Important Note: The following text is excerpted directly from the New York State Department of Environmental Conservation's publication, *Environmental Compliance, Pollution Prevention, and Self Assessment Guide for the Marina Industry.* New York State Department of Environmental Conservation Pollution Prevention Unit. March 2003. The only changes that have been made are the addition of links to pertinent resources or regulations and Editor's Notes, where appropriate.

Air Regulations

If your marina has boilers, emergency generators, a spray painting booth, or a degreasing operation, you will probably have to comply with some state and federal air regulations. The Clean Air Act (CAA) requires the phase-out of the production of chlorofluorocarbons (CFCs) and several other ozone depleting chemicals. It also imposes controls on CFC -containing compounds. This section of the manual summarizes these air regulations as they deal specifically with the marina industry.

As part of marina operations, volatile organic compounds (VOCs) are emitted from certain solvents, adhesives, paint mixing, paint spraying, surface preparation, and equipment clean-up. Volatile chemicals produce vapors readily at room temperatures and normal atmospheric pressure, and these vapors escape easily from volatile liquid chemicals. All liquid organic chemicals are considered to be VOCs unless they are specifically exempted from the definition by the EPA. Common examples of VOCs include benzene, toluene, and xylene.

Ground-level ozone, a major component of "smog," is formed in the atmosphere by reactions between VOC and oxides of nitrogen (NOx) in the presence of sunlight. High levels of ground-level ozone can endanger public health and damage crops and forests. As a means to protect the public health and environment, both DEC and EPA regulate VOC emissions. Marina processes such as paint spraying and fuel burning are likely to emit VOCs and nitrogen dioxide.

In addition to VOCs, acid fumes, particulates, ammonia fumes, chlorinated fluorocarbons (CFCs), organic vapors, and vapors from laquer areas may also be emitted. Many of these air emissions may be hazardous air pollutants (HAPs), which are often subject to additional controls. To obtain a list of HAPs, contact DEC's Division of Air listed in the resource section of this guide. To reduce the level of HAPs, EPA sets Maximum Achievable Control Technology (MACT) standards that control emissions of one or more air toxics from a specific air pollutant source such as chromium electroplating or anodizing operations.

EPA has also established national ambient air quality standards to limit levels of "criteria pollutants." The criteria pollutants are: carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide. Even though this industry is not a major source of ozone, it is a major source of VOC emissions that mix in the atmosphere to form ozone and smog.

If you suspect that your marina may have any air emissions, you should be familiar with both the state and federal regulations that apply to the marina industry. Under Title 6 of the New York Codes, Rules and Regulations (6 NYCRR) the marina industry may have to comply with:

- Part 201 (Permits and Registration), http://www.dec.state.ny.us/website/r

egs/subpart201_1.html

- Part 212 (General Process Emission Sources) http://www.dec.state.ny.us/website/regs/part212.html
- Part 226 (Solvent Metal Cleaning Processes) also known as vapor degreasing, http://www.dec.state.ny.us/website/regs/part226.html and
- Part 228 (Surface Coating Processes) http://www.dec.state.ny.us/website/regs/part228.html

The following are some of the most common chemicals that may be released in the marina industry:

Acetone
Ammonia
Carbon Dioxide
Carbon Monoxide
Chlorine Ethylene
Glycol Glycol
Ethers
Hazardous Air Pollutants
Hydrochloric Acid
Hydrogen Chloride
Hydrogen Fluoride
Hydrogen Peroxide
Isopropyl Alcohol
Methanol
Methylene Chloride
Methyl Ethyl Ketone
Nitric Acid
Particulates
Phosphoric Acid
Sulfur Dioxide
Sulfuric Acid
Toluene
Trichloroethylene
Volatile Organic Compounds
Xylene

Permits and Registration - Part 201

The information in this section will help you determine if your marina will require an air permit or registration. The air permit program is regulated under Title 6 New York Codes, Rules, and Regulations, Part 201 (6 NYCRR Part 201) www.dec.state.ny.us/website/regs/subpart201_1.html.

Your marina should identify all emission sources and then calculate the potential emissions from each source. After you have totaled your potential emissions for each pollutant from all sources, you will then be able to determine whether or not your marina needs a Title V Permit, State Facility Permit, or Facility Registration.

