Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
Minor Revisions to the

MAJOR FACILITY REVIEW PERMIT

for

Dow Chemical Company
Facility #A0031

Facility Address:
901 Loveridge Road
Pittsburg, CA 94565

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Application Engineer: Tamiko Endow
Site Engineer: Tamiko Endow

Application #10351

June 2005

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Title V Statement of Basis

A. Background

Dow Chemical is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant, than 10 tons per year of a hazardous air pollutant, or more than 25 tons per year of a combination of hazardous air pollutants. Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0031.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Dow received its initial Title V permit on December 1, 2003. The permit was then reopened to incorporate permit conditions that could not be included in the initial permit due to trade secret/confidential business information claims. The revised permit was issued October 28, 2004. This application proposes minor revisions to the current Title V permit. The purpose of the revisions is to update the Title V permit to reflect recent changes to District permits for S-174, the gasoline dispensing facility located onsite, for S-683, a storage tank at the Latex Plant, a modification to Permit Condition 14438 to allow an alternate abatement option for the Dowicil Plant and associated tanks. Sources S-428 and S-448, which have been demonstrated to be exempt from District permit requirements, are also discussed. Since they have applicable requirements, they cannot be removed from the Title V permit. However, they will no longer be subject to District fees.

The modification of the gasoline dispensing facility, S-174, consists of the required replacement of the existing Phase I vapor recovery system with a CARB-certified Enhanced Vapor Recovery Phase I system per CARB Executive Order VR-102D. The permit changes due to this equipment replacement include incorporating the permit condition issued under Application #10213 and modifying the applicable requirements and emission limits and monitoring tables for S-174. This revision has no associated emission increase.

The modification to S-683, a storage tank at the Latex Plant, consists of an increase in permitted throughput. This change of permit condition was issued under Application #12025 and allows a minor increase in organic emissions, 0.102 tons per year. The permit changes due to this

modification include revisions to the permit conditions, updates and clarification of the applicable requirements table, and revision of the applicable emission limit table for S-683.

The revision to Permit Condition 14438, permitted under Application 11244, allows Dow one additional abatement option for the Dowicil Plant and associated tanks. The condition previously specified that the plant must be abated at S-389, one of the Thermal Oxidizers, for at least 89% of the plant operating time. This change to the permit condition allows abatement at the other Thermal Oxidizer, S-336, as an option. Since both Thermal Oxidizers are required to meet the same abatement efficiency, there is no emission change associated with this revision.

Lastly, it was demonstrated that two permitted sources, S-428 and S-448 qualify for permit exemptions under District Regulation 2-1-103. These sources were issued Letters of Exemption under Application 9327. However, they cannot be removed from the Title V permit under this minor permit revision, as discussed above.

These changes are more fully discussed in the engineering evaluations for each, which are contained in Appendix A of this document. As these changes are neither administrative amendments nor significant permit revisions as defined in Regulation 2, Rule 6, they qualify as minor permit revisions. The sections below describe and show all changes to the permit in strikeout/underline format.

B. Facility Description

The Dow Chemical Company owns and operates a chemical manufacturing facility located at 901 Loveridge Road in Pittsburg, California. Dow currently manufactures latex used in carpet backing and paper coating, agricultural products and intermediates, Vikane® fumigant for termite infestations, Dowicil® antimicrobials for use in paints and cosmetics, and hydrochloric acid. The manufacturing site is an integrated chemical plant utilizing styrene, butadiene, chlorine, anhydrous hydrogen fluoride, sulfur dioxide, potassium fluoride, methyl pyridine and dichloropropene in reactions to produce the various products.

The equipment operated at the site includes reactors, storage tanks, combustion devices, loading and unloading facilities, pumps, valves, and flanges. Emissions from most of the equipment are collected and controlled using abatement equipment such as vapor recovery systems, scrubbers, absorbers or thermal destruction devices. This permit revision involves permit changes for one storage tank, the gasoline dispensing facility, and the abatement train for the Dowicil plant and associated storage tanks.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard

condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit. The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

No changes have been made to the standard conditions under this minor permit revision.

II. Equipment

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit. This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24). Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302. Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

The Abatement Device Table will be revised to show S-336 is now a permitted abatement option for the Dowicil Plant and associated tanks:

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Monitored Parameters	Limit or Efficiency
-336	Manufacturing Services Thermal Oxidizer – furnace/firebox	S-4, S-5, S-6, S-7, S-27, S-29, S-30, S-31, S-33, S-35, S-151, S-153, S-198, S-199, S-226, S-302, S-303, S-321, S-322, S-323, S-324, S-421, S-431 and S-432 if not operated as pressure vessels, S-434, S-482, S-489, S-490, S-491, S-492, S-506, S-507, S-521, S-531 and S-532 vents, S-535, S-586, S-631, S-641, S-644, S-645, S-648, S-649, S-650, S-651, S-652, S-662, S-663, S-664, S-682, S-701 (A-42, A-125, A-180, A-182 upstream)	BAAQMD 6-301 6-310 6-311 8-2-301 Condition 2501	Temperature Liquid feedrate	Ringelmann 1 0.15 gr/dscf $4.10\ P^{0.67}$ lb/hr 15 lbs/day & 300 ppm carbon

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

No changes have been made to the generally applicable requirements under this minor permit revision.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV.

For S-174, the citations of Rule 8-7 will be expanded to include each applicable subsection and the new permit condition for the EVR Phase I system will be added:

Table IV-P
Source-specific Applicable Requirements
S-174, Gasoline Dispensing Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 7	**Organic Compounds – Gasoline Dispensing Facilities (11/6/2002)**		
8-7-113	Tank Gauging and Inspection Exemption	Y	
8-7-114	Stationary Tank Testing Exemption	Y	
8-7-301	Phase I Requirements	~~Y~~	

Table IV-P
Source-specific Applicable Requirements
S-174, Gasoline Dispensing Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-7-301.1	Requirements for Transfers into Stationary Tanks, Cargo Tanks, and Mobile Refuelers	Y	
8-7-301.2	CARB Certification Requirements	Y	
8-7-301.3	Submerged Fill Pipe Requirement	Y	
8-7-301.5	Maintenance and Operating Requirement	Y	
8-7-301.6	Leak-Free and Vapor Tight Requirement for Components	Y	
8-7-301.7	Fitting Requirements for Vapor Return Line	Y	
8-7-301.8	Coaxial Phase I Systems Certified by CARB prior to January 1, 1994 may not be installed on New or Modified Systems	Y	
8-7-301.9	Anti-rotational Coupler or Swivel Adapter Required	Y	
8-7-301.10	Vapor Recovery Efficiency Requirements for New and Modified Systems	Y	
8-7-302	Phase II Requirements	~~Y~~	
8-7-302.1	Requirements for Transfers into Motor Vehicle Fuel Tanks	Y	
8-7-302.2	Maintenance Requirement	Y	
8-7-302.3	Proper Operation and Free of Defects Requirements	Y	
8-7-302.4	Repair Time Limit for Defective Components	Y	
8-7-302.5	Leak-Free and Vapor Tight Requirement for Components	Y	
8-7-302.6	Requirements for Bellows Nozzles	Y	
8-7-302.7	Requirements for Vapor Recovery Nozzles on Balance Systems	Y	
8-7-302.8	Minimum Liquid Removal Rate	Y	
8-7-302.9	Coaxial Hose Requirement	Y	
8-7-302.10	Construction Materials Specifications	Y	
8-7-302.12	Liquid Retain Limitation	Y	1/1/09[1]
8-7-302.13	Nozzle Spitting Limitation	Y	1/1/09[1]
8-7-302.14	Annual Back Pressure Test Requirements for Balance Systems	Y	
8-7-303	Topping Off	Y	
8-7-304	Certification Requirements	Y	
8-7-306	Prohibition of Use	Y	
8-7-307	Posting of Operating Instructions	Y	
8-7-308	Operating Practices	Y	
8-7-309	Contingent Vapor Recovery Requirement	Y	
8-7-315	Pressure Vacuum Valve Requirements, Underground Tanks	Y	
8-7-401	Equipment Installation and Modification	Y	
8-7-407	Periodic Testing Requirements	Y	
8-7-408	Periodic Testing Notification and Submission Requirements	Y	
8-7-501	Burden of Proof	Y	

Table IV-P
Source-specific Applicable Requirements
S-174, Gasoline Dispensing Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-7-502	Right of Access	Y	
8-7-503	Recordkeeping Requirements	~~Y~~	
8-7-503.1	Gasoline Throughput Records	Y	
8-7-503.2	Maintenance Records	Y	
8-7-503.3	Records Retention Time	Y	
BAAQMD Condition #14098			
Part 1	Maximum Annual Gasoline Throughput (TRMP)	N	
BAAQMD Condition #20666			
Part 1	Phase I equipment installed and maintained per CARB Executive Order (Basis: District Regulation 8-7-301.2)	Y	
Part 2	Triennial drop tube/drain valve and static adaptor torque test requirements (Basis: District Regulation 8-7-301.2)	Y	

[1] California Health & Safety Code §41954(g) prohibits local Districts from enforcing stricter local standards for gasoline vapor recovery equipment until two components or systems have been certified to meet the stricter standards, and allows existing facilities four years to retrofit to meet any such standards. Since the District adopted these standards, the California Air Resources Board has adopted similar standards in Certification Procedure CP-201 which will apply to new facilities effective 1/1/05, and all facilities effective 1/1/09.

