

3.500 Jefferson County  
Combustion Engineering,



*Region III* R1/c-36  
70-36

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Historic Preservation

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Director

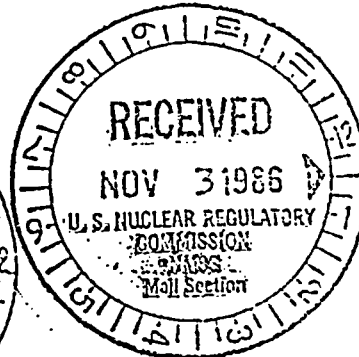
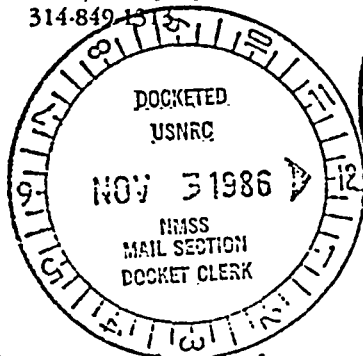
STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY

St. Louis Regional Office  
8460 Watson Road, Suite 217  
St. Louis, MO 63119  
314-849-1513

October 28, 1986

Mr. James A. Rode, Plant Manager  
Combustion Engineering, Inc.  
P.O. Box 107  
Highway P  
Hematite, MO 63047



Dear Mr. Rode:

On October 21, 1986 an investigation was made of the condition and operation of the wastewater facilities at the Combustion Engineering Company plant in Jefferson County, Missouri. The investigation included collection of samples of the effluents being discharged. These samples are currently being analyzed and a report on results of the analyses will be sent to you.

In conjunction with this investigation, the Department's files were reviewed to assess the NPDES permit compliance status. This review covered the two year period immediately preceding the inspection.

The findings of the field investigation and file review, discussion of the findings and corresponding recommendations are presented below.

FINDINGS:

1. Flocculant suspended solids were observed in the effluent from the extended aeration plant at the v-notch weir following the chlorine contact chamber.
2. The clarifier overflow weirs had algal deposits and were in need of cleaning.
3. The effluent from outfall #002 appeared clear.
4. The NPDES permit for this facility had an expiration date of September 20, 1984. An application for reissuance has been received by the Department and is currently being processed.
5. Fecal Coliform monitoring data have not been included on the discharge monitoring reports. In addition, the discharge monitoring report for outfall #001 for the third quarter 1984 has not been received by this office.
6. The discharge monitoring reports indicated that effluent violations occurred in four of eight quarters for which they were reviewed. These included four violations of the permitted limits for pH at outfall #001 and one violation of the permitted limit for fluoride at outfall #002.

DISCUSSION:

This inspection was conducted by Viraf Palsetia in the presence of Mr. Howard Eskridge, Supervisor, N.L.S&A. The Company's Hematite plant is engaged in the production of low-enriched (<4.1% U-235) ceramic fuel. The main operations

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at the plant include a UF<sub>6</sub> to UO<sub>2</sub> conversion process, UO<sub>2</sub> pelletizing process and scrap recovery process. Per Mr. Eskridge, the plant has a total of 64 employees and it operates three shifts per day. All sanitary wastewaters are treated in a mechanical sewage treatment plant and discharged through outfall #001. The site pond receives stormwater run-off, laundry wastes, demineralizer regeneration wastewater, cooling tower blowdown, boiler blowdown, steam condensate, and wastewater from laboratory sinks. The site pond is also fed by a spring on site. Outfall #002 is the pond discharge over the dam.

The contents of the clarifier in the mechanical sewage treatment plant had a considerable amount of pin floc. The treatment plant effluent was observed to contain the floc. A mixed liquor settleability test performed by the plant operator on the day of this inspection indicated 22% total solids. It appears that the observed conditions are due to very old sludge within the system and the sludge should be wasted per the recommendations of the operation and maintenance manual for this treatment plant. In addition, the clarifier weirs need to be cleaned on a regular basis.

During this inspection, the subject of NPDES permit reissuance was discussed with Mr. Eskridge. Additional information related to types of chemicals used in boiler water treatment, the cooling water system and the laundry detergent and their usage rate will be needed. In addition, item 2.40B of application Form C needs to include all operations contributing flows to outfall #002 i.e. Lab sink wastes, cooling tower wastewaters, boiler wastewaters and steam condensate.