EXEMPTIONS

Your marina will need to obtain a Minor Facility Registration, State Facility Permit, or a Title V Permit unless every process at the marina is specifically exempt from Part 201. Some common exemptions that may apply to the marina industry are:

- Surface coating and related operations outside the New York Metropolitan Area and Lower Orange County Area which use less than 25 gallons of coating materials and solvents per month, and performs all abrasive cleaning and surface coating operations in an enclosed building with emissions that are exhausted to emission control devices. These would include a baghouse for abrasive cleaning operations and a spray booth and dry filters for surface coating operations.
- Powder coating operations.
- Thermal packaging operations including, but not limited to, therimage labeling, blister packing, shrink wrapping, shrink banding, and carton gluing.
- Many degreasing operations are

exempt if they don't use HAPs.

- Venting and exhaust systems for laboratory operations.

Regulations Information

Air permit requirements can be found in 6 NYCRR Part 201 www.dec.state.ny.us/website/regs/subpart201_1.html while the VOC limitations are provided in 6 NYCRR Parts 226 http://www.dec.state.ny.us/website/regs/part226.html and 228. http://www.dec.state.ny.us/website/regs/part228.html Facilities should also address the federal requirements of 40 CFR Part 63, Subparts N and T., http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfrv9_99.html

- Exhaust systems for paint mixing, filling or sampling, and/or paint storage rooms or cabinets, provided the paints stored in these locations are stored in closed containers when not in use.
- Exhaust systems for solvent transfer, filling or sampling, and/or paint storage rooms or cabinets, provided the solvents stored in these locations are stored in closed containers when not in use.
- Degreasing units which exclusively use non-hazardous air pollutant acids.
- Degreasing units which exclusively use caustics (e.g., potassium hydroxide and sodium hydroxide).
- Solvent cleaning of parts and equipment performed exclusively by hand wiping or hand cleaning.
- Manual surface coating/painting processes which exclusively use brushes, rollers, or aerosol cans. Hand-held or manually operated welding, brazing, and soldering equipment.

If you need assistance in determining whether or not your facility is exempt from Part 201 permitting, call the regional DEC air engineer located in your area. (For phone numbers, http://www.seagrant.sunysb.edu/marinabmp/pdfs/DEC_regional_offices.pdf)

MINOR FACILITY REGISTRATION

Minor Facility Registration is determined, in part, by proximity to New York City. The following conditions apply to minor facility registration.

Facilities in the New York City Metropolitan Area

The New York City Metropolitan Area consists of New York City, and the counties of Westchester, Rockland, Nassau, and Suffolk.

To be eligible to register, a facility located in the New York City Metropolitan Area must meet all of the following condition:

- Total actual annual VOC emissions must be less than 12.5 tons.
- Total actual annual emissions of any individual HAP must be less than 5 tons.
- Total actual annual HAP emissions must be less than 12.5 tons.
- Total actual emissions of all contaminants must be less than half of all "Major Source" thresholds.

Please note that these "actual annual emissions" limits apply to the rolling 12-month sum of emissions for all periods. The Major Source thresholds are found in 6 NYCRR Part 201-2.1(b)(21), http://www.dec.state.ny.us/website/regs/subpart201_2.html

Facilities Outside of the New York City Metropolitan Area

To be eligible to register, a facility located outside of the New York City Metropolitan Area must meet all of the following conditions:

- Total actual annual VOC emissions must be less than 25 tons.
- Total actual annual emissions of any individual HAP must be less than 5 tons.
- Total actual annual HAP emissions must be less than 12.5 tons.
- Total actual emissions of all contaminants must be less than all "Major Source" thresholds.

Please note that "annual" emissions are computed on a rolling 12 month basis at the end of each month of operation. The Major Source thresholds are found in 6 NYCRR Part 201-2.1(b)(21), http://www.dec.state.ny.us/website/regs/subpart201_2.html

STATE FACILITY PERMIT

State Facility Permits are determined, in part, by proximity to New York City. The following conditions apply to state facility permits.

Facilities in the New York City Metropolitan Area

- Total actual annual VOC emissions are greater than 12.5 tons, but less than 25 tons.
- Total actual annual emissions of any individual HAP are less than 10 tons.
- Total actual HAP emissions are less than 25 tons.
- Total actual emissions of all contaminants are less than the "Major Source" threshold.