For the Dowicil Plant, S-302 and S-303, the source description in the applicable requirements Table IV-W will be updated to show the additional abatement option at S-336:

Table IV-W
Source-specific Applicable Requirements
S-302, Dowicil Train 1
S-303, Dowicil Train 2
Abated by A-192, Vent Recovery System (refrigeration)
Followed by S-389, Sym-Tet Thermal Oxidizer or S-336, Manufacturing Services Thermal Oxidizer, at least 89% of the Dowicil Plant operating time

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition #14438			
Part 3	Abatement Requirement (BACT)	Y	
Part 8	Recordkeeping Requirement (Cumulative Increase, BACT, 2-6-501)	Y	

For the storage tanks for the Dowicil Plant, S-662, S-663, and S-664, the source description for the applicable requirements Table IV-CE will be updated to show the additional abatement option at S-336 and the citation of Regulation 8, Rule 5 will be updated to reflect the current version of the regulation:

Table IV – CE
Source-specific Applicable Requirements
S-662, Storage Tank, T-243
S-663, Storage Tank, T-242
S-664, Storage Tank, T-244
Abated by A-192, Vent Recovery System, S-336, Manufacturing Services Thermal Oxidizer, S-389, Sym-Tet Thermal Oxidizer, or Pressure Valve Setting

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8 Rule 5	**Organic Compounds - STORAGE OF ORGANIC LIQUIDS (11/27/02)~~(06/05/02)~~**		
8-5-111	Limited Exemption, Tank Removal From and Return to Service	Y	
8-5-112	Limited Exemption, Tanks in Operation	Y	
8-5-301	Storage Tank Control Requirements	Y	
8-5-307	Requirements for Pressure Tanks and Blanketed Tanks	Y	
8-5-501	Records	Y	
8-5-501.1	Type and Amount of Liquids Stored, Blanket Gases, TVP	Y	
8-5-503	Portable Hydrocarbon Detector	Y	

Table IV – CE
Source-specific Applicable Requirements
S-662, Storage Tank, T-243
S-663, Storage Tank, T-242
S-664, Storage Tank, T-244
Abated by A-192, Vent Recovery System, S-336, Manufacturing Services Thermal Oxidizer, S-389, Sym-Tet Thermal Oxidizer, or Pressure Valve Setting

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition #14438			
Part 4	Emissions Control (Cumulative Increase, 8-5-307)	Y	
Part 8	Recordkeeping Requirements (Cumulative Increase, BACT, 2-6-501)	Y	

For S-683, the citation of Regulation 8, Rule 5 will be updated to reflect the current version of the regulation, which includes a change in the date and addition of Sections 8-5-301 and 8-5-501. Part 5 of Condition #15372 will be clarified to show the vapor pressure limit is derived from the exemption in Regulation 8, Rule 6 and as defined in Rule 8-6, applies as measured at 25 degrees C.

Table IV – CJ
Source-specific Applicable Requirements
S-683, Storage Vessel, D-110A

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8 Rule 5	**Organic Compounds - STORAGE OF ORGANIC LIQUIDS ~~(06/05/02)~~(11/27/02)**		
8-5-301	Storage Tank Control Requirements for Tanks with Capacity > 37.5 m^3 and < 75 m^3	Y	
8-5-307	Requirements for Pressure Tanks and Blanketed Tanks	Y	
8-5-501	Records	Y	
BAAQMD Condition #15372			
Part 1	Pressure Relief Valve (8-5-307)	Y	
Part 2	Vapor Balance Line (Cumulative Increase)	Y	
Part 3	Annual Throughput Limit (Cumulative Increase)	Y	
Part 4	Recordkeeping Requirement (Cumulative Increase, 2-6-501)	Y	
Part 5	Vapor pressure ≤ 0.5 psia at 25 degrees C (2-1-301, 8-6-110)	Y	

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

No changes have been made to this section of the permit under this minor permit revision.

VI. Permit Conditions

Each permit condition is identified with a unique numerical identifier, up to five digits. The Title V permit contains all permit conditions for the permitted sources listed in Section II. The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. During the Title V permit development, the District reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for consistency, clarity and enforceability. When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting was added to the permit.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO which limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Permit Condition 5148 has been modified to indicate that sources S-428 and S-448 are exempt sources. This condition will be updated in the Title V permit as follows:

Permit Condition #5148
Applications 4459, 16468, 9327
Conditions for
S-48, T19A N-Serve;
S-49, T19B N-Serve;
S-428, H-300 Sym-Tet Processing (exempt per §2-1-103),
S-448, H-200 Sym-Tet; (exempt per §2-1-103) and
A-154, Vent Recovery System H-320A & B, T-320

1. The Vent Recovery System (A-154) shall achieve either a minimum of 85% (by weight) control of organic compounds or shall emit less than 15 lbs/day as carbon.
   (Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301)

2. During the freeze cycle, the temperature of the vapor stream exiting the Heat Exchanger shall not exceed 60 degrees C (140 degrees F).
   (Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

3. The owner/operator of the A-154 Vent Recovery System shall continuously monitor the pressure drop across the Heat Exchangers and the temperature of the exit vapor stream.
   (Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

4. N-Serve Product Storage Tanks (S-48 and S-49), H-300 Sym-Tet Processing (S-428), and H-200 Sym-Tet (S-448) shall be abated by the Vent Recovery System (A-154) at all times that these sources are operating or contain organic liquid.
   (Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

5. The owner/operator of A-154 shall maintain records of (1) the pressure drop across the Heat Exchangers, and (2) the temperature of the exit vapor stream. These records shall be kept on file for a minimum of five years and shall be made available to District personnel upon request.
   (Basis: BAAQMD Regulation 2-6-501, BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

Permit Condition 14438 has been modified to indicate allow the Dowicil Plant and associated tanks to be abated at S-336. This condition will be updated in the Title V permit as follows:
Permit Condition #14438
Application 16769, 8894, 11244
Conditions for S-302, Dowicil Train 1;
S-303, Dowicil Train 2;
S-662, Storage Tank, T-243;
S-663, Storage Tank, T-242;
S-664, Storage Tank, T-244; and
A-192, Vent Recovery System
S-336, Manufacturing Services Thermal Oxidizer
S-389, Sym-Tet Thermal Oxidizer R-501

1. Deleted.

2. Deleted.

3. The Dowicil Plant, Trains 1 and 2 (S-302 and S-303), shall be abated by the properly operated and properly maintained A-192, Dowicil Plant Solvent Recovery System, during all hours of operation of S-302 and S-303.
   (Basis: BACT)

4. Emissions from the methylene chloride Storage Tanks (S-662, S-663, and S-664) shall be controlled by one of the following methods at all times:
   a. Each tank shall be equipped with a pressure-vacuum valve set to 10 psig or higher, or
   b. Each tank shall be abated by the A-192 Dowicil Solvent Recovery System, or
   c. Each tank shall be abated by the S-389 Thermal Oxidizer~~.~~, or
   d. Each tank shall be abated by the S-336 Thermal Oxidizer.
   (Basis: Cumulative Increase, BAAQMD Regulation 8-5-306 or 307)

5. The A-192 Dowicil Solvent Recovery System shall be vented to the S-389 Thermal Oxidizer or the S-336 Thermal Oxidizer at least 89.0% of the total annual Dowicil Plant operating time.
   (Basis: BACT)