The NPDES permit requires monitoring of the fecal coliform parameter during the recreational season for outfall #001. Fecal coliform monitoring is not being performed by the permittee. Fecal coliform monitoring data required by the permit must be provided in future discharge monitoring reports. Our file review indicates submittal of all required quarterly discharge monitoring reports except the one for the third quarter of 1984 for Outfall #001. You are requested to submit this missing report. In addition, future monitoring reports must include the sample collection dates and sample types for each sample.

Effluent data for the period reviewed have been plotted on graphs which are attached to this report. Dashed lines on the graphs indicate the limits applicable to this discharge. The frequency of noncompliance, the range of exceedances and the frequency of missing data can readily be determined from the graphs. For outfall #001, one BOD exceedance occurred 5% over the monthly average limit and four pH violations below the minimum permitted pH have occurred. Compliance with fecal coliform limitation could not be ascertained since the effluent monitoring data were not submitted for this parameter. No exceedances were noted for total suspended solids.

For outfall #002, one fluoride exceedance occurred 58% above the monthly average limit. No exceedances were noted for total suspended solids, oil and grease, and pH for outfall #002.

Discharging pollutants in amounts or concentrations exceeding those specified in the regulations is a violation of the Missouri Clean Water Law (Chapter 204, RSMO Supp. 1982, Sec. 204.051.1(3)). The effluent data for the period reviewed shows that violations of Clean Water Commission Regulations 10 CSR 20-7.015(8)(B)1, 10 CSR 20-7.015(8)(B)2 and 10 CSR 20-7.015(8)(C) occurred.

RECOMMENDATIONS:

1. Waste sludge from the mechanical sewage treatment plant per the recommendations contained in the operation and maintenance manual.
2. Clean the clarifier weir on a regular basis.
3. Submit the additional information requested for the permit reissuance.
4. Report fecal coliform analyses results on discharge monitoring reports for outfall #001 during the period April 1 through October 31.
5. Submit the discharge monitoring report for the third quarter of 1984 for outfall #001.
6. Include sample collection data and type of sample collected on the discharge monitoring reports.
7. Take appropriate steps to achieve consistent compliance with the permit effluent limitations.

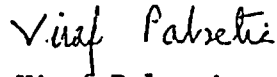
We trust that you will direct your attention to the contents of this report and that you will proceed to carry out the recommendations presented. If you have any questions please contact Viraf Palsetia at the St. Louis Regional Office.

APPROVED:



F. Donald Maddox  
Regional Administrator  
St. Louis Regional Office

PREPARED BY:



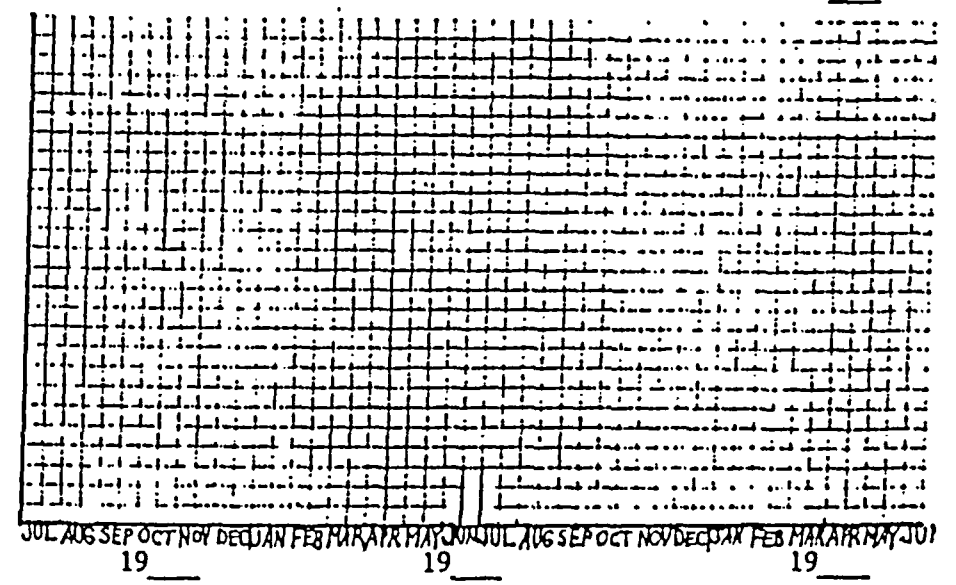
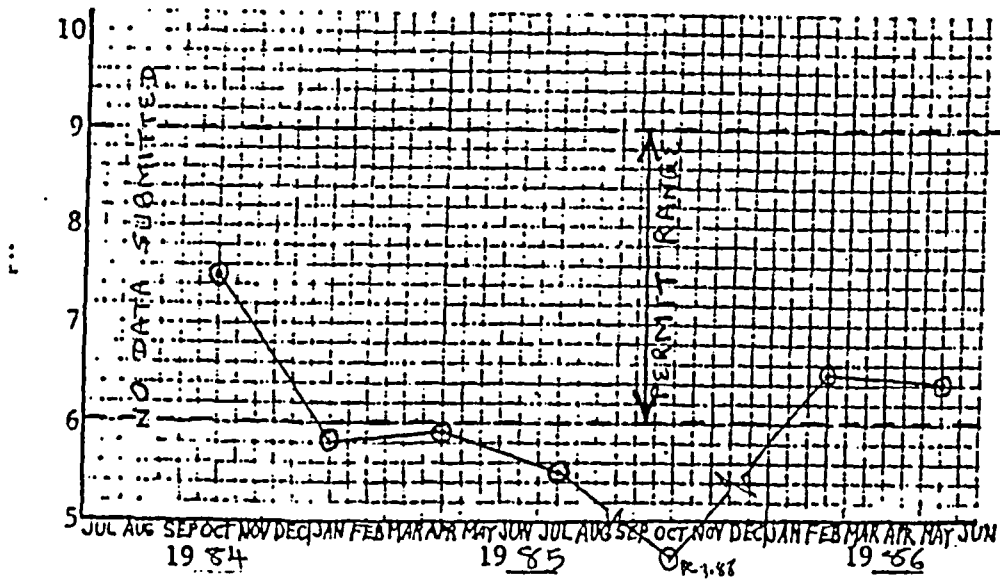
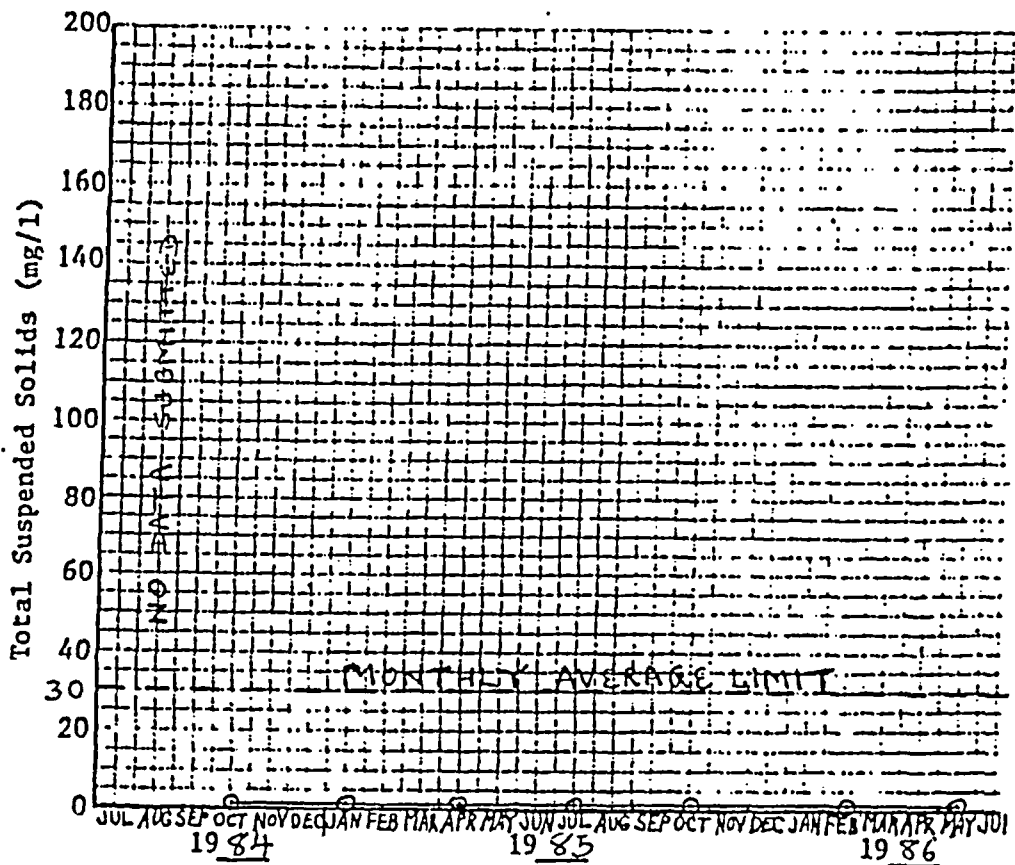
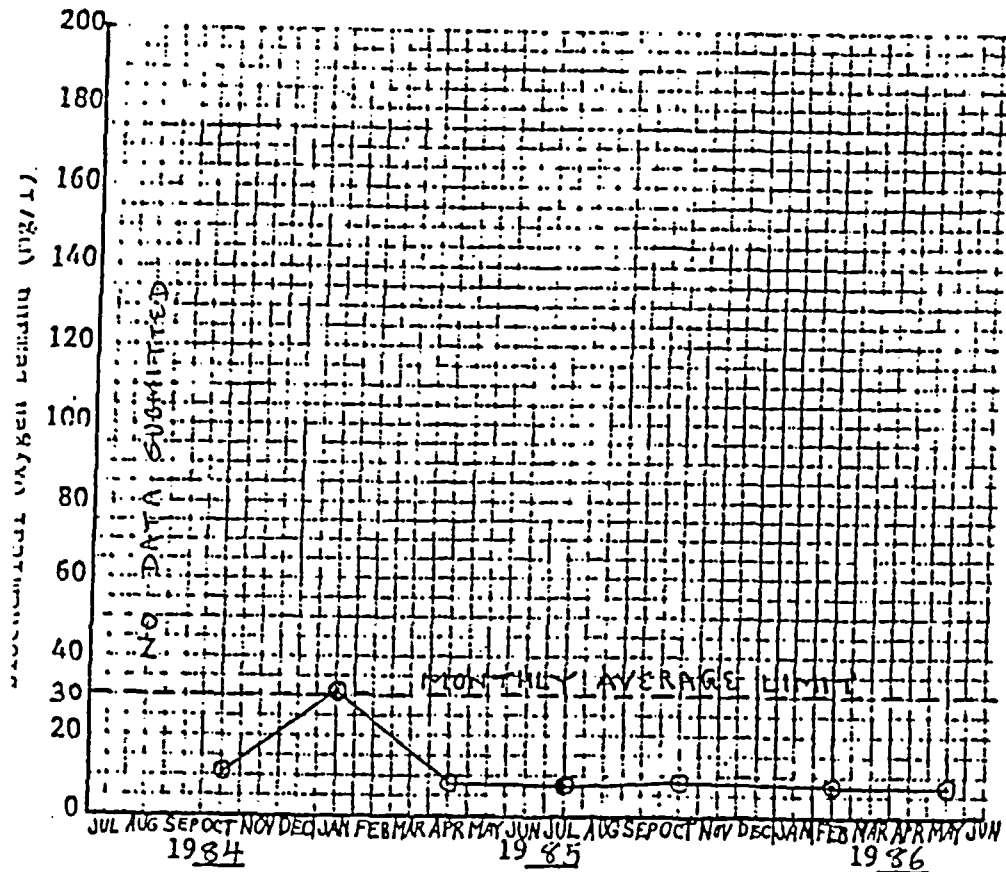
Viraf Palsetia  
Environmental Engineer  
St. Louis Regional Office

CC: Central Office, Water Pollution Control Program  
Nuclear Regulatory Commission  
Jefferson County Health Department  
Jefferson County Building Commission

FDM/VP/be

DNR DATA SUMMARY FOR: Combustion Engineering Inc.  
 FOR THE PERIOD: July 1, 1984 to June 30, 1986

OUTFALL: 001 PERMIT NO. MO-0000761  
 PREPARED BY: VP DATE: 10/23/86



DNR DATA SUMMARY FOR: Combustion Engineering Inc.  
 FOR THE PERIOD: July 1, 1984 to June 30, 1986

OUTFALL: 002 PERMIT NO. M10-0000761  
 PREPARED BY: VP DATE: 10/23/86

