ENGINEERING EVALUATION
PECHINEY PLASTIC PACKAGING; PLANT 273
APPLICATION 3938

BACKGROUND

Pechiney Plastic Packaging Company manufactures packaging materials for the food industry. The company is located at 6590 Center Avenue, Newark, California.

In November 2001, the District issued the Title V permit to Pechiney Plastic Packaging. Shortly, after the issuance of the Title V Permit, the company converted their facility from primary use of water-borne inks (compliant inks) to solvent-based inks. In doing so, the company shut down several of their sources and added a second thermal oxidizer system to meet BACT and applied for contemporaneous emission offsets. The company applied for and received permits to operate significant modifications to the facility in application #3772. As a result of these changes, Pechiney requested (in this application #3938) that their existing Title V permit be modified to reflect the revisions. A case-by-case analysis between the existing and proposed emissions was made because of equipment shutdowns, addition of another abatement device for non-complying VOC inks, contemporaneous emission offsets and requiring additional permit conditions.

In addition, Pechiney has requested synthetic minor permit conditions to establish area source status in regards to the National Emission Standards for the Printing and Publishing Industry, 40 CFR Part 63, Subpart KK, as allowed by 40 CFR § 63.820(a)(7). This is a case-by-case determination. Therefore, this application will be processed as a significant revision as defined in BAAQMD Regulation 2-6-226.

The changes that the company applied for in A/N# 3772 by Pechiney are summarized below:

- Convert the flexography press P4 (S-22 and S-23) to VOC solvent based production capabilities and abate the VOC emissions by an oxidizer system. Plans are to install a new catalytic oxidizer, A-3, in tandem (shared) with a similar unit to the existing oxidizer, A-2. The proposed VOC emissions will be limited to 39 tons per year.

- Increase the coating width of the extruder laminator 11 (S-1, S-2) with a potential increase in VOC emissions to be offset. The proposed VOC emissions will be limited to 6.63 tons per year.

- Consolidate permit conditions for flexographic press P5 (S-26) with no increase in emissions and maintain current emission levels to allow Condition ID# 15238 to a limit of 39 tons per year.

- Shut down S-3, S-4, S-5, S-6, S-7, S-11, S-12, S-13, S-14, S-15, S-19, and S-20 from their operations to offset the VOC emissions increase with contemporaneous emission reduction credits of 34.84 tpy.

The affected sources are listed as follows:

S-22 6-Color Flexographic Press P4 abated by A-2 and/or A-3 Oxidizer(s)

S-23 Drying Oven at Press P4 abated by A-2 and/or A-3 oxidizer(s)

S-1 Rotogravure Coater at Extruder Laminator 11 abated by A-2 and/or A-3 oxidizer(s)

S-2 Drying Oven at Extruder Laminator 11 abated by A-2 and/or A-3 oxidizer(s)

A-2 Catalytic Oxidizer, Grace TEC Systems, Magnum 9, @18,000 scfm

A-3 Catalytic Oxidizer, Megtec Systems; Magnum, @18,000 scfm

Enclosed is the Major Facility Review (Title V) Permit that reflects the above changes resulting from application #3772.

EMISSIONS (resulting from facility changes as permitted in A/N 3772)

P4 emissions (S-22, S-23):

Data:

1. Oxidizer VOC destruction efficiency is 97%
2. Capture efficiency is 80%
3. Overall efficiency is 97%*80% = 77.6%
4. The proposed throughput limit for P-4 is 348,300 lbs VOC/yr before abatement
5. The current condition limit (ID #1955 attached) is 20,500 lbs/yr of VOC

P4 VOC emissions=(348,300)(1 - 0.776) = 78,019 lbs/yr or 39 TPY

Net VOC increase = (78,019 lbs/yr - 20,500 lbs/yr) = 57,519 lbs/yr or **28.75 TPY**

Laminator 11 (S-1 & S-2) emissions:

Data:

1. Destruction efficiency = 97%,
   Capture efficiency = 90%,
   Overall efficiency = 87.3%
2. Proposed throughput limit of 104,400 lbs/yr
3. Baseline VOC emission limit of .54 TPY determined by average of throughput usages for 1999 and 2000 calendar year

Laminator 11 VOC emissions = (104,400)(1-87.3%)/2000 = 6.63 TPY
Net VOC emissions increase=(6.63 TPY - 0.54 TPY)= **6.09 TPY**

Contemporaneous emission credits: Credits were obtained by the shutdown of press P2 (S-3, S-4, S-5), press P3 (S-6, S-7, S-19, and S-20), and Coater 14 (S-11, S-12, S-13, S-14, and S-15). Baseline credits were based on the average of 1999 and 2000 usage records.

VOC emissions credits

	Yr 1999	Yr 2000	average
Press p2	8.86 tpy	6.54 tpy	7.70 tpy
Press p3	1.47 tpy	0.99 tpy	1.23 tpy
Coater 14	23.18 tpy	28.63 tpy	25.91 tpy

average baseline shutdown credits for 1999 & 2000 = **34.84 tpy**

Net VOC increase = (28.75 tpy + 6.09 tpy)-(34.84 tpy)**= 0**

PLANT CUMULATIVE INCREASE

There is no overall emission increase at this facility therefore no change will be made to the facility cumulative increase.