6. The A-192 Dowicil Plant Solvent Recovery System shall emit no more than 1233 pounds per day of methylene chloride.
   (Basis: BACT)

7. The owner/operator of A-192 shall demonstrate compliance with Part #6 by:
   a. Measuring the gas flow rate from A-192 (Q in cubic feet per hour) on a continuous basis, integrated over a 24 hour period,
   b. Measuring the temperature of the gas exiting A-192 (T in degrees F) on a continuous basis, integrated over a 24 hour period, and
   c. Calculating the methylene chloride emission rate from A-192 using the following equation:

      $$E = 0.15304*Q*H*P/(T+460)$$

      Where,

      E = methylene chloride emissions from A-192, pounds/day
      Q = measured gas flow rate from A-192, cubic feet/hour
      H = operating time for A-192, hours/day
      T = measured temperature of gas from A-192, degrees F
      P = vapor pressure of a gas saturated with methylene chloride at the measured temperature, mm Hg

   (Basis: BACT)

8. The owner/operator of S-302, S-303, S-662, S-663, and S-664 shall demonstrate compliance with Parts #3 through #7 by maintaining the following records in a District approved log book:
   a. Daily records of the dry fungicide production rate (tons/day) from each Dowicil Train (S-302 and S-303) and the combined total for the Dowicil Plant, summarized on a monthly basis.
   b. Daily records of the operating times and total operating hours for the Dowicil Plant and the A-192 Dowicil Solvent Recovery System, summarized on a monthly basis.

c. Monthly records of the methylene chloride throughput rate at each Storage Tank (S-662, S-663, and S-664).
d. Record the dates, times, and operating hours of all incidences of A-192 venting to the atmosphere instead of to S-389 or to S-336 while S-302 or S-303 are operating. Summarize the operating hours for A-192 venting to atmosphere on an annual basis.
e. Calculate the percentages of annual Dowicil operating time that A-192 was vented to the atmosphere and to either S-336 or S-389 using the data collected for b. and d. above.
f. Daily records of the A-192 exhaust flow rate, Q, measured pursuant to Part #7.a.
g. Daily records of the A-192 exhaust gas temperature, T, measured pursuant to Part #7.b.
h. Daily records of the A-192 methylene chloride emission rate, E, calculated pursuant to Part #7.c.

All records, including continuous temperature charts, shall be kept on site for a minimum of 5 years from the date of entry and shall be made available to District personnel upon request.
(Basis: Cumulative Increase, BACT, BAAQMD Regulation 2-6-501)

Permit condition 15732 for S-683 has been modified to allow an increase in throughput of acrylic acid and to clarify that the vapor pressure limit applies at 25 degrees C and is derived from the exemption in Rule 8, Rule 6 as follows:

Permit Condition #15372
Dow Chemical Company, Plant #31
Application #18105, Revised under Application #12025
Conditions for S-683, Storage Vessel, D-110A:

1. The S-683 Storage Vessel shall be equipped with a pressure relief valve set to at least 7 psig. (basis: BAAQMD Regulation 8-5-307)

2. During tank loading, the S-683 Storage Vessel shall be equipped with a gas tight vapor balance line that returns vapors from the storage vessel to the delivery tank trucks. (basis: Cumulative Increase)

3. The total amount of acrylic acid loaded into S-683 shall not exceed ~~210,000~~ 585,000 gallons during any consecutive 12-month period. (basis: Cumulative Increase)

4. To confirm compliance with Part #3, the owner/operator of S-683 shall maintain the following records in a District approved logbook.
   a. Monthly records of the total amount of acrylic acid loaded into S-683 and any other materials loaded into S-683.
   b. Monthly records of the vapor pressure of all materials loaded into S-683

   These records shall be kept on site for a minimum of five years from the date of entry and shall be made available to District personnel upon request.
   (basis: Cumulative Increase, BAAQMD Regulation 2-6-501)

5. S-683 may not store any liquid containing organic compounds with a vapor pressure greater than 0.5 psia measured at 25 degrees C.
   (basis: BAAQMD Regulation 2-1-301, BAAQMD Regulation 8-6-110)

Permit condition 20666has been added for S-174 for operation and maintenance of the Enhanced Vapor Recover Phase I system and to specify the testing requirements. It will be added to the Title V permit as shown below:

Permit Condition #20666
Dow Chemical Company, Plant #31
Application #10213

1. The OPW EVR Phase I Vapor Recovery System, including all associated plumbing and components, shall be operated and maintained in accordance with the most recent version of California Air Resources Board (CARB) Executive Order VR-102. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

(basis: BAAQMD Regulation 8-7-301.2)

2. The owner or operator shall conduct and pass a Rotatable Adaptor Torque Test (CARB Test Procedure TP201.1B) and either a Drop Tube/Drain Valve Assembly Leak Test (TP201.1C) or, if operating drop tube overfill prevention devices ("flapper valves"), a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test (TP201.1D) at least once in each 36- month period. Measured leak rates of each component shall not exceed the levels specified in VR-102. Results shall be submitted to BAAQMD within 15 days of the test date in a District-approved format.

(basis: BAAQMD Regulation 8-7-301.2)

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of only the numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Table VII-N for S-174 will be modified to include the new Phase I requirements and the new permit condition as shown below:

Table VII-N
Applicable Limits and Compliance Monitoring Requirements
S-174, Gasoline Dispensing Facility

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-7-301.6	Y		All Phase I Equipment (except components with allowable leak rates) shall be leak free (<3 drops/minute) and vapor tight	BAAQMD Regulation 8-7-301.13 and 8-7-503.2	P/A	Static Pressure Performance Test, ST-30
VOC	BAAQMD Regulation 8-7-301.10	Y		98% or highest CARB vapor recovery rate	None	N	N/A
~~VOC~~	~~BAAQMD Regulation 8-7-302.4~~	~~Y~~		~~Repair/replace defective component within 7 days, if it does not impair Phase II~~	~~None~~	~~N~~	~~N/A~~
VOC	BAAQMD Regulation 8-7-302.5	Y		Phase II system shall be maintained leak free, vapor tight	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.8	Y		Liquid removal devices required by CARB: liquid removal rate ≥ 5 mL/gallon dispensed for dispensing rates > 5 gallons/minute or as otherwise specified	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.12	Y		Spitting from nozzles ≤ 100 mL/1000 gallons dispensed or the quantity specified by CARB Procedure CP-201, whichever is less	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.13	Y		Spitting from nozzles ≤ 1.0 mL/nozzle/test or the quantity specified by CARB Procedure CP-201, whichever is less	None	N	N/A

Table VII-N
Applicable Limits and Compliance Monitoring Requirements
S-174, Gasoline Dispensing Facility

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-7-302.14	Y	6/1/2003	Balance Phase II Vapor Recovery: dynamic backpressure meets CARB Executive Order, or if not specified ≤ 0.15, 0.45, 0.95 inches water when measured at N2 flows of 20, 60, 100 cfh	BAAQMD 8-7-302.14	P-A	Backpressure test
VOC	Condition 14098, Part 1	N		940,000 gallons/12 months	BAAQMD 8-7-503.1	P-M	Records
VOC	Condition #20666, Part 1	Y		Drop tube/drain valve leak rate not to exceed 0.17 CFH @ 2" H_2O; minimum 360° rotation with maximum 108 pound-inch torque	BAAQMD Regulation 8-7-503.2; BAAQMD Condition #20666, Part 2	P- once every 36 months	Drop tube/drain valve leak test (CARB TP 201.1C or 201.1D) and torque test (CARB TP 201.1B

The source description in Table VII-BU for S-662, S-663, and S-664 will be modified to indicate S-336 as an abatement option as shown below:

Table VII–BU
Applicable Limits and Compliance Monitoring Requirements
S-662, Storage Tank, T-243
S-663, Storage Tank, T-242
S-664, Storage Tank, T-244
Abated by A-192, Vent Recovery System, S-336, Manufacturing Services Thermal Oxidizer, S-389, Sym-Tet Thermal Oxidizer, or Pressure Valve Setting

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD 8-5-307	Y		< 100 ppm (expressed as methane) above background	BAAQMD 8-18-401	P/Q	Method 21 Inspection

The Table VII-BZ for S-683 will be modified to indicate the new throughput limit and to clarify that the vapor pressure limit applies at 25 degrees C as shown below:

Table VII–BZ
Applicable Limits and Compliance Monitoring Requirements
S-683, Storage Vessel, D-110A

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-5-307	Y		< 100 ppm (expressed as methane) above background	BAAQMD Regulation 8-18-401	P/Q	Method 21 Inspection
VOC	BAAQMD Condition # 15372 Part 3	Y		Acrylic acid throughput ≤ ~~210,000~~ 585,000 gallons during any consecutive twelve-month period	BAAQMD Condition # 15372 Part 4	P/M	Records
VOC	BAAQMD Condition # 15372 Part 5	Y		Vapor pressure of materials stored ≤ 0.5 psia as measured at 25 degrees C	BAAQMD Condition # 15372 Part 4	P/M	Records

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements. If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

No changes have been made to the test methods section of the permit under this minor permit revision.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has neither type of permit shield. No changes are being proposed under this minor revision to the permit.

