DRY-CLEANING EVALUATION REPORT

Wash World, Inc

Application Number: 6733 / Plant Number: 15092

Background:

Wash World, Inc, located in *Oakland*, is applying for an Authority to Construct and Permit to Operate for a new dry cleaning machine at a new facility. This facility is located within 1000 feet of a school and must comply with all Waters bill requirements. A Spanish translation of the notice document should be provided in addition to the regular notice document to properly address the school demographics during the 30 day comment period.

The installation must comply with strict control requirements of Regulation 11, Rule 16, Perchloroethylene and Synthetic Solvent Dry Cleaning Operations, as well as meet health protective standards of the District's Risk Management Policy for Perc Dry Cleaners. The facility must install a secondary control machine as TBACT and a Vapor Barrier Room as a Risk Reduction Measure. Taylor-Houseman Enterprises is the contracted agency completing the installation.

The facility wishes to receive an Authority to Construct for the following equipment:

S1 Columbia 55lb. Secondary Control Machine [COL55S] enclosed in a Vapor Barrier Room

Emission Calculations:

NPOC : Perchloroethylene

NET USAGE		*DENSITY*			*TOTAL EMISSIONS*	
150	gallon / yr x	13.5	lb/gallon	=	2025.00	lb / yr
				=	7.23	lb / day (280 day/yr)
				=	5.55	lb / day (365 day/yr)
				=	1.01	Ton / yr

Emissions will be limited to 2025 lb/year (150 gallons/year) of perchloroethylene.

Statement of Compliance:

Regulation 2, Rule 1:

Permit conditions will be used to verify compliance with applicable standards.

Regulation 2, Rule 2:

This project emits less than 10 lb./day, therefore, the installation does not trigger NSR and BACT (2-2-301) is not required. In addition, Perc is a NPOC, therefore, offsets (2-2-302) are not required.

Regulation 11-16:

A secondary control machine complies with Sect. 11-16-302, Equipment Requirements, New Non-residential Facilities, 11-16-305.1, Specifications for Required Equipment, Primary Control System, and 11-16-305.3, Specifications for Required Equipment, Secondary Control System.

The equipment to be installed at this site will be in compliance with 11-16-502, Equipment Certification / Testing Requirements and complies with the procedures found in Title 17 of the California Code of Regulations, Section 93109 (h). The machine manufacturer has submitted source test information to CARB. CARB has approved and listed the Columbia Mach-2 Series of machines. CARB issued Executive Order G-96-014-93109-18 which states that the equipment described in this application, has been demonstrated to meet the perchloroethylene concentration standard required for Secondary Control Systems pursuant to CCR, Title 17, 93109 (g)(3)(C)(4).

The facility must operate in good faith according to 11-16-309, Good Operating Practices.

This facility is within 1000 feet of a public school, therefore it is subject to 2-2-413, Public Notice, Schools This facility will comply with all Waters bill notice requirements.

Federal requirements:

NSPS and PSD requirements do not apply. Regulation 11-16 and the ATCM meet and/or are equivalent to requirements of the NESHAP.

CEQA:

This application is ministerial and not subject to the requirements of 2-2-311, CEQA. Standard emission factors and operating conditions described in Chapter 10.5 of the District's Permit Handbook apply. This application is therefore NOT discretionary as defined by CEQA.

Toxics:

Risk Management Policy for Perc Dry Cleaners states:

> The project is acceptable if: (1) the annual emissions associated with the project would result in an incremental cancer risk greater than 1.0E-05 (ten in a million) and equal to or less than 1.0E-04 (one hundred in a million), were the exposure to continue for 70 years; and (2) TBACT has been applied to permitted sources; and (3) all reasonable risk reduction measures have been applied. TBACT and all reasonable risk reduction measures for perchloroethylene dry cleaners are as follows:
>
> a) TBACT is a Secondary Control Machine for any new installation of a dry cleaning machine (including new facilities, replacement machines, additional machines at existing facilities) or for an increase in the permitted level of solvent emissions, except as follows in item b;
>
> b) TBACT is a Closed-loop Machine for a relocated machine (a relocation of an existing facility's machine to a new non-residential facility within the District is exempt from secondary control requirements in accordance with Regulation 11-16-104 and the BACT/TBACT Workbook).
>
> c) All reasonable risk reduction measures are: (1) a Vapor Barrier Room (consistent with Regulation 11-16-307.1 and the Dry Cleaner Ventilation Guidelines) for a new facility (including a relocated facility); or (2) an enhanced ventilation system (consistent with Regulation 11-16-307.2 and the Dry Cleaner Ventilation Guidelines, i.e., Vapor Barrier Room, Vapor Capture Room, Partial Vapor Room, or Local Ventilation System) for a proposed project at an existing facility that is not co-residential.

