



**California Environmental Protection Agency
Department of Toxic Substances Control**

HAZARDOUS WASTE POST CLOSURE FACILITY PERMIT

Facility Name:

The Dow Chemical Company, Pittsburg Plant
901 Loveridge Road
Pittsburg, California

Owner Name:

The Dow Chemical Company
P. O. Box 1398
Pittsburg, California 94565

Operator Name:

The Dow Chemical Company
P. O. Box 1398
Pittsburg, California 94565

Facility EPA ID Number:

CAD076528678-
HYHQ36006940

Effective Date:

December 13, 2007

Expiration Date:

December 12, 2017

Pursuant to California Health and Safety Code section 25200, this Resource Conservation and Recovery Act (RCRA)-equivalent Hazardous Waste Facility Permit is hereby issued to the Dow Chemical Company, Pittsburg Plant.

The Issuance of this Permit is subject to the terms and conditions set forth in Attachment A and the Approved Application April 2003. Attachment A consists of 15 pages.

//Original signed by//

Raymond Leclerc, P.E., Team Leader
Permit Renewal Team
Department of Toxic Substances Control
Date:

**THE DOW CHEMICAL COMPANY – PITTSBURG PLANT,
CONTRA COSTA COUNTY, CALIFORNIA, 94565**

HAZARDOUS WASTE POST CLOSURE FACILITY PERMIT

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PART I. DEFINITIONS

All terms used in this Permit shall have the same meaning as those terms have in the California Health and Safety Code, division 20, chapter 6.5 and California Code of Regulations, title 22, division 4.5, unless expressly provided otherwise by this Permit.

1. **“DTSC”** as used in this Permit means the California Department of Toxic Substances Control.
2. **“Facility”** as used in this Permit means all contiguous land and structures, other appurtenances, and improvements on the land used for the treatment, transfer, storage resource recovery, disposal or recycling of hazardous waste. A hazardous waste facility may consist of one or more treatment, transfer, storage, resource recovery, disposal or recycling operational units or combinations of these units.

For the purpose of implementing corrective action under California Code of Regulations, title 22, division 4.5, a hazardous waste facility includes all contiguous property under the control of the owner or operator required to implement corrective action.

3. **“Permittee”** as used in this Permit means the Owner and Operator.
4. **“RCRA”** as used in this Permit means the Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.).

PART II. DESCRIPTION OF THE FACILITY AND OWNERSHIP

1. Owner of Facility The facility owner is the Dow Chemical Company, P. O. Box 1398, Pittsburg, California 94565.
2. Owner of Real Property The owner of the real property is the Dow Chemical Company, P. O. Box 1398, Pittsburg, California 94565.
3. Operator of Facility The facility operator is the Dow Chemical Company, P. O. Box 1398, Pittsburg, California 94565.
4. Location The Dow Chemical Company (Dow) Pittsburg Plant (Facility) is located at 901 Loveridge Road, Pittsburg, California (Figure 1). The Facility is bounded by New York Slough on the north, the Pittsburg Antioch Highway on the south, Loveridge Road on the west, and parklands and commercial areas on the east. Residential areas exist further to the south beyond the Antioch-Pittsburg Highway.
5. Description of Facility Operations The Facility occupies approximately 993 acres of which 235 acres are wetland preserve located on the eastern side of the facility. Dow currently manufactures latex, agricultural chemicals, fumigants, fungicides, and hydrochloric acid at its Pittsburg facility. Historically, Dow used the site to manufacture chlorine, sodium hydroxide, hydrogen, and chlorinated solvents, including carbon tetrachloride and tetrachloroethene. The Facility has a Hazardous Waste Facility Permit issued by DTSC on July 23, 1996, which allows Dow to store hazardous waste in containers and tanks. In addition to active chemical manufacturing facilities, the Facility contains an active Class II solid waste landfill and a number of closed Solid Waste Management Units (SWMUs). The location of a Monofill Landfill (Monofill), which is the subject of this Permit, is shown on Figure 2. The Monofill occupies approximately 9 acres in the southern portion of the facility and consists of Class I waste that is capped and closed.
6. Facility History The Monofill does not have a previous Post Closure permit. In 1987, six solar evaporation ponds were closed in accordance with California Code of Regulations, title 22, section 66264.112. Four of the ponds, A through D, were located adjacent to each other. Ponds E and F were located adjacent to each other, approximately 500 feet from the southern end of Ponds A through D. Both sets of ponds were closed in accordance with an approved closure plan in 1987. During closure, the pond wastes were consolidated and solidified. As the ponds were closed, the Monofill was constructed in the same location as Ponds A through D (Figure 2). Solidified wastes were placed in the Monofill, capped with an impermeable liner, gravel, and asphalt cover, and the

