

Poly Print, Inc.

Air Quality Permit #671

Technical Support Document (TSD) Minor Permit Revision Update: May 2020

1. General Comments:

A. Company Information

Source Location: Poly Print, Inc., 2300 W. Wetmore Road, Tucson, AZ 85705

B. Background

Pima County Code (PCC) requires that a source of significant regulated air pollutants obtain an air quality permit pursuant to PCC 17.11.090. This air permit #671 is for Poly Print Inc. (herein known as the facility). The facility operates a specialty printing operation at 2300 West Wetmore Road, Tucson Arizona. The materials used in the printing operation generate both volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions. The HAP emissions from such operations are also typically VOC emissions.

The facility currently has a voluntary VOC emission limit of 90 tons/year on a 12-month rolling total. This is established to ensure the facility potential to emit pollutants remain below the applicable major source thresholds and thus avoiding triggering title V permitting requirements. This voluntary accepted limitation effectively designates the facility into a minor stationary source.

The Table below summarizes the permit actions taken since the last permit renewal, on May 10, 2016.

Summary of Permit Actions Within the Current Permit Term

Date Received/ Approved	Permit Action
<p>Received 06/08/2016</p> <p>Approved 03/17/2017</p>	<p>671-101P Minor Permit Revision:</p> <p>The addition of a new Uteco Onyx 10-Color Flexographic Printing Press and a request to allow the non-volatile organic compound exhaust from the use of water based inks from all 3 printing presses to be emitted to the atmosphere instead of being routed to the Regenerative Thermal Oxidizer.</p>
<p>Received 02/02/2020</p> <p>Approved 06/23/2020</p>	<p>671-103P Minor Permit Revision:</p> <p>The removal of the 6-Color Sirio printing press; the addition of a 10-Color Uteco Onyx printing press with an attached self-contained ink compartment; removal of the Permanent Total Enclosure housing the Sirio and Uteco Emerald printing presses; enclosing and sealing the Central Impression drum of the Uteco Emerald printing press; adding a self-contained ink compartment that will be attached to the Uteco Emerald printing press; and installing a 30,000 SCFM Regenerative Thermal Oxidizer that will receive exhaust from the new Uteco Onyx press and the existing Uteco Emerald press.</p>

C. Attainment Classification

The source is located in an area that is in attainment for all pollutants.

2. Source Description

A. Process Description

The facility previously utilized three printing presses; a 10-color Uteco Onyx Model 108 flexographic printing press (ID 2605), a Uteco Emerald Model 130 flexographic printing press (ID 1953), and a 6-color Sirio printing press (ID 1303). These presses are equipped with accessory equipment including treaters and dryers. A Uteco laminator and a Nordmeccanica laminator support the production operation. All emissions from the printing lines, except those emitted from the water white ink decks, located on all three printing presses, were routed to a 12,000 standard cubic feet per minute (SCFM) Regenerative Thermal Oxidizer (RTO).

In 2019, the facility notified Pima County Department of Environmental Quality (PDEQ) it was removing the 6-color Siro printing press. On February 6, 2020, the facility submitted a minor permit revision (MPR) to install an additional 10-color Uteco Onyx Model 108 flexographic printing press (ID 2990) identical to the existing 10-color Uteco Onyx printing press and to install a new 30,000 SCFM RTO. The MPR also includes removing the total permanent enclosure (TPE) that housed both the 6-color Sirio press and the 10-color Uteco Emerald press and retrofit the 10-color Uteco Emerald Press, that was housed in the TPE, with a totally enclosed Central Impression drum compartment and self-contained ink compartment identical to the other existing and the new Uteco Onyx Presses.

All three printing presses' self-contained ink compartments will be attached to a press, and be maintained under negative pressure. The new Uteco Onyx printing press will be installed in the location where the Sirio press was previously installed. Both the new Uteco Onyx printing press and the existing Uteco Emerald printing press will vent to the new 30,000 scfm RTO. The existing Uteco Onyx printing press will continue to vent to the existing 12,000 scfm RTO. Poly Print will no longer use solvent free water white inks in their printing lines and PDEQ has removed the permit conditions allowing the exhaust from the water white ink decks to bypass the RTO's and vent directly to the atmosphere.

The facility proposes to voluntarily limit VOC emissions to 90 tons/year on a 12-month rolling total basis.

There are seven corona treatment units that generate ozone; each printing press has a corona treatment unit and each laminator has two corona treatment units that generates ozone for treating the surface of certain types of materials for the printing process. Ozone emissions from the Corona treatment units will exhaust directly into the atmosphere. The Uteco laminator is capable of using water-based adhesives for the lamination process as well as solvent-based adhesives. Nordmeccanica laminator is a solvent free laminator which does not emit VOCs.

The facility is a synthetic minor for VOCs and a true minor source for all other pollutants. The hours of operation depend on the workload which changes weekly and monthly, depending on the contracts obtained by the business.

B. Air Pollution Control Equipment

The two regenerative thermal oxidizers are equipped with twin heat exchanger beds and low NO_x natural gas fired burners designed to maintain a minimum operating temperature of 1500°F.

C. Permanent Total Enclosure

All three printing presses will have a self-contained ink compartment that is under negative pressure and attached to the press. Emissions from the new Uteco Onyx Press and the existing Onyx Press will be routed to the new RTO and monitoring equipment. The existing Uteco Onyx Press will continue to exhaust to the existing RTO. All three printing presses

3. COMPLIANCE HISTORY

The last Full Compliance Evaluation (FCE) was conducted on October 3, 2019. One deficiency was noted for failure to maintain the 5-point criteria for the Permanent Total Enclosure for the room surrounding the Sirio press and Uteco Emerald press required in permit condition II.C.1.c in Section 2 of the Permit. The facility was issued an Opportunity to Correct for the deficiency on January 7, 2020. No Notice of Violation actions have been issued by PDEQ to the facility.

