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EMS Aspects: Offset Printing, Auxiliary Enterprises, Volatile Organic Compounds (VOC's) Air Emissions

Aspect Ranking: 14

Auxiliary Enterprises (AE) is a division within University of Texas Health Science Center at Houston (UTHSC-H) comprised of business entities which specialize in services for the student, faculty, employee and often the Texas Medical Center community.

Offset Printing, Release of VOC's

Task/Activity Description:

Auxiliary Enterprises Print Shop operates three Heidelberg printing presses, which are located at the UTHSC-H Operations Center Building. These presses utilize soy based inks and non-alcohol fountain solutions during operation, and require routine cleaning with solvents. These processes have the potential to emit volatile organic compounds (VOC's) to the atmosphere, which lead to the formation of ground level ozone. Volatile organic compounds are a criteria pollutant regulated by the Federal Clean Air Act and the Texas Clean Air Act.

The Houston Galveston area is listed in 30 TAC Chapter 101 as a severe non-attainment area for ozone. This designation limits the potential to emit (PTE) for minor sources of air pollution to 25 tons per year (TPY) of VOC's and 25 TPY of Nitrogen Oxides. The Environmental Protection Program has completed an analysis of the total volume and portions of VOC of cleaning chemicals and ink purchased on an annual basis from the print shop to demonstrate compliance with minor source limits.

The UTHSC-H AE Print Shop is authorized by Permit by Rule, 30 TAC Chapter 106 Subchapter R §106.418, which applies to Printing service including offset lithographic process. In addition to the permit by rule specifications, the print shop is also subject to 30 TAC Chapter 115 Subchapter E. The UTHSC-H AE Print Shop has been in existence at the UTHSC-H Operations Center Building since 1987 when the UTHSC-H AE operations were combined with the University of Texas MD Anderson print shop. A majority of the printing services are contracted to state entities other than UTHSC-H.

Key Control Points:

The permit by rule and Houston-Galveston area conditions are evaluated and VOC PTE is calculated by the Environmental Protection Program utilizing purchase records obtained from the Print Shop Director. This evaluation of permit by rule conditions was initially completed in 2003, and is reevaluated on a five year interval, or upon significant process change.

Related Forms, Records, SOPs:

- EHSA
- Emissions Reference: Emissions Improvement Program, Graphic Arts, Final Report. November 1996.
- Operations Center PTE Report 2004

Personnel Responsible:

AE Print Shop Director

- Maintain purchase records of ink, fountain solutions, and cleaning solvents for two years
- Ensure pressmen operate equipment and perform cleaning utilizing techniques to reduce VOC emissions

Safety Specialists, EPP

- Assists with the collection of purchase records to complete PTE evaluation

Safety Manager, EPP

- Oversee and conduct the PTE evaluation and retain documented results

EH&S Director

- Liaison with the Vice President of Auxiliary Enterprises and report status of print shop in context with air pollution regulations

Environmental Compliance (Air Releases) Program

Task/Activity Description:

Print Shop Air Emission and Environmental Health & Safety Survey, inclusive of Hazardous, Universal and Recyclable Wastes

Schedule: Semi -Annual

To assist Auxiliary Enterprise employees, who operate printing presses at the Operations Center Building Print Shop, in complying with the requirements for control of VOC emissions and management of hazardous wastes, The Environmental Health & Safety Department's Environmental Protection Program (EPP) conducts semi -annual inspections of the print shop equipment and printing practices, as well as hazardous waste management.

Inspections are performed by the EPP manager or safety specialist utilizing a checklist survey form. Currently, deficiencies are noted on the form by checking the "yes, no, or not applicable" boxes or by adding items to an additional comments section on the survey form. Once the survey is complete, a memo listing any noted deficiencies and corrective actions is sent to the Print Shop Director. The memo is also copied to the vice president of auxiliary enterprises, as well as filed by the EPP for future reference.

Deficiencies noted during the survey are tracked for resolution utilizing an Access database or EHS Assistant. As part of the deficiency tracking process, at least thirty days are given to correct any deficiencies, before potentially escalating enforcement actions.

Key Control Points:

- Identify sources of VOCs and compare management practices to regulatory requirements
- Identify potential mismanagement of hazardous and universal wastes, improper storage and disposal
- Communicate environmental compliance requirements to personnel who operate offset sheet feed lithographic presses, and generate hazardous wastes

Related Forms, Records, SOPs:

[AE Print Shop Survey Form](#)

Personnel Responsible:

AE Print Shop Director

- Oversee print shop operations and ensure the amount and type of materials utilized do not exceed VOC annual limits for the Houston-Galveston area

Manager/Safety Specialists, EPP

- Initiate facility survey process with AE Print Shop Director
- Perform facility survey
- Enter deficiencies into database and generate memo report
- Track appropriate response through deficiency database
- Monitor inspection schedule through the EPP compliance calendar
- Advise appropriate actions on the compliance process

- Retain inspection and air emission documentation for

EH&S Director

- Provides oversight and appropriate actions on the compliance process and liaison with Auxiliary Enterprise Vice President.
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Annual Training – Environmental Management Systems and Environmental Awareness

Task/Activity Description:

For the communication of environmental programs and environmental management systems, the EPP provides training on an annual basis for AE Print Shop staff. This training introduces and reinforces environmental management system principles, air emission control practices specific to the AE business unit's operations, and environmental concerns and compliance requirements for air emissions and hazardous materials management. The training is lead by an instructor on an annual basis, and the training materials are available on the EH&S web page.

Key Control Points:

- Communicate environmental compliance requirements and environmental management concepts to personnel who operate, clean, and maintain offset printing equipment.

Related Forms, Records, SOPs:

- [Environmental Awareness and Environmental Management Systems for Facility Personnel](#)

Personnel Responsible:

AE Print Shop Director

- Ensure AE maintenance staff attend training

Manager/Safety Specialists, EPP

- Develop training materials and submit updates to for web page
- Schedule training time, place, and date (annually)
- Present training materials to AE staff

- Document training by obtaining a sign in sheet with all participants listed, deliver sign in sheet to EH&S administrative assistant who will enter names of personnel trained into a training data base

EH&S Director

- Provide management review, liaison with Auxiliary Enterprise Vice President if necessary
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