unit was closed. Documentation of the closure of the impoundments and construction of the Monofill was submitted to the regulatory agencies on April 10, 1990. Post closure care has been ongoing since that time. Ponds E and F were clean closed. The Facility is conducting corrective action to address past releases of hazardous wastes/constituents, pursuant to the Resource Conservation and Recovery Act of 1976 (RCRA). The San Francisco Regional Water Quality Control Board (RWQCB) is the lead agency for RCRA Corrective Action (corrective action) at the Facility. DTSC is the lead agency for post closure care requirements for the Monofill.

7. Facility Size and Type for Fee Purposes The Facility is categorized as a large post-closure facility pursuant to Health and Safety Code section 25205.7(d)(5). For the purpose of Health and Safety Code section 25205.4, the post-closure period for the Facility shall be deemed to have started on October 18, 1991, which is the date the facility transmitted to the City of Pittsburg, (with copies to DTSC and US EPA) a Post Closure Notice for Closed Surface Impoundments.

PART III. GENERAL CONDITIONS

1. PERMIT APPLICATION DOCUMENTS

The DTSC-approved Application dated April 2003, with revisions dated March 7, 2005 (Approved Application) is hereby made a part of this Permit by reference:

- a) April 2003, Revised September 2001, Revised March 7, 2005, "The Dow Chemical Company Post-Closure Permit Application for the Monofill, Dow Pittsburg Facility", CH2MHill; This document also includes the "Sampling and Analysis Plan for Groundwater and Surface Water Remediation" (SAP), Appendix P which includes the "Field Procedures Plan for the Dow Pittsburg Facility",
- b) Waste Discharge Requirement (WDR) No. R2-2002-007, California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

2. EFFECT OF PERMIT

- a) The Permittee shall comply with the terms and conditions of this Permit and the provisions of the Health and Safety Code and California Code of Regulations (Cal. Code Regs.), title 22, division 4.5. The issuance of this Permit by DTSC does not release the Permittee from any liability or duty imposed by federal or state statutes or regulations or local ordinances, except the obligation to obtain this Permit. The Permittee shall obtain the permits required by other governmental agencies, including but not limited to, those required by the applicable land use planning, zoning, hazardous waste, air quality, water quality, and solid waste management laws for the construction and/or operation of the Facility.
- b) The Permittee is permitted to operate, monitor and maintain this Facility for post closure activities in accordance with the terms and conditions of this Permit and the Approved Application. Any management of hazardous wastes not specifically authorized in this Permit is strictly prohibited.
- c) Compliance with the terms and conditions of this Permit does not constitute a defense to any action brought under any other law governing protection of public health or the environment, including, but not limited to, one brought for any imminent and substantial

endangerment to human health or the environment.

- d) DTSC's issuance of this Permit does not prevent DTSC from adopting or amending regulations that impose additional or more stringent requirements than those in existence at the time this Permit is issued and does not prevent the enforcement of these requirements against the Permittee.
- e) Failure to comply with any term or condition set forth in the Permit in the time or manner specified herein will subject the Permittee to possible enforcement action including but not limited to penalties pursuant to Health and Safety Code section 25187.
- f) Failure to submit any information required in connection with the Permit, or falsification and/or misrepresentation of any submitted information, is grounds for revocation of this Permit (Cal. Code Regs., title 22, §66270.43).
- g) In case of conflicts between the Approved Application and the Permit, the Permit conditions take precedence.
- h) This Permit includes and incorporates by reference any conditions of waste discharge requirements issued to the Facility by the State Water Resources Control Board or any of the California Regional Water Quality Control Boards and any conditions imposed pursuant to section 13227 of the Water Code.

3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

A Notice of Exemption has been prepared in accordance with the requirements of Public Resources Code section 21000 et seq. and the CEQA Guidelines, section 15061 (b)(3) et seq. of California Code of Regulations, title 14.

4. ENVIRONMENTAL MONITORING

- a) For the purpose of California Code of Regulations, title 22, section 66264.91(b), the elements of the Groundwater Monitoring and Response Program for the Permittee are those described in Section 8 of the Approved Application. In addition these elements are described in Section 3 of the March 7, 2005 addendum to the approved SAP, which is contained in Appendix P of the Approved Application.

