

**DALLAS/FORT WORTH INTERNATIONAL AIRPORT  
STORM WATER POLLUTION PREVENTION PLAN (SWP3)  
TPDES MULTI-SECTOR GENERAL PERMIT - TXR050000**



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\*Included in Master SWP3 only

## 1.0 INTRODUCTION

Storm water discharges have been identified as significant sources of water pollution in numerous nationwide studies on water quality. To address this problem, Congress enacted the Clean Water Act Amendments of 1987 which required the United States Environmental Protection Agency (USEPA) to develop a regulatory program for storm water discharges associated with industrial activity. On November 16, 1990, the USEPA published storm water regulations, Code of Federal Regulations, Title 40, Part 122 (40 CFR 122), authorizing these discharges under the National Pollutant Discharge Elimination System (NPDES). According to the published regulations, facilities with storm water discharges associated with industrial activities are required to apply for a storm water permit.

“Storm Water Associated with Industrial Activity” is defined as: Storm water runoff that exits any conveyance that is used for collecting and conveying storm water that is directly related to manufacturing, processing, material storage, and waste material disposal areas (and similar areas where storm water can contact industrial pollutants related to the industrial activity) at an industrial facility described by one or more of Sectors A through AD.

The Dallas/Fort Worth International Airport (DFW Airport) is subject to the Storm Water NPDES regulations due to the airport’s standard industrial classification (SIC) code of 4581, which is included in Sector S for Air Transportation Industries. Since September 1993, the Airport Board has operated under a NPDES Baseline General Permit for Storm Water Discharges Associated with Industrial Activity (Baseline Permit). The Baseline Permit number issued by USEPA was TXR00A456. The Baseline Permit expired on October 1, 1997, but was administratively extended under Part VII.B; continuation of the expired General Permit. On September 30, 1998, USEPA terminated the Baseline Permit and modified the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activity (Vol. 63, Federal Register, 52430 - 52577; September 30, 1998). Industrial facilities previously covered under the Baseline Permit were provided 90 days after the publication of the MSGP to either seek coverage under the MSGP or submit an application for an individual NPDES permit. The Airport Board submitted a Notice of Intent to the EPA on October 14, 1998 for coverage under the MSGP. USEPA provided notice of coverage under identification number TXR05F714. The Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resource Conservation Commission, was delegated authority from the USEPA to administer the storm water program on September 14, 1998; therefore, after September 29, 2000, when all NPDES permits expired, all industries covered under the NPDES program were required to apply for permit coverage with the TCEQ.

On August 20, 2001, the TCEQ signed and issued the Texas Pollutant Discharge Elimination System (TPDES) Multi-Sector general permit. Dallas/Fort Worth International Airport (DFW Airport) and airport tenants previously covered under the NPDES MSGP, obtained an indefinite extension from the TCEQ regarding the submittal of the Notice of Intent (NOI) for permit coverage. The indefinite extension for coverage under the expired NPDES MSGP was granted from 2001 to 2006 for DFW Airport and tenants, until the TCEQ addressed many of the concerns expressed by members of the air transportation industry in the renewed TPDES MSGP. Coverage under the five year permit was received on August 14, 2006. DFW Airport has renewed this permit once before, and is entering the third phase for permit renewal on August 14, 2016. DFW Airport and airport tenants operating under the terms of the previous permit are granted 90 days from the date of issuance to update the SWP3, comply with new permit requirements, and submit an NOI to the TCEQ. New industrial facilities discharging storm water associated with industrial activity are required to submit a NOI prior to commencement of industrial activities that could result in the discharge of storm water associated with industrial activity. Existing facilities that never obtained authorization to discharge storm water associated with industrial activity from the previous NPDES MSGP are also required to submit a NOI immediately.

DFW Airport also authorized to discharge first flush storm water and other permitted flows from five individually permitted outfalls under TPDES Individual Permit No. WQ0001441000. This TPDES Individual Permit will expire on midnight on October 1, 2018. Those outfalls authorized under the Individual Permit are located downstream of many of the major storm water outfalls supporting DFW Airport's Central Terminal Area. All storm water outfalls located upstream of an individually permitted outfall are also covered under the new Individual Permit. Storm water discharges at outfalls identified in the Individual Permit will be authorized only under the Individual Permit and not the general permit for DFW Airport. DFW Airport is not subject to the storm water monitoring and sampling requirements identified in the TPDES MSGP for outfalls covered under the Individual Permit. However, DFW Airport is required to implement and maintain a SWP3. The SWP3 will be amended whenever there is a change in design, construction, operation or maintenance which has a significant effect on the potential for pollutants to be discharged to the waters of the United States, or if the SWP3 is ineffective in controlling the discharge of pollutants.

Airport tenants discharging storm water associated with an industrial activity are required to develop and implement a SWP3 specific to their respective operation on their leasehold and operational area, or operate under the provisions established in the Airport Board's SWP3. A copy of the tenant's SWP3 and a copy of their Notice of Intent (NOI) must be sent to the Environmental Affairs Department (EAD) to be incorporated into the Airport's storm water records. Tenant SWP3's must be updated as needed by the tenant. It is the tenant's responsibility to inform EAD of any changes to the SWP3 and to provide EAD with a copy of the current updated plan. Storm water discharges

from Airport tenants will not be covered under the Individual Permit. Airport tenants will be subject to the requirements identified in the TPDES MSGP.

Noncompliance with the terms and conditions of the SWP3 constitutes a violation of the Clean Water Act (CWA) and is grounds for criminal, civil, or administrative enforcement action. Under criminal penalties, any person who negligently violates permit conditions is subject to a fine of not less than \$2,500 and no more than \$27,500 per day of violation, or by imprisonment for not more than 1 year, or both. Persons who knowingly violate permit conditions are subject to fines not less than \$5,000 and no more than \$50,000 per day of the violation, or by imprisonment for not more than 3 three years, or both. Persons who knowingly make any false statement or representation in any record, report, plan or who knowingly falsify, tamper with, or render inaccurate, any monitoring device or method required to be maintained in the SWP3 shall be subject to a fine of not more than \$10,000 or by imprisonment for not more than 2 years, or both.

Under civil penalties, any person who violates a permit condition is subject to a fine not to exceed \$37,500 per day for each violation. Under administrative penalties, any person who violates a permit condition is subject to, for a Class I Penalty, a fine not to exceed \$11,000 per violation nor shall the maximum amount exceed \$32,500 or, for a Class II Penalty, to a fine not to exceed \$16,000 per day for each day during which the violation continues nor shall the maximum amount exceed \$177,500.

## 2.0 FACILITY INFORMATION

DFW Airport is located in north central Texas on the border of Tarrant and Dallas counties, 17 miles northeast of the City of Fort Worth and 18 miles northwest of the City of Dallas, with Latitude 32° 53' 30" and Longitude 97°02' 30". DFW Airport consists of nearly 18,000 acres of land, which fall within five cities (Grapevine, Irving, Euless, Coppell, and Fort Worth). The Cities of Dallas and Fort Worth jointly own DFW Airport, which is operated by the Airport Board (a joint board established under the Texas Transportation Code Chapter 22). Approximately 400 tenants and sub-tenants lease facilities or conduct activities at DFW Airport.

The DFW Airport Board and some tenants conduct industrial activities with the potential to affect the quality of storm water runoff from DFW Airport. Activities conducted by the Board and tenants at DFW Airport that pose a potential for storm water pollutant sources include the following:

- Aircraft, runway, road, and airport train rail deicing
- Aircraft, vehicle, and equipment maintenance
- Aircraft, vehicle, and equipment cleaning
- Airport construction activities
- Aircraft, vehicle, and equipment fueling
- Airfield maintenance
- Outdoor equipment, material, and waste storage
- Loading/unloading operations
- Fuel storage and transfer
- Grounds and Building maintenance
- Roadway Maintenance
- Spill response
- Storm water channel maintenance
- Fire/Department Public Safety training activities
- Chemical storage and wastewater pretreatment

Maps are provided in Appendix A, which display the locations of Board and tenant operated facilities authorized under the TPDES MSGP.