Please note that "annual" emissions are computed on a rolling 12 month basis at the end of each month of operation. The Major Source thresholds are found in 6 NYCRR Part 201-2.1(b)(21), http://www.dec.state.ny.us/website/regs/subpart201_2.html

Facilities Outside of the New York City Metropolitan Area

- Total actual annual VOC emissions are greater than 25 tons, but less than 50 tons.
- Total actual annual emissions of any individual HAP are less than 10 tons.
- Total actual HAP emissions are less than 25 tons.

Please note that "annual" emissions are computed on a rolling 12 month basis at the end of each month of operation. The Major Source thresholds are found in 6NYCRR Part 201-2.1(b)(21) , http://www.dec.state.ny.us/website/regs/subpart201_2.html

TITLE V FACILITY PERMIT

Title V Facility permits are required for all "Major Sources" in New York State. The definition of Major Source is found in 6 NYCRR Part 201-2.1(b)(21).

"Non-Major" sources subject to 40 CFR Part 63 Subpart N, http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfrv8_99.html (halogenated solvent cleaning machines) can obtain a registration and may be deferred from Title V permitting in the future. These sources must submit a Title V permit by December 9, 2005. For more information on 40 CFR Part 63 Subpart N, see section on NESHAP, page

15, or call DEC, Division of Air (518) 402-8403, or the Small Business Assistance Program listed in Section V, http://www.seagrant.sunysb.edu/marinabmp/pdfs/DEC_regional_offices.pdf.

**The following rules override the conditions listed above for Minor Facility Registrations, State Facility Permits, and Title V Permits:*

- Any new facility that is in an industrial category to which a Federal New Source Performance Standard (NSPS) applies and which has a potential to emit that is below the major source thresholds must obtain a State Facility Permit, regardless of location or quantity of emissions from that facility.
- Any new facility that emits a contaminant listed as a hazardous air pollutant, excluding those facilities subject to VOC Reasonably Available Control Technology (RACT) requirements under Parts 226, click here, http://www.dec.state.ny.us/website/regs/part226.html 228, http://www.dec.state.ny.us/website/regs/part228.html 229, click here, http://www.dec.state.ny.us/website/regs/part229.html 230, http://www.dec.state.ny.us/website/regs/part230.html or 233, http://www.dec.state.ny.us/website/regs/part233.html, must obtain a State Facility Permit, regardless of location or quantity of emissions from that facility.
- Any facility that is subject to a DEC-approved variance from the requirements of a State VOC RACT regulation must obtain a State Facility Permit, regardless of location or quantity of emissions from that facility.
- Any facility that is subject to a National Emission Standard for Hazardous Air Pollutant (40 CFR Part 63, click here http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfrv9_99.html) must obtain a Title V Permit, regardless of location or quantity of emissions from that facility. However, "Non-Major" facilities that are subject to 40 CFR Part 63 Subpart N have been deferred from the requirement to obtain a Title V permit. Such sources are not required to file for a Title V Permit until December 9, 2005. Please call the DEC Division of Air Resources or the Small Business Assistance Program for more details. (See Resource Guide for phone numbers, click here DEC_resource_guide.pdf).

GENERAL PROCESS EMISSION SOURCES - PART 212

This is the DEC regulation that covers air toxics and determines how much control is needed on your facility's toxic air emissions. Before a permit is written, you must establish your **emission rate potential**. This is the maximum rate at which a specified air contaminant from an emission source would be emitted to the outdoor atmosphere in the absence of any control equipment. After your Emission Rate Potential is established, then DEC will apply a rating of A, B, C, or D to each contaminant that is emitted at your facility. This rating (A being the most toxic) is assigned to each contaminant in order to consider the potential environmental effects of an air contamination source on its surroundings.

It should be noted that the Part 212, http://www.dec.state.ny.us/website/regs/part212.html system for using Emission Rate

Potential and Environmental Ratings to determine control requirements is likely to be changed in an upcoming amendment to Part 212.

SOLVENT METAL CLEANING PROCESSES - PART 226

When cleaning or degreasing with a VOC solvent in a solvent cleaning machine, you are subject to Part 226, http://www.dec.state.ny.us/website/regs/part226.html if your facility uses a conveyorized degreaser greater than 22 square feet of air/vapor interface; or an open-top vapor degreaser greater than 11 square feet of open area; or cold cleaning degreasing.

