

ILLINOIS POLLUTION CONTROL BOARD
June 26, 1975

THE FLINTKOTE COMPANY,)
 Petitioner,)
)
 v.) PCB 74-89
)
ENVIRONMENTAL PROTECTION AGENCY,)
 Respondent.)

Mr. Edward Benecki, Gosnell, Benecki and Borden Ltd., appeared on behalf of Petitioner.
Mr. Henry J. Handzel, Jr., appeared on behalf of the Respondent.

OPINION AND ORDER OF THE BOARD (by Mr. Goodman):

This matter comes before the Pollution Control Board (Board) upon the March 8, 1974 petition of the Flintkote Company (Flintkote) for a variance from section 12(a) of the Environmental Protection Act (Act) and Rules 203(a), 402, 403, 404(a)(ii) and 404(b)(ii), and certain portions of 408(a) of the Water Regulations for its felt mill.

On April 8, 1974, Flintkote filed a motion to amend its variance petition which was granted. On May 15, 1974, Flintkote filed a "petition for exception to variance period," and requested a formal hearing and granted a waiver of the 90-day decision rule on May 28, 1974. Finally, Petitioner filed its final amended petition for variance on September 5, 1974.

On April 9 and June 17, 1974, the Environmental Protection Agency (Agency) respectively filed its recommendation and amended recommendation. Each recommendation was replied to by Flintkote.

A pre-hearing conference was held in Mt. Carmel, Illinois, on August 13, 1974, at which time Flintkote proposed to amend its petition.

On March 31, 1975, a hearing was held at which time a Stipulation and Agreement was submitted to the Board as a joint exhibit.

In the case of E.P.A. v. the Flintkote Company, PCB 72-152, Flintkote was granted a similar variance from corresponding provisions of SWB-9 of the Sanitary Water Board Regulations and the Water Regulations of the Board until

May 10, 1974. At that time it was anticipated that Flintkote's compliance plan would extend beyond May 10, 1974, and that Flintkote would have to apply for another variance. The two stage compliance plan would eventually result in a zero-discharge to the Wabash River and two unnamed ditches tributary to the Wabash River by Petitioner's Mount Carmel, Illinois, felt plant.

In 1973, Flintkote was discharging between 500,000 and 700,000 gpd containing an average of 3,600 pounds of BOD₅ effluent at between 500 and 1,000 ppm and 4,000 pounds of suspended solids ranging between 200 and 1,800 ppm in various grab samples. In PCB 72-152, Flintkote was assessed a penalty of \$8,000 for its violations which was duly paid by the Petitioner. Additionally, Flintkote posted a \$150,000 corporate bond to guarantee performance of its compliance plan.

Phase I of the compliance plan was completed and became operational on or about June 10, 1974. Pursuant to Phase I, a partial loop was constructed to achieve a 75% reduction in the daily flow to the Wabash River. There has been a significant reduction in Flintkote's waste water discharge. Flintkote now discharges 125,000 gallons per day with up to 500 pounds suspended solids and 3,000 pounds per day BOD₅.

Phase II of the plan will be completed by October 5, 1975, and result in a completely closed system. See "Submission of Phase II Engineering Program" PCB 74-89 which is hereby incorporated by reference as though fully set forth herein.

"The program contemplates the installation of new side hill screens, white water storage tank, filter, shower water tank, centrifugal separators, seal tank and four pumps. The purpose of the new equipment is to collect the white water now being discharged into the river, to screen and filter it, and then return it to the process for reuse. Existing sump pumps will pump the white water effluent to the new side hill screens which will flow by gravity to the existing shower water chest, which will be converted to a surge chest. A new pump will be installed on the existing shower water chest which will be converted to a surge chest. Clarified white water will be returned to the process and, excess white water from the cylinder vat will be pumped to the stock preparation white water chest by an existing pump. The demand for white water at the hydrapulper will be met from the screened white water tank by a new pump (P-3) as determined by the level in the stock preparation white water chest. Existing wash-down pumps will be repiped to use white water from new pump P-3 for wash-down.

"The existing No. 4 shower water pump will be relocated to supply clarified white water from the North filter to the machine showers. The new North filter will remove suspended

solids that might adversely affect the operation of the machine showers. These showers will be replaced with white water type showers to assure minimum disruption of machine operation.

"Centrifugal separators will be installed on the suction sides of three vacuum pumps to remove the water pulled from the sheet and felt in the machine press section. This water will be collected in a new seal tank and be pumped to the effluent ditch. Since this water has been screened by the felts, the suspended solids content should meet the initial requirements of the State.

"A Parshall flume will be installed in the existing effluent ditch to measure the effluent flowing to the river.

"Under Phase I, all cooling water will be picked up in the white water system. In the future, with a completely closed system, the cooling waters would be collected and discharged directly to the river.

