

FACT SHEET

NPDES PERMIT NO. DE0051187

NAME AND ADDRESS OF APPLICANT:

Michael Perza, Deputy Base Civil Engineer,
(Contact: Steven Seip)
Dover Air Force Base
436 MSG/CES
600 Chevron Avenue
Dover, DE 19902

FACILITY LOCATION:

Dover Air Force Base
Intersection of Route 113 and Route 10
Dover DE, 19902

PERMIT COVERAGE:

The 1987 Clean Water Act (CWA) Section 402(p) requires certain facilities which discharge storm water to obtain National Pollutant Discharge Elimination System (NPDES) permits. Implementing regulations at 40 CFR 122.26 designate the categories of industries and municipalities that are required to obtain storm water permits.

The individual NPDES storm water permit being proposed for Dover Air Force Base covers storm water discharges from their municipal separate storm sewer system (MS4) in the residential and light commercial areas and from specified industrial activities across the Base. Storm water associated with construction activities (outside their MS4) will be covered under the national construction storm water general permit and is not part of this permit document.

FACILITY DESCRIPTION:

Dover Air Force Base (the Base) is a 4000-acre site with over 10,000 personnel, located 2 miles south of Dover City, which operates as a large air cargo facility for DOD. The Base is intersected by Route 113, which divides the property in two general areas. Northeast of Route 113 is the industrial area and southwest of Route 113 is the residential and light commercial area.

C-5 Galaxy planes fly in and out of the Base from 2 runways at the northeast end of the site,

carrying tanks and other military equipment and personnel. The air transportation activities at the base include airplane operation and maintenance, support vehicle operation and maintenance, airplane fueling, and airplane and runway deicing. An additional industrial activity regulated under this permit is a scrap metal and waste recycling storage facility. The southwest end of the Base consists entirely of residential housing for military personnel along with some light commercial facilities and a golf course. This is the section of the Base that is considered the "small MS4". The Base is also home to DOD's largest mortuary, which is completely contained within buildings with building drains that are directed to the Kent County Publicly Owned Treatment Works (POTW).

The Base is, in its entirety, is listed on the National Priority List through C.E.R.C.L.A. as a Superfund site due to volatile organics in the groundwater that are thought to be the results primarily of poor quality oil water separators, engine cleaning, and fuel and oil spills. The site is undergoing active cleanup by the Department of Defense under agreement with EPA through the Superfund program.

There are two industrial activities identified in the storm water regulations under 40 CFR 122.26(b)(14)(f)-(xi) that exist at the Base which are not covered under this NPDES permit. Namely Sector LF : Landfills and Sector HZ: Hazardous Waste Storage.

There are a few closed landfills at the Base, which contain primarily construction debris and miscellaneous unknown materials. The landfills are inactive and are covered with a cap that acts as a barrier to storm water. These landfills are included in the Superfund program activities and are not covered under this permit. According to a Superfund program report titled, *Final Focused Feasibility Study for Land Use Controls, Dover Air Force Base*, published in September 2003, appropriate applicable or relevant and appropriate requirements (ARARs) for these facilities are RCRA CFR 40 Parts 257 and 258, which require that the cap minimize infiltration and erosion and that the Base maintain the integrity of the caps to correct the effects of settlement, subsidence, erosion, or other events and prevent run-on or run-off from damaging the final cover. Based on these controls and authority, EPA has determined that NPDES permit coverage is not required for this activity.

The other industrial activity not covered under this permit is the 90-day RCRA Hazardous Waste Storage Facility. This facility is not covered under this permit because the Base submitted a "No Exposure Certification for Exclusion from NPDES Storm Water Permitting" in accordance with 40 CFR 122.26(g) and as such certifies that the materials are not exposed to precipitation during use, storage, cleaning, loading and unloading. Based on the application for No Exposure, EPA has determined that this activity is exempt from NPDES storm water regulations.

