

ILLINOIS POLLUTION CONTROL BOARD

March 7, 1974

GENERAL ELECTRIC COMPANY)
(MIDWEST FUEL RECOVERY PLANT))
PETITIONER)

v.)

PCB 73-512

ENVIRONMENTAL PROTECTION AGENCY)
RESPONDENT)

OPINION AND ORDER OF THE BOARD (by Mr. Marder)

This action involves a request for variance filed December 7, 1973, by General Electric Company to allow operation of its Midwest Fuel Recovery Plant. Relief is sought from Rule 207 (e) (2) of the Illinois Air Pollution Control Regulations as it applies to industrial nitrogen oxide emissions. The Agency in its recommendation dated February 27, 1974, recommends a grant subject to certain conditions.

The Midwest Fuel Recovery Plant (MFRP) is located near Morris in Grundy County. It is wholly owned by General Electric. The MFRP is a chemical reprocessing plant designed to take partially spent fuel and to recover the unused uranium, plutonium and neptunium for recycle as fresh fuel in order to preserve these natural resources and to provide waste forms suitable for long term storage. This is accomplished by dissolving the fuel material in strong nitric acid and subjecting this feed stream to chemical separation steps to purify the uranium and other elements. The plant is designed to process about 300 tons per year of spent fuel which is equivalent to the spent fuel from about ten large nuclear power plants.

High activity wastes resulting from this process are calcined to an inert oxide form and the other wastes are immobilized for storage on site in reinforced, lined concrete structures. Because only a small amount of the products from the plant are shipped in the nitrate form, it is necessary that the bulk of the nitric acid used in the process be decomposed and reconstituted to minimize the utilization of nitric acid and to prevent potential large scale releases to the environment. The control equipment incorporated at the MFRP to achieve such a maximum recycle system includes calciners, scrubbers and absorbers installed at an aggregate cost of \$2,500,000.

Petitioner was previously granted a variance for this plant. In PCB 72-477, the Board held that a variance was warranted subject to certain conditions. At the time of the previous grant it was anticipated that the MFRP would have started up, and that actual on-site environmental data would have been generated. However, due to pre-operational and

start up procedures, the MFRP has not yet begun operations. Petitioner contends that said plant will not commence operations before June 1974. The above facts testify that any variance granted today would be in essence a "first" variance. Therefore the information (i.e., hardship, environmental impact, and compliance plan) would be essentially the same as for the grant of PCB 72-477. Petitioner contends that during the past year there have been no significant advances in technology for the control of nitrogen oxide emissions applicable to the operation of the MFRP.

It would serve no purpose to reiterate the background generated in PCB 72-477. For such detail the reader is referred to the opinion offered in PCB 72-477, which may be found in the Board's records, Vol. 7, Page 219. Pertinent parts of said opinion are hereby incorporated by reference.

The Agency has recommended that a stack test be performed to verify the quantity of nitrogen oxide generated, and that no further variance be granted until a firm compliance plan be submitted. The Board will require an acceptable stack test, but will not close the door on future variances. Future variances will depend on what efforts Petitioner takes to comply (e.g., Research and Development program) and must consider the economic and technological criteria involved.

This Opinion constitutes the findings of fact and conclusions of law of the Board.

ORDER

IT IS THE ORDER of the Pollution Control Board that:

Petitioner is granted a variance for its MFRP facility from Rule 207 (e) (2) of the Illinois Air Pollution Regulations for one year from the date of this Order, so as to allow a maximum daily emission of nitrogen oxide of 350 lbs/day subject to the following conditions:

- A) Within sixty (60) days after the facility has begun normal operations, Petitioner shall have a stack test performed, which shall be conducted in a manner satisfactory to the Agency. The Agency shall be notified at least five (5) days in advance of the test, and shall have the right to have representatives witness the test.
- B) Petitioner shall continue to submit hourly nitrogen oxide average concentration data, and shall on a monthly basis submit monthly average data.
- C) Petitioner shall notify the Agency at least thirty (30) days prior to making any process modifications which would affect nitrogen oxide emissions.
- D) Petitioner shall continue to diligently pursue methods to reduce its nitrogen oxide emissions either by control

equipment and/or internal process changes.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted by the Board on the 7th day of March, 1974, by a vote of 5 to 0.

Christan L. Moffett