

Air Quality: New Emissions Source Requirements

Department: Chemical and General Safety

Program: Air Quality

Owner: Program Manager

Authority: ES&H Manual, Chapter 30, Air Quality¹

All new sources that involve actual or potential air emissions must be evaluated by the air quality program manager beforehand to determine if an emissions source permit is required. The following categories of new sources are discussed below: construction and demolition projects; hazardous materials (new or new use); and equipment (new or lease-to-purchase).

Note Emissions sources includes both individual pieces of equipment, such as parts cleaners and generators, and activities that release emissions, such as construction, applying epoxies or paint, and wipe-cleaning with solvents.

Note For the purposes of the air quality program, hazardous material (also referred to as HazMat) is any material that requires a material safety data sheet (MSDS).²

Construction and Demolition Projects

All construction and demolition projects, whether performed by SLAC employees or subcontractors, must be evaluated for both potential emissions and reporting and recordkeeping requirements based on the hazardous materials and equipment involved. The air quality program manager determines these requirements by evaluating a Pre-work HazMat List submitted by the construction project manager or operator. This form is included in Air Quality: Monthly Hazardous Material Use, Fuel Consumption, and Equipment Operation Forms.³ For an overview, also see Air Quality: Construction Project Air Permit Requirements.⁴

Hazardous Materials

An evaluation of hazardous materials not associated with construction and demolition projects is triggered through the purchasing process as described below. Hazardous material **use** is the key component of new source evaluation: this applies to new chemicals that are classified as hazardous materials and also to hazardous materials that are already approved for one or more specified uses at SLAC but possibly not approved for unconditional use. Requirements are as follows:

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- 1 *SLAC Environment, Safety, and Health Manual* (SLAC-I-720-0A29Z-001), Chapter 30, "Air Quality", http://www-group.slac.stanford.edu/esh/environment/air_quality/policies.htm
 - 2 "MSDS Viewer", <http://www.tcmis.com/tcmis/doe/msds>
 - 3 Air Quality: Monthly Hazardous Material Use, Fuel Consumption, and Equipment Operation Forms (SLAC-I-730-0A16J-001), <http://www-group.slac.stanford.edu/esh/forms/>
 - 4 Air Quality: Construction Project Air Permit Requirements (SLAC-I-730-0A16S-003), <http://www-group.slac.stanford.edu/esh/eshmanual/references/airReqConstruction.pdf>

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- All hazardous materials must be purchased through the chemical management services (CMS) system to facilitate chemical tracking and reporting.⁵
- The purchase requester must provide sufficient information on the request form regarding the intended use of the chemical.
- All new chemicals proposed for use at SLAC must be evaluated by ES&H program managers and subject-matter experts. This group reviews the MSDS and related information to identify potential hazards, air emissions, special storage requirements, usage restrictions, and possible substitutes.

Note As one generic category example, new cleaning and degreasing solvents are evaluated with the aim of replacing existing products that contain such hazardous or ozone-depleting chemicals as chlorofluorocarbons (CFCs) and methyl chloroform.

New Equipment

All new SLAC-owned equipment must be evaluated for compliance with applicable air quality regulations. This review is triggered during the purchasing process through an explicit request for ES&H review on the purchase requisition.

Note If new equipment, such as emergency back-up generators, qualifies to be added to the umbrella air permit, equipment use will be strictly controlled by permit conditions.

In the event that rental equipment is subsequently purchased, the program manager, the Conventional and Experimental Facilities (CEF) Department, and the Property Control Department must be notified 30 days in advance of the actual purchase to prepare a permit application and other required documentation.

Post Evaluation: Next Steps

Permit Application

Once a new emissions source evaluation is triggered by a purchase request for hazardous materials or new equipment, the program manager processes information to obtain the required permit. This includes

- Compiling information for a health risk screening assessment
- Compiling the application package, which involves selection of appropriate forms from the Bay Area Air Quality Management District (BAAQMD) web site
- Payment of applicable fees

Note Unabated emissions from some sources are severe enough to preclude permit approval. Abatement can take various forms, but typically constitutes some type of filter installed at the end of the pipe just prior to the release of the spent chemicals into the air. It can reduce emissions to acceptable levels so that the

5 “Chemical Management Services (CMS)”, <http://www-group.slac.stanford.edu/esh/groups/cgs/cms/>

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source can be permitted, although more aggressive abatement measures may exempt the source from permitting requirements entirely.

Use Tracking

Once the emissions source is permitted, permit conditions may include emissions caps, usage restrictions, contingency notifications, specific recordkeeping and reporting requirements, and periodic sampling or testing. Be sure to coordinate with the program manager so that permit conditions are understood and met in a timely manner.