- b) For the purpose of California Code of Regulations, title 22, section 66264.92, the Water Quality Protection Standard is described in Section 8 of the Approved Application. Additional requirements are described in Section 3 of the March 7, 2005 addendum to the approved SAP, which is contained in Appendix P of the Approved Application.
- c) For the purpose of California Code of Regulations, title 22, section 66264.93, the Constituents of Concern for the Permittee are described in Section 8 of the Approved Application. Additional requirements are described in Section 3 of the March 7, 2005 addendum to the approved SAP, which is contained in Appendix P of the Approved Application.
- d) For the purpose of California Code of Regulations, title 22, section 66264.94, the Concentration Limits for the Permittee are described in Section 8 of the Approved Application. Additional requirements are described in Section 3 of the March 7, 2005 addendum to the approved SAP, which is contained in Appendix P of the Approved Application.
- e) For the purpose of California Code of Regulations, title 22, section 66264.95, the Monitoring Points and Points of Compliance for the regulated unit at the Facility are described in Section 8 of the Approved Application and Section 3 of the March 7, 2005 addendum of the approved SAP, which is contained in Appendix P of the Approved Application.
- f) For the purpose of California Code of Regulations, title 22, section 66264.96 the Compliance Period for the regulated unit at the Facility is 30 years. DTSC may extend the post-closure monitoring period beyond the 30-year minimum to protect human health and the environment.
- g) For the purpose of California Code of Regulations, title 22, section 66270.31, the monitoring, recording, and reporting program for the Facility is described in Section 8 of the Approved Application and Section 3 of the March 7, 2005 addendum of the approved SAP, which is contained in Appendix P of the Approved Application.

The Permittee shall comply with the applicable environmental monitoring and response program requirements of California Code of Regulations, title 22, division 4.5, chapter 14, articles 6 and 17.

5. ANNUAL HAZARDOUS WASTE REDUCTION AND MINIMIZATION

CERTIFICATION

The Permittee shall certify annually that it has a hazardous waste reduction and minimization program and method in place and shall keep the annual certification as part of its Operating Record in accordance with Health and Safety Code section 25202.9 and California Code of Regulations, title 22, section 66264.73(b)(9)

6. ACCESS

- a. DTSC, its contractors, employees, agents, and/or any US EPA representatives are authorized to enter and freely move about the Facility for the purposes of interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts relating to the Facility; reviewing progress of the Permittee in carrying out the terms of Part VI of the Permit; conducting such testing, sampling, or monitoring as DTSC deems necessary; using a camera, sound recording, or other documentary-type equipment; verifying the reports and data submitted to DTSC by the Permittee; or confirming any other aspect of compliance with this Permit, Health and Safety Code, division 20, chapter 6.5, and California Code of Regulations, title 22, division 4.5. The Permittee shall provide DTSC and its representatives access at all reasonable times to the Facility and any other property to which access is required for implementation of any provision of this Permit, Health and Safety Code, division 20, chapter 6.5, and California Code of Regulations, title 22, division 4.5, and shall allow such persons to inspect and copy all records, files, photographs, documents, including all sampling and monitoring data, that pertain to work undertaken pursuant to the entire Permit or undertake any other activity necessary to determine compliance with applicable requirements.
- b) Nothing in this Permit shall limit or otherwise affect DTSC's right to access and entry pursuant to any applicable State or federal laws and regulations.

PART IV. PERMITTED UNITS AND ACTIVITIES

This Permit authorizes the monitoring and maintenance only of the facility units and activities listed below. The Permittee shall not treat, store or otherwise manage hazardous waste in any unit other than those specified in this Part IV, unless authorized by DTSC in another valid hazardous waste permit. Any modifications to a unit or activity authorized by this Permit require the written approval of DTSC in accordance with the permit modification procedures set forth in California Code of Regulations, title 22, division 4.5.

For the purpose of California Code of Regulations, title 22, section 66270.1(c) and other similar, unit-specific regulatory requirements, this Facility has one Hazardous Waste Management Units. This unit is described in detail in the Approved Application, and is as follows:

UNIT NAME:

This permit applies to one Waste Management Unit, the Monofill.

LOCATION:

The location of the Monofill is shown on Figure 2 attached to this Permit.

ACTIVITY TYPE:

Post Closure maintenance operations. The Monofill is a closed waste disposal unit.

ACTIVITY DESCRIPTION:

Post Closure maintenance operations include repair and maintenance of the cover system, groundwater monitoring, and site inspections of the site surface conditions.

PHYSICAL DESCRIPTION:

Detailed dimensions of the Monofill are shown in the Record of Survey in Appendix D of the Approved Application. The Monofill is polygon-shaped extending approximately 900 feet long by 480 feet at the widest point. A crib block containment was constructed around the solidified sediments and other waste materials from former Ponds A through D, forming the Monofill.