### 3.0 POLLUTION PREVENTION TEAM

The TPDES MSGP requires the organization of a pollution prevention team (PPT) that is responsible for developing, implementing, maintaining, and revising the SWP3. The PPT leaders will include the DFW Airport Board's Vice President of EAD and EAD personnel working in DFW Airport's Water Programs Section. As more specifically identified in Appendix B, PPT members will also include representatives from the EAD, Energy, Transportation & Asset Management (ETAM), Aviation Real Estate, Commercial Development, Department of Public Safety (DPS), and Airport Operations. Tenants operating under the terms of the Board's SWP3, will be required to designate onsite company representatives to be included on the PPT. Each team member is responsible for relaying issues discussed at Board directed training sessions and communicating best management practices and other storm water pollution prevention issues to employees and tenants when applicable. The PPT will meet at least twice each year, or on an as-needed basis.

The role of the team leaders is to oversee the overall compliance with the TPDES permit and the SWP3. These responsibilities include:

1. Providing instructional materials regarding storm water pollution prevention to other team members, Board employees, and Tenant employees. Educational materials will be provided through various Environmental Educational Materials, Storm Water Pollution Prevention Awareness Online Training, and PPT Meetings.
2. Informing team members of Board Policies relating to environmental issues and general state and federal environmental regulations.
3. Monitoring Board and tenant compliance with the requirements of the SWP3 relating to inspection, monitoring, recordkeeping, and maintenance requirements.
4. Analyzing the effectiveness of the SWP3, and implementing adjustments or necessary changes to the SWP3 if best management practices (BMPs) are found to be ineffective, or if additional BMPs are found to be necessary.

PPT representatives from the ETAM department are responsible for upkeep and maintenance of airport infrastructure, equipment, and facility grounds. ETAM also manages the airport's potable water, industrial wastewater and sanitary sewer systems. Storm water structural controls are currently maintained by ETAM and include ramp inlet boxes, terminal grease traps, and storm water drainage channels. The ETAM department is responsible for Skylink and vehicle fleet maintenance. Structural controls such as source isolation deicing collection system (SIDs), various equipment associated with the Storm Water Pretreatment Plant, and Airport oil water separators are also maintained by ETAM. Team members are responsible for maintaining records relating to preventative maintenance activities.

Aviation Real Estate and Commercial Development are responsible for distributing to tenants information provided by EAD regarding airport policies relating to environmental awareness, storm water pollution prevention, airport wash policies, and the importance of the proper implementation of BMPs.

Airport Tenants covered under the Board's SWP3 will be required to comply with all measures and controls described in the SWP3 applicable to their leasehold and all common use areas. In addition to submitting permit applications and monitoring reports to the TCEQ (as required), tenants will be responsible for conducting quarterly site inspections of their leasehold, weekly inspections during deicing/anti-icing weeks of areas where deicing/anti-icing chemicals or equipment are stored, and quarterly visual monitoring and/or applicable storm water sampling of storm water runoff exiting their respective leasehold or areas of operation.

## 4.0 COMMON USE AREAS

Common use areas currently located at DFW Airport include deicing pads, GSE fueling areas, and triturator drop locations, which are currently used to deposit sanitary waste from aircraft. The Airport Board is responsible for the upkeep and maintenance of all common use areas associated with industrial activities, with the exception of common use areas located on tenant leaseholds that are exclusively used and controlled by that tenant. These areas include fueling and triturator locations at Terminals A and C that fall under the authority of American Airlines. Long-term chemical, vehicle, or equipment storage by tenants is prohibited in common use areas controlled by the Airport Board, unless an agreement has already been established between the Airport Board and the tenant.

Common use areas under the authority of DFW Airport include:

### **Deicing Collection Pads**

- Southeast Hold Pad
- Southwest Hold Pad
- Taxiway Echo-Kilo North and South
- Taxiway Zulu
- Taxiway Hotel Yankee
- North East Hold Pad
- Taxiway Whiskey Kilo
- Taxiway Charlie (active deicing pad only)
- Terminal D (currently not being used as an active Airport Deicing Location)
- Taxiway Whiskey Lima

### **Triturator Locations**

- Terminal B North

### **Ramp fueling areas**

None

### **Miscellaneous Locations:**

- Corporate Aviation

## 5.0 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

This section of the SWP3 identifies and describes all activities and significant materials that may potentially be pollutant sources. Identifying potential pollutant sources includes conducting the following activities:

- Develop site map(s) and reference tables, indicating the location of each outfall covered by the Permit, the drainage area of each permitted storm water outfall within DFW Airport's boundary, locations of all structures, existing structural control measures, surface water bodies, physical features of the Airport that may influence storm water runoff or contribute to dry weather flows, locations where significant materials are exposed to precipitation, locations where major spills or leaks have occurred and the locations of the following activities where such activities are exposed to precipitation: aircraft and runway deicing/anti-icing operations; fueling stations; aircraft, ground vehicle and equipment maintenance and/or cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance; loading/unloading areas; locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas. The site map(s) will also depict the flow of storm water runoff from each of these locations to the applicable outfall(s). Copies of these maps are included in Appendix A.
- Conduct an inventory of exposed significant materials and provide a narrative description of significant materials currently handled, processed, treated, stored, or disposed in a manner to allow exposure to storm water runoff. This inventory is included in Appendix C, and has been limited to materials used in bulk processes, or materials that have the potential to be exposed to precipitation. This inventory does not include materials stored in drums, barrels, tanks, or similar containers that are tightly sealed and in good structural condition. For each pollutant or material listed in the inventory, the direction of flow or potential flow to the final permitted outfalls will be identified or referenced on the site map. The inventory shall also include potential pollutants which have reporting requirements under the Emergency Planning and Community Right-to-know Act (EPCRA) 313. While DFW Airport is not subject to EPCRA 313 reporting requirements, any Airport tenant operating under the shared SWP3 program will be required to maintain this information in their onsite tenant SWP3.
- List reportable quantity spills and leaks of toxic or hazardous pollutants that have occurred during the past three years at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at DFW Airport (refer to Section 5.3).

- Collect and summarize storm water discharge sampling data. Wet weather analytical data is maintained separately from the DFW Airport Master SWP3. Wet weather data may either be accessed from EAD's electronic wet weather spreadsheet, or analytical reports may be accessed from EAD's Wet Weather file. In addition, a Wet Weather table, summarizing the year's analytical data is produced each year with the Comprehensive Site Compliance Evaluation.
- Identify non-storm water discharges, and develop a program to eliminate non-allowable discharges.
- Describe all activities and potential sources of pollutants that may reasonably be expected to add pollutants to storm water discharges or that may result from dry weather discharges from the storm sewer system including, without limitation, the following: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing/anti-icing operations (including apron and centralized aircraft deicing/anti-icing stations, runways, taxiways and ramps); outdoor storage activities; loading and unloading operations; and on-site waste disposal. For each potential pollutant source, the pollutant or pollution parameter of concern should be identified. Records of the types of deicing/anti-icing chemicals [including Material Safety Data Sheets (MSDS) and the monthly quantities of deicing/anti-icing chemicals will be maintained. Tenants and fixed-base operators who conduct deicing/anti-icing operations shall provide the above information to the Airport Board for inclusion in the EAD deicing files.