X. Revision History

The following summary shall be added to the revision history section of the permit to describe this minor revision:

Final Issuance of Minor Permit Revision *insert date*
(Application #10351)

For the gasoline dispensing facility, S-174: A permit condition was added for S-174 to enforce the Enhanced Vapor Recovery Phase I system operating, maintenance and testing requirements. The Source Specific Applicable Requirements and the Applicable Limits and Compliance Monitoring tables were updated.

For the Dowicil Plant and associated storage tanks, S-302, S-303, S-662, S-663, S-664: The Manufacturing Services Thermal Oxidizer, S-336, has been added as an additional abatement option for these sources in Permit Condition 14438. This revision was also updated to the Source Specific Applicable Requirements and the Applicable Limits and Compliance Monitoring tables. The citation of Rule 8-5 was updated to reflect the current version of this rule

For sources, S-428 and S-448: The sources have been shown to be exempt from District permit requirements and have been designated as exempt in Permit Condition 5148.

For storage tank, S-683, at the Latex Plant: The permit condition for S-683 was modified to reflect the permitted throughput increase issued under District Application 12025. This revision was also incorporated in the Source Specific Applicable Requirements and the Applicable Limits and Compliance Monitoring tables. In addition, the citation of Rule 8-5 was updated to reflect the current version of this rule, and the vapor pressure limit in the permit condition was clarified to show a basis in Rule 8-6 and that the limit applies as measured at 25 degrees C.

XI. Glossary

No changes are have been made to the Glossary under this minor revision to the permit.

XII. Applicable State Implementation Plan

The internet address for the District's State Implementation Plan has changed as follows:

~~http://yosemite1.epa.gov/r9/r9sips.nsf/California?ReadForm&Start=1&Count=30&Expand=3.1~~
http://yosemite.epa.gov/r9/r9sips.nsf/Agency?ReadForm&count=500&state=California&cat=Bay+Area+Air+Quality+Management+District-Agency-Wide+Provisions

D. Alternate Operating Scenarios:

No alternate operating scenario is contained in the permit and no change has been made under this minor revision to the permit.

APPENDIX A

Engineering Evaluation of Application 9327

Engineering Evaluation of Application 10213

Engineering Evaluation of Application 11244

Engineering Evaluation of Application 12025

Engineering Evaluation Report

Dow Chemical Company, P#31
901 Loveridge Road, Pittsburg
Application #9327

Background

Dow Chemical has applied to replace S-428, H-300 Sym-Tet Processing Vessel with a new vessel. The current H-300 is reaching the end of its useful life and will be replaced with a vessel made from more corrosion resistant materials. The new vessel will be capable of operating at higher pressures than the old vessel to prevent corrosive moisture from entering the vessel. Normally, for replacement of an existing source with a new source, the new source would be given a different source number. However, Dow has demonstrated that the existing source S-428 and the new replacement qualify for permit exemptions under Section 2-1-103. Since S-428 is exempt from District permit requirements, modifications to this source or replacement of the source do not need to undergo review by the District as long as the modification or replacement does not invalidate the permit exemption.

Dow operates a second source, S-448, in the same manner as S-428 and has requested S-448 also be deemed exempt. The submitted emission calculations demonstrate that both sources meet the exemption levels under Section 2-1-103. Therefore, the following sources will be changed to permit exempt status and the discussion of the process and replacement below is included for information only.

S-428, H-300 Sym-Tet Processing Vessel (exempt, §2-1-103)
S-448, H-200 Sym-Tet Processing Vessel (exempt, §2-1-103)

S-446, Sym-Tet Plant

S-389, Sym-Tet Thermal Oxidizer, R-501
S-428, H-300 Sym-Tet Processing (exempt, §2-1-103)
S-448, H-200 Sym-Tet (exempt, §2-1-103)
The Sym-Tet Plant (S-446) reacts chlorine gas and picolines in a continuous process to produce a variety of chlorinated pyridine products, including symmetrical tetrachloropyridines. This plant is abated by S-389 as the primary abatement system and the process recovery section is abated by A-88 or A-89 as backup. Anhydrous hydrogen chloride gas and carbon tetrachloride are byproducts of the process. Both byproducts are stored and eventually converted to aqueous hydrogen chloride product. At S-428 and S-448, the crude Sym-Tet is purified to pure Sym-Tet.

Emission Calculations

H-300 and H-200 are abated by A-154 Freeze/Thaw Condenser System to eliminate organic emissions to the atmosphere. Emissions from H-300 and H-200 flow into vent recovery system A-154 and out emission point P-235. One condenser is online treating vapor while the other is offline for Sym-Tet recovery. The recovered Sym-Tet drains off to a storage tank. A-154 is subject to permit Condition #5148. The new H-300 and the existing H-200 will continue to be abated by A-154 as required by Condition #5148. Submitted emission calculations demonstrate that organic emissions from H-300 after abatement are approximately 1.34 lbs/day and from H-200 are approximately 0.8 lbs/day.

Statement of Compliance

Cumulative Increase, Public Notice Requirements, Toxic Risk Assessment, BACT, Offsets

This review has shown that the existing source S-448, S-428 and its replacement are exempt from permit requirements, therefore none of the following are triggered: Toxic Risk Assessment, Public Notification under Regulation 2-1-412, BACT, Emission Offsets. There are no emissions to be charged to the facility's cumulative increase due to this replacement.

PSD, NSPS, NESHAPS
PSD and NSPS do not apply. The Symmetrical Tetrachloropyridine Plant is subject to 40 CFR Part 63, Subparts H and I only for the National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks - "Other Process Subject to the Negotiated Regulation for Equipment Leaks". These requirements are already contained in and enforced through the Major Facility Review Permit.

CEQA
This application is exempt from CEQA review in accordance with District Regulation 2, Rule 1, Section 310, as CEQA only applies to new and modified sources for which an Authority to Construct must be obtained. An Authority to Construct is not required for this replacement since the project is exempt from permit requirements under Section 2-1-103.

District Regulations
Regulation 8, Rule 10 does not apply to S-428 and S-448 since they are never operated above 1 psig and are vented to an abatement device at all times. These sources are exempt from other Regulation 8 requirements under Section 8-1-110.3, as part of a process otherwise subject to Regulation 8, Rule 2, but for which organic emissions are reduced by at least 85% by mass. Being exempt from Regulation 8 also qualifies the source for permit exemption under Section 2-1-103 (as the sources are not subject to Regulations 6, 8, or 9 through 12, are not subject to sections 2-1-316 through 318, and emissions are less than 150 lbs/year per pollutant). Currently, H-300 and H-200 are not indicated to be exempt in the District's database. The change to exempt status will be made under this application.

Permit Condition #5148
Applications 4459, 16468, 9327
Conditions for
S-48, T19A N-Serve;
S-49, T19B N-Serve;
S-428, H-300 Sym-Tet Processing (exempt per §2-1-103),
S-448, H-200 Sym-Tet; (exempt per §2-1-103) and
A-154, Vent Recovery System H-320A & B, T-320

1. The Vent Recovery System (A-154) shall achieve either a minimum of 85% (by weight) control of organic compounds or shall emit less than 15 lbs/day as carbon. (Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301)

2. During the freeze cycle, the temperature of the vapor stream exiting the Heat Exchanger shall not exceed 60 degrees C (140 degrees F).
(Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

3. The owner/operator of the A-154 Vent Recovery System shall continuously monitor the pressure drop across the Heat Exchangers and the temperature of the exit vapor stream.
(Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

4. N-Serve Product Storage Tanks (S-48 and S-49), H-300 Sym-Tet Processing (S-428), and H-200 Sym-Tet (S-448) shall be abated by the Vent Recovery System (A-154) at all times that these sources are operating or contain organic liquid.