The cap consists of an impermeable liner, gravel and an asphalt cover. Leachate collection sumps were installed in the Monofill. A dual-system of groundwater extraction

was constructed around the Monofill and the adjacent Central Landfill. The shallow groundwater extraction system consists of a French drain and sumps. A system of groundwater extraction wells in the mid-level was also installed. The French drain/shallow groundwater extraction system remains operational.

The footprint of the Monofill is approximately 9 acres. As documented in Appendix E of the Approved Application, the Monofill contains 91,460 cubic yards of liquid, sludge, and solids. Construction of an approved engineered final cover started in 1987 and was complete in 1988.

WASTE TYPES:

The closed units do not take any additional waste.

RCRA HAZARDOUS WASTE CODES:

The facility is no longer active, thus it does not receive wastes.

PART V. SPECIAL CONDITIONS

GROUNDWATER MONITORING

- 1) Permittee shall collect groundwater samples annually from the following groundwater monitoring wells: 117A, 510A, 116B1, 507B1, 115C, 503C, 507C, and 611C. Groundwater samples collected from each well will be analyzed for volatile organic compounds (VOCs) and metals.
- 2) The Permittee shall also analyze the groundwater samples for priority pollutants every five years using the following analytical methods and include additional constituents as follows:
 - a. VOC analyses will be conducted using US EPA Method 8260 including 1,4 dioxane analysis,
 - b. Metals analyses will be conducted using US EPA Method 6020 including but not limited to arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, silver, vanadium, and zinc,
 - c. Priority pollutants shall include semi volatile organic compounds using US EPA Method 8270, pesticides using US EPA Method 8081, and polychlorinated-biphenyl's using US EPA Method 8290.
- 3) The Permittee shall modify the SAP and Approved Application to reflect conditions 1, and 2 mentioned above within 6 months of approval of this permit.

AIR MONITORING

Ambient air quality monitoring was conducted at the Monofill on April, 11, 2007 and the results were presented in a report prepared by CH2M Hill, dated June 13, 2007. The conclusions of the report were that solidified sediment and other wastes from the solar evaporation ponds are effectively contained within the Monofill and that the Monofill does not impact ambient air quality.

PART VI. CORRECTIVE ACTION

1. In the event the Permittee identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers new Solid Waste Management Units (SWMU) not previously identified, the Permittee shall notify DTSC orally within 24 hours of discovery and notify DTSC in writing within 10 days of such discovery summarizing the findings including the immediacy and magnitude of any potential threat to human health and/or the environment.
2. DTSC may require the Permittee to investigate, mitigate and/or take other applicable action to address any immediate or potential threats to human health and/or the environment and newly identified SWMU or releases of hazardous waste and/or hazardous constituents. If and when corrective action is required at the Facility, the Permittee shall conduct corrective action under either a Corrective Action Consent Agreement or an Enforcement Order for Corrective Action issued by DTSC pursuant to Health and Safety Code sections 25187 and 25200.10.
3. To the extent that work being performed pursuant to Part VI of the Permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain access agreements necessary to complete work required by this Part of the Permit from the present owner(s) of such property within 30 days of approval of any Workplan for which access is required. "Best efforts" as used in this paragraph shall include, at a minimum, a certified letter from the Permittee to the present owner(s) of such property requesting access agreement(s) to allow the Permittee and DTSC and its authorized representatives access to such property and the payment of reasonable sums of money in consideration of granting access. The Permittee shall provide DTSC with a copy of any access agreement(s). In the event that agreements for the access are not obtained within 30 days of approval of any Workplan for which access is required, or of the date that the need for access becomes known to the Permittee, the Permittee shall notify DTSC in writing within 14 days thereafter regarding both efforts undertaken to obtain access and its failure to obtain such agreements. In the event DTSC obtains access, the Permittee shall undertake approved work on such property. If there is any conflict between this permit condition on access and the access requirements in any agreement entered into between DTSC and the Permittee, this permit condition on access shall govern.
4. Nothing in Part VI of the Permit shall be construed to limit or otherwise affect the

Permittee's liability and obligation to perform corrective action including corrective action beyond the facility boundary, notwithstanding the lack of access. DTSC may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

5. The Permittee shall conduct corrective action at the Facility pursuant to Health and Safety Code sections 25187 and 25200.10. Corrective action shall be carried out under the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) order number R2-2002-007 titled: **UPDATED WASTE DISCHARGE REQUIREMENTS AND RECISION OF ORDER NOS. 97-123 AND 98-059** and **ORDER No. R2-2002-014 SITE CLEANUP REQUIREMENTS For: DOW CHEMICAL COMPANY**, in coordination with DTSC.

