

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
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Project Summary for an Application from
GFX International, Inc. for a
Federally Enforceable State Operating Permit (FESOP) for
333 Barron Boulevard
Grayslake, Illinois 60030

Site Identification No.: 097025AAY
Application No.: 08040006

Illinois EPA Contacts

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I. INTRODUCTION

GFX International Incorporated has applied for a Federally Enforceable State Operating Permit (FESOP) for its screen printing facility at 333 Barron Boulevard in Grayslake. This plant requires an air pollution control operating permit because it is a source of emissions. The Illinois EPA has prepared a draft of the permit that it would propose to issue for the plant. However, before issuing the permit, the Illinois EPA is holding a public comment period to receive comments on this proposed action and the terms and conditions of the draft permit that it would propose to issue.

II. SOURCE DESCRIPTION

GFX International, Inc. (GFX) operates a screen printing facility in Grayslake, Illinois. GFX manufactures screen printed products for the advertising and marketing industries, utilizing eight (8) UV screen printing presses, five (5) ink jet presses and 3 digital presses.

For the screen preparation operation, image stencils are produced on porous screens which are mounted on various sized frames. Screens are prepared for use by stretching the mesh material over an aluminum frame and securing it to the frame using an adhesive. The mesh is cleaned using a water based screen degreasing solution, and the areas of the screen through which the ink should not pass are sealed using a block out material.

In the screen printing process, UV inks are applied to the screens, and rubber squeegees are used to force the ink through the fine mesh porous openings onto the target substrate. The screens are cleaned in the pressroom area to remove residual inks, and they can then be reused. The pressroom screen cleaning step is performed using a solvent based cleaner that is manually applied to a laundered cloth towel. The cloth towel is used to wipe the screen, and is immediately placed in a closed container.

Once a screen is no longer needed or is no longer usable, the screen can be reclaimed. In the screen reclamation process, the stenciled image is removed by utilizing a high pressure sprayer in conjunction with various water based cleaning solutions, including ink degraders, emulsion removers and screen degreasers. These water based cleaning solutions are applied to the screens manually, and the screens are sprayed down with a high pressure sprayer using tap water with no chemical addition.

UV inks are used for all of the screen presses and two of the five inkjet printing presses. UV inks contain oligomers which cross link under the UV lamp radiation to form polymers. There is a very small amount of VOC (typically less than 2% by weight) in these inks. As a worst case estimate, it is assumed that any VOC content in the UV inks is emitted to the air. All of the UV screen and UV inkjet presses are exhausted direct to atmosphere. The purpose of the exhausts is to remove the heat from the UV lamps. There are no dryers on any of these presses.

Three of the five inkjet printers utilize conventional inkjet inks, and as a worst case estimate it is assumed that whatever small amount of VOC is present in these

inks is emitted to the air. Only one of the conventional inkjet printers is exhausted. Also, the solvents used contain VOC that is emitted to the atmosphere when used.

III. GENERAL DISCUSSION

Federally Enforceable State Operating Permits (FESOPs) are federally enforceable, that is, the terms and conditions of the permits can be enforced by USEPA under federal law, as well as by Illinois government and the public under state law. These permits can establish federally enforceable limitations on the operation and emissions of a source that restrict the potential emissions of the source.

The source has been operating this plant under a FESOP because the actual emissions of the plant are below the levels at which the plant would be considered a major source under Title V of the federal Clean Air Act. However, in the absence of federally enforceable limitations, the plant's potential emissions would be such that the plant would be considered a major source. The permit acts to restrict the plant potential emissions so that it need not be considered a major source. As a result, the source does not need not obtain a Clean Air Act Permit Program (CAAPP) permit for the plant, as would otherwise be required.

The FESOP limits the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons for VOM, 10 tons for an individual HAP and 25 tons for combined HAPs.

IV. APPLICABLE EMISSION STANDARDS

All emission units in Illinois must comply with state emission standards adopted by the Illinois Pollution Control Board. These emission standards represent the basic requirements for sources in Illinois. The application shows that the plant is in compliance with applicable state and federal emission standards.

V. CONTENTS OF THE PERMIT

This permit that the Illinois EPA is proposing will identify the specific emission standards that apply to the emission units at the plant. The conditions of this permit are intended to ensure that the source continues to comply with applicable emission standards.

The permit would also contain limitations and requirements to assure that this plant is operated as a non-major source. The permit would limit the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons for VOM, 10 tons for an individual HAP and 25 tons for combined HAPs. (Annual emissions of other pollutants from the plant are well below the 100 ton major source threshold.)

The permit conditions would also continue to require appropriate compliance procedures, including inspection practices as well as recordkeeping and reporting requirements. The source must carry out these procedures on an on-going basis to

demonstrate that the plant is being operated within the limitations set by the permit and the plant's emissions are being properly controlled.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the source has met the requirements for issuance of its permit. The Illinois EPA is therefore proposing to issue the permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

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