

JAN 19 1988

Docket No. 70-1100

SNM-1067

Combustion Engineering, Inc.
ATTN: Dr. Paul McGill
Vice President - Nuclear Fuel
P. O. Box 500
Windsor, Connecticut 06095

Gentlemen:

Subject: NRC/Licensee Enforcement Conference

An Enforcement Conference was held at the NRC Region I office on December 1, 1987 with NRC and licensee representatives to discuss apparent violations and programmatic breakdowns in the area of Radiological Controls at the Combustion Engineering Nuclear Fuel Manufacturing - Windsor plant. These violations and programmatic weaknesses were discussed in NRC Inspection Report No. 70-1100/87-05, dated November 17, 1987. A Notice of Significant Licensee Meeting issued on November 17, 1987, is attached as Enclosure 1.

Topics discussed during the meeting and the meeting attendees are listed in the attached Meeting Summary report, Enclosure 2. Your briefing agenda and handout material are attached as Enclosure 3. The four hour enforcement conference was held to give you the opportunity to refute any discrepant inspection findings and discuss short and long-term corrective actions for the apparent violations and programmatic weaknesses.

Further actions to be taken by the NRC, with respect to the apparent violations and programmatic weaknesses, will be the subject of separate correspondence. Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
Ronald R. Bellamy

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REG1 LIC70
SNM-1067 PDR

Thomas T. Martin, Director
Division of Radiation Safety
and Safeguards

Enclosures:

1. Notice of Significant Licensee Meeting No. 87-138
2. Meeting Summary Report
3. Licensee Handout Material

cc w/encl:

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State of Connecticut

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J. Roth, DRSS
N. Ketzlach, NMSS

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JAC

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

No. 87-138

NOTICE OF SIGNIFICANT LICENSEE MEETING

Name of Licensee: Combustion Engineering Inc.
Location of Licensee: Windsor, Connecticut

Docket No.: 70-1100
Time and Date of Meeting: December 1, 1987; 10:00 a.m.
Location of Meeting: USNRC Region I
1008 8th Avenue, King of Prussia, PA

Purpose of Meeting: Enforcement Conference to discuss the licensee's
difficiencies in Radiation Protection and Management
Controls identified during Inspection No. 70-1100/87-05.

NRC Attendees: William T. Russell, Regional Administrator
James M. Allan, Deputy Regional Administrator
John W. Hickey, Acting Director, Division of Radiation
Safety and Safeguards
Jay M. Gutierrez, Regional Counsel
Daniel J. Holody, Enforcement Officer
Ronald R. Bellamy, Chief, Emergency Preparedness and
Radiological Protection Branch
Walter J. Pasciak, Chief, Effluents Radiation Protection
Section
Mohamed M. Shanbaky, Chief, Facilities Radiation Protection
Section
Mary Jean A. Cioffi, Radiation Specialist
George H. Bidinger, Project Licensing Manager, NMSS
Ramon L. Cilimberg, Metallurgical Engineer
Jerome Roth, Project Engineer

Licensee Attendees: Dr. P. L. McGill, Vice President - Nuclear Fuel
Manufacturing
G. H. Chalder, Plant Manager, Nuclear Fuel Fabrication
R. Sheeran, Nuclear Licensing Safety, Accountability and
Security.
F. Stern, Vice President and Chairman, Nuclear Safety
Committee
E. Scherer, Director, Licensing Nuclear Fuel Manufacturing

Note: Attendance by NRC personnel at this meeting should be made known by 4:45 p.m.,
November 30, 1987, via telephone call to Region I, at FTS 488-1205.

Prepared by: J. Roth 11/17/87
J. Roth, Project Engineer

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Distribution:

Victor Stello, Jr., Executive Director for Operations
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M. Shanbaky, DRSS
M. J. Cioffi, DRSS
J. Roth, DRSS

ENCLOSURE 2

U. S. NUCLEAR REGULATORY COMMISSION
REGION I
MEETING SUMMARY

Docket No. 70-1100
License No. SNM-1067
Licensee: Combustion Engineering, Inc.
P. O. Box 500
Windsor, Connecticut 06095
Facility Name: Combustion Engineering - Nuclear Fuel Manufacturing
Purpose of Meeting: Enforcement Conference to discuss apparent violations identified in NRC Inspection Report No. 70-1100/87-05.

Introduction

An Enforcement Conference was held at the NRC Region I office on December 1, 1987 at 11:30 A.M. The meeting was requested by the NRC Region I Staff to discuss 10 apparent violations in radiological controls and the degraded radiological conditions identified in NRC Inspection Report No. 70-1100/87-05.