Chlorofluorocarbons (CFCs) were commonly used as a cleaning solvent, but Title VI of the federal regulations prohibits the production and importation of CFCs after January 1, 1996, except for some essential uses. As long as your facility still has an existing supply of CFCs, it can still use them. Many marinas are now using mineral spirits or other solvents that contain no CFCs.

Solvent cleaning processes utilizing 1,1,1 trichloroethane (methyl chloroform), and methylene chloride are specifically exempt from Part 226. However, these solvents are still regulated by the National Emissions Standards for Hazardous Air Pollutants (NESHAP) federal standard for solvent cleaning machines. Perchloroethylene is also exempt from Part 226 because EPA delisted it as a VOC.

Your facility can not conduct solvent cleaning operations unless:

- Solvent is stored in covered containers and waste solvent is transferred or disposed of in such a manner that less than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere.
- Equipment used in solvent metal cleaning is maintained to minimize leaks and fugitive emissions.
- Equipment used in solvent metal cleaning displays a conspicuous summary of proper operating procedures consistent with minimizing emissions of VOCs.
- Equipment covers are closed when the solvent metal cleaning unit is not in service.
- A record of solvent consumption is maintained for each year and made available to DEC upon request.

SURFACE COATING PROCESS, INCLUDING METAL PAINTING OPERATIONS - PART 228

If your facility has a surface coating process (metal painting and coating operations), then your facility must limit VOC emissions from all subject surface coating processes in order to comply with the VOC limits found in Part 228, http://www.dec.state.ny.us/website/regs/part228.html. Compliance strategies include high solids coating, ultraviolet coating, waterborne coating, and powder coating systems.

If low VOC coatings are not available to your facility, you can comply with Part 228 by installing VOC control equipment, such as thermal oxidizers or carbon adsorption units.

The location of your facility and the amount of your VOC emissions will determine if you are subject to Part 228:

- If your facility is located in the New York City Metropolitan Area, regardless of its annual potential to emit (PTE) VOCs, you must comply with Part 228. A facility's PTE is the maximum capacity to emit any regulated air pollutant under its

physical operational design. Physical operational limits, such as air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount of material processed, can be included in the design only if the limitation is part of a federally enforceable permit condition.

- If your facility is located in the Lower Orange County Area and coats products included in Table 1 of Part 228 and has a PTE ≥10 tons VOC/year, or coats products included in Table 2 of Part 228 and has a PTE ≥25 tons VOC/year, you are subject to Part 228.
- If your facility is outside the New York City Metropolitan Area or the Lower Orange County Metropolitan Area and coats products included in Table 1 of Part 228 and has a PTE ≥10 tons VOC/year, or coats products included in Table 2 of Part 228 and has a PTE ≥50 tons VOC/year, you are subject to Part
- 228.

RECORD KEEPING

Even if your facility is exempt from minor facility registration or air permitting requirements, you should still maintain records of your VOC emission rates, even if you use fewer than 25 gallons per month. By keeping these records, you will:

- Show proof of compliance with applicable DEC air requirements.
- Be able to determine if your facility needs any registrations or permits.
- Be prepared to provide information to any Regional DEC inspectors if, and when, they call to visit your shop.
- Help your facility toward implementing a pollution prevention program.

One of the easiest ways to keep records of your VOC emissions is by keeping your purchase order invoices for all the paints, lacquers, solvents, or additives used by your facility. Don't forget to obtain a copy of the MSDS for each of the materials that you purchase. If requested, most manufacturers will fax or mail copies of MSDSs within a day or two.

How To Calculate Your VOC Emissions

In order to determine what type of registration or permit your facility requires, you will need to know your total VOC emissions. To calculate your VOC emissions, you need to know your total annual usage of materials (e.g., paints, lacquers, makeup solvents, cleanup solvents, etc.). As discussed in the previous section, this information can be obtained from your purchase orders. Also, if any other additives or solvents are used in your shop that contain VOCs, such as isopropyl alcohol, the emissions from these materials should be accounted for in your calculations.