(Basis: BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

5. The owner/operator of A-154 shall maintain records of (1) the pressure drop across the Heat Exchangers, and (2) the temperature of the exit vapor stream. These records shall be kept on file for a minimum of five years and shall be made available to District personnel upon request.

(Basis: BAAQMD Regulation 2-6-501, BAAQMD Regulation 8-1-110.3 or BAAQMD Regulation 8-2-301/BAAQMD 2-1-403)

Recommendations

I recommend issuing a Letter of Exemption to the following source:

S-428, H-300 Sym-Tet Processing Vessel, exempt per §2-1-103
S-448, H-200 Sym-Tet Processing Vessel, exempt per §2-1-103

_____ _____

Tamiko Endow Date
Air Quality Engineer

Evaluation Report
A/N 10213
G# 6131 (Plant 31, Source 174)
Dow Chemical, 901 Loveridge Rd., Pittsburg

Background

Walton Engineering, on behalf of DOW CHEMICAL, has applied for an A/C to replace the Phase I vapor recovery on DOW CHEMICAL's existing underground gasoline tank with EVR certified Phase I equipment. No other work is proposed under this application.

DOW CHEMICAL currently operates a 10,000 gallon underground gasoline tank with two EW A4005 gasoline nozzle equipped with two-point Phase I and balance Phase II vapor recovery equipment. This equipment is permitted as Source 174 at Plant 31 and is subject to condition #14098, which limits annual gasoline throughput to 940,000 gallons per year.

Proposed Phase I equipment consists of OPW EVR Phase I per CARB Executive Order VR-102D. All other equipment will remain unchanged.

Emissions

No change in permitted throughput has been requested.

As the EVR Phase I equipment is certified at 98% efficiency (vs. 95% for conventional Phase I) there should be no increase in emissions per unit throughput.

The net emission increase under this A/N will be zero.

Statement of Compliance

As there will be no net emissions increase from this project, this application is exempt from the BACT and offset requirements of Regulation 2, Rule 2.

The proposed OPW EVR Phase I equipment is certified under G-VR-102D, while the existing Phase II equipment is certified under G-70-17AD and 52AM. Use of CARB certified equipment satisfies all requirements of District Regulation 8, Rule 7.

Permit Conditions

Authority to Construct Conditions:

(Data Bank Cond ID# to be assigned)

1. The Phase I equipment shall be installed in accordance with California Air Resources Board (CARB) Executive Order VR-102 (OPW EVR Phase I systems).
2. Only the replacement of the existing Phase I system with EVR-certified equipment is authorized under this Authority to Construct. No other work, including modifications to dispensers or vapor recovery piping, is allowed.
3. Only over fill prevention devices (e.g., flapper valves, ball floats) listed in the applicable CARB Executive Order as compatible with the Phase I system may be installed. Note: Executive Order VR-104-A prohibits the use of drop tube overfill prevention devices (flapper valves) in conjunction with the CNI EVR Phase I system.
4. No more than three pressure vacuum (PV) valves may be installed on any manifolded tank system. The District recommends that vents be manifolded to a single relief valve whenever possible.
5. The following performance tests shall be successfully conducted within (30) days of start-up:.

   I. Static Pressure Performance Test, in accordance with CARB procedure TP-201.3 or the applicable equivalent District test procedure (ST-30). If the tank size is 500 gallons or less, the test shall be performed on an empty tank.

   II. Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3.

   III. One of the following tests. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:

   a) Stations equipped with drop tube overfill prevention devices ("flapper valves"): a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.

   b) All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.

6. The applicant shall notify Source Test by FAX at (415) 749-4922, 48 hours prior to any testing required for permitting. Test results for the performance tests required pursuant to conditions #7 shall be submitted within twenty (20) days of test date.
7. The current gasoline throughput at this facility shall not exceed 940,000 gallons of fuel per year.

Permit to Operate Conditions

COND# 14098 ----------

*1. Pursuant to BAAQMD Toxic Section Policy, the owner/operator shall ensure that the annual gasoline throughput does not exceed 940,000 gallons in any consecutive 12 month period.

COND# 20666 ----------

1. The OPW EVR Phase I Vapor Recovery System, including all associated plumbing and components, shall be operated and maintained in accordance with the most recent version of California Air Resources Board (CARB) Executive Order VR-102. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

2. The owner or operator shall conduct and pass a Rotatable Adaptor Torque Test (CARB Test Procedure TP201.1B) and either a Drop Tube/Drain Valve Assembly Leak Test (TP201.1C) or, if operating drop tube Overfill prevention devices ("flapper valves"), a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test (TP201.1D) at least once in each 36- month period. Measured leak rates of each component shall not exceed the levels specified in VR-102. Results shall be submitted to BAAQMD within 15 days of the test date in a District-approved format.

Title V Permit Revisions

This plant has a Title V permit. This project will require a minor revision of the Title V permit. The revisions to the Title V permit are being processed under A/N 10351.

Proposed revisions to the Title V permit are attached.

Recommendation

All fees have been paid. Recommend that an A/C be issued for the above project.

By _____ date_____

Scott Owen
Supervising AQ Engineer

Table IV-P
Source-specific Applicable Requirements
S-174, Gasoline Dispensing Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 8, Rule 7	**Organic Compounds – Gasoline Dispensing Facilities (11/6/2002)**		
8-7-113	Tank Gauging and Inspection Exemption	Y	
8-7-114	Stationary Tank Testing Exemption	Y	
8-7-301	Phase I Requirements	~~Y~~	
8-7-301.1	Requirements for Transfers into Stationary Tanks, Cargo Tanks, and Mobile Refuelers	Y	
8-7-301.2	CARB Certification Requirements	Y	
8-7-301.3	Submerged Fill Pipe Requirement	Y	
8-7-301.5	Maintenance and Operating Requirement	Y	
8-7-301.6	Leak-Free and Vapor Tight Requirement for Components	Y	
8-7-301.7	Fitting Requirements for Vapor Return Line	Y	
8-7-301.8	Coaxial Phase I Systems Certified by CARB prior to January 1, 1994 may not be installed on New or Modified Systems	Y	
8-7-301.9	Anti-rotational Coupler or Swivel Adapter Required	Y	
8-7-301.10	Vapor Recovery Efficiency Requirements for New and Modified Systems	Y	
8-7-302	Phase II Requirements	~~Y~~	
8-7-302.1	Requirements for Transfers into Motor Vehicle Fuel Tanks	Y	
8-7-302.2	Maintenance Requirement	Y	
8-7-302.3	Proper Operation and Free of Defects Requirements	Y	
8-7-302.4	Repair Time Limit for Defective Components	Y	
8-7-302.5	Leak-Free and Vapor Tight Requirement for Components	Y	
8-7-302.6	Requirements for Bellows Nozzles	Y	
8-7-302.7	Requirements for Vapor Recovery Nozzles on Balance Systems	Y	
8-7-302.8	Minimum Liquid Removal Rate	Y	
8-7-302.9	Coaxial Hose Requirement	Y	
8-7-302.10	Construction Materials Specifications	Y	
8-7-302.12	Liquid Retain Limitation	Y	**1/1/09***
8-7-302.13	Nozzle Spitting Limitation	Y	**1/1/09***

- California Health & Safety Code § 41954 (g) prohibits local Districts from enforcing stricter local standards for gasoline vapor recovery equipment until two components or systems have been certified to meet the stricter standards, and allows existing facilities four years to retrofit to meet any such standards. Since the District adopted these standards, the California Air Resources Board has adopted similar standards in Certification Procedure CP-201 which will apply to new facilites effective 1/1/05, and all facilities effective 1/1/09.