NRC Attendees

J. Allan, Deputy Regional Administrator, RI
J. Gutierrez, Regional Counsel, RI
J. Hickey, Acting Director, DRSS, RI
R. Bellamy, Branch Chief, EP&RPB, RI
M. Shanbaky, Chief, Facilities Radiation Protection Section, RI
W. Pasciak, Chief, Effluents Radiation Protection Section, RI
D. Holody, Enforcement Officer, RI
J. Swift, Uranium Fuel Section Leader, NMSS
J. Roth, Project Engineer, RI
J. Gresick-Cioffi, Radiation Specialist, RI
R. Cilimberg, Metallurgical Engineer, NRR

Combustion Engineering Attendees

P. McGill, V.P. Nuclear Fuel, CE, Inc.
A. Scherer, Director, Nuclear Licensing, CE, Inc.
G. Chalder, Plant Manager, NFM-Windsor
R. Sheeran, Manager, N.L.S.A. & S., NFM-Windsor
P. Steinmeyer, President, Radiation Safety Associates, Inc.

State of Connecticut

C. Price, Senior Radiological Control Physicist, CT-DEP

Summary

1. The licensee acknowledged the apparent violations identified in the subject inspection report, and presented their plan to correct these violations and prevent their reoccurrence.
2. The licensee discussed their perception of the root causes which led to the breakdown in radiological controls and degraded plant conditions identified in the NRC Inspection report and the subsequent actions which would correct these root causes and prevent their reoccurrence.
3. The licensee presented long-term actions planned to upgrade the manufacturing operation and the radiation protection program.

Details of the licensee's presentation appear as Enclosure 3.

APPARENT VIOLATION 1

FAILURE TO MAINTAIN THE PELLET SHOP CONTAMINATION LEVELS BELOW THE LICENSE LIMITS, AS SPECIFIED IN SNM-1067, SECTION 3.2.8.1 (PARAGRAPH 5.2).

RESPONSE

- 6 dedicated decon personnel in place
- Dedicated HP Tech in charge of program
- Procedures for contamination control completed
- 84 point tracking board in use

ENCLOSURE 3

APPARENT VIOLATION 2

FAILURE TO INSTRUCT WORKERS, 10CFR19.12 (PARAGRAPHS 4.1, 5.5, 7.1)

RESPONSE

- Training sessions completed for all pellet shop personnel in:
 - Contamination Control
 - Use of 84 point tracking board
 - Use of BZs
 - Use of protective clothing/friskers
 - 10CFR19, rights and responsibilities
- Prepared written procedure for RWP
- Trained pellet shop personnel in upgraded respiratory/bioassay program
- Posted violation notices and responses

ENCLOSURE 3

APPARENT VIOLATION 3

FAILURE TO PERFORM RADIOLOGICAL SURVEYS, 10CFR20.201(b), (PARAGRAPHS 4.1, 4.6, 5.2).

RESPONSE

- Sectioned pellet shop into 84 survey areas
- Conduct daily surveys on the areas and post on tracking board
- Report survey results to management, supervisory and HP personnel
- Continuously update tracking board on all shifts

ENCLOSURE 3

APPARENT VIOLATION 4

FAILURE TO MAINTAIN A RESPIRATORY PROTECTION PROGRAM, 10CFR20.103(c), (PARAGRAPH 5.5).

RESPONSE

We Have:

- Issued a management policy statement
- All new NIOSH/MSHA approved equipment
- Selected a program administrator
- Implemented written procedures
- Fit tested and trained all personnel who will use respirators
- Trained HP Techs in daily administration of the program
- Upgraded the bioassay program

ENCLOSURE 3

APPARENT VIOLATION 5

FAILURE TO TAKE SUITABLE MEASUREMENTS OF CONCENTRATIONS OF RADIOACTIVE MATERIALS IN AIR, 10CFR20.103(a)(3), (PARAGRAPH 5.4).

RESPONSE

- 40 new BZs purchased
- Integrating BZs into existing fixed air sampling program
- Two continuous air monitors purchased

ENCLOSURE 3

APPARENT VIOLATION 6

FAILURE TO PERFORM BIOASSAY MEASUREMENTS TO ASSESS INTAKE BY WORKERS, 10CFR20.103(a)(3), (PARAGRAPHS 3.0, 4.1, 5.4).

