 - 0001.1.0  
07/30/90

April 24, 1990

Docket No. 70-1100  
License No. SNM-1067

Dr. Ronald R. Bellamy, Chief  
Facilities Radiological Safety  
and Safeguards Branch  
Division of Radiation Safety  
and Safeguards  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406

Subject: Response to Notice of Violation  
(Inspection Report No. 70-1100/90-02)

Reference: Letter, R. R. Bellamy (NRC) to  
C. R. Waterman (C-E), dated March 26, 1990

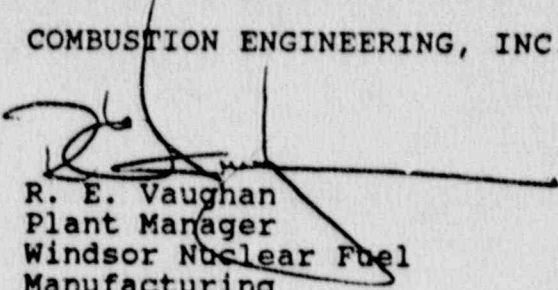
Dear Dr. Bellamy:

Combustion Engineering has reviewed the Notice of Violation received with the Reference letter and our reply is provided herewith (Enclosure I).

If I can be of further assistance on this matter, please do not hesitate to call me or Mr. J. F. Conant, Manager, Nuclear Materials Licensing at (203) 688-5002.

Very truly yours,

COMBUSTION ENGINEERING, INC.



R. E. Vaughan  
Plant Manager  
Windsor Nuclear Fuel  
Manufacturing

REV:jdk

Attachments: As Stated

cc: G. Bidinger (NRC)  
J. Roth (NRC - Region I)

Enclosure I

RESPONSE TO NOTICE OF VIOLATION  
(NRC INSPECTION REPORT NO. 70-1100/90-02)

RESPONSE TO NOTICE OF VIOLATION  
(NRC INSPECTION REPORT NO. 70-1100/90-02)

Statement of Violation

Section 4.1.5, "Internal Review Requirements", of Part I, Criteria, of the NRC-approved license application for License No. SNM-1067 states, in part, that all process/equipment/facility changes which affect nuclear criticality safety shall be reviewed and approved in writing. Section 2.9, "Records", states, in part, that records pertaining to health and safety, facility modifications, abnormal occurrences, criticality analyses ... are retained to demonstrate compliance with the conditions of this application and the applicable Federal, State and Local regulations.

Contrary to the above, as of February 15, 1990, the licensee had not maintained a written record of a criticality safety analysis performed to show that an array of fuel rod turret carts arranged perpendicular to each other would be safe.

Response

Combustion Engineering does not believe it has violated it's license requirement regarding the above cited violation. As part of PR-3, Criticality Safety Program, all facility changes are done in accordance with a Change/Modification Request (CMR) which requires review by the Nuclear Criticality Specialist and a criticality safety evaluation, where necessary. Such criticality safety evaluations are independently reviewed by the Senior Criticality Specialist.

A bounding criticality safety evaluation covering the use of fuel rod transport carts was performed, documented and appropriate records were on file at the time of the inspector's inquiry. While an explicit analysis of the perpendicular fuel rod transport cart case was never done, the bounding parallel cart configuration was analyzed, documented and the records retained. While we believe that reasonable engineering judgement was exercised in this situation, a review by the Senior Criticality Specialist was performed, in December, 1989, at the request of the Chairman of the Nuclear Safety Committee. The conclusion of that review was that:

"... two fuel rod transport carts at right angles represent a less reactive configuration than two carts immediately adjacent to each other because of

a reduced coupling between the two moderated fuel annuli."

The conclusion of the criticality consultant was documented and is on file, but was apparently not brought to the attention of the NRC inspector.

Combustion Engineering, therefore, believes that it applied reasonable engineering judgement in the performance of criticality safety evaluations and the selection of bounding scenarios.

Based on the above information, Combustion Engineering believes that it operated in compliance with its license requirements and that the cited violation is not warranted. Further, we believe that adequate controls are in place to assure that facility changes and modifications are reviewed for criticality safety and that the necessary evaluations are independently reviewed, documented and records retained.