

ILLINOIS POLLUTION CONTROL BOARD

April 3, 1980

CENTRAL ILLINOIS PUBLIC SERVICE COMPANY,)
(Hutsonville Power Station),)
)
Petitioner,)
)
v.) PCB 80-16
)
ENVIRONMENTAL PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

This matter comes before the Board upon a variance petition filed January 21, 1980 by Central Illinois Public Service Company (CIPS). The petition requests for the Hutsonville power station a variance from the effluent standards for copper (total), iron (total) and iron (dissolved) which are found in Rule 408(a) of Chapter 3: Water Pollution. On March 3, 1980 the Environmental Protection Agency (Agency) recommended that the variance be granted with conditions. The hearing was waived and the Board has received no public comment.

The Hutsonville power station is a 210 megawatt fossil-fueled electric generation plant which is situated two miles north of Hutsonville, Crawford County. On October 23, 1979 the Agency issued for the facility renewed NPDES Permit IL 0004120. This authorizes discharges from an ash pond to the Wabash River and discharge of boiler chemical and air heater cleaning solutions to the ash pond. The previous permit designated the ash pond discharge to the Wabash River as the point of discharge for these solutions. The new permit requires application of the Rule 408(a) effluent standards at the point of discharge to the ash pond. On November 21, 1979 CIPS filed a petition for review of these permit conditions which is pending before the Board (PCB 79-247).

During ordinary operation deposits build up inside boiler tubes. At Hutsonville these deposits are mostly iron and copper compounds which derive from corrosion of metal in the system. CIPS cleans boilers 5 and 6 at Hutsonville about once in three years. Cleaning is to take place during scheduled outages which for Boiler 5 is from February 3 through March 22, 1980 and for Boiler 6 is from April 27 through June 21, 1980. Delay in cleaning could result in damage to the boiler. Rescheduling of cleanings is difficult since CIPS must schedule generator outages with sufficient lead time to schedule other maintenance and so as to maintain adequate generating capacity in its system.

CIPS proposes to clean the boiler tubes by filling each with about 16,000 gallons (61,000 l) of a solution of ammoniated ethylenediaminetetraacetic acid (EDTA). This is a chelating agent which complexes metals rendering them water soluble in conditions under which they would otherwise be insoluble. After use the cleaning solution will contain about 700 pounds (320 kg) of iron and 200 to 300 pounds (90 to 140 kg) of copper. This will be far in excess of the concentrations allowed by Rule 408(a). The boilers will be rinsed three times with water, resulting in another 48,000 gallons (180,000 l) of water per boiler which will contain less iron and copper but will probably still exceed the concentration limits of Rule 408(a) (Pet. 3). The Agency estimates that a total of 2000 pounds (900 kg) of iron and 200 pounds (90 kg) of copper will be removed per boiler (Rec. 2).

This is the first time the EDTA solution has been used at Hutsonville (Rec. 2). The ash pond provides treatment as well as dilution for the iron and copper in the effluent since the metals precipitate as hydroxides under basic conditions present in the ash pond. However, the Agency believes the EDTA chelated metals will be much more resistant to precipitation than the metals contained in other cleaning solutions. A detention time of 60 to 120 days may be required. This may be greater than that provided by the ash pond (Rec. 3).

CIPS retained a consulting engineering firm to investigate alternative methods of disposal. Three basic engineering alternatives were proposed: incineration, chemical treatment and off-site disposal. The first two could not be developed in time for the scheduled 1980 cleanings (Pet. 4). CIPS proposes to haul the spent EDTA cleaning waste to an Agency approved disposal facility. The EDTA will be pumped back into the tank trucks which deliver it. However, it would be impracticable to haul the 48,000 gallons of rinse water off site for disposal. It is doubtful if enough tank trucks are available to do this at the present time. Construction of a holding tank could not be done prior to the cleanings. The Board therefore finds that it would impose an arbitrary and unreasonable hardship on CIPS to require immediate pretreatment of the rinse solutions.

Air heater cleaning involves much larger volumes of water than boiler cleaning (Pet. 7). Disposal of the contaminated water poses problems similar to the boiler rinse. The Agency has conceded, for purposes of this variance only, that the ash ponds are

adequate to precipitate the iron and copper from the air heater wash solutions. Since very little of this will be discharged to the Wabash River, the Board will grant a variance for the air heater cleaning solution wastes also. Since CIPS has not indicated a different cleaning schedule for air heaters, this variance will expire upon completion of the boiler cleaning.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

Central Illinois Public Service Company is granted for its Hutsonville power plant a variance from the effluent standards for copper (total), iron (total) and iron (dissolved) of Rule 408(a) of Chapter 3: Water Pollution, subject to the following conditions:

1. This variance will expire on July 22, 1980.
2. This variance will apply only to boiler cleaning rinse water and air heater wash discharges into the ash pond.
3. Petitioner shall not discharge EDTA boiler chemical cleaning solution into the ash pond.
4. Petitioner shall conduct a study to determine treatment capabilities of the ash pond. The study shall include as a minimum data on pH of the ash pond, the constituents in the metal cleaning waste rinses, the concentration of the constituents and the volume of the metal cleaning waste rinses discharged to the ash pond. A summary of results shall be sent to the Agency by August 30, 1980.
5. The Agency, pursuant to Rule 914 of Chapter 3: Water Pollution, shall modify the NPDES Permit IL 0004120 consistent with the conditions set forth in this Order.
6. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Variance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the Certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read and fully understanding the Order in PCB 80-16, hereby accept that Order and agree to be bound by all of its terms and conditions.

SIGNED _____

TITLE _____

DATE _____

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 3RD day of April, 1980 by a vote of 5-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board