RESPONSE

- Review of bioassay program by certified health physicist (CHP)
- CHP recommended program has been implemented
 - Whole body count all pellet shop personnel twice a year
 - Select 25% of personnel for fecal/urine sampling twice a year
 - Personnel who receive an accidental intake will be fecal/urine tested immediately and WBC within 2-4 weeks

ENCLOSURE 3

APPARENT VIOLATION 7

FAILURE TO USE PROCESS OR ENGINEERING CONTROLS TO LIMIT CONCENTRATIONS OF RADIOACTIVE MATERIALS IN AIR (10CFR20.103(b)(1), (PARAGRAPH 5.3).

RESPONSE

- We are refurbishing existing equipment/ventilation systems by:
 - Rebuilding hoods and glove boxes around powder handling equipment/presses
 - Covering roller conveyor/storage areas
 - Placing skirts around equipment

ENCLOSURE 3

APPARENT VIOLATION 8

FAILURE TO ESTABLISH, MAINTAIN, AND IMPLEMENT RADIATION PROTECTION PROCEDURES AS REQUIRED BY SNM-1067, SECTION 2.7.2, 3.1.1, 4.1 (PARAGRAPHS 5.1, 5.3, 5.4, 5.5, 8.1).

RESPONSE

- Prepare a complete manual of Radiation Protection Procedures

ENCLOSURE 3

APPARENT VIOLATION 9

FAILURE TO MAINTAIN RECORDS OF SURVEYS, 10CFR20.401(b), (PARAGRAPH 5.2).

RESPONSE

- Immediate HP Tech training
- Continuous review of records by HP supervisor
- Developing HF Tech training program

ENCLOSURE 3

APPARENT VIOLATION 10

FAILURE TO POST NOTICES TO WORKERS, 10CFR19.11, (PARAGRAPH 7.1).

RESPONSE

- In conformance with 10CFR19.11
- Developing upgraded general employee training program

ENCLOSURE 3

C-E RESPONSES

IMMEDIATELY

ELIMINATE ALL APPARENT VIOLATIONS AND PREVENT THEIR REOCCURRENCE

SHORT/MEDIUM-TERM

- EVALUATE PROBLEM AREAS
- DETERMINE THEIR ROOT-CAUSE
- IMPLEMENT CORRECTIVE ACTION PROGRAMS

LONG-TERM

- ESTABLISH AND MAINTAIN A PROGRAM WHICH MEETS -- OR EXCEEDS -- ALL REGULATORY STANDARDS

ENCLOSURE 3

PRINCIPAL ROOT CAUSES

- POLICIES AND PRIORITIES UNDEFINED
- INADEQUATE RESOURCES
- PRODUCTION REQUIREMENTS
- INADEQUATE PROCEDURES AND TRAINING
- EMPLOYEE ATTITUDES
- MANAGEMENT COMPLACENCY

ENCLOSURE 3

POLICIES AND PRIORITIES

PROBLEMS

- NOT IN WRITING
- PRIORITIES COULD BE MISUNDERSTOOD

CORRECTIVE ACTION

- NPS AND FUEL DEPT. POLICIES ISSUED
- PRIORITIES EMPHASIZED: SAFETY-QUALITY-SCHEDULE-COST

ENCLOSURE 3

RESOURCES

PROBLEMS

- AGING EQUIPMENT
- INSUFFICIENT MANPOWER; SOME EXPERTISE MISSING

CORRECTIVE ACTION

- INCREASED STAFF
- HIRED QUALIFIED CONSULTANTS
- EXISTING EQUIPMENT AND FACILITIES IMPROVED
- PLANNING MAJOR SHOP UPGRADE

ENCLOSURE 3

PRODUCTION REQUIREMENTS

PROBLEMS

- EQUIPMENT MAINTENANCE HAD TO BE MINIMIZED
- HP COVERAGE DIFFICULT

CORRECTIVE ACTION

- INCREASING HP STAFF
- PREVENTATIVE MAINTENANCE PROGRAM BEING DEVELOPED
- SUBCONTRACTED PELLET PRODUCTION

ENCLOSURE 3

PROCEDURES AND TRAINING

PROBLEMS

- INADEQUATE PROCEDURES AND TRAINING IN RADIATION PROTECTION AREAS

CORRECTIVE ACTION

- EXTENSIVE PROCEDURE IMPROVEMENT PROGRAM UNDERWAY
- ADDITIONAL TRAINING PROGRAMS STARTED

ENCLOSURE 3

EMPLOYEE ATTITUDES

PROBLEMS

- RESISTANCE TO CHANGE
- "WE VS. THEM" ATTITUDE

CORRECTIVE ACTION

- C-E CULTURE CHANGE PROGRAM WILL BE CONDUCTED
- CONSULTANT ENGAGED FOR QUALITY IMPROVEMENT PROGRAM
- BETTER COMMUNICATION AMONG ALL EMPLOYEES