## 5.1 Description of Drainage System and Receiving Waters

The direction that storm water runoff at DFW Airport flows is based on the property's topography and underground storm sewer and storm water pretreatment systems (Appendix A). Most ramp storm drain inlets contain fuel vapor traps and water level floats designed to retain oil and grease while discharging the storm water to a fuel separator. Many of the water level floats are no longer operable and are currently not in use. The fuel separators are of various sizes and designs; most fuel separators contain one influent line and two effluent lines. The smaller line located near the bottom of the structure discharges flows to the pretreatment line, which flows to the DFW Storm Water Pretreatment Plant (SWPTP). The larger line located above the invert of the smaller line discharges flow to the storm sewer system. The fuel separators are designed to direct low flow and first flush discharges to the SWPTP. High flow, which follows the first flush, will be discharged to the storm sewer system. Flows which exceed the hydraulic capacity of the pretreatment line, are discharged from the diversion structure through the storm sewer system to various creeks and tributaries. Waters of the U.S. either originating on or traversing DFW Airport property include the following: Grapevine Creek, Cottonwood Creek, Hackberry Creek, South Fork Hackberry Creek, Mud Springs

Creek, Estelle Creek, Bear Creek, Big Bear Creek, Little Bear Creek, and Black Draw Creek. Dry weather and first flush drainage from the terminals (air side), Allied Aviation fuel farm, UPS Cargo Facility (ramp/apron area), Trammel Crow Cargo Facilities (ramp/apron area), West Cargo (ramp/apron areas), U.S. Mail Cargo Facility, and the Southwest Hold Pad are discharged through fuel separators to the SWPTP. Drainage from the Northeast Cargo (NE Cargo) Area either flows into a lined storm water drainage channel discharging to Hackberry Creek, or discharges from the NE Cargo ramp inlets may be diverted by a manual valve into a 203,000-gallon sump. The NE Cargo sump is currently used only for emergency spill containment; any dry weather discharges collected in the sump are vacuumed and transported for appropriate disposal. During wet weather events and normal operations, the sump valve remains open (but can be closed in the event of a spill or release) and storm water runoff flows through the sump valve to various storm water outfalls.

Approximately thirty eight storm water outfalls have been identified which drain either aircraft operations areas or Board operated facilities, which are associated with industrial activity. In general, drainage from the north part of the airport is discharged into Grapevine Creek, from the northeast into Hackberry Creek, from the east into Mud Springs Creek, from the west and southwest into Big Bear Creek, and from the southeast into Trigg Lake.

An outfall characterization chart is included in Appendix A, which includes a brief description of all major outfalls draining areas on Airport property, the activities occurring in each area, the structural controls (if applicable), and the receiving water bodies associated with each outfall. Drainage maps are also included in Appendix A, which indicate property boundaries, surface water bodies, storm water outfalls, and associated contributing drainage areas.

## **5.2 Inventory of Exposed Materials**

An inventory description is required of significant materials handled at DFW Airport and potentially exposed to storm water on-site. Significant materials are substances related to industrial activities such as process chemicals, raw materials, fuels, pesticides, fertilizers, and waste products that have a potential to be released with storm water discharges. The inventory shall also include potential pollutants associated with substances subject to reporting requirements under EPCRA Section 313. Materials stored in drums, barrels, tanks, and similar containers that are tightly sealed, in good structural condition, and do not have leaking valves are not required to be listed in the inventory. The inventory must be updated within 30 days following a significant change in the types of materials that are exposed to precipitation or runoff, or significant changes in material management practices that may affect the exposure of materials to precipitation or runoff. Appendix C identifies the locations of materials stored at DFW Airport that are exposed to storm water, as well as the direction of flow or potential flow from

those locations to the final permitted outfalls. Tenant specific material inventories are contained in the respective tenant's SWPPP. Tenants operating under the Board's SWP3 will be required to complete a questionnaire form, which contains tenant specific information. A copy of each tenant's completed questionnaire form will be maintained with DFW Airport storm water records and shall be included as an attachment to the respective tenant's Shared SWP3.

### **5.3 Spills and Leaks**

A list of reportable quantity spills and leaks of toxic and hazardous pollutants that occurred in areas exposed to precipitation or which drained to the storm water system is provided in Appendix D. The TPDES General Permit defines reportable quantity spills as a discharge or spill of oil, petroleum product, used oil, hazardous substances, industrial solid waste, or other substances into the environment in a quantity equal to or greater than the reportable quantity listed in 30 TAC §327.4 in any 24-hour period. The list shall include all reportable quantity spills and leaks occurring during the three years prior to submittal of the NOI, and the list may be limited to reportable quantity spills and leaks that have occurred within the previous five years. Records of significant spills or leaks equal to or above the reportable quantity shall be filed and maintained in the Incident File located in the EAD office. Appendix D will be updated by EAD quarterly.

### **5.4 Storm Water Monitoring and Sampling**

Storm water monitoring and sampling data provides information on the quality of storm water runoff from DFW Airport. The storm water analytical data is used to identify the types and sources of pollutants and to provide a means for evaluating the environmental risk of storm water runoff. DFW Airport is currently subject to various storm water monitoring and sampling as identified in DFW Airport's TPDES Individual Permit. DFW Airport is subject to the storm water monitoring and sampling requirements identified in the TPDES General Permit for those outfalls not covered under the Individual Permit. Airport tenants subject to TPDES requirements will also be required to conduct any storm water monitoring or sampling requirements identified in the TPDES MSGP. Increased monitoring and sampling requirements for water bodies with an approved TMDL or water bodies designated impaired. Additionally storm water sampling may be required for Tenants discharging to Grapevine Creek and Cottonwood Branch as result of newly issued TMDL for high concentration of bacteria (Adopted by TCEQ on September 21, 2011). Tenants operating under an Individual SWP3 are required to conduct all required benchmark, effluent, and visual monitoring identified in the MSGP for their respective leasehold or primary areas of operation. Airport tenants operating under the Airport's Shared SWP3 are required to conduct all applicable hazardous metal effluent sampling for their respective leasehold areas if the tenant does not qualify for hazard-

ous metals monitoring exemption, or the tenant chooses not to apply for an exemption. Tenants subject to benchmark monitoring are required to submit a completed discharge monitoring report (DMR) to the TCEQ before March 31<sup>st</sup> each year throughout the term of the permit. DFW Airport also requires tenants operating under the Shared SWP3 program to conduct quarterly inspections during to assess the effectiveness of storm water pollution prevention measures for their respective leasehold. If feasible, at least one of these inspections shall be conducted during a wet weather event, to evaluate the quality of storm water runoff exiting the facility. Appendix E summarizes the various storm water monitoring and sampling requirements currently applicable to DFW Airport and airport tenants.

## **5.5 Risk Identification and Summary of Potential Pollutant Sources**

Part II, Section A of the TPDES MSGP authorizes point source discharges of storm water associated with certain industrial activities. The TPDES MSGP authorizes discharges of material resulting from deicing/anti-icing activities (e.g. aircraft blow-off or drip and shear from aircraft, onto aprons, taxiways, or runways) during precipitation events.

A narrative description of all the potential pollutant sources from the following activities at DFW Airport is provided below. The description lists significant potential sources of pollutants at DFW Airport, and for each potential source, any pollutant or pollutant parameter of concern is identified.

### **5.5.1 Aircraft, Runway, Ground Vehicle and Equipment Maintenance and Cleaning**

Aircraft maintenance and cleaning activities (performed by tenants) generally occur at the aircraft maintenance hangars, Northeast Cargo Area, and West Cargo Area. Minor aircraft maintenance activities (e.g., addition of jet engine oil) may also occur at the terminal gates. The Airport Board currently implements a no wash policy effective for all airport tenants. Vehicle or equipment washing must either be conducted in designated wash facilities or pollution prevention measures must be implemented to ensure all wash water is captured and disposed in the sanitary sewer system. Ground vehicle and equipment maintenance and cleaning activities may occur outdoors at specified locations on the aprons or in the parking lots. While, most ground vehicle and equipment maintenance and cleaning activities generally occur indoors at specified locations, there are some airport tenants without interior maintenance facilities that conduct minor vehicle and equipment maintenance outdoors. Materials of concern used in maintenance operations are degreasing agents and/or solvents, hydraulic fluids, antifreeze, oils and greases, acids, and caustics. These materials may enter the storm system by vehicle tracking or when employees do not utilize Best Management Practices or appropriately clean-up areas where exterior maintenance

activities occur. Wash water from cleaning activities can contain high concentrations of oil and grease, phosphates, degreasers, metals, and TSS.

Runway paint and rubber removal is performed periodically using high-pressure water blasting. This method employs a high-pressure water blast to remove the paint and rubber. All materials and wastewater generated from these processes are collected during the removal process, analyzed, and appropriately disposed. The Airport is constantly exploring more economical and environmentally friendlier techniques for these activities.

In order to improve runway traction grinding and grooving is currently performed on an as needed basis on worn runway pavements. The current method utilizes mechanical equipment to produce a wet grind and/or groove concrete surfaces. All generated wastewaters and/or slurries are collected and appropriately disposed.