"The Phase II operation is described in the report as follows, reference being made to flow sheets FS1, FS2 and FS3:

"The mill presently discharges from 500,000 to 700,000 gallons per day to an effluent ditch that eventually flows to the Wabash River. Prior to discharge, the mill effluent is collected and pumped to a flat screen. This screen removes large solids and some fiber prior to discharging to the effluent ditch. This ditch has an effluent weir to furnish manual flow measurements.

"The intent of the proposed system as shown on FS2 and FS3 is to reduce the mill effluent by screening and settling waste white water and reusing this water in the process of producing roofing felt.

"The system recommended for Phase I is shown on Flow-sheets 22-1059A-FS2 and FS3--'Recommended Water Refuse Flowsheet.' The system includes the following equipment to reduce the effluent to the river to 125,000 gallons per day and to reduce suspended solids to 1,000 pounds per day.

"The mill effluent will be pumped by the existing sump pumps to two side-hill gravity screens sized to handle 500 gpm each. These screens will be located in the beater room. They will discharge through the floor into the existing shower water chest located in the basement below.

"Screened white water from the side hill screens will be pumped to a 30 ft. diameter by 14 ft. high straight side, clarifier tank. The clarifier rake mechanism and mixing zone are not included but can be installed at a later date if required.

"The screened white water storage tank will be used to store the screened white water, thus providing surge capacity for the high water demand for the hydrapulper operation. It will also provide sufficient retention time for gravity separation of much of the suspended solids in the white water. Flocculating aids may be added to improve the settleability of the suspended solids.

"The tank bottom will be conical in shape to receive the possible future rake mechanism. The suction piping of the new white water transfer pump (P-3) will be connected to the center of the conical bottom, thus providing a means for removing settled solids. The settled solids will be returned to the process with white water. It is anticipated that pumping the white water containing the solids from the cone will prevent excessive build-up of solids in the storage tank.

"Since the white water from the press section of the paper machine will be collected and discharged to the effluent ditch, it is anticipated that there will be no overflow from the storage tank.

"The table below shows the design conditions and process efficiency predicted:

<u>DESIGN CRITERIA</u>	<u>FLOW RATE</u>	
	<u>Average</u>	<u>Maximum</u>
Flow (gpm)	465	1000
Suspended solids to side-hill screens (lb/1000 gal)	6 lb	126 lb
Percent removal for screens	0-10%	90%
Suspended solids to screened water storage tank (lb/1000 gal)	6 lb	13 lb
Predicted suspended solids in press water to effluent ditch (lb/1000 gal)	.5 lb	3 lb

"New pump (P-2) will supply white water from the screened white water storage tank to a new North-type gravity filter that will be installed to remove suspended solids from the paper machine shower water. The rotating drum of the North filter will be equipped with a fine mesh stainless steel filter screen to filter out the suspended solids contained in the shower water.

"Three white water type shower pipes will be installed on the paper machine. These shower pipes will be equipped with nozzles especially designed for white water.

"A chemical feed package as shown on FS3, consisting of a 300-gallon tank, a metering pump, and an agitator would be

capable of adding coagulant aids or other clarification aids if necessary. It also can add chemical slimicides to control the growths that will tend to develop in the white water system.

"A chlorination system as shown on FS3 will be provided. The effluent during Phase I (125,000 gpd) will require chlorination to insure disinfection of this discharge. The control of microorganisms will depend on the ability of the chlorination system to feed sufficient quantities of chlorine and to maintain a chlorine residual throughout the white water system. For design purposes, a feed rate of 6 parts per million (ppm) is anticipated to maintain a residual of 2 to 3 ppm. The chlorinator is sized to be capable of providing shock doses of chlorine (10 to 20 ppm) to each chlorination point. This shock dosing would last for 10 to 15 minutes, probably not more frequently than once a shift.

"Four chlorine meters have been provided. Three of these are proposed to eject chlorine into the new supply pumps, P-1 and P-3 as well as new effluent pump P-4. One additional chlorine meter has been included for ejection at a slime problem location after start-up. If extremely tenacious slimes develop, slimicides would have to be used to penetrate the slime envelope that protects the organisms. However, if chlorine is used properly and dosed frequently enough, slimicides will not be required." (Environmental Protection Agency v. Flintkote Company, PCB 72-152, May 10, 1973)."

The May 10, 1973 Order stated:

IT IS THE ORDER of the Pollution Control Board:

1. Stipulation entered into between The Flintkote Company and the Environmental Protection Agency, incorporating therein document captioned "Pollution Abatement Study for The Flintkote Company" by Rust Engineering Company is approved and incorporated therein.
2. Variance is granted to the Flintkote Company until May 10, 1974 from the provisions of SWB-9 and the Water Regulations of the Illinois Pollution Control Board, as applicable, to enable implementation of Phase I and Phase II of the compliance program herein provided. Permits for construction of the abatement system shall be applied for within ten days from the date of this order. Phase I shall be completed within 13 months and 10 days from the date of this Order and Phase II shall be completed within 27 months from the date the permits are issued for construction of Phase I. Variance

herein granted may be extended upon application submitted to the Board no less than 90 days before the expiration of any variance herein allowed, which shall be extended only upon a demonstration that Flintkote is making satisfactory progress toward the completion of its abatement program as defined herein, requiring substantial compliance with all time tables for completion of Phase I and the submission of a sound engineering program for implementation of Phase II.

