

ILLINOIS POLLUTION CONTROL BOARD

April 18, 1974

MEDUSA CORPORATION,)
)
 Petitioner,)
)
 vs.) PCB 74-54
)
 ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

Lowell J. Gettman, Attorney for Petitioner
Michael Ginsberg, Attorney for EPA

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

On January 23, 1974 Medusa Corporation filed a Motion for Reconsideration of the Order entered by the Board on November 15, 1973 in Medusa Corporation vs. Environmental Protection Agency, PCB 73-337. By that Order, Medusa was granted variance from Rules 202(b), 203(b), 203(d)(3) and 203(i) of the Air Pollution Control Regulations for a period of one year pending installation of a baghouse to control particulate emissions from four clinker coolers at its Dixon cement manufacturing plant.

In lieu of the baghouse control system previously approved, Medusa now proposes to install a gravel bed filter system to control the particulates from the clinker cooler. We consider the current Motion to be a request for modification in the nature of a new variance petition. We approve the modification and will issue the Order necessary to incorporate the change.

As shown in Exhibits B and C attached to the Motion, Medusa was reviewing and evaluating the possible application of the gravel bed filter control equipment even prior to our November 15, 1973 Opinion and Order. On October 5, 1973, the day following the public hearing in PCB 73-337, Medusa received a proposal for the gravel bed filter from Envirex, Inc., sole United States supplier of gravel bed filters. On October 30, 1973 Medusa issued its Letter of Intent to purchase the gravel bed filter system. The purchase order for the design, fabrication and delivery of the gravel bed filter system was issued on January 4, 1974. Medusa failed to inform the Board of the possibility of change in control equipment although this change was reasonably anticipated for over a month before the adoption of our Opinion and Order.

The new system consists of several filter units which are connected by preliminary dusty gas and clean gas ducts in parallel. Particulate laden air expands as it enters the dusty gas duct. This allows coarse dust to be removed as the velocity is reduced. The air then enters a preliminary centrifugal separator where an additional amount of coarse dust is separated for removal via counterweighted valves. The partially cleansed air then spirals upward through a vortex tube into the gravel bed filter chamber. There the dust is collected upon and within the interstices of the gravel-like granules. The cleansed air then passes through a screen into a clean air chamber and is subsequently discharged into the atmosphere.

Envirex Inc. recommends this system over the baghouse system for several reasons: low maintenance cost due to minimum of moving parts, elimination of need to replace cloth bag filters, capability to withstand temperatures in excess of 900° F., no significant performance change due to variation in size of dust particles, filter performance does not deteriorate with age, no significant wear on parts, and simple controls.

Operation of the gravel bed filter at the Dixon plant has been guaranteed by Envirex to reduce the dust concentration from 3 gr/ACF to 0.0078 gr/ACF (99.74% reduction) at 185,000 ACFM. Medusa contends that the gravel bed filter system can be installed and in operation within the constraints of their original compliance schedule. This schedule anticipated compliance with applicable regulations by March 31, 1975. The Agency recommends granting this variance modification stating that the new system will be just as effective or more effective than that provided by the original plan. We agree and shall modify our November 15, 1973 Order accordingly.

ORDER

It is the Order of the Board that:

1. Medusa Corporation is granted variance from Rules 202(b), 203(b), 203(d)(3), 203(i) of the Air Pollution Control Regulations for four (4) clinker coolers at its Dixon cement manufacturing plant until April 18, 1975 pending installation of a gravel bed filtration system to control particulate emissions from the four clinker coolers.
2. Medusa shall post a bond in the amount of \$100,000 in a form acceptable to the Environmental Protection Agency, such bond to be forfeited in the event the gravel bed filtration system is not installed as described during these proceedings. The bond shall be posted by May 15, 1974 and shall be in lieu of the bond required under our prior Order of November 15, 1973. Bond shall be mailed

to Fiscal Services Division, Illinois EPA,
2200 Churchill Road, Springfield, Illinois 62706.

3. Beginning May 1, 1974, Medusa shall submit quarterly progress reports to the Variance Section of the Environmental Protection Agency. Such reports shall detail all progress towards completion of the gravel bed filtration system.
4. Medusa Corporation shall attempt to expedite completion of the gravel bed filtration system and shall report such efforts in its quarterly report to the Agency.
5. Medusa shall apply for all necessary construction and operating permits for its Dixon plants.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order was adopted this 18th day of April, 1974 by a vote of 5 to 0.

Christan L. Moffett