ENCLOSURE 3

MANAGEMENT COMPLACENCY

PROBLEMS

- EXISTING PRACTICES THOUGHT TO BE ADEQUATE
- INSUFFICIENT INDEPENDENT INPUT

CORRECTIVE ACTIONS

- INCREASED SCOPE AND FREQUENCY OF INDEPENDENT REVIEWS
- HIGHER LEVEL MONITORING OF OBJECTIVE DATA
- INCREASED PERSONAL ATTENTION

ENCLOSURE 3

CORRECTIVE ACTIONS - LONGER TERM

Root Cause Analysis: Preliminary Observations

Management Inattention: Failure to Recognize:

- deficiencies in existing Radiation Protection Program
- deterioration of process equipment/containment
- deficient work practices
- inadequate resource allocation

Corrective Actions Address:

- Procedures and Practices
- Training
- Human Resources
- Process and Equipment

ENCLOSURE 3

PROCEDURES AND PRACTICES

OBJECTIVE

To ensure that all plant operations and personnel protection programs are performed consistently and in accordance with regulatory and other requirements.

RADIATION PROTECTION

- We have retained a consultant (Radiation Safety Associates Inc.) to work with us to:
 - review the adequacy of our existing written procedures
 - upgrade existing procedures where necessary
 - develop new procedures where required
 - provide a complete Radiation Protection Manual
- This process has been completed for Respiratory Protection and Radiation Work Permit (RWP) procedures.
- Remaining procedures will be completed by June 30, 1988.
- The Radiation Protection Manual will form the basis for training Health Physics and shop personnel.

ENCLOSURE 3

PROCEDURES AND PRACTICES (CONT'D)

SHOP OPERATIONS

- Written procedures (instructions) have been issued to shop personnel for contamination control.
- Additional procedures (instructions) to shop personnel will be developed to address remaining radiation protection requirements.
- Shop procedures will be used to prepare lesson plans for personnel training.

INTERNAL AUDITS

- A procedure has been implemented to provide for independent quarterly audits of the Radiation Protection Program and practice.

ENCLOSURE 3

TRAINING

OBJECTIVE

To ensure that personnel at all levels know and understand the duties and responsibilities of their jobs and the needs and purposes of protective procedures.

TRAINING OF HP STAFF

- Respiratory Protection Course (October 1987)
- Radiation Work Permit (December 1987)
- Radiation Safety Officer Course (December 1987)
- Training in remaining Radiation Protection procedures (complete by September 30, 1988).

TRAINING OF SHOP PERSONNEL

- Training in Respiratory Protection completed November 1987.
- Training in Contamination Control completed November 1987.
- Upgraded employee training program complete by September 30, 1988 - annually thereafter.

HUMAN RESOURCES

OBJECTIVE

To provide an adequate level of qualified personnel to maintain all plant operations in compliance with regulatory and other requirements.

RADIATION PROTECTION

- Provide full time Health Physics coverage at all times in the pellet shop (November 1987).
- Retain a qualified consultant to assist with preparation of Radiation Protection Procedures and training programs (October 1987).
- Provide a qualified individual to perform internal audits of compliance with Radiation Protection requirements (Quarterly beginning in 1988).

SHOP OPERATIONS

- Provide additional supervision in the pellet shop to assure operator compliance with contamination control and other procedures. (December 1987).

PROCESS ENGINEERING

- Provide additional engineering support in the pellet shop to improve contamination control of process equipment (December 1987).

PLANT/EQUIPMENT MAINTENANCE

- Provide personnel to implement an ongoing preventative maintenance program for equipment and containment/ventilation systems (April 1988).

PROCESS AND EQUIPMENT

OBJECTIVE

To provide reliable engineered systems which maintain manufacturing operations in compliance with regulatory and other requirements.

IMMEDIATE ACTIONS

- Upgrade containment/ventilation systems on existing equipment (October 1987 - June 1988).
- Modify material handling systems outside containment (October 1987 - June 1988).
- Implement preventative maintenance program (April 1988).

LONGER TERM ACTIONS

A major shop upgrading project is planned over the next three years.

ENCLOSURE 3

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