Potential pollutants from periodic runway maintenance activities include metals, BOD, COD, TSS, and pH.

### **5.5.2 Deicing/Anti-icing Operations**

Deicing/anti-icing operations protect aircraft from accidents, which can result from ice and snow build-up on aircraft and runways during inclement weather. The deicing/anti-icing season for DFW Airport is generally between October 15 and April 15. The deicing/anti-icing season may fluctuate based on local weather conditions and other weather conditions around the country.

Aircraft, runways, taxiways, aprons, and the airport train rails are deiced or anti-iced at DFW Airport. Aircraft deicing/anti-icing activities are performed by tenants using ethylene glycol and/or propylene glycol. The ratio of glycol to water in Type I deicing fluid varies from tenant to tenant. Type IV anti-icing fluid is usually applied without dilution. Application ratios vary depending on use and weather conditions. The majority of aircraft deicing activities occur at designated deicing pads designed to isolate the great majority of spent deicing fluids. Minor aircraft deicing (associated with engine inlet or light defrosting) may occur at ramp gates, in which tenants are responsible for the implementation of pollution prevention measures and the collection of all spent chemicals. Overspray of deicing/anti-icing fluids and drip and shear of deicing/anti-icing fluids during takeoff and landings have the potential to impact storm water runoff. Runway, taxiway, and apron anti-icing operations use potassium acetate or a mixture of potassium acetate, sodium acetate, and sand. Deicing/anti-icing of the People Mover system (SkyLink, airport train rail) involves the constant circulation of glycol chemicals inside of PEX tubing positioned under rails, to prevent the build-up of ice. De-

icing chemicals have the potential to impact the environment if PEX tubing is cut or leaks glycol fluids to areas exposed to storm water runoff.

Potential pollutants from deicing/anti-icing activities and areas include ethylene glycol, propylene glycol, sodium acetate, potassium acetate, BOD, COD, Total Organic Carbon (TOC), ammonia, and Total Kjeldahl Nitrogen (TKN).

DFW Airport is required to maintain a record of the types [including the Material Safety Data Sheets (MSDS)] and monthly quantities of deicing/anti-icing chemicals used. Tenants and fixed base operators who conduct deicing/anti-icing operations shall provide the above information to the DFW Airport Board's EAD. MSDSs for deicing/anti-icing chemicals used at DFW Airport and the monthly usage of these chemicals are maintained with EAD's Deicing File.

### **5.5.3 Outdoor Storage Activities**

Raw materials, by-products, leaking equipment/vehicles, and containers exposed to storm water at outdoor storage areas can adversely impact storm water runoff. Outdoor storage areas are located at maintenance facilities throughout DFW Airport. Materials stored outdoors at DFW Airport include jet fuel, gasoline, diesel, used oil, lubricating oil, ethylene glycol, propylene glycol, potassium acetate, and aircraft and vehicle detergents. Ground support equipment and vehicles are also parked or stored outdoors at various locations throughout DFW Airport. Fluids (e.g., fuel, oil, antifreeze, hydraulic fluid, chemical toilet water, and deicing fluids) leaking from GSE and vehicles can adversely impact storm water runoff.

Potential pollutants from outdoor storage activities include oil and grease, petroleum hydrocarbons, metals, volatile organic compounds, fecal coliform, BOD, COD, TOC, TSS, pH, ethylene glycol, propylene glycol, and potassium acetate.

### **5.5.4 Loading and Unloading Activities**

Bulk loading operations, material-dispensing operations, and loading/unloading docks are located throughout DFW Airport. Areas where significant materials are loaded or unloaded are generally located at maintenance buildings and aircraft hangars. Materials spilled or leaked at loading and unloading areas may enter the storm system as dry weather flow or be exposed to precipitation and storm water runoff during rain events.

The material dispensed in the largest quantity at DFW Airport is jet fuel. Over 2.5 million gallons of jet fuel are dispensed daily. Aircraft fuel is pumped (via a hydrant system) from the Fuel Farm to the West Cargo Area, East Cargo Area, and

Terminals A, B, C, D, and E. Aircraft are fueled at apron fuel stations located at each aircraft gate position. Refueling of aircraft using refueling trucks can be performed at any location within the aircraft operation area. Private or corporate aircraft are normally fueled from refueling trucks at Corporate Aviation.

Potential pollutants from loading and unloading activities include oil and grease, petroleum hydrocarbons, metals, fecal coliform, volatile organic compounds, BOD, COD, TOC, TSS, pH, ethylene glycol, propylene glycol, and potassium acetate.

### **5.5.5 Onsite Waste Storage, Treatment, and Disposal**

Onsite waste disposal varies by activity and tenant. In general, waste oils, anti-freeze, degreasing solvents, fuel, paint, paper, plastic, cardboard, scrap tires, pallets, toner cartridges, and batteries are collected and stored onsite in designated areas and then removed for recycling or disposal by properly licensed contractors. The DFW Airport Board operates a waste and recycling program. The Airport Board provides tenants with open top containers and/or compactors for disposal of solid waste. The DFW Airport Board maintains the containers. A contractor is used for collecting the containers and disposing of the trash at a properly permitted landfill.

The DFW Airport Board also owns and operates a Storm Water Pretreatment Plant (SWPTP) which was constructed in the early 1970s. The SWPTP was designed to remove oil, grease, and suspended solids from the first flush storm water generated at highly active aircraft ramp areas. The SWPTP consists of oil/water separators with grit chambers, bar screens, settling ponds, aeration basins (not in use), and a dissolved air flotation unit (currently not in use). Water entering the SWPTP flows through the bar screen, passes the flow meter, and enters one of the two, oil/water separators. Each oil/water separator has a capacity of approximately 235,816 gallons. The floatables from the oil/water separator are skimmed off and stored in a 12,000-gallon oil storage tank, while the sludge is collected in the grit chamber and pumped to one of two clay-lined sludge basins. Each sludge basin has a capacity of approximately 724,114 gallons. During normal operations, water from the oil/water separators bypasses the aeration basins and is discharged directly to the Trinity River Authority (TRA) Central Regional Wastewater Treatment Plant (CRWTP) pipeline. The SWPTP has two aeration basins, each with a capacity of approximately 1,000,000 gallons. Following aeration and settling, dry weather effluent is then discharged to the TRA – CRWTP pipeline. The average daily dry weather flow through the PTP is approximately 200,000 gallons.

Four glycol ponds with a combined capacity of 12,000,000 gallons are used to provide additional holding capacity for wastewater from deicing activities and storm water commingled with deicing fluids. A 2,000,000-gallon lagoon and a 3,100,000-gallon lagoon are located near the southwest and southeast holding pads respectively and are used for temporary glycol recovery. A glycol pipeline is used to transport spent deicing fluids from deicing pads tanks, and lagoons to the PTP. A reverse osmosis (RO) system was constructed to treat spent deicing fluids collected from source isolation collection pads. The RO system is capable of treating and discharging up to 140 gallons per minute of wastewater to the TRA CRWTP, and concentrating spent deicing fluids from 1% to 15% for offsite disposal.

Potential pollutants from onsite waste storage and disposal include oil and grease, petroleum hydrocarbons, metals, BOD, COD, TSS, pH, and general trash or debris.

#### **5.5.6 Airport Fueling System and Fuel Farm**

Allied Aviation is the primary provider of jet fuel at DFW Airport and provides jet fuel for many of the air freight carriers and airlines operating from Terminals A, B, C, and D. Allied operates a bulk fuel storage facility on the western side of the airport, consisting of six aboveground 3-million gallon fuel tanks with associated fuel lines and several smaller capacity aboveground storage tanks, ranging in size from 500 to 6,000 gallons. Allied Aviation operates a small maintenance shop where general equipment and vehicle maintenance activities are conducted. The two main types of aircraft fueling operations that are employed on the AOA involve direct pipeline fueling and tanker truck operation. The direct pipeline fueling operation is conducted from hydrant pits located around many of the major terminals and hangar areas. Tanker truck fueling operations are conducted at areas on the AOA where direct fueling from the hydrant system is not available. Swissport is also an aircraft fueling company utilized by airlines at DFW Airport. Swissport is the primary provider of jet fuel for Delta, Alaska, Spirit, and United Airlines located in Terminal E. Swissport utilizes the existing fuel hydrant system and tanker trucks to fuel aircraft.