TOXIC RISK SCREENING ANALYSIS

Pechiney has provided MSDS sheets for the proposed inks and cleanup solvents. These include the following compounds:

Toxic Pollutant Emitted	Emission Rate (lb/yr)	Risk Screening Trigger (lb/yr)
ethanol	<91,260	NA
propanol	<91,260	NA
isopropyl acetate	<91,260	NA
n-propyl acetate	<91,260	NA
isopropyl alcohol	<91,260	440,000
nitrocellulose	<91,260	NA
glycol ether	<3900	3900

91,260 lb/yr is equivalent to 45.63 tons/yr of VOC emission cap at press P4 and Laminator 11. It is expected that the facility will be reducing their water based inks usage, which will include a significant reduction of glycol ethers. Therefore, no toxic risk screening is required.

STATEMENT OF COMPLIANCE

All sources at the facility will either use low VOC solvent inks to comply with Regulation 8-20-302 or an emission control system

with at least a 75% by weight overall control efficiency of VOC compounds to comply with Regulation 8-20-308. All presses, laminators, and coaters will comply with the good housekeeping requirements in 8-20-320 and the record keeping requirements of 8-20-503 or 8-20-506.

This application is considered to be ministerial under the District's proposed CEQA guidelines (Regulation 2-1-311) and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 5.4.

This facility is over 1,000 feet from the nearest school and therefore is not subject to the public notification requirements of Regulation 2-1-412.

Best Available Control Technology (BACT)

The BACT 1 standard requires an add-on emission control system of at least 98.5% destruction efficiency or not to exceed 10 ppmv VOC at the abatement device exhaust. Pechiney's existing A-2 and the new A-3 oxidizer will meet the BACT 1 standard.
The BACT 2 standard requires the use of water-based inks and VOC-free cleanup solvent, with no add-on controls. Pechiney has indicated that they will comply with the "low-VOC" standards of Regulation 8-20-302 (BACT 2) and propose to operate their oxidizers when only non-compliant solvents are in use. Use of compliant VOC water-based solvents is not cost effective to control and low inlet VOC concentration at the oxidizer results in low destruction efficiency, which may result in higher secondary combustion emissions. Thus, the use of their oxidizers, A-2 and/or A-3 will not be required when applying water borne solvents materials that comply with 8-20-302.

OFFSETS

The company will reduce the VOC emissions from several existing sources that will be used to mitigate increases in emissions from new sources. There are no VOC emissions increases facility-wide; therefore offsets are not required.

National Emission Standards for Hazardous Air Pollutant/Maximum Available Control Technology Standards (NESHAPS/MACT)

The plant elected to limit their HAPs emissions to no more than 9 TPY for any single HAP and 23 TPY for any combination of HAPs. This qualifies the facility to be an area source facility per 40 CFR part 63.820(a)(2). For non-complying materials, the 1990 Federal Clean Air Act amendments require certain sources to perform enhanced monitoring and provide an accurate picture of their emissions. Enhanced monitoring programs may include keeping

records on materials used by the source, periodic inspections, and installation of parametric (temperature monitoring at the catalytic oxidizers) or continuous emission monitoring systems. Monitoring will be record keeping, parametric monitoring, and emission calculations per section 63.829(d) and 63.830(b)(1).

New Source Performance Standards (NSPS)

Subpart QQ of the NSPS for the Graphic Arts Industry does not apply since the equipment commenced before October 28, 1980 and the cost of the modification is less than 50% of the cost of the new equipment (40 CFR 60.15), and there is no emissions increase. (Note: Only publication rotogravure printing is applicable to the NSPS or NESHAPS standards.]

Monitoring Analysis

To insure that minimum overall VOC capture and control efficiency is maintained, all the sources are tied into an automatic interlock system with A-2 & A-3 Catalytic Incinerator and associated blowers. Monthly inspection of VOC collection system integrity and reliability will insure that interlock is maintained.

Thermocouples at the catalytic incinerators and continuous temperature recorders will be installed to monitor outlet catalyst temperature.

If the permit holder exceeds any of the conditions, the company is obligated to notify the District and provide a report detailing the violation event and any corrective measures taken in accordance with Standard Condition 1.F.

Within one year, the permit holder needs to conduct a source test to determine compliance with the permit conditions to meet the minimum temperature destruction efficiencies at various VOC concentrations and overall control efficiency limits at A-3.

Annual source testing for A-2 and A-3 has been added to determine compliance with Conditions 14373 and 15328, and BAAQMD and SIP Regulation 8, Rule 20. It is understood that testing for destruction efficiency is not sufficient to ensure compliance with the overall collection and control requirement. The monitoring for collection efficiency continues to be monitoring of the mechanical interlock system.

Adequate source testing, parametric monitoring and record keeping of usages all VOC components for compliant and non-compliant inks are addressed for all federally enforceable emission limits.

PERMIT CONDITIONS

See attached condition #14373, #15238, and 20229 in the Title V (Major Facility Review) Permit

RECOMMENDATION

It is recommended that the revised changes be made to the Title V Permit, that the permit be submitted to EPA for review, and that the permit be made available for a public notice period of 30 days in accordance with the procedures in BAAQMD Regulations 2-6-410, 411, and 412.

By: _____

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