



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Western Region

DANIEL S. GREENBAUM
Commissioner

JOHN J. HIGGINS
Regional Director

436 Dwight Street, Springfield, Mass. 01103

413-784-1100

October 16, 1990

Mr. William F. Aloisi, Jr.
Environmental Manager
Erving Paper Mills
P.O. Box 38
Erving, Massachusetts 01344

Re: PVAPCD - Erving
310 CMR 7.18 (17) - Reasonably
Available Control Technology
(RACT) Implementation Plan

CONDITIONAL APPROVAL - FINAL

Dear Mr. Aloisi:

The Department of Environmental Protection, Pioneer Valley Air Pollution Control District ("Department") and Erving Paper Mills (EPM) entered into an Administrative Consent Order on December 16, 1988. The purpose of the Order was to establish an enforceable schedule for EPM to comply with 310 CMR 7.18 (17) - U Reasonably Available Control Technology (RACT). A premise of this Order was that EPM could not install and operate in compliance with RACT by December 31, 1983, as required by 310 CMR 7.18 (17) (a) and (b). This Order was the concluding enforcement action following a series of activity, initiated in November 1985, to establish compliance with RACT at EPM.

EPM is a manufacturer of paper napkins and tissue products. EPM uses 100% recycled fiber (recycled paper) to produce approximately 100 tons per day of tissue paper on three paper machines. Recycled paper is made into a slurry in a pulper at EPM. The paper stock slurry is de-inked with chemical additives then cleaned and purified in a series of mechanical cleaning devices. The paper stock is pumped from storage tanks to the headerbox on the paper machines.

Volatile organic compound (VOC) emissions result from the use of a solvent wash to remove water insoluble residues ("stickies") from paper machine screens and felts. The residues are impurities in the paper stock which have not been removed in the cleaning process. The deposition and build-up of these residues adversely affects the operation of the process equipment and the quality of the paper. The solvent wash is undertaken on an as-needed basis when paper quality becomes unacceptable.

Between the time of the Department's first enforcement action against EPM for RACT in March, 1986 and the date of the Consent Order in December, 1988, EPM made several equipment and operating changes to help in complying with RACT. Most of these changes were front-end, geared towards reducing the formation of the residues on paper machine felts by more refined filtering and cleaning of the paper stock slurry¹. During this period, EPM also switched solvents from the aromatic solvent, Aromatic 150, to the aliphatic solvent, Betz Paperchem CC 2278 (Betz 2278). EPM trialed the use of a non-VOC containing solvent, but obtained unacceptable results. The net outcome of these efforts was a decrease in the amount of solvent used and a decrease in the overall emission rate of VOC from the stickie removal process.

On April 14, 1989 the Department received a Report from EPM which characterized and quantified VOC emissions due to the use of Betz 2278 in the stickies removal procedure. The report summarized the results of air emission and wastewater discharge tests conducted in February 1989². Test results indicate that almost 97% of the VOC contained in the Betz 2278 solvent applied to the paper machine felts is discharged to the wastewater. The remaining 3% of the VOC is discharged to the atmosphere at the paper machine.

At the Department's request, EPM, in October, 1989, conducted a bench scale study evaluating fugitive VOC losses from the Betz 2278 at the wastewater treatment plant (WWTP). The Department's rationale for requesting this study was that to the extent quantifiable, fugitive emission losses should be included in the RACT evaluation. Further, the discharge to the WWTP represented a significant quantity of Betz 2278 which could potentially volatilize and be emitted to the atmosphere.

The study produced results that were only approximations of actual losses due to uncertainties associated with bench scale simulations of complex real-world wastewater treatment systems. Nonetheless, the bench scale study indicated that an additional 13%, for a total of 16%, of the VOC contained in the Betz 2278 applied to the paper machine felts volatilizes and is emitted to the atmosphere.

EPM contends that the equipment and operational changes represent RACT for the Erving Mill and that no further reductions are needed. The changes to date have resulted in an actual reduction of 95%. The Department agrees with EPM's position.

Therefore, it is the opinion of the Department that the RACT Implementation Plan for Erving Paper Mills conforms with the requirements of 310 CMR 7.18 (17) of the "Regulations for the Control of Air Pollution in the Pioneer Valley Air Pollution Control

¹ The front end changes are itemized in letters to the Department dated July 28, 1988 and November 8, 1988.

² Protocols for the air emission and wastewater discharge tests were approved by the Department in accordance with EPA guidance prior to testing.

District". Therefore the Department conditionally approves the Plan subject to the following provisions:

1. EPM will limit the use of Betz 2278 (or its chemical equivalent) for stickie removal, to 4498 gallons per month.

Based on the results of the VOC emission testing, this will result in a VOC emission rate of 2.2 tons per month or 26.3 tons per year. This is based on a solvent density of 6.67 pounds per gallon, a solvent volatile content of 91.2%, and a VOC emission rate fraction equal to 0.16 of the total solvent used.

2. EPM will limit the use of Betz 2278 (or its chemical equivalent) for stickie removal to 8 gallons per wash cycle. The solvent wash equipment will include automatic shutoffs to prevent exceeding this limit. This limit will also be included in a Standard Operating Procedure manual that will be adhered to by all operators.
3. EPM will use no other VOC containing substances other than Betz 2278 (or its chemical equivalent) for the stickie removal process.
4. EPM will maintain daily a written log of gallons Betz 2278 (or its chemical equivalent) solvent used per day and a cumulative total for the current month. This solvent use log must be maintained on site for a minimum of three years and must be made available to the Department for inspection upon request.
5. EPM will not allow the paper machines to operate if the following stock cleaning devices are not in operation:
 - a) side hill washers
 - b) forward cleaners
 - c) reverse flow cleaners
6. EPM will not allow the paper machines to operate if the following stock cleaning devices are out of service for greater than the following number of hours per year on a rolling 12 month average basis:
 - a) coarse screen - 24 hours/year
 - b) flotation unit - 48 hours/year
 - c) fine screens - 24 hours/year
7. EPM will maintain a written log of the maintenance, repair, and down times (maintenance log) for the stock cleaning devices specified in provisions 5 and 6, and minimally include the following:
 - a) date and time of log entry
 - b) equipment affected
 - c) time taken out of service
 - d) time put back in service
 - e) hours out of service

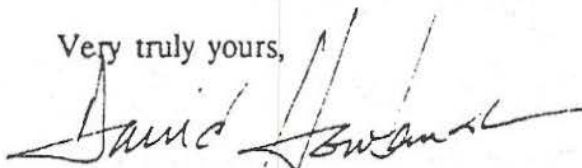
Technology is a revision to the Massachusetts State Implementation Plan (SIP) and as such, must be submitted for approval to the USEPA as a source specific SIP revision.

Failure to comply with the provisions of this approval will constitute a violation of the Regulations. This Conditional Approval does not exempt EPM from conforming with any future air pollution control regulations such as air toxics.

An Environmental Notification Form for air quality purposes was not required for this action since it is categorically exempt pursuant to the Regulations Governing the Preparation of Environmental Impact Reports adopted by the Secretary of Environmental Affairs.

If there are any questions or comments regarding any of the issues involved in this Conditional Approval, please contact John Kirzec or the undersigned at this office.

Very truly yours,



David E. Howland
Regional Engineer
Bureau of Waste Prevention

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Certified Mail No. P 502 602 598, Return Receipt Requested