Potential pollutants include petroleum hydrocarbons, metals, volatile organic compounds, and wash water from cleaning activities.

## **6.0 MEASURES AND CONTROLS**

According to the MSGP, storm water management controls must be incorporated into this SWP3 and implemented by the permittee. Good housekeeping measures are steps generally taken by employees on a daily basis during the course of normal work day activities to reduce exposure of garbage and refuse to precipitation and runoff and to generally keep areas that may contribute pollutants clean and orderly. Best management practices (BMPs) are measures used to prevent or reduce pollution from on-site operations entering the storm water system. BMPs may include structural controls (e.g., oil/water separators and secondary containment) and non-structural controls (e.g., prohibitions of activities and standard operating procedures). BMPs and periodic checklists were developed and provided to various Airport operated maintenance facilities and tenants operating under the Board's SWP3. Example checklists and inspection schedules are provided in Appendix B.

### **6.1 Good Housekeeping**

Good housekeeping practices are utilized at DFW Airport. The intent of good housekeeping is to minimize the exposure of pollutants to rainfall and runoff. The main components are Awareness, Involvement, and Alertness - Awareness that it is important to guard against potentially polluting circumstances; Involvement of each person at DFW Airport to participate in storm water pollution prevention; and Alertness to improvements in practices or structural controls that could reduce pollution potential at DFW Airport. Good housekeeping techniques will be stressed to employees during training sessions.

The following practices are the basis of a good housekeeping program and are the minimum acceptable at DFW Airport:

- Walkways, aisles, roadways and exits are to be kept clear at all times.
- Small spills are to be cleaned up immediately and disposed of in an approved manner.
- All refuse is to be placed in an appropriate container.
- Material and products are stored in a neat and orderly fashion with particular attention not to block walkways or access routes.
- Chemical containers are to be stored in enclosed or covered areas whenever possible to minimize contact with storm water.
- All chemical storage containers are to be properly labeled.
- Empty drums are to be placed only in their designated area.
- Chemical containers and/or drums are to be kept closed at all times when not in use.

- Inside floors are to be kept clear of debris and spills and are to be swept or mopped regularly.
- Tools and equipment are to be kept clean and neatly stored when not in use.

In addition to the above listed practices, the following activities are performed on a routine basis by Airport Board personnel.

- The Airport Board operates a street sweeper on a regular basis to ensure that roadways and parking areas are kept clean and free from debris and dirt buildup.
- Parking garages, toll plazas, remote and express parking, areas of heavy bus traffic, and terminal lower roadways are monitored regularly and cleaned using hot water pressure washing with collection of the waste water as needed to prevent storm water contamination.
- Airport Board personnel collect trash and litter that may accumulate in grassy areas near roadways and parking areas on a regular basis.
- Solid waste is collected regularly from Board operated facilities and as requested by airport tenants. Trash compactors and dumpsters are monitored on a daily basis to minimize overfilling and ensure that the lids are kept closed.
- Fueling areas are kept clean and free from excessive residual buildup.

## **6.2 Best Management Practices**

The following are the minimum acceptable best management practices at DFW Airport.

### **6.2.1 Maintenance Areas; Aircraft, Ground Vehicle and Equipment**

The following BMPs are established to prevent and reduce materials from contaminating storm water at maintenance operations:

- Maintain a minimal inventory of required products to reduce potential spills and minimize waste generation
- Minimize storm water exposure to materials by storing parts, batteries, drums, and containers (empty and full) inside buildings or storage sheds
- Centralize or minimize the parts cleaning stations at maintenance shops
- Drip pans and containers will be regularly inspected and emptied (if needed) at the end of each working day
- Do not discard liquid materials in dumpsters or roll-off boxes

- Clean up spills using dry clean up procedures and dispose of the collected material properly

### **6.2.2 Cleaning Areas; Aircraft, Ground Vehicle and Equipment**

The following BMPs are established to prevent and reduce materials from contaminating storm water at cleaning areas:

- Consolidate and designate wash areas
- Inspect wash areas during washing activities to ensure that wash water is not reaching a storm water inlet or drain
- Inspect and clean out sand traps regularly
- Inspect and clean out fuel separators regularly
- Maintain written records of inspections and maintenance activities
- Minimize use of detergents and/or solvents
- Minimize water consumption by use of nozzles with shutoff valves or devices

### **6.2.3 Storage Areas; Aircraft, Ground Vehicle and Equipment**

The following BMPs are established to prevent and reduce materials from contaminating storm water at aircraft, ground vehicle and equipment storage areas:

- Select storage areas where runoff can be monitored and controlled
- When possible minimize outdoor storage of ground vehicles and equipment
- Cover ground vehicles and equipment stored outdoors with temporary covers (e.g., roof or plastic tarp) whenever possible
- Drain fluids from stored aircraft, ground vehicles and equipment for long term storage or out of service equipment.
- Place drip pans beneath leaking aircraft, ground vehicles and equipment and maintain drip pans
- Clean up leaks and spills using dry clean up procedures
- Divert storm water run-on around storage area
- When possible provide berms or dikes around areas where equipment or chemicals are stored outdoors
- Inspect storage areas regularly
- Maintain written records of inspections

#### **6.2.4 Material Storage Areas**

The following BMPs are established to prevent materials from contaminating storm water at material storage areas:

- Minimize outdoor storage when possible by storing materials/waste indoors
- Select outdoor storage locations where potential pollutants can be minimized and controlled during precipitation events
- If stored outdoors, cover area with temporary cover when appropriate (e.g., roof or plastic tarp)
- Designate centralized storage areas
- Keep drums labeled and closed
- Divert storm water run-on around storage area
- Clean up leaks and spills with dry clean up procedures
- Inspect storage areas regularly
- Maintain written records of inspections

#### **6.2.5 Airport Fuel System and Fueling Areas**

The following BMPs are established to prevent or minimize fuel from the airport fuel system and fueling areas from contaminating storm water:

- Clearly tag and/or label all tank valves
- Identify near-by surface inlets and ensure that proper clean up equipment is readily accessible to impede or prevent spilled material from reaching storm inlets
- Eliminate topping off of tanks
- Use drip pans or absorbent material beneath hose connections and maintain drip pans appropriately
- Clean up spills and leaks with dry clean up procedures
- Repair leaking connections or remove from service
- Regularly inspect hydrant pits and fueling areas
- Train employees in spill response and prevention
- Maintain records of training and inspections

#### **6.2.6 Runway, Taxiway, Roadway, and Ramp Deicing/Anti-icing Activities**

DFW Airport has installed pavement temperature sensors on the taxiway bridges (e.g., Taxiways A, B, Y, and Z) and utilizes the readings to determine if anti-icing

of the bridges and subsequently of the runways is necessary. The DFW Airport Maintenance Department uses potassium acetate in lieu of ethylene glycol for anti-icing of runways, taxiways, and ramps.

The following BMPs are established to prevent or minimize contamination of storm water with roadway and/or runway deicing chemicals and sand:

- The diagonal runways and remote north-south runways are not generally used during foul weather events to minimize the need for runway deicing
- Deicing or anti-icing material is to be utilized on an as-needed basis
- Evaluate new technologies, methods, and materials to reduce chemical application

### **6.2.7 Aircraft Deicing Areas**

Aircraft deicing activities are primarily conducted on source isolation pads. Tenants that deice at DFW Airport must undergo annual deicing training accreditation. The training includes classroom discussions, videos, and practice using the deicing trucks. Since October 31, 1999, EAD has required all airlines/contractors conducting deicing/anti-icing activities to have permits issued by EAD. EAD mandates that an accredited supervisor, one who has completed the annual deicing accreditation course, be within 500 feet of the deicing activity at all times. The training generally occurs during September and October. Gate deicing can only be conducted by tenants permitted by the Airport to conduct gate deicing and can only be conducted with a deicing method approved by the Airport. Any Airport tenant conducting gate deicing using ethylene or propylene glycol will be subject to any applicable benchmark monitoring associated with the TPDES MSGP. EAD staff are trained and accredited as deicing inspectors.