A toxic risk screen analysis has been conducted for this facility to determine incremental carcinogenic risk impacts to MEI (maximum exposed individual) using Method B (a refined risk assessment using the EPA approved standard model ISCST) with site-specific modeling input parameters and with local meteorological data from Oakland. This facility will have a secondary control machine operating inside a *Vapor Barrier Room* with a maximum perchloroethylene emission rate of 2025 pounds per year (150 gallons/year). Maximum residential risk was estimated to be 18 in a million. Maximum risk for off-site workers was estimated to be 13.5 cancers per million. The maximum risk for a student attending Highland Elementary School was estimated to be at 0.044 in a million.

This project complies with the RMP by using TBACT (secondary control) and all reasonable Risk Reduction Measures (Vapor Barrier Room) for risk greater than 10 in a million and less than 100 in a million.

Recommendation:

I recommend that an Authority to Construct be issued for the following equipment:

S1 Columbia 55lb. Secondary Control Machine [COL55S] enclosed in a Vapor Barrier Room

Condition # : 20614

Conditions for S3:

1. Net Perc evaporation at this facility shall not exceed **150** gallons in any consecutive twelve month period. Evaporation (or net solvent usage) shall be defined as perc consumption minus the amount of perc removed by a hazardous waste hauler (normally from still oil and filter cartridges). Perc consumption is defined as total perc purchases plus any decrease in solvent inventory or minus any increase in solvent inventory over the twelve month period. Unless demonstrated otherwise by either plant or the District, filters shall be considered as containing 0.5 gallon of perc per cartridge and still oil 50% perc by volume. (Basis: TRS)
2. To demonstrate compliance with the above, the facility shall maintain records on site of all perc purchases and filter and still residue disposal. Also records shall contain amounts of perc used in detergents and spotting solutions. Such records shall be retained on site for at least two years from the date of entry and be made available to the District staff on request. (Basis: TRS)
3. The dry cleaning machine at this facility must be enclosed in a Vapor Barrier Room (VBR) with the following specifications:
    a. VBR must isolate the entire dry cleaning machine. Inside room walls shall be constructed with a diffusion resistant material (metal foil faced insulating material or equivalent), with seams and gaps sealed with aluminized tape.
    b. A local ventilation fan shall be operated to capture all emissions from inside the VBR This fan shall be in operation whenever dry cleaning machine is operating or opened for maintenance. A control interlock must be installed to interrupt power to the dry cleaning machine if the ventilation fan is not operating.
    c. The ventilation fan shall have an effective air flow rate greater than 1000 cfm and shall be vented to a stack at least 5 feet above the roof line of the building or any adjacent building, whichever is higher.
    d. Doors to the VBR shall normally be closed and only opened for access during maintenance, for required monitoring, or for loading/unloading of machine.
    e. Spotting boards shall be operated within the VBR.
    f. Minimum air change rate in room must be one change over every 5 minutes.
    g. All ventilation equipment must be maintained in good operating condition.
    h. A 3/8" sampling port shall be installed in the ventilation exhaust ducting or stack in a straight section of ducting with six (6) diameters clear upstream and two (2) diameters clear downstream (if possible). This requirement shall be waived if the District is provided reasonable access to the top of the stack and is able to determine the velocity and air flow-rate at the emission point. (Basis: TRS, Reg 11-16)

4. The dry cleaning machine and Secondary Control System shall meet the following criteria:

   a. The cool-down cycle must extend for at least **five (5)** minutes in order to attain an air temperature less than or equal to 45 degrees Fahrenheit (7 degrees Celsius) prior to activation of the Secondary Control Module. The cool-down cycle shall be extended if necessary to attain the required temperature. The chilled air temperature shall be monitored with a temperature indicator at the end of the cool-down cycle and shall be recorded at least once a week.

   b. The Secondary Control Module must operate for no less than **five (5)** minutes at the end of each dryin cycle (after cool-down).

   c. The Secondary Control Module must be regenerated at least once every eighty **(80)** loads of clothing. Each regeneration cycle must be at least **3.5** hours in duration.

   d. A log shall be maintained that shows the date and weight of each cleaning load; the date, starting time, and finish time of each regeneration; and the temperature of chilled air (weekly as per part a above). (Basis: TRS)

   e. Sampling ports shall be installed in the piping, upstream and downstream of the carbon bed (if possible in a straight section of piping with at least 6 (six) diameters clear upstream and two (2) diameters clear downstream).

   The sample ports shall be at least 1/4" in diameter. Each port shall be equipped with a Swagelok male connector [or equivalent] 1/8" NPT, 1/8” tube fitting and a 1/8” tubing plug. (Basis: TRS)

5. Perchloroethylene Concentration Standards for Secondary Control Machines:

   a. Concentration of perchloroethylene in the drum shall be less than 500 ppm at the end of the adsorption cycle for a new machine operating during the initial start-up period (under the Authority to Construct).

   b. Concentration of perchloroethylene in the drum shall be less than 1000 ppm at the end of the adsorption cycle for:

      i. an existing closed-loop machine retrofitted with a secondary control system or

      ii. a new machine during normal operation after the initial start-up period (typically under a Permit to Operate).

   c. Concentration of perchloroethylene at the outlet of the carbon canister shall be less than 100 ppm during the adsorption cycle.

by date .

Marc Nash
Air Quality Specialist