3. Corporate bond in the amount of \$150,000 in form satisfactory to the Agency shall be posted within 35 days of the date of this Order, to guarantee compliance with all of the provisions of this Order and the Stipulation entered into between the parties. Upon completion of all conditions of the bond, the Agency will execute and deliver a bond release to Flintkote.
4. Flintkote, during construction of Phase I, shall submit to the Agency and the Board, periodic progress reports at 30-day intervals which shall indicate the status of all design and construction progress with respect to Phases I and II.
5. Penalty in the amount of \$8,000 is assessed against the Flintkote Company for violation of Section 12(a) of the Environmental Protection Act and SWB-9, as alleged in the complaint. Penalty payment, by certified check or money order payable to the State of Illinois, shall be made within 35 days and sent to: Fiscal Services Division, Illinois Environmental Protection Agency, 2200 Churchill Drive, Springfield, Illinois 62706.

The Board finds that Flintkote has made satisfactory progress toward completion of its compliance plan and has substantially complied with the Board's Order of May 10, 1973, in PCB 72-152. The assessed penalty was paid, the bond posted, permit applications for Phase I were submitted on time, and the required progress reports were timely submitted. Phase I was completed on schedule and Phase II commenced immediately thereafter and has continued to date. The expected reduction of suspended solids did not occur at the end of Phase I and Petitioner admits that on occasion the 2800 pound per day limitation on the discharge of BOD₅ has been exceeded. The nature of Flintkote's discharge varies from day to day, as indicated by the chart on page 6 of the Stipulation, due to Petitioners' raw material feed stock of wood pulp and paper.

Flintkote has expended considerable sums of money on a program which is acceptable to both the Agency and the

Board. To deny this program, when it is so near to completion, would work a severe hardship on Petitioner.

Completion of the compliance plan will result in total recycle which is to be encouraged as the ultimate treatment. There having been no showing in the record of adverse citizen reaction, together with the continuing reduction in discharges, the Board finds that Petitioner has met its burden in proving lack of environmental harm.

This opinion constitutes the findings of fact and law of the Board.

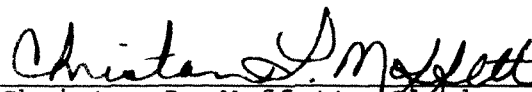
ORDER

1. Flintkote is hereby granted a variance, until October 5, 1975, for its discharge of process waters from Section 12(a) of the Act, and Rules 203(a), 402, 403, and 404(a)(ii) and 404(b)(ii) of the Water Regulations as they relate to the discharge of BOD₅ and suspended solids; and
2. Flintkote is hereby granted a variance from Rule 408(a) of the Water Regulations until October 5, 1975, limited to allowing Flintkote to continue the discharge of its present quality effluent. Said variance is granted upon the following conditions:
 - (a) Flintkote shall not substantially change the character and nature of its raw material feedstock without giving the Agency and the Board prior 30-day written notice; and
 - (b) Flintkote's effluent, with the exception of cyanide and mercury, shall not, at any time, exceed 5 times, on either a grab or composite sample basis, the numerical standard provided in Rule 408(a); and
 - (c) Flintkote's discharge of cyanide shall not exceed 1.0 mg/l at any time; and
 - (d) Flintkote's discharge of 408(a) contaminants shall not cause a violation of Rules 203(f) and 402 of the Water Regulations in the Wabash River; and
 - (e) This variance shall not extend to the limitations set forth in Rule 408(a) regarding pH and mercury, which shall remain in full force and effect; and

3. Flintkote's waste water discharge during this variance shall be limited to:
 - (a) 125,000 gallons per day;
 - (b) 250 pounds per day of suspended solids as a monthly average, not to exceed 500 pounds on any day; and
 - (c) 2,800 pounds per day of BOD₅; and
4. Flintkote shall take grab samples every six hours for 24 hour periods each week and mathematically compute 24 hour composites from same for suspended solids, BOD₅ and free chlorine. The results of said samples shall be included in monthly progress reports which Flintkote shall continue to submit to the Agency and the Board, detailing progress on Phase II; and
5. The bond posted in PCB 72-152 shall remain in full force and effect until completion of conditions of the bond at which time the Agency shall execute and deliver a bond release to Flintkote; and
6. Flintkote, during the term of this variance, shall not use in its compliance plan or in its manufacturing processes any of the contaminants listed in Rule 408 of the Water Regulations except as may be found to occur in Flintkote's normal raw material feed stock of wood pulp and paper as reported in PCB 71-68 and PCB 72-152; and
7. Flintkote shall complete Phase II and cease all discharges, other than non-contact cooling water, on or before October 5, 1975.

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 26th day of June, 1975 by a vote of 4-0.


Christan L. Moffett, Clerk
Illinois Pollution Control Board