The two receiving streams, Pipe Elm Branch and Saint Jones River, are listed on Delaware's Section 303(d) list of impaired waters for low Dissolved Oxygen (DO), nutrients, and certain segments for bacteria, and polychlorinated biphenyls (PCBs).

DISCHARGE DESCRIPTION

MS4 Area of Dover Air Force Base

Storm water that accumulates on the southwest area of the Base is collected in a subsurface storm water collection system which discharges directly to the Saint Jones River through 24 outfalls (Outfalls 010 through 023) No sampling has been conducted on discharges from these outfalls at the time of permit issuance. Monitoring requirements for the first two years after issuance of the permit will entail a comprehensive screening characterization of representative outfalls in the MS4 system in order to determine if future parameter-specific monitoring will be required as a permanent permit condition. If concentrations are found to be at levels that will not impact the water quality of the receiving stream, monitoring will entail simply an evaluation and assessment of the storm water management program in accordance with 40 C.F.R. 122.34. If concentrations are found to be at levels that will impact the water quality of the receiving stream, effluent limitations may be invoked.

Industrial Areas of Dover Air Force Base

Storm water discharges associated with industrial activity are regulated under 40 C.F.R. 122.26. Sector specific categories of industrial activity requiring permit coverage are listed in 40 C.F.R. 122.26(b)(14)(f)-(xi). For Purposes of this permit, Dover Air Force Base conducts 2 of the 99 categories of industrial activities including

SIC 45: Air Transportation

SIC 5093: Scrap Recycling and Waste Recycling Facilities

Storm water associated with the industrial activities at the Base is drained either to grass swails located along the perimeter of the runways and roads, or to a subsurface storm water conveyance systems which discharges to Pipe Elm Branch and Saint Jones River. Eight storm water outfalls discharge storm water emanating from these industrial activities (Outfalls 002 through 009) The specific outfalls that drain storm water from each of the industrial activities listed above are as follows:

Air Transportation: Outfall 002, 003, 004, 005, 006, 007, 008

Scrap Recycling and Waste Recycling Facilities: Outfall 003

Outfalls 003 and 007 were selected as representative outfalls for Air Transportation and Scrap Recycling because the large drainage areas associated with these outfalls capture most of the storm water drainage emanating from these industrial activities.

Dover Air Force Base and the Delaware Department of Natural Resources conducted monitoring of three outfalls from these industrial areas (Outfalls 003, 007, and 008) beginning in the winter

of 1996. On average, three samples a year were collected and analyzed for the chemical parameters listed in EPA's NPDES Storm Water Multi-Sector General Permit for Industrial Activities. The results indicated the following parameters at elevated concentration levels:
Outfall 003 = average annual BOD concentration range =49 to 162 mg/l (benchmark =30 mg/l)
Outfall 007 = average annual iron concentration range =1.42 to 1.65 mg/l (benchmark =1.0 mg/l)
average annual zinc concentration range =0.1 to 0.23mg/l (benchmark =0.06 mg/l)

In order to more fully characterize the discharges of storm water from industrial activities, the permit requires Dover Air Force Base conduct screening characterization monitoring for the first two years after permit issuance. If concentrations are found to be at levels that will not impact the water quality of the receiving stream, monitoring will entail simply quarterly visual and chemical specific monitoring and comparison with benchmark levels in accordance with Sections 2.1, 2.2, and 13.1.1.3 of this permit. If concentrations are found to be at levels that will impact the water quality of the receiving stream, effluent limitations may be invoked.

BASIS FOR PERMIT CONDITIONS

The permit was developed based on the Clean Water Act, implementing regulations at 40 C.F.R. part 122 - 449, Model NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems, published in the Federal Register, December 2002, and NPDES Storm Water Multi-Sector General Permit for Industrial Activities, October 30, 2000. The permit was also developed based on a review of the Base's Storm Water Pollution Prevention Plan (SWPPP) (initial draft dated October 10, 2002 and revised drafts dated January 8, 2003 and September 2003), the Base's Multiple Separate Storm Sewer Systems Storm Water Management Plan (SWMP) dated September 2003, site visits and meetings with Base environmental managers, discussion with the PADEP permit writer for the Philadelphia International Airport storm water permit and with the Superfund Remedial Project Manager (RPM) at EPA. (It is important to note that Philadelphia International Airport traffic and deicing activities are at a higher volume than Dover Air Force Base therefore, operational differences between these two airports exist.)

