Title V Air Operation Permit Renewal
Permit No. 0570293-023-AV

APPLICANT

The applicant for this project is Star Packaging Corporation (formerly known as Cory Packaging, Inc.). The applicant's responsible official and mailing address are: Glenn H. Goering, Director of Operations, Star Packaging Corporation, 6932 South Manhattan Avenue, Tampa, Florida 33616.

FACILITY DESCRIPTION

The applicant operates a flexographic printing facility, which is located in Hillsborough County at 6932 South Manhattan Avenue, Tampa, Florida.

Star Packaging Corporation manufactures custom printed bags by running polyethylene film through flexographic presses, where inks are applied to meet customer specifications. Solvents are used for general cleaning purposes and to thin the concentrated inks prior to application onto the film. The film, in long rolls, is fed through the press. After ink is applied at the first color applicator, hot air is blown onto the wet ink to evaporate the solvent. The coated film then proceeds further in the press for additional ink (different colors) application as necessary. After all the colors have been applied, the film is cut into desired sizes and packaged for shipment.

There are two flexographic presses in operation at the facility: Press No. 2 (Comexi Model 120 - 50" wide) and Press No. 5A (PCMC Infiniti – 57" wide). Press No. 7 was removed from service and is scheduled to be removed from the facility. Volatile organic compounds (VOCs) released from the inks at the individual press dryers are captured with varying efficiencies from the presses and ducted to a common plenum on the roof. In order to reduce VOC emissions, minimum capture efficiencies are required by each press. The collected vapors are then directed to the Regenerative Thermal Oxidizer (RTO), where they are progressively heated in a porcelain media bed as they move toward the combustion chamber. The VOCs are oxidized in the combustion chamber and the exhaust then passes across a second media bed which results in a significant increase in bed temperature and decrease in exhaust temperature. The gases are then exhausted through a vertical stack. Valves are used to alternate the inlet and outlet airflow across the two beds in order to maximize the thermal recovery and overall efficiency of the unit. Each porcelain structured media bed has a volume of around 590 ft^3. The control unit is a 4.0 MMBtu/hr natural gas-fired 15,000 SCFM Anguil Model 150 RTO System capable of handling up to 200 lb/hr of VOC from the presses. The RTO is required to meet a minimum VOC destruction efficiency of 90%, consistent with the requirements from Rule 62-296.515(2)(a)3., F.A.C. Emissions are limited based on minimum capture and destruction efficiency requirements, and limits on the annual ink and solvent usage. CAM does apply to this printing operation.

The facility has four bulk storage tanks that store the chemicals and solvents. The tanks range between 2,000 to 8,000 gallons. The storage tanks are fixed roof tanks fitted with pressure relief valves, which help minimize VOC emissions. These tanks are considered to be insignificant emission units. The tanks typically store MP Blend, Recycled Solvent, Hazardous Waste Solvent and N-Propyl Acetate. MP Blend* is a Master Packaging Blend typically consisting of a mixture of N-Propyl Alcohol and N-Propyl Acetate.

The liquid waste solvent is handled by an authorized agent or processed through the solvent recovery system (Model Resolv-r 2 ECO400 Continuous). The solvent recovery system distills the used solvent to produce clean, recycled solvent reused in the presses. The solvent recovery system is also identified as an insignificant emissions unit. Fugitive VOC emissions are released through the doors and exhaust vents on the building. These emissions are restricted by a combined limit on material usage.

Also included in this permit are other miscellaneous unregulated/insignificant emissions units and/or activities, including the laminator machines and the Press No.2 process dryers.

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V permit for the above referenced facility. This project also incorporates Permit No. 0570293-022-AC, documents the removal of Press #7 as an active press, includes the addition of an alternative sampling plan (ASP) for capture efficiency testing, and formally recognizes a name change of the permittee from Cory Packaging, Inc. to Star Packaging Corporation.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Renewed Title V Air Operation Permit No. 0570293-013-AV issued November 28, 2006
Title V Air Operation Permit Revision (Permit No. 0570293-018-AV) issued January 28, 2008
Title V Air Operation Permit Revision (Permit No. 0570293-020-AV) issued June 29, 2009
Application for a Title V Air Operation Permit Renewal received June 30, 2011

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is not identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is not a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does not operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility does operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63. The printing operation is subject to 40 CFR 63 Subpart KK - National Emission Standards for the Printing and Publishing Industry; however, since the facility is not a major source of HAPs, there are only recordkeeping requirements from this Subpart (refer to 40 CFR 63.820(a)(1)).