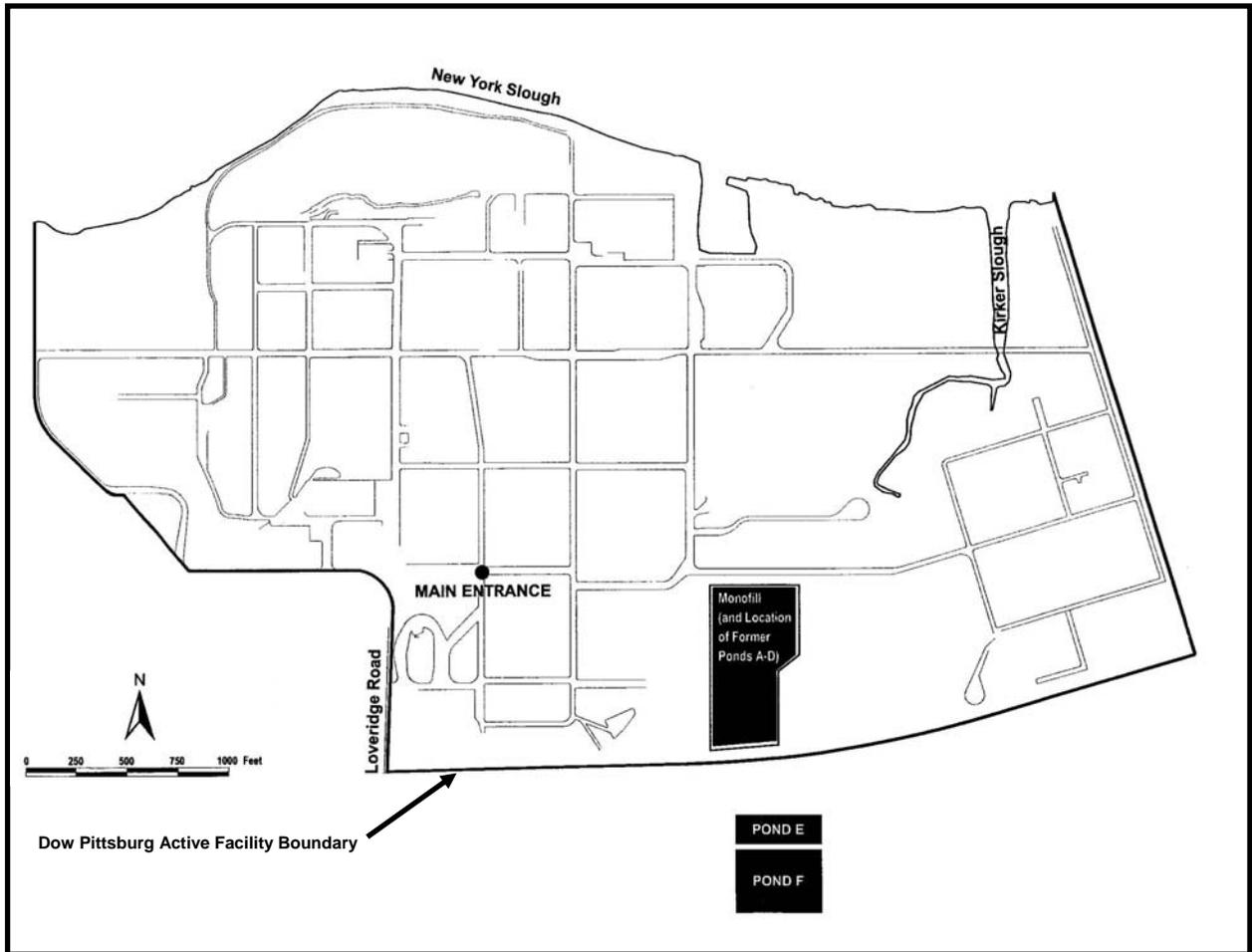


Figure 2
Dow Pittsburg Facility, Monofill Location Map
Dow Chemical Company
Post Closure Permit

A u t h o r	P. Bailey 255-3602	R e v i e w e	N. Long 324-3154	R e v i e w e	R. Leclerc 255-3582	R e v i e w e	R e v i e w e	R e v i e w e	Site Name/Code	T Y P I S T	Rosa Boyer 255-3662
	P-C Dow Chemical, Contra Costa County		PBxx.067 Dow Chemical, CA								



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