Table IV-P
Source-specific Applicable Requirements
S-174, Gasoline Dispensing Facility

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
8-7-302.14	Annual Back Pressure Test Requirements for Balance Systems	Y	
8-7-303	Topping Off	Y	
8-7-304	Certification Requirements	Y	
8-7-306	Prohibition of Use	Y	
8-7-307	Posting of Operating Instructions	Y	
8-7-308	Operating Practices	Y	
8-7-309	Contingent Vapor Recovery Requirement	Y	
8-7-315	Pressure Vacuum Valve Requirements, Underground Tanks	Y	
8-7-401	Equipment Installation and Modification	Y	
8-7-407	Periodic Testing Requirements	Y	
8-7-408	Periodic Testing Notification and Submission Requirements	Y	
8-7-501	Burden of Proof	Y	
8-7-502	Right of Access	Y	
8-7-503	Recordkeeping Requirements	~~Y~~	
8-7-503.1	Gasoline Throughput Records	Y	
8-7-503.2	Maintenance Records	Y	
8-7-503.3	Records Retention Time	Y	
BAAQMD Condition #14098			
Part 1	Maximum Annual Gasoline Throughput (TRMP)	N	
BAAQMD Condition #20666 Part 1	Phase I equipment installed and maintained per CARB Executive Order (Basis: District Regulation 8-7-301.2)		
BAAQMD Condition #20666 Part 2	Triennial drop tube/drain valve and static adaptor torque test requirements (Basis: District Regulation 8-7-301.2)		

Draft Table VII – N
Applicable Limits and Compliance Monitoring Requirements
S-174, Gasoline Dispensing Facility

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
VOC	BAAQMD Regulation 8-7-301.10	Y		98% or highest CARB vapor recovery rate	None	N	N/A
Organic Com-pounds	BAAQMD 8-7-301.6	Y		All Phase I Equipment (except components with allowable leak rates) shall be leak free (<3 drops/minute) and vapor tight	BAAQMD 8-7-301.13 and 8-7-503.2	P/A	Static Pressure Performance Test, ST-30
~~VOC~~	~~BAAQMD Regulation 8-7-302.4~~	~~Y~~		~~Repair/replace defective component within 7 days, if it does not impair Phase II~~	~~None~~	~~N~~	~~N/A~~
VOC	BAAQMD Regulation 8-7-302.5	Y		Phase II system shall be maintained leak free, vapor tight	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.8	Y		Liquid removal devices required by CARB: liquid removal rate ≥ 5 mL/gallon dispensed for dispensing rates > 5 gallons/minute or as otherwise specified	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.12	Y		Spitting from nozzles ≤ 100 mL/1000 gallons dispensed or the quantity specified by CARB Procedure CP-201, whichever is less	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.13	Y		Spitting from nozzles ≤ 1.0 mL/nozzle/test or the quantity specified by CARB Procedure CP-201, whichever is less	None	N	N/A
VOC	BAAQMD Regulation 8-7-302.14	Y	~~6/1/2003~~	Balance Phase II Vapor Recovery: dynamic backpressure meets CARB Executive Order, or if not specified ≤ 0.15, 0.45, 0.95 inches water when measured at N2 flows of 20, 60, 100 cfh	BAAQMD 8-7-302.14	P-A	Dynamic Back Pressure Test, ST-27~~Backpressure test~~
VOC	Condition 14098, Part 1	N		940,000 gallons/12 months	BAAQMD 8-7-503.1	P-M	Records

Draft Table VII – N
Applicable Limits and Compliance Monitoring Requirements
S-174, Gasoline Dispensing Facility

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Organic Com-pounds	BAAQMD Condition # 20666 Part 2	Y		Drop tube/drain valve leak rate not to exceed 0.17 CFH @ 2" H_2O; minimum 360° rotation with maximum 108 pound-inch torque	BAAQMD 8-7-503.2 and BAAQMD Condition # 20666 Part 2	P/3A	Drop tube/drain valve leak test (CARB TP 201.1C or 201.1D) and torque test (CARB TP 201.1B

Engineering Evaluation Report

Dow Chemical Company, P#31
901 Loveridge Road, Pittsburg
Application #11244

Background

One of the products produced at the Dow Chemical Plant is Dowicil® - a solid (powder) preservative and antimicrobial used in hand lotions and other products. Dowicil® is produced by reaction of a solid amine and a chlorinated alkene, with methylene chloride. There are no byproducts from this reaction.

Currently, the Dowicil Plant, S-302 and S-303 (Trains 1 and 2, respectively), are vented to A-192, the Dowicil Vent Recovery System. The Vent Recovery System is required to be abated at the S-389, Symtet Thermal Oxidizer, for at least 89% of the Dowicil Plant operating time. Dow Chemical has requested the flexibility to abate the Vent Recovery System at either S-389 or at S-336, Manufacturing Services Thermal Oxidizer. Both Thermal Oxidizers are required to meet a minimum destruction efficiency of 99.99% by weight.

In addition, the associated storage tanks, S-662, S-663, and S-664, which are used to store methylene chloride prior to delivery to the reactors, are required to be vented to A-192, vented to S-389 directly, or operated with the pressure vacuum valve set to 10 psig. Dow has also requested the additional option of venting these 3 tanks directly to S-336.

S-302, Dowicil Train 1
S-303, Dowicil Train 1
S-662, Storage Tank T-243
S-663, Storage Tank T-242
S-664, Storage Tank T-244
A-192, Vent Recovery System
S-336, Manufacturing Services Thermal Oxidizer
S-389, Sym-Tet Thermal Oxidizer R-501

Emission Calculations

Dow has indicated that the heat content of the Dowicil vent stream (containing methylene chloride and nitrogen) is approximately 34,092 Btu/hr, which is well within the available capacity of the S-336 Thermal Oxidizer, which has a rated heat capacity of 5 MMBtu/hr. Both of the Thermal Oxidizers, S-336 and S-389, are currently required to meet the same minimum organic compound destruction efficiency of 99.99% by weight, therefore venting the Dowicil sources to S-336 instead of S-389 will result in no increase in emissions.

Statement of Compliance

Cumulative Increase, Public Notice Requirements, Toxic Risk Assessment, BACT, Offsets

There is no increase in emissions to be charged to the facility's cumulative increase due to this alternative abatement scenario, therefore none of the following are triggered: Toxic Risk Assessment, Public Notification under Regulation 2-1-412, BACT, Emission Offsets.

PSD, NSPS, NESHAPS

PSD, NSPS, and NESHAPS do not apply.

CEQA

This application is exempt from CEQA review in accordance with District Regulation 2, Rule 1, Section 310,"… all proposed new and modified sources for which an Authority to Construct must be

obtainedfrom the District shall be reviewed in accordance with the requirements of CEQA." This project does not constitute a modification of any sources under the definition of a modified source, Section 2-1-234, since there is no increase in emissions or production rate/capacity and it does not result in the emission of any regulated air pollutant not previously emitted.

District Regulations

Regulation 8, Rule 2 does not apply to the Dowicil Plant since the unabated organic emissions from this process consist of methylene chloride, a non-precursor organic compound. Regulation 8, Rule 2 applies only to operations with emissions of precursor organic compounds.

Permit Condition #14438

Application 16769, 8894, 11244
Conditions for S-302, Dowicil Train 1;
S-303, Dowicil Train 2;
S-662, Storage Tank, T-243;
S-663, Storage Tank, T-242;
S-664, Storage Tank, T-244; and
A-192, Vent Recovery System
S-336, Manufacturing Services Thermal Oxidizer
S-389, Sym-Tet Thermal Oxidizer R-501

1. Deleted.

2. Deleted.

3. The Dowicil Plant, Trains 1 and 2 (S-302 and S-303), shall be abated by the properly operated and properly maintained A-192, Dowicil Plant Solvent Recovery System, during all hours of operation of S-302 and S-303.
   (Basis: BACT)

4. Emissions from the methylene chloride Storage Tanks (S-662, S-663, and S-664) shall be controlled by one of the following methods at all times:
   a. Each tank shall be equipped with a pressure-vacuum valve set to 10 psig or higher, or
   b. Each tank shall be abated by the A-192 Dowicil Solvent Recovery System, or
   c. Each tank shall be abated by the S-389 Thermal Oxidizer~~.~~, or
   d. Each tank shall be abated by the S-336 Thermal Oxidizer.
   (Basis: Cumulative Increase, BAAQMD Regulation 8-5-306 or 307)

5. The A-192 Dowicil Solvent Recovery System shall be vented to the S-389 Thermal Oxidizer or the S-336 Thermal Oxidizer at least 89.0% of the total annual Dowicil Plant operating time.
   (Basis: BACT)

6. The A-192 Dowicil Plant Solvent Recovery System shall emit no more than 1233 pounds per day of methylene chloride.
   (Basis: BACT)