CAIR: The facility is not subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) applies to Emission Unit 001 (Flexographic Printing Presses). EU001 is subject to CAM for the regulated emissions of volatile organic compounds, which are partially controlled by the RTO.

STATE: The facility does operate units subject to the requirements of Rule 62-296.500, Reasonably Available Control Technology for VOC and NOX Emitting Facilities, F.A.C., since there is an applicable source specific category in this rule: Graphic Arts Systems (Rule 62-296.515, F.A.C.).

PROJECT REVIEW

The renewal permit updated several portions of the permit as follows:

1) The permit was reformatted using latest version of the preferred Title V permit format. Appendix TV-6 was replaced with new Appendix TV, and Appendices RR and TR were added to document reporting and testing requirements.

2) As requested as part of the Title V renewal application, the permit formally recognizes a name change of the permittee from Cory Packaging, Inc. to Star Packaging Corporation.

3) The Title V permit incorporates Construction Permit No. 0570293-022-AC, which authorized replacement of the 23,000 ACFM Pillar Technologies catalytic oxidizer and Sudi-Chemie in-stack Catalytic RTO System with the new 15,000 SCFM Anguil Model 150 RTO System.

4) The permit documents the removal of Press No. 7 as an active press. The throughput limits and overall emission limits remained unchanged from Construction Permit No. 0570293-022-AC. Although Press No.

7 is now inactive, the emissions were still based on the assumption that 50% of ink and solvent usage is through Press No. 5A. The other 50% is now assumed through Press No. 2. Consistent with the previous permits and in order to maximum flexibility for the permittee based on the facility-wide potential emissions calculations, Press No. 2 is limited to processing no more than half of the total facility-wide ink and solvent usage allowed in the permit.

5) The requirement to test the oxidizer for destruction efficiency has been changed from annually to once every 5 years (prior to renewal). In the Title V renewal application, the applicant requested that the annual destruction efficiency testing frequency be reduced in their permit since they purchased a new RTO and are struggling in their current economic climate. The new RTO has a manufacturer's guarantee of 99% destruction efficiency and, as a new unit, is expected to maintain a high level of performance for several years before its performance would expect to degrade slowly. Based on the stack testing following installation of the new RTO, the RTO demonstrated a destruction efficiency (DE) of 99.3%, Press No. 2 had a capture efficiency of 73%, and Press No. 5A had a capture efficiency of 87%. When calculating the emissions using these actual test results rather than the minimum percent required by the permit, the emissions for their two presses with the RTO were calculated to be 96.2 tons/yr, which is less than the major source threshold. Rule 62-297.310(7)(a)4, F.A.C. stipulates that a compliance test is required annually for any emission unit with an applicable emission standard and potential emissions greater than 100 ton/yr for any regulated pollutant. However, based on the acquisition of the new RTO, the manufacturer's guarantee of 99% destruction efficiency, and the results from the DE compliance test, the testing was changed to 5 years as requested in the application. However, the frequency of testing will be re-evaluated during each renewal cycle as the unit ages, and based on the results of future performance tests. The State regulations have provisions that can require the permittee to conduct compliance tests at any time if it has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable requirement or permit condition is being violated, as stipulated by Rule 62-297.310(7)(b), F.A.C. Therefore, in order to provide flexibility to the permittee and a financial incentive for the installation of the newer, more reliable control device, the requirement to test the oxidizer for destruction efficiency was changed from annually to once every 5 years (prior to renewal).

6) The current CAM Plan and O&M Plan were updated to reflect the new RTO. Most notably, the temperature setpoint and excursion levels have been specified based on the operating parameters of the RTO during compliance testing performed prior to renewal. An updated spare parts list was also added to the O&M Plan.

7) The reference to an emergency generator that was previously included in the Title V permit's Insignificant Activity List has been removed based on correspondence received on July 19, 2011.

8) An alternative sampling procedure (ASP) was approved by the DEP (DEP File No.: 11-E-AP) on May 13, 2011 in regard to capture efficiency testing. A reference to the ASP was added to Specific Condition Nos. A.12 and A.17, and has also been included as appendices to the permit.

CONCLUSION

This project renews Title V air operation permit No. 0570293-013-AV, which was issued on November 28, 2006. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.