Since the last FCE, PDEQ has not received any excess emissions reports from the facility.

4. EMISSIONS ESTIMATES

The facility continues to use a proven method to track chemical inventory and emissions as used under the existing air permit. Each ink, solvent or additive is called a part and is assigned a unique part number which is used to track its purchase, inventory and consumption every month. The inks and solvents used by the facility contain a variety of VOCs including hazardous air pollutants (HAPs). The identity (CAS number) and various VOC weight percent in each part are identified on Safety Data Sheets (SDSs).

The Potential to Emit of the facility is based on operation 24 hours/day 365 days per year.

Pollutant	Emissions (tons/yr)		
	VOCs	HAPs	Ozone
Uncontrolled Potential To Emit	694.00	0.53	16.79
Allowable Emissions	90.00	22.50	No Limitation

The annual allowable emission limits apply to any 12-consecutive calendar month period. The emission limitations are held at 90% of major source threshold.

Since the uncontrolled potential to emit is above major source levels, the facility has proposed a synthetic minor limitation of 90 tons per year of VOC and have volunteered to operate RTOs that have a minimum 95% destruction efficiency of VOCs routed to the RTOs. Based on the estimates, the source’s permit class is a Synthetic Minor, Class III Permit. The synthetic minor limitation only applies to VOCs. The source is a True Minor for all other pollutants.

Insignificant Equipment

The following fuel-fired equipment has been determined to be insignificant pursuant to Pima County Code 17.04.340.113.j;

Plant ID #	Equipment Name	Model	Fuel Type	Serial Number
3	Uteco Laminator (New)	Horizon D/ TH, Model 130	Natural Gas	1959
4	Nordmeccanica	Super Simplex SL 1300	Electric	2068
NA	Plate Cleaner	NA	NA	NA
NA	Hand Cleaning of Plates	NA	NA	NA

NA – Not Available

5. Applicable Requirements

40 CFR, Part 60 New Source Performance Standards NSPS

No NSPS rules apply to the source.

40 CFR, Part 63 National Emission Standards for Hazardous Air Pollutants NESHAP

No NESHAP rules apply to the source. The following NESHAP rules could but do not apply for the following reasons:

40 CFR Part 63 Subpart KK (Printing and Publishing Industry)

This rule is only applicable to facilities that are a major source for HAPs. Poly Print, Inc. is a true minor (area) source for HAPs (the PTE for all HAPS is 0.22 tons per year); as a result, the facility is not subject to 40 CFR Subpart KK (see EPA Determination Detail M980042). If Poly Print were a major source for HAPs, a synthetic minor limitation could be chosen to restrict the PTE to an area source and as a result Poly Print would only be subject to reporting requirements in 63.829 (d) and 63.830 (b)(i).

40 CFR Part 63 Subpart JJJJ (Paper and Other Web Coating)

This rule does not apply because it is only applicable to facilities that are a major source for HAPs. This is true minor (area) source for HAPs, and therefore not subject to 40 CFR 63 Subpart JJJJ.

EPA-452/F-03-033, Test Method 204 – Permanent Total Enclosure

Pima County Code Title 17, Chapter 17.11 – General Provisions for Permits

Article I – Scope and Authority

17.11.010 Statutory Authority

17.11.020 Planning, Constructing, or Operating Without a Permit

Article II – General Provisions for Stationary Source Permits

17.11.060 Permit Display or Posting

17.11.120 Material permit condition

17.11.160 Test methods and procedures

17.11.190 Synthetic Minor Limitation for VOCs

17.11.210 Performance tests

Pima County Code Title 17, Chapter 17.13 – Individual and General Permits and Permit Revisions for Class II and Class III Permits

Article I – General Provisions

17.13.010 Application processing procedures for Class II and Class III permits.

17.13.020 Permit contents for Class II and Class III permits

Article II - Permit Revisions, Renewals and Transfers for Class II and Class III Permits

17.13.100 Facility Changes that require a permit revision

17.13.110 Procedures for certain changes that do not require a permit revision Class II or Class III

17.13.130 Minor Permit Revision

17.13.140 Significant Permit Revision

17.13.150 Permit Reopenings – Revocation and reissuance – Termination

Article III. - Emissions for Class II and Class III Sources

17.13.190 Reporting requirements

Article V - Fees for Class II, Class III, and General Permits

17.13.240 Fees related to Class II and Class III permits

Pima County Code Title 17, Chapter 17.16 – Emission Limiting Standards

Article I – General Provisions

17.16.010 Local rules and standards; Applicability of more than one standard

17.16.020 Noncompliance with applicable standards

17.16.030 - Odor limiting standards.

Article II – Visible Emission Standards

17.16.040 Standards and applicability (includes NESHAP)

17.16.050 Visibility limiting standard

Article IV – New and Existing Stationary Source Performance Standards

17.16.130 Applicability

17.16.400 Organic solvents and other organic materials.

17.16.430 Standards of performance for unclassified sources

Pima County Code Title 17, Chapter 17.20 – Emissions Source Testing and Monitoring

Article I – General Provisions

17.20.010 Source sampling, monitoring and testing

Pima County Code Title 17, Chapter 17.24 - Emission Source Recordkeeping and Reporting

Article II - Recordkeeping Requirements

17.24.020 Recordkeeping for compliance determinations

6. Alternate Operating Scenarios

The applicant has not requested any alternate operating scenarios in this permit.

7. IMPACTS TO AMBIENT AIR QUALITY

Not a major source and so no studies are required.

8. CONTROL TECHNOLOGY DETERMINATION

No control technologies needed to be determined. This facility is in an area of attainment and is not a new PSD source