7. The owner/operator of A-192 shall demonstrate compliance with Part #6 by:
   a. Measuring the gas flow rate from A-192 (Q in cubic feet per hour) on a continuous basis, integrated over a 24 hour period,

b. Measuring the temperature of the gas exiting A-192 (T in degrees F) on a continuous basis, integrated over a 24 hour period, and
c. Calculating the methylene chloride emission rate from A-192 using the following equation:

$$E = 0.15304*Q*H*P/(T+460)$$

Where,

E = methylene chloride emissions from A-192, pounds/day
Q = measured gas flow rate from A-192, cubic feet/hour
H = operating time for A-192, hours/day
T = measured temperature of gas from A-192, degrees F
P = vapor pressure of a gas saturated with methylene chloride at the measured temperature, mm Hg

(Basis: BACT)

8. The owner/operator of S-302, S-303, S-662, S-663, and S-664 shall demonstrate compliance with Parts #3 through #7 by maintaining the following records in a District approved log book:
   a. Daily records of the dry fungicide production rate (tons/day) from each Dowicil Train (S-302 and S-303) and the combined total for the Dowicil Plant, summarized on a monthly basis.
   b. Daily records of the operating times and total operating hours for the Dowicil Plant and the A-192 Dowicil Solvent Recovery System, summarized on a monthly basis.
   c. Monthly records of the methylene chloride throughput rate at each Storage Tank (S-662, S-663, and S-664).
   d. Record the dates, times, and operating hours of all incidences of A-192 venting to the atmosphere instead of to S-389 or to S-336 while S-302 or S-303 are operating. Summarize the operating hours for A-192 venting to atmosphere on an annual basis.
   e. Calculate the percentages of annual Dowicil operating time that A-192 was vented to the atmosphere and to either S-336 or S-389 using the data collected for b. and d. above.
   f. Daily records of the A-192 exhaust flow rate, Q, measured pursuant to Part #7.a.
   g. Daily records of the A-192 exhaust gas temperature, T, measured pursuant to Part #7.b.
   h. Daily records of the A-192 methylene chloride emission rate, E, calculated pursuant to Part #7.c.

   All records, including continuous temperature charts, shall be kept on site for a minimum of 5 years from the date of entry and shall be made available to District personnel upon request. (Basis: Cumulative Increase, BACT, BAAQMD Regulation 2-6-501)

Recommendations

I recommend issuing a change of conditions to the following sources:

S-302, Dowicil Train 1
S-303, Dowicil Train 1
S-662, Storage Tank T-243
S-663, Storage Tank T-242
S-664, Storage Tank T-244
A-192, Vent Recovery System

Tamiko Endow
Air Quality Engineer

Date

Engineering Evaluation Report

Dow Chemical Company, P#31
901 Loveridge Road, Pittsburg
Application #12025

Background

Dow Chemical has requested a modification to the permit condition for S-683 to increase acrylic acid throughput from 210,000 gallons to 585,000 gallons per year. S-683 is a 10,000 gallon stainless steel pressure vessel and will not need to be modified to handle this increase in throughput. The tank is used to store acrylic acid, which is used at the Latex Plant.

S-683, D-110A Storage Vessel, 10,000 gallon capacity, pressure vessel

Emission Calculations

S-683 is a pressure vessel with a design pressure of 50 psig. The tank is equipped with a pressure relief valve set to 7 psig and two 10 psig rupture disks in series. S-683 is filled from truck trailers through a 3" stainless steel liquid line which is equipped with Kamvalok dripless disconnects. The tank is equipped with a vapor return system, which returns the organic vapors from the tank back to the truck trailer being offloaded. The line is a 2" stainless steel vent line, also equipped with Kamvalok dripless disconnects.

When the tank was originally permitted under Application 18105, the emissions attributed to this source were working losses of 571.8 lbs/year from a maximum throughput of 210,000 gallons, reduced by 80% due to control by the vapor balance system. There were no emissions attributed to this source for standing losses since the operating pressure is less than the pressure relief valve setting.

Uncontrolled Working Losses: 571.8 lbs/yr(585,000 gallons/yr)/(210,000 gallons/yr) = 1592.9 lbs/yr
Abated Emissions: (1592.9 lbs/yr)*(1-80/100) = 318.6 lbs/yr
Emission increase: (1592.9 – 571.8)lbs/yr*(1-80/100) = 204.2 lbs/yr = 0.102 tons/yr

The maximum daily emissions under A/N 18105 were calculated based on loading an empty tank to full capacity in one day, 5.4 lbs/day. The proposed increase in permitted annual throughput under this application does not affect the maximum daily emissions.

Pollutant	Annual Emission Increase, lbs/yr	Annual Emission Increase, tpy	Max Daily Emissions, lbs/day
POC	204.2	0.102	5.4

Cumulative Increase

The increase in emissions due to this increase in acrylic acid throughput will be added to the facility's cumulative increase. The existing cumulative increase for the facility is 0.033 tons POC/year. The new cumulative increase after this 0.102 tpy addition will be 0.135 tons POC/yr.

Compliance Determination

Regulation 8, Rule 5, "Storage of Organic Liquids"

The operation of S-683 is subject to the requirements in Regulation 8, Rule 5, Storage of Organic Liquids. Section 301 of the rule specifies the control requirements that apply to operation of a tank based on tank capacity and the vapor pressure of the material being stored. For a 10,000 gallon tank, the most stringent control requirement is for liquids with vapor pressure of 11 psia or greater. This requires the tank be a pressure tank or equipped with emission control system. S-683 is a pressure tank, therefore meets the control requirements of this section. This tank is

also subject to the requirements for pressure tanks and blanketed tanks contained in Section 8-5-307, which requires the tank be maintained in gas tight condition and maintain working pressures sufficient to prevent organic emissions to the atmosphere. This tank complies with this section as the pressure relief valve is set to a pressure higher than the vapor pressure of acrylic acid and is additionally equipped with 2 rupture disks in series. Lastly the tank is subject to the recordkeeping requirements in Section 8-5-501. These recordkeeping requirements are already contained in the existing permit conditions.

Regulation 8, Rule 6, "Organic Liquid Bulk Terminals and Bulk Plants"
Regulation 8, Rule 6, Organic Liquid Bulk Terminals and Bulk Plants was determined to apply to Dow, since the rule applies to "transfer operations at non-gasoline organic liquid bulk terminals and bulk plants." The definition of 'bulk plant' in Section 8-6-101 specifies "any storage and distribution facility that receives organic liquid by pipeline, railcar, and/or delivery vehicle; stores it in stationary tanks; and/or mixes it in blending tanks; and/or loads it into delivery vehicles or transportable containers, for delivery to distributors, marketers or any product end user; and which has an annual throughput of not more than 22,710 cubic meters (6,000,000 gallons) …" Under this definition (excluding the non-italicized clauses that begin with 'and/or'), Dow is a bulk plant. Further, the term 'transfer operations' is not defined by the rule and therefore does not distinguish between terminalized products and non-terminalized products, such as the acrylic acid delivered to this tank and used onsite in the Latex Plant. Therefore, the loading of any product at Dow, whether it is a terminalized or non-terminalized product, is potentially subject to Rule 8-6.

Section 8-6-110 however specifies that the rule does not apply to loading and delivery of any organic liquid having a true vapor pressure less than 25.8 mmHg (0.5 psia), as determined by Sections 8-6-603 or 604. Section 8-6-604 specifies applicability of the rule can be based on true vapor pressure given in reference texts. True vapor pressure is defined in Section 8-6-205 as the pressure exerted when an organic liquid is in equilibrium with its own vapor at 25 degreesC (77 degreesF). The reference vapor pressure for acrylic acid is 3.1 mmHg at 20 degreesC. The vapor pressure at 25 degreesC is therefore (3.1mmHg)*(25+273)/(20+273) or 3.15 mmHg. Since the vapor pressure of acrylic acid at 25 degreesC is less than 25.8 mmHg, the tank is exempt from the requirements in Regulation 8, Rule 6 per Section 8-6-110.

Public Notice Requirements
The public notification requirements of Regulation 2-1-412 apply to modifications which cause an increase in Toxic Air Contaminant emissions within 1000 feet of a K-12 school. This change of conditions will result in a small increase in acrylic acid emissions, but acrylic acid is not a Toxic Air Contaminant, therefore the public notice requirements do not apply.