Several other documents were also used as guides, which include:

EPA document titled "Preliminary Data Summary - Airport Deicing Operations", August 2000
Washington DC MS4 permit (Permit No. DC000221)
Golf Course Management Article, "The Environmental Fate of Pesticides", February 1990
NYC Transit Sustainable Design/Design for Environment Guidelines, October 2002
Storm Water Individual Permit for Philadelphia International Airport (Permit No. PA0056766)

OVERVIEW OF PERMIT CONDITIONS

Storm water characteristics vary according to land use (residential, commercial industrial, forest, agriculture, etc.), topography, climate, and characteristics of precipitation event. Storm water

generally does not receive treatment prior to being discharged to receiving waters. Storm water permit requirements therefore entail the use of Best Management Practices (BMPs) to control the quality and to a certain extent quantity of storm water runoff discharging to Waters of the United States. Chemical specific monitoring has been incorporated in this permit as a guide, only to provide an indication of the effectiveness of the BMPs.

1. Part I, Section 2, Effluent Limitation Tables

Parameters selected and monitoring frequency was derived from the NPDES Storm Water Multi-Sector General Permit for Industrial Activities, published in the Federal Register, October 30, 2000 for Outfalls 003 and 007. The parameters have a monitor and report requirement with no numeric effluent limitation imposed. Benchmark concentration levels for each parameter are listed in Special Condition 13.1.1.2 to be used as a gage in determining effectiveness of Best Management Practices (BMPs). Effluent limitations may be imposed if results of screening characterization monitoring, as required in Special Condition 13.1.1.3, indicate potential water quality standard exceedances.

EPA is requiring quarterly monitoring for Outfalls 003 and 007 April through October and monthly monitoring for parameters associated with airport activities (TSS, BOD, COD, ammonia, Propylene Glycol, Oil and Grease, pH for Outfall 003 and 007 during deicing activities, November through March. No fewer than four (4) samples are to be taken each calendar year for each of the listed parameters, namely:

Outfall 003 - Flow, Total Suspended Solids (TSS), Biological Oxygen Demand (BOD5), Chemical Oxygen Demand (COD), Ammonia, Propylene Glycol, Oil and Grease, pH, Copper, Iron, Lead, Zinc;

Outfall 007 - Flow, Total Suspended Solids (TSS), Biological Oxygen Demand (BOD5), Chemical Oxygen Demand (COD), Ammonia, Propylene Glycol, Oil and Grease,

2. Part II, Standard Conditions

Section 3.18 Reopener Clause

Following the initial two-year screening characterization monitoring, the permittee may be asked to submit additional information regarding the reasonable potential to cause or contribute to a violation of water quality standards. If additional information still indicates a potential to violate water quality standards, the permit may need to be reopened and reissued with more stringent controls in order to assure no reasonable potential to cause or contribute to an exceedance of water quality standards.

3. Part III, Special Conditions

a) Sections 5 and 8 Discharges to Water Quality Impaired Waters

The receiving streams at Dover Air Force Base are listed on Delaware's Section 303(d) list of impaired waters for DO and nutrients, and for some stream segments, bacteria and PCBs. These permit conditions make it clear that after a Total Maximum Daily Load (TMDL) has been developed and approved by EPA, the permit conditions will be changed at the next permit reissuance in accordance with any requirements set forth in the TMDLs.

b) Section 6 Small MS4 Storm Water Management Programs

This permit contains the requirement to develop and implement a Storm Water Management Plan (SWMP) which requires appropriate BMPs be applied to the Base's MS4. The permittee developed this MS4 Storm Water Management Plan, dated September 2003, which describes the minimum control measures to be utilized at the site to control storm water runoff quantity and quality and the measurable goals for these control measures. The SWMP is part of the administrative record available to the public for review.