The following BMPs are established to prevent or minimize contamination of storm water with aircraft deicing/anti-icing chemicals:

- Tenants must coordinate with Airport Operations to obtain authorization to deice and to have the designated deicing areas activated.
- Tenants are encouraged only to conduct aircraft deicing activities in designated deicing areas where deicing fluids can be properly contained and collected.
- Each deicing pad is provided with a visual notification system to assist tenants in identifying when deicing pads are properly activated (i.e. valves are in the correct position) and able to begin collecting deicing or anti-icing fluids. A green light on the deicing pad indicates that the

pad is ready for use and able to receive deicing/anti-icing fluids. Airport Operations direct Airport Maintenance to activate and deactivate the deicing pads.

- Deicing pads (with the exception of Taxiway Charlie and Terminal D) are equipped with the nose wheel marking location to ensure proper collection of deicing fluids. Aircraft deicing at Taxiway Charlie and Terminal D is limited to gate deicing. Only minor aircraft deicing is permitted at Terminal D and all spent glycol must be collected by the operator/tenant.
- Glycol contaminated snow that has been removed from deicing pads will be stockpiled in locations where the snow melt will drain back onto the deicing collection system.
- Overspray of deicing fluids is to be minimized.
- Drip pans are required to be used underneath transport truck hose fittings during the transportation of deicing fluids to either the glycol storage ponds or the Pretreatment Plant

### **6.2.8 Onsite Waste Collection**

The following BMPs are established to prevent or minimize contamination of storm water from onsite waste collection or handling activities:

- Tenants will be provided educational material to ensure that only appropriate solid wastes are added to the solid waste compactors and containers.
- Compactors and trash bins are regularly monitored and emptied as needed to minimize overfilling
- Solid waste container lids should be kept closed at all times when not in use.
- Compactors will be regularly inspected to ensure that associated hydraulic hoses and pumps are in good condition and operating adequately.
- Whenever possible, compactors are stored away from storm water drains

### **6.2.9 Runway Cleaning and Maintenance Activities**

The following BMPs are established to prevent or minimize storm water contamination during runway cleaning and maintenance activities:

- If necessary, berms or drain blockers will be utilized during runway or pavement-cleaning activities to ensure wash water doesn't enter the storm system. Many storm inlets that drain the runways at DFW Airport are located several feet away from the runways in the grassy areas and may not require drain blockers or berms.
- All wash water is collected during all runway or pavement cleaning activities that utilize detergents or other chemicals.
- Materials generated from runway rubber and paint removal activities are properly collected and disposed of.

In addition to the BMPs previously listed, EAD has assembled a BMP Guidance document to further assist Board employees and tenants in the implementation of good housekeeping initiatives and BMPs. A copy of this document is included in Appendix B.

## **6.3 Management of Runoff**

### **6.3.1 Structural Controls**

TCEQ requires consideration of appropriate storm water management practices or structural controls used to divert, infiltrate, or reuse storm water. Storm water management practices should direct storm water away from areas of exposed materials or direct storm water that contains pollutants to natural or other types of treatment systems. However, it should be noted that ideal storm water BMPs prevent or reduce pollutants at the source before other pollutants enter storm water. Management of storm water runoff at DFW Airport is necessary to control both the quantity and quality of the runoff.

General BMPs for management of storm water runoff include the following:

- Surface grading
- Diversion berms
- Curbs
- Fuel separators
- Stormceptors
- Oil Water Separators
- Covers
- Grass swales and vegetation to aid in infiltration of storm water and pollutants
- Gravel or rock to aid in infiltration and reduce velocities
- Containment of storm water by retention/detention methods

- Develop standard operating procedures for existing storm water retention/detention areas.

Existing storm water runoff management practices at DFW Airport include retention of storm water runoff at Trigg Lake and the permitted use of the water for golf course irrigation, and a storm water pretreatment collection system for primary treatment of storm water from the aircraft aprons and maintenance areas. Structural controls also include various source isolation deicing pads, stormceptors and velocity attenuators in drainage channels at some outfalls.

### **6.3.2 Sediment and Erosion Control Measures**

The SWP3 shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and shall identify structural, vegetative, and/or stabilization measures to be used to minimize erosion. The following measures should be practiced at areas where industrial activities are conducted and sediment and erosion control practices can be implemented:

- Preserve as much vegetation onsite as possible and evaluate areas to determine where revegetation or other stabilization measures are needed.
- Minimize the time that disturbed soils are exposed.
- Prevent runoff from flowing across disturbed areas (e.g., divert the flow to vegetated areas using berms, dikes, culverts, or gutters)
- Stabilize highly erosive areas (e.g., plant vegetation or other stabilization measures)
- Remove sediment and slow down runoff across industrial areas using berms, swales, filter fences, hay bales, gravel filter berms, and gravel base materials.

Non-construction areas with a high potential for erosion are located along International Parkway and at the headwalls of several large outfall structures. Sedimentation and erosion are also potential problems along the portions of Hackberry Creek, Mud Springs Creek, Big Bear Creek, and Grapevine Creek, which have been lined with concrete. In addition to the quarterly inspection required under Section 6.6, Periodic Inspections, a Comprehensive Storm Drain Channel Evaluation is conducted by DFW Airport EAD and Maintenance Department every two years.

Sediment and erosion control practices associated with airport construction projects are managed under EAD's Storm Water Construction Programs. These practices include maintaining vegetative cover, grading slopes, stream bank stabilization, use of filter fences or straw bale barriers, and concrete slope drains.

Sediment and erosion control issues relating to airport and/or tenant-related construction activities are authorized under the TPDES General Construction Permit for applicable projects.

#### **6.4 Maintenance Program for Structural Controls**

Preventive maintenance involves the regular inspection and maintenance of storm water management devices (e.g., cleaning fuel separators and ramp inlet boxes) as well as inspecting and testing facility equipment and systems to identify conditions that could cause reduced effectiveness or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

The preventive maintenance program should prevent breakdowns and failures by utilizing the following components:

- Qualified personnel should be identified by each respective department to conduct inspections and assign responsibilities
- Identify equipment, systems, and areas that should be inspected and establish an appropriate inspection and maintenance schedule to ensure effective operation
- Conduct periodic inspections of equipment, systems, and areas
- Timely adjustment, repair, or replacement of equipment
- Maintain documentation on inspections, equipment, and systems.

A brief description of the storm water structural controls and the preventative maintenance activities associated with each structural control is described below.

- Fuel separators and storm water inlets (Type D and B-1) associated with the IW system will be inspected semi-annually and quarterly respectively; inlets will be cleaned every two years or as required. Storm water inlets and fuel separators will be inspected for the presence of contaminants or other factors impacting optimal effectiveness. Fuel separators and storm water inlets are cleaned annually. All wastewater generated by cleaning activities will be collected and appropriately disposed. DFW Airport currently has an outside contract to oversee inspections and maintenance of storm water inlets and diversion structures associated with the IW system.
- Storm water and IW lift stations are cleaned annually.
- Equipment utilized at the SWPTP (e.g. skimmers, control valves, basins, sludge lagoon) are monitored monthly. Maintenance logs will be maintained in INFOR, the airport's work order management system.