Toxic Risk Assessment
This modification does not result in emissions of a Toxic Air Contaminant, therefore no Toxic Risk Screening has been required.

PSD, NSPS, NESHAPS
PSD does not apply to this source. The NSPS for Volatile Organic Liquid Storage Vessels (40 CFR Part 60, Subpart Kb) does not apply to S-683 since the capacity of S-683 is less than 40 m^3 (10,567 gallons) and because S-683 is a pressure vessel. S-683 is part of the Latex Plant which is subject to requirements under the National Emission Standards for Hazardous Air Pollutant Emissions, Group 1 Polymers and Resins (Latex MACT), 40 CFR, Part 63, Subpart U, however this permit condition modification does not change any applicable sections from this regulation.

CEQA

This application is considered to be ministerial and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 4.2.

BACT, Emission Offsets

BACT is triggered when the maximum emissions from a source are equal to or greater than 10 lbs per day. The emissions from S-683 are less than 10 lbs per day, therefore BACT review is not triggered.

Since the maximum permitted POC emissions from this facility are greater than 35 tpy of POC, emission offsets must be provided for the 0.102 tpy increase from this application at a 1.15 to 1.0 ratio. Dow Chemical holds banked POC emission credits therefore 0.117 tpy will be deducted from Dow's banked emission credits.

Permit Conditions 15372

Dow Chemical Company, Plant #31

Application #18105, Revised under Application #12025

Conditions for S-683, Storage Vessel, D-110A:

1. The S-683 Storage Vessel shall be equipped with a pressure relief valve set to at least 7 psig.

(basis: BAAQMD Regulation 8-5-307)

2. During tank loading, the S-683 Storage Vessel shall be equipped with a gas tight vapor balance line that returns vapors from the storage vessel to the delivery tank trucks.

(basis: Cumulative Increase)

3. The total amount of acrylic acid loaded into S-683 shall not exceed ~~210,000~~ 585,000 gallons during any consecutive 12-month period.

(basis: Cumulative Increase)

4. To confirm compliance with Part #3, the owner/operator of S-683 shall maintain the following records in a District approved logbook.

a. Monthly records of the total amount of acrylic acid loaded into S-683 and any other materials loaded into S-683.

b. Monthly records of the vapor pressure of all materials loaded into S-683

These records shall be kept on site for a minimum of five years from the date of entry and shall be made available to District personnel upon request.

(basis: Cumulative Increase, BAAQMD Regulation 2-6-501)

5. S-683 may not store any liquid containing organic compounds with a vapor pressure greater than 0.5 psia measured at 25 degrees C.

(basis: BAAQMD Regulation 2-1-301, BAAQMD Regulation 8-6-110)

Recommendations

I recommend issuing a Change of Condition for the following source:

S-683, D-110A Storage Vessel, 10,000 gallon capacity, pressure vessel

_____ _____

Tamiko Endow Date

Air Quality Engineer

APPENDIX B

GLOSSARY

AB2588
Assembly Bill 2588, Air Toxics "Hot Spots" Information and Assessment Act of 1987 – directs the California Air Resources Board and the Air Quality Management District to collect information from industry on emissions of potentially toxic air pollutants and to inform the public about such emissions and their impact on public health.

ACT
Federal Clean Air Act

alkene
A class of unsaturated aliphatic hydrocarbons having one or more double bonds.

amine
A class of organic compounds of nitrogen.

APCO
Air Pollution Control Officer

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

Basis
The underlying authority that allows the District to impose requirements.

C2
An Organic chemical compound with two carbon atoms

C5
An Organic chemical compound with five carbon atoms

C6
An Organic chemical compound with six carbon atoms

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CEM
A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NOx concentration) in an exhaust stream.

CEQA
California Environmental Quality Act

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

Chlorinated heterocyclic
A closed ring compound in which one or more of the atoms in the ring is a chlorine atom.

Cl2
chlorine

CO
Carbon Monoxide

CO2
Carbon Dioxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

Dowanol®
A terminalized product, not produced at this facility.

Dowicil®
A preservative and antimicrobial produced at this facility.

Dowtherm
A heat transfer fluid.

dscf
Dry Standard Cubic Feet

E 6, E 9, E 12
Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals (4.53) x (10^6) = (4.53) x (10 x 10 x 10 x 10 x 10 x 10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EFRT
An "external floating roof tank" minimizes VOC emissions with a roof with floats on the surface of the liquid, thus preventing the formation of a VOC-rich vapor space above the liquid surface as the level in the tank drops. If such a vapor space were allowed to form, it would be expelled when the tank was re-filled. On an EFRT, the floating roof is not enclosed by a second, fixed tank roof, and is thus described as an "external" roof.

ester
An organic compound corresponding in structure to a salt.

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

FR
Federal Register

FRT
Floating Roof Tank (See EFRT and IFRT)

GDF
Gasoline Dispensing Facility

GLM
Ground Level Monitor

grains
1/7000 of a pound

H2S
Hydrogen Sulfide

Halogenated heterocycle
A closed ring compound in which one or more of the atoms on the ring is a halogen atom.

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

HCl
Hydrogen chloride, hydrochloric acid.

HCl MACT
40 CFR Part 63, Subpart NNNNN

HF
Hydrogen fluoride, hydrofluoric acid.

Hg
Mercury

HHV
Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

IFRT
An "internal floating roof tank" minimizes VOC emissions with a roof with floats on the surface of the liquid, thus preventing the formation of a VOC-rich vapor space above the liquid surface as the level in the tank drops. If such a vapor space were allowed to form, it would be expelled when the tank was re-filled. On an IFRT, the floating roof is enclosed by a second, fixed tank roof, and thus is described as an "internal" roof.

LHV
Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60F.

KCl
Potassium chloride

KF
Potassium fluoride

KOH
Potassium hydroxide

Latex MACT
40 CFR Part 63, Subpart U

Lontrel
A solid herbicide produced at this facility, an organic acid.

Lorsban
A terminalized product, not produced at this facility.

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MCA
Methyl chloroacetate

MEI
Methyl ester intermediate

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NMP
N-methyl pyrrolidone

NOx
Oxides of nitrogen.

N-Serve®
An agricultural product produced at this facility.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2
The chemical name for naturally-occurring oxygen gas.

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

PAI MACT
40 CFR Part 63, Subpart MMM

Perc
Perchloroethylene

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

Picoline
A methyl pyridine, an aromatic compound containing a nitrogen atom within the ring and an attached methyl group.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PRD
Pressure Relief Device

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

RCRA
Resource Conservation and Recovery Act, 40 CFR Part 266, Subpart H.

RMP
Risk Management Plan

SB Latex/Rubber
Styrene-butadiene latex/rubber, produced at this facility.

SCR
A "selective catalytic reduction" unit is an abatement device that reduces NOx concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a

specific temperature range, and injected ammonia to promote the conversion of NOx compounds to nitrogen gas.

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2
Sulfur dioxide

SO2F2
Sulfuryl fluoride

SO3
Sulfur trioxide

Sym-Tet
Symmetrical tetrachloropyridine, an aromatic compound containing a nitrogen atom within the ring and 4 attached chlorine atoms

TCA
Trichloroethane

TCE
Trichloroethylene

THC
Total Hydrocarbons (NMHC + Methane)

therm
100,000 British Thermal Unit

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TRE
Total Resource Effectiveness

TRMP
Toxic Risk Management Plan

TSP
Total Suspended Particulate

TRS
"Total reduced sulfur" is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO2 that will be present in the combusted fuel gas, since sulfur compounds are converted to SO2 by the combustion process.

TVP
True Vapor Pressure

Vikane®
Dow trade name for sulfuryl fluoride, a fumigant produced at this facility.

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
C	=	degrees Celsius
cfm	=	cubic feet per minute
F	=	degrees Fahrenheit
f^3	=	cubic feet
g	=	gram
gal	=	gallon
gpm	=	gallons per minute
gr	=	grain
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
max	=	maximum
M	=	thousand
m^2	=	square meter
Mg	=	mega-gram, one thousand grams
µg	=	micro-gram, one millionth of a gram
min	=	minute
mm	=	millimeter
MM	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
mm Hg	=	millimeters of Mercury (pressure)
MW	=	megawatts
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge

scfm	=	standard cubic feet per minute
yr	=	year

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to