c) Section 6.2.6 Pollution Prevention/Good Housekeeping for Municipal Operations

This permit condition specifically incorporates the golf course in the pollution prevention controls for the MS4. Permittee is required to develop and implement an operation and maintenance program that is comprehensive and includes among other things, a section describing controls for storage and application of pesticides, fertilizers and other toxic substances applied to the golf course.

d) Sections 10 and 11 Storm Water Associated with Industrial Activities Sector Specific Requirements

These permit sections describe additional permit requirements for each industrial sector. A comprehensive description of industrial activities are described for each sector in order to incorporate all possible industrial activities that may take place at Dover Air Force Base over the 5 year permit cycle. Dover Air Force Base is only required to comply with controls that apply to the specific industrial activities that take place at the Base.

e) Section 12 Industrial Storm Water Pollution Prevention Plans

The permit includes a requirement that the Base complete a SWPPP and update it as necessary. The SWPPP is part of the administrative record available to the public for review.

f) Section 13.1.1.2 - Benchmark Concentrations as guides not as numeric effluent limits

Benchmark concentration levels are provided as gages or indicators that help to tell the permittee about the overall effectiveness of their Storm Water Pollution Prevention Plan. An exceedance of these benchmark concentration does not, in and of itself, constitute a violation of a water quality standard. Exceedances of benchmark concentrations should help the Base identify where modification to the SWPPP may be needed.

g) Section 13.1.1.3 Screening Characterization Monitoring

Storm Water discharges from representative Outfalls in the MS4 and Industrial Activity areas shall be monitored in order to characterize the discharges from these Outfalls. Pollutants to be monitored include chemicals used at the industrial activities at Dover Air Force Base that are

anticipated to be in the storm water, pollutants listed on Delaware's Section 303(d) list of impaired waters, and relevant Priority Pollutants specified in the Federal Regulations at 40 C.F.R. Part 131. Monitoring shall be conducted monthly for the first two years after permit issuance and results submitted on Discharge Monitoring Report (DMR) forms to EPA in accordance with Section 13.3 of this permit. Following review of these monitoring results, Dover Air Force Base may be asked to submit additional information as described in Section 3.18 or the permitting authority may reopen the permit and include more stringent controls and possibly effluent limitations in order to assure there is no reasonable potential to exceed water quality standards.

h) Section 14 BOD Reduction Plan for Industrial Storm Water Discharges

The monitoring results submitted to EPA indicate frequent high BOD concentration in the storm water discharge from Outfall 003. This permit condition requires that Dover Air Force Base monitor for the first 12 months, BOD concentration specifically from Outfall 003 and based on the results, develop a plan to reduce the facility's BOD concentration if monitoring indicates concentrations in excess of 30 mg/l.

I) Section 15 Airplane Runway Deicing Product Reduction Plan

This permit condition requires Dover Air Force Base record deicing product usage and implement immediate and long-range controls to reduce the amount of deicing products contained in the storm water discharges.

j. Appendix A General Schedule of Deliverables

Describes the monitoring, reporting, and plan development that is required under this permit and the delivery dates based on the date of permit issuance.

PUBLIC NOTICE AND COMMENT

The fact sheet and draft permit were public noticed on July 28, 2004. The Public Notice, which was published in Delaware State News, The News Journal, and The Dover Post, announced the draft permit, solicited comments, and stated where the draft documents can be obtained for review and where and when a public hearing would be held if requested. The Public Comment Period extended 30 days from the issuance of the Public Notice.

No Public comments were received and no one requested a public hearing in accordance with 40 C.F.R. 124.8. EPA did not receive comments or certification from the Department of Natural Resources and Environmental Control within sixty (60) days of the start of the public comment period. Failure or refusal to respond within sixty (60) days is deemed as a waiver of the certification.