VOC emissions are equal to the annual usage rate of the materials applied, times the VOC content at the time of application. To calculate your VOC emissions,

Multiply your annual usage rate (gallons) of paints, lacquers, makeup solvents, and cleanup solvents by the density in pounds per gallon (from MSDS or technical data sheet) of paints, lacquers, makeup solvents, and cleanup solvents by the weight fraction of VOCs in paints, lacquers, makeup solvents, and cleanup solvents.

Note: Density = specific gravity X 8.34 pounds/gallon. Weight fraction is the percent by weight divided by 100, which can be obtained from the MSDS or technical data sheet.

Example: Mike's Marina uses 130 gallons a year of coatings and lacquers, 52 gallons/year of thinners, and 20 gallons/year of cleanup solvents. The Material Safety Data Sheets (MSDSs) list the VOC content at: coatings and lacquers, 5.0 pounds/gallon; thinners, 6.5 pounds/gallon; and cleanup solvents, 7.0 pounds/gallon.

VOC = Annual Usage x VOC Content at Application

Paints and Lacquers
Annual Usage = 130 gallons
VOC Content = 5.0 pounds/gallon
VOC = (130 gallons/year) (5.0 pounds/gallon)

VOC = 650 pounds/year

Thinners
Annual Usage = 52 gallons
VOC Content = 6.5 pounds/gallon
VOC = (52 gallons/year) (6.5 pounds/gallon)

VOC = 338 pounds/year

Cleanup Solvents
Annual Usage = 20 gallons
VOC Content = 7.0 pounds/gallon
VOC = (20 gallons/year) (7.0 pounds/gallon)
VOC = 140 pounds/year

Total VOC Emissions
Mike's Marina's total annual VOC emissions is 650 + 338 + 140 = 1,128 pounds.

In addition to the coatings, lacquers, thinners, and cleanup solvents, your marina may use primers, multi-coating, pre-coat, and specialty coatings. You should check the MSDS for the VOC content of these materials. Call the product manufacturer or your distributor if you need copies of these MSDSs.

If you are a marina with fewer than 100 employees and need assistance in computing your VOC emissions, finding out what registration/permits you need, or whether 6 NYCRR Parts 212, 226, or 228 applies to your facility, call the Small Business Assistance Program (SBAP) at (800) 7807227. This non-regulatory program provides free confidential technical assistance to help small businesses achieve voluntary compliance under the Clean Air Act.

PART 230 - GAS DISPENSING FACILITIES

Air emissions from refueling operations are addressed in 6 NYCRR Part 230 , http://www.dec.state.ny.us/website/regs/part230.html and EPA's AP-42 Section 5.2.2.2 emission factors for service stations, http://www.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf. The factors in Table 5.2-7 [Eds Note: Table 5.2-7 was not included in the DEC's original document, so it could not be reproduced here. However, it can be found in file associated the link above for EPA's AP-42 Section 5.2.2.2.] can be used to calculate emissions from the filling of the marina's tank as well as the emissions from boat refueling. A storage tank without a drop tube would use the 11.5 lb/1000 gallon throughput factor shown for "Splash filling". A storage tank with a drop tube would use the lower 7.3 lb/1000 gallon throughput factor shown for "Submerged filling". If a station had a Stage I connection on the tank, which allows the vapors to return to the tank truck during delivery

rather than blowing out the vents, the 0.3 lb/1000 gallon throughput factor would be appropriate. Since Stage II is a vehicle refueling control strategy that is not used for marinas, the “uncontrolled displacement losses” factor of 11.0 lb/1000 gallons throughput would be the refueling factor. We could also add in the 1.0 lb/1000 gallons throughput “breathing and emptying factor” and the .7 lb/1000 gallon throughput “spillage” factor. We would end up with a total emission factor of 7.3 + 11.0 + 1.0 +0 .7 = 20.0 pounds of VOC emitted for each multiple of 1000 gallons of gasoline pumped at a typical marina. The larger facilities may find that their gasoline refueling emissions are significant in comparison to their painting operations.

Does My Marina Need A Part 230 Permit?

Part 230 does not apply as long as no vehicles are refueled from the marina gasoline pumps. This means that the drop tube would not be required in the storage tank under the air regulation, but most new tanks would be equipped with them as a pollution prevention and fuel conservation measure. In addition, neither Stage I or II would be required if no vehicles are refueled at the facility.