- The Northeast Cargo sump is only used during emergency situations for collection of spills or wastewater. Preventative maintenance will include testing associated valves as situations arise.
- Diversion valve systems associated with the Airport's exterior fire training burn pit will be inspected quarterly or during each use to ensure proper operation and maintenance activities will be conducted as situations arise. The Waste Water Services Department documents the quarterly inspections through INFOR, DFW's work order program.
- SIDs: Nose gear markings for deicing pads will be visually inspected annually prior to the start of each deicing season. Weekly reports indicating the status of deicing collection tanks, ponds, lagoons, and associated valves will be collected throughout the deicing season and maintained in EAD's storm water files.
- Storm water drainage channels: ETAM conducts periodic inspections of storm water drainage channels annually by qualified personnel. A report that outlines condition, along with channel maintenance records, and channels that are part of any CIPs is provided to EAD.
- The Terminal D Pretreatment System Detention Structures will be inspected and cleaned annually.
- Stormceptors located in the Terminal D parking garage, will be inspected quarterly and cleaned as needed.
- Oil/water separators located on the Terminal D ramp will be inspected quarterly and cleaned as needed.
- Curb Inlet Screens: Approximately, 301 Curb Inlet Screens were installed at the airport to eliminate/or minimize the discharge of solid materials in high-traffic areas susceptible to litter/trash and debris in June 2011. Storm water screens will be maintained through storm water screen cleaning services contract on the quarterly basis.

Written records of the inspection and preventative maintenance will be prepared by the designated qualified personnel and will be maintained at the DFW Airport EAD. Tenants subject to NPDES or TPDES regulations are responsible for conducting regular inspections and preventative maintenance for all tenant specific storm water structural controls located on their leasehold area. The respective tenant will maintain records of the inspections and make these records available to the appropriate jurisdictional authority.

## 6.5 Spill Prevention and Response Procedures

The establishment of standard operating procedures for safety, spill prevention, and proper employee training can reduce spills and leaks. Development and implementation of spill prevention and response procedures is essential for an effective SWP3. In the event a spill occurs, a swiftly executed response may prevent storm water contamination and reduce incurred costs from extended clean-up operations. This SWP3 incorporates by reference the information and procedures contained in the most recently amended DFW Airport's Spill Prevention, Control, and Countermeasure (SPCC) Plan for Airport Board activities; the information and procedures contained in the most recently amended SPCC plans maintained by each tenant for each tenant's respective leasehold; and the information and procedures contained in the most recently amended Facility Response Plan (FRP) maintained by Allied Aviation Services for the Fuel Farm.

Although several SPCC Plans have been developed by various entities on DFW Airport property for oil and petroleum spills, the SWP3 requires control measures for any potential storm water pollutant. Activities and areas where spills are likely to occur on DFW Airport and that could contribute pollutants to storm water discharges are listed below. Locations identified with asterisk are not identified as regulated facilities discharging "storm water associated with industrial activity, but are identified in DFW's SWP3 as areas which could contribute to storm water pollution."

- Fuel dispensing and bulk transfer areas including vehicle and aircraft fueling (and sites with USTs and ASTs)
- Vehicle and equipment maintenance
- Aircraft maintenance
- Material storage areas
- Deicing pads and chemical staging areas
- Department of Public Safety Stations and training facilities\*
- DFW Facility Maintenance Complex Allied Aviation Fuel Farm
- Rental car maintenance facilities\*
- Terminal aircraft aprons
- Pretreatment Plant
- Food Preparation Complexes\*
- Vehicle fueling stations
- Vehicle and equipment staging areas
- Terminal Triturator Areas

### **6.5.1 Spill Notification Procedures**

In the event of a spill of an unknown material and/or spills of Immediate Danger to Life or Health (IDLH), the following procedures should be followed:

- The person who witnesses or identifies the spill should immediately contact the DFW Airport Department of Public Safety (DPS) at 911.
- DPS assesses the spill and reports the quantity to the DFW Airport Operations Center (AOC).
- AOC documents the spill in the Operations Daily Log and notifies the DFW Airport Environmental Affairs Department, AM, and Risk Management.
- If the spill is reportable, a representative from EAD will notify the appropriate agencies within the appropriate time frame.

In the event spills of known material (both hazardous and non-hazardous) and non-IDLH conditions, the following procedures should be followed:

- The person who witnesses or identifies the spill should immediately contact the DFW Airport Operations Center at (972) 973-3112.
- AOC documents the spill in the Operations Daily Log and notifies the appropriate department to respond the spill. Primary departments are the Environmental Affairs Department, Asset Management, and Risk Management.
- If the spill is reportable, a representative from EAD will notify the appropriate agencies within the regulatory time frame.

Additional information regarding spill notification procedures may be obtained from the DFW Airport Board Policy, "Reporting Policy-Spills and Release Update" dated October 1, 2011.

### **6.5.2 Spill Response Procedures**

Eliminating the source of a spill and containing the spilled material are the first steps in preventing storm water contamination. A quick response is imperative in preventing further contamination and costly clean ups.

It is the responsibility of the owner of the material that is spilled to contain the hazard and properly dispose of the material in accordance with EPA standards. However, in the event that the owner cannot be identified, DPS will take immediate actions to ensure the safety of all personnel, eliminate the source of the spill, contain the spill, and initiate efforts to mitigate damage. This includes stopping processes and operations, removing ignition sources, collecting and containing

released material, and removing or isolating containers. The protocols for the management of an emergency incident or a hazardous material incident by the DPS are described in the “Incident Management System Section 801” and the “Hazardous Incident Response Section 804.” The airport’s designated EAD representative will document the spill and response actions.

### **6.5.3 Spill Prevention and Response Training**

Spill prevention and response training for the SWP3 includes all employees involved in industrial activities, not just those employees on the spill response team. Training will include the following:

- Proper notification, without penalty (e.g., employees should be assured that they will face no reprisals when they report such incidents)
- Specific material handling procedures, storage requirements, and ways to control spills
- Proper clean up procedures
- Proper safety precautions
- Spill prevention

## **6.6 Periodic Inspections**

Regular visual inspections help ensure that pollution prevention measures are implemented and the elements of the SWP3 are working properly. Routine visual inspections are a simple way to confirm that equipment, areas, and activities are in place and functioning effectively. Inspections should periodically take place during storm events to ensure practices and controls are effectively working. Inspections should also take place during operation of the equipment or activities being examined.

The following is a non-exclusive list of different activities, areas, and equipment to be regularly monitored:

- Maintenance Program for Structural Controls (quarterly)
- Good Housekeeping and BMP implementation (quarterly)
- Material storage areas (quarterly)
- Source Isolation Deicing System status report (weekly during deicing season)
- Storm water conveyances associated with tenant and Airport industrial activities (monthly)
- Employee training program (annually)

All employees and tenants operating under the shared SWP3 conducting inspections will be properly trained, familiar with the SWP3 and activities to be inspected, and have knowledge of proper record keeping and reporting practices. The employee-training program will be reviewed and assessed on an annual basis. Records of inspections conducted by DFW Airport are maintained and on file at the EAD. Records of inspections conducted by tenants will be maintained by each respective tenant operating under the Board's SWP3.

## **6.7 Pollution Prevention Training**

An Employee Pollution Prevention Training Program is necessary to effectively implement the components and goals of the SWP3. Training addresses each component of the SWP3, including how and why tasks are to be implemented. When properly trained, personnel are more capable of preventing spills, by responding safely and effectively to an incident, and by recognizing situations that could lead to storm water contamination.

Training shall be conducted annually for all DFW Airport Board employees. Employee training shall include, at a minimum:

- The SWP3, including its goals
- Pollution control laws and regulations
- Spill prevention, control, and countermeasures and equipment maintenance programs
- Features and operations of DFW Airport which are designed to minimize discharges to the storm sewer collection system
- Proper material management and handling practices for specific chemicals, fluids, and other materials used or commonly encountered at the facility
- Familiarization with good housekeeping measures and BMPs identified in the SWP3

Suggestions of training tools that can be included in the training programs are:

- Films and slide presentations
- Drills/Field exercises
- Routine employee meetings
- Bulletin boards
- Suggestion boxes
- Newsletters

The DFW Airport's EAD will make online storm water training available to all DFW Airport Board employees and will maintain written records of the training sessions. The

online training is required for all employees who are responsible for implementing or maintaining activities identified in this document. This online training course will educate Airport Board employees on the basic principles of storm water regulations, the airport's SWP3, and various BMPs. EAD provides education for all employees by communicating the basic goals of the SWP3 and the contact information for representatives within EAD overseeing the storm water program through internal communication (i.e. intranet and email). Tenants are responsible for providing storm water training to their respective employees and for maintaining written records of the training.

