

COMBUSTION ENGINEERING

B. Greer

NIS/87/5002
January 8, 1987

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Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

690-000360

Dear Mr. Keppler:

As specified in 10CFR20.405 (a)(1)(iv), enclosed is a report of the incinerator scrubber overheating event which occurred October 20, 1986. The scrubber overheated and destroyed the lower portion of its rubber lining when the proper liquid level was not maintained.

This event was reported by telephone to the NRC Region III office, and was discussed during an NRC inspection in November. Initially, we did not believe any of the 10CFR20.403 reporting criteria were met. Subsequent reevaluation of the total cost of repairs, however, resulted in a determination that the \$2000 reporting limit was slightly exceeded.

Please advise if further information is required.

Very truly yours,

COMBUSTION ENGINEERING, INC.

H. E. Eskridge

H. E. Eskridge
Supervisor, Nuclear Licensing,
Safety and Accountability

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cc: Director of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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EVENT REPORT - OVERHEATING OF LOW LEVEL WASTE INCINERATOR SCRUBBER

LICENSEE - COMBUSTION ENGINEERING, INC.
HEMATITE, MISSOURI
SNM - 33

Incinerator Facility

Incineration is used to reduce the volume of low level contaminated waste. The facility consists of two gas-fired incinerators, two scrubber systems and an air-cooled heat exchanger. Wastes are dispositioned for incineration after gamma counting (passive NDA). Individual charges of about 10 Kg of combustible waste are introduced into the operating incinerator on 15 minute intervals by an MCO operator. The operator monitors and maintains the proper liquid level in the scrubbers.

Event Description

At 1445 hours on October 20, 1986, the day shift operator introduced the last charge into the No. 2 incinerator. At 1600 hours the MCO Supervisor checked the scrubber liquid level prior to leaving the plant, as the evening shift operator had reported that he would be late. This information was not relayed to the evening shift Supervisor. When the operator reported for work 1.7 hours late, neither he nor the shift Supervisor were aware that the incinerator was operating.

At 1815 hours a maintenance operator, walking up the roadway east of the facility, noticed heavy black smoke discharging from the incinerator stack and notified the Supervisor. The bottom part of the number 2 scrubber was glowing red. The incinerator burners and the scrubber blower were turned off, and CO₂ fire extinguishers were used in an attempt to cool the scrubber. Then the scrubber water fill valve was opened to add water to the scrubber. Cooling was completed by 1930 hours.

Later inspection of the scrubber showed that the rubber lining of the scrubber bottom and about 60% of the straight wall section lining was destroyed. The ceramic packing was reduced to small pieces, but the upper portion of the straight wall section lining and the demister were intact. The scrubber blower and exhaust stack were also undamaged. The No. 1 scrubber system remained operable and was unaffected.

Cost to reline the scrubber was \$1835. Packing replacement cost \$211.

Radiation Exposures

No radiation exposures above normal operating levels resulted from this event. The fixed room air sample collected near the incinerator for the evening shift showed a concentration of 0.11×10^{-10} , microcuries/ml (11% MPC). The exhaust stack sample was 0.14×10^{-12} microcuries/ml (4% MPC). Removable alpha contamination on the inside of the scrubber vessel was less than 200 dpm/100 cm².

Corrective Action

To prevent recurrence of a similar event, use of a log book for MCO operators has been initiated. Incoming operators review the log which contains instructions, notes and operational status of equipment. This system has been used successfully in other areas of the plant.