## **6.8 Record-keeping and Internal Reporting Procedures**

Record-keeping and internal reporting requirements, such as for spills and leaks, along with other information describing the quality of storm water discharges must be documented and kept with the SWP3. Maintaining records and documenting activities are an effective means of tracking the progress of pollution prevention and waste minimization efforts. Facility efficiency and BMP effectiveness can also be gauged through accurate documentation. The TPDES MSGP requires that records be kept of the following:

- Maintenance Activities
- SWP3 updates and modifications
- Employee training and education activities
- Spills and Leaks
- Storm Water Monitoring Data (maintained separately on file at EAD)
- Comprehensive Site Compliance Evaluation
- Other events relevant to the above listed

Tenants operating under the Board's SWP3 will be required to maintain all record-keeping or reporting requirements in their SWP3 or separately filed. Tenants required to comply with TPDES regulations will also be required to submit copies of inspection reports and preventative maintenance activities to EAD upon request.

## **6.9 Non-Storm Water Discharges**

Part II.A.6 (non-storm water discharges) of the TPDES MSGP has provisions, which authorize specific non-storm water discharges. The following non-storm water discharges are authorized by the TPDES MSGP and anticipated at DFW Airport.

- Discharges from firefighting activities and uncontaminated fire hydrant flushing (excluding discharges of hyperchlorinated water)
- Potable water sources (excluding discharges of hyperchlorinated water)
- Lawn watering and similar irrigation drainage

- Water from routine external building washing that does not use detergents or other chemicals, and where spills or leaks of toxic/hazardous materials have not occurred.
- Water from routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred
- Uncontaminated air conditioner, compressor, and steam condensate
- Uncontaminated water used for dust suppression
- Springs and other uncontaminated groundwater
- Uncontaminated water from foundation or footing drains

Storm water discharges associated with industrial activity that combine with sources of non-storm water are not eligible for coverage by this general permit and will require a TPDES Individual Permit. Dry weather discharges can be observed at many of the major outfalls draining the Central Terminal Area. An investigation to determine the source of these dry weather discharges was conducted in the summer of 2002 by Argus Environmental. The study included a review of as-built drawings for the storm water collection system, storm sewer pipe walk inspections, and inspections of the fuel separators discharging to the outfalls included in the investigation. Storm sewer pipes that could be accessed were entered, and if dry weather flows were observed, samples were collected for laboratory analysis. All of the major storm water outfalls draining the central terminal areas and west cargo were included in this investigation. The investigation concluded that the primary source of the dry weather flows was groundwater infiltration. TPDES regulations permit the discharge of uncontaminated groundwater to the storm sewer system. However, prior studies, such as the Non-Storm Water Discharge Investigation and the Agreed Order Study, identified areas in the storm sewer collection system where jet fuel was observed seeping into the seams of the storm sewer pipes. According to the December 2002 Response Action Plan (RAP), storm sewer lines and joints were sealed with AV-310 Hydro Sealant during September and November 2002 to prevent jet fuel from entering the storm sewer system. Storm sewer walks are currently conducted each quarter and to ensure that the joints remain sealed and to identify new areas in sewer pipes, which may be impacted by jet fuel. Weekly water quality monitoring is conducted during dry weather at major storm water outfalls, as required by the Agreed Order No. 1999-1171-MLM-E. Any evidence of high pollutant loads at storm water outfalls is managed on a case-by-case basis. Evidence of spills or groundwater contamination is reported to the appropriate regulatory officials.

Part III.3b1 of the current TPDES MSGP, requires permittees to conduct an investigation of non-storm water discharges. The investigation shall test or inspect the permittees separate storm sewer system for the presence of non-storm water flows and ensure that non-storm water discharges (not allowed under the current TPDES MSGP) are not combined with storm water discharges and allowed to enter the separate storm sewer system (unless authorized under a separate permit). The SWP3 must include a

certification, stating that the facility's separate storm sewer system has been evaluated for the presence of non-storm water discharges and that the discharge of non-permitted, non-storm water does not occur.

Airport Tenants operating under the Board's SWP3 will be required to conduct a non-storm water discharge certification for their leasehold. A copy of this document will remain on file in EAD in the tenant's respective storm water file, and a copy of the certification will be required to be included in Section II of each tenant's SWP3.

EAD has prepared a document to educate all airport tenants on which non-storm water discharges will be allowed under the new TPDES permit, and which non-storm water discharges will not be allowed under the new permit. EAD will be requesting that each tenant complete and sign the Non-Storm Water Discharge Assessment and Certification. A copy of the packet pertaining to Non-Storm Water Discharge Certification has been included in Part II, Section D of the SWP3.

## **7.0 Additional Notification Requirements**

Facilities which discharge storm water to municipal separate storm sewer systems (MS4) located in urbanized areas are required to provide written notification of the discharges and a copy of the facility's Notice of Intent (NOI) to the operator of the MS4. DFW Airport is permitted as a small MS4, and all airport tenants will be required to submit to provide written notification of such discharges and a copy of their respective NOI to the DFW Airport's Environmental Affairs department (see Appendix H).

## 8.0 Comprehensive Site Compliance Evaluation

The Comprehensive Site Compliance Evaluation (CSCE) provides a basis for evaluating the overall effectiveness of the SWP3. This evaluation is conducted in addition to other routine inspections required by the MSGP. The CSCE will also identify where additional controls or practices are needed.

In accordance with this permit, qualified personnel who are familiar with the facilities to be evaluated must conduct site compliance evaluations during deicing/anti-icing periods at least annually. The evaluation includes the following:

- Inspection of all areas identified in the Inventory of Exposed Materials section of the SWP3
- Inspection of major structural controls and a review of preventative maintenance records,
- Inspection of all non-structural controls, including BMP effectiveness, good house-keeping measures, and spill prevention
- Inspect storm water drainage areas for evidence of, or the potential for pollutants entering the drainage system.
- Inspect all reasonably accessible areas immediately downstream of each storm water outfall that is authorized under the general permit
- Review all records required by the general permit

A copy of a checklist that will be utilized when conducting the CSCE is included in Appendix B. Airport tenants possessing a TPDES general permit (regardless of whether they operate under the Board's shared SWP3 or an individual SWP3) will be inspected as part of the Airport Board's CSCE. Tenants operating under an individual SWP3 are responsible for conducting their own separate CSCE.

Facility inspections will be conducted between the months of October and April, during the peak of deicing season. A CSCE report will be drafted, reviewed, and signed prior to July of each year. The report shall document the personnel conducting the evaluation, the dates of the evaluation, and any incidents of non-compliance. An incidence of non-compliance is any instance where an element of the SWP3 is either not implemented, or where specific conditions of the permit are not met. If the report indicates an incident of non-compliance, the operator shall complete all necessary actions to come into compliance as soon as practicable, but no later than twelve weeks following the evaluation. If no incidents of non-compliance are discovered, the report shall contain a certification that the facility is in compliance with the SWP3. The report shall either be included as a part of the SWP3 or referenced in the SWP3 and be made readily available for inspection and review by authorized TCEQ personnel upon request. During the first month of this period, tenants will be required to submit an official plan of corrective ac-

tions with the exact timelines for execution. This document must be signed by a delegated signature authority and the Pollution Prevention Team member from the company or organization. If the provided document is determined to be insufficient or the measures identified in the corrective actions plan are not adequately employed, a tenant can be removed from the Airport's Shared SWP3 and will be required to implement an Individual SWP3 for their respective leasehold and industrial activities. EAD will refer that tenant to DFW Airport's real estate department and legal counsel for enforcement action.

The SWP3 shall be revised to include and address the findings of the CSCE within 30 days following the completion of the evaluation by the department Vice President or designated signature of the Airport Board. A table summarizing the revisions made to the SWP3 will be recorded and maintained in the appropriate storm water files. Revisions must include all applicable changes that result from the CSCE and all applicable updates to:

- Elements of the SWP3 that require modification for effectiveness
- Additional elements (e.g. structural controls or BMPs) that should be added or modified for prevention of pollution
- The site map
- Inventory of exposed materials
- The description of good housekeeping measures
- The description of structural and non-structural controls
- Any other element of the plan that was either found to be inaccurate or that will be modified