

## **Sector Z**

# **Leather Tanning and Finishing Facilities Fact Sheet**

Fact Sheets include a general discussion of the issues and pollutants specific to each industrial sector, including a summary of the data used to formulate the Multi-Sector General Permit. Fact Sheet topics include:

- Discharges Covered Under the Sector;
- Industry Profile;
- Associated Storm Water Pollutants;
- Pollution Control Options;
- Special Conditions;
- Storm Water Pollution Plan Requirements;
- Monitoring and Reporting Requirements; and
- Numeric Effluent Limitations, if any.

The Fact Sheet is not to be used as the basis for permit compliance. Sector-specific Permit Language, immediately following this Fact Sheet, provides specific detail for permit compliance.

*Z. Storm Water Discharges Associated With Industrial Activity From Leather Tanning and Finishing Facilities*

1. Discharges Covered Under This Section

Storm water discharges covered by this section include all discharges from leather tanning (commonly identified by Standard Industrial Classification (SIC) code 3111) and facilities which make fertilizer solely from leather scraps and leather dust where precipitation and storm water runoff come into contact with significant materials including, but not limited to, raw materials, waste products, by-products, stored materials, and fuels. This includes storm water discharges from access roads, and rail lines used or traveled by carriers of raw materials, manufactured products, waste materials, or by-products created by the facility. This section does not cover any discharge subject to process wastewater effluent limitation guidelines, including storm water that combines with process wastewater.

When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

*a. Industry Profile.* The storm water permit application regulations define storm water discharge associated with industrial activity at 40 Code of Federal Regulations (CFR) 122.26(b)(14). Category (ii) of this definition includes facilities identified by SIC code 3111, establishments primarily engaged in tanning, currying, and finishing hides and skins into leather. Most tanneries are small family operations, although several are divisions of larger corporations. The leather tanning and finishing industry currently includes approximately one hundred fifty facilities. There are effluent limitations guidelines for the leather tanning industry based on 9 subcategories, as described in the "Development Document for Effluent Limitations Guidelines and Standards for Leather

Tanning and Finishing Point Source Category." (The subcategories were based on distinct combinations of raw materials and leather processing operations.)

Leather tanning or finishing is the conversion of animal hides or skins into leather. Leather is made from the inner layer of the animal skin, which consists primarily of the protein collagen. Tanning is the reaction of the collagen fibers with tannins, chromium, alum or other tanning agents. Tanning processes use chromium III, sulfuric acid and detergents and a variety of raw and intermediate materials.

There are three major processes required to make finished leather. These are beamhouse operations, tanyard processes and retanning and finishing processes. In general, most tanneries perform the entire tanning process, from beamhouse to wet finishing operations. A smaller number perform only beamhouse and tanyard operations and sell their unfinished product (wet "blue" stock) to other tanneries. These processes are described below:

*Beamhouse Operations*—These consist of four activities: side and trim; soak and wash; fleshing and unhairing. Side and trim is the cutting of the hide into two sides and trimming of areas which do not produce good leather. In soak and wash processes, the hides are soaked in water to restore moisture lost during curing. Washing removes dirt, salt, blood, manure, and nonfibrous proteins. Fleshing is a mechanical operation which removes excess flesh. The removed matter is normally recovered and sold for conversion to glue. Unhairing involves using calcium hydroxide, sodium sulfhydrate, and sodium sulfide to destroy the hair (hair pulp process) or remove hair roots. A mechanical unhairing machine can also be used to remove hair loosened by chemicals (hair save process). Beamhouse processes can account for approximately 60 percent of the pollutant load (except trivalent chromium) from a complete tannery. Pollutants that may be produced are proteinaceous organic and inorganic pollutants characterized by a high pH (10–12) and substantial amounts of Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), and sulfides.

*Tanyard Processes*—These consist of bating, pickling, tanning, wringing, splitting, and shaving. Bating involves the addition of salts of ammonium sulfate or ammonium chloride used to convert the residual alkaline chemicals present from the unhairing process into soluble compounds which can be

washed from the hides or skins. "Pickling" the hide with sulfuric acid provides the acid environment necessary for chromium tanning. In the tanning process, tanning agents such as trivalent chromium and vegetable tannins convert the hide into a stable product which resists decomposition. Wringing of the "blue hides" (hides tanned with trivalent chromium) removes excess moisture with a machine similar to a clothes wringer. Splitting adjusts the thickness of the tanned hide to the requirements of the finished product and produces a "split" from the flesh side of the hide. The hide is then shaved to remove any remaining fleshy matter. Wastewater from tanyard operations contain inorganic chemical salts, small amounts of proteinaceous

hair and waste, and large amounts of ammonia from the bating process. Pickling generates a highly acidic waste (pH of 2.5-3.5) which contains salt. Spent chromium liquors contain high concentrations of trivalent chromium in acid solution with low concentrations of BOD and TSS. Vegetable tanning vat discharges are highly colored, and contain significant amounts of BOD, COD, and dissolved solids.

**Retanning and Wet Finishing Processes**—These include retanning, bleaching, coloring, fatliquoring, and finishing. The most common retanning agents are chromium, vegetable extracts and syntans (based upon naphthalene and phenol). Sodium bicarbonate and sulfuric acid are sometimes used to bleach leather. Coloring involves the use

of dyes (usually aniline based) on the tanned skin. Animal or vegetable fatliquors are added to replace the natural oils lost in the beamhouse and tanyard processes. Finishing includes all operations performed on the hide after fatliquoring, and includes finishing to enhance color and resistance to stains and abrasions, smoothing and stretching of the skin, drying, conditioning, staking, dry milling, buffing and plating. These processes generate wastes with additional quantities of trivalent chromium, tannins, sulfonated oils, and spent dyes, which are low in BOD and TSS, and high in COD.

Table Z-1 lists potential storm water pollutant source activities that may take place at leather tanning facilities.

TABLE Z-1.—POLLUTANTS POTENTIALLY FOUND IN STORM WATER DISCHARGES AT LEATHER TANNING FACILITIES

Activity	Pollutant source	Pollutant
Outdoor storage of fresh and brine cured hides	Fresh & brine cured hides .....	Salt, organic materials (manure), biochemical oxygen demand.
Beamhouse Processes (trimming, soak & wash, fleshing, unhairing).	Chemical storage (drums or bags) .....	Depilatory chemicals.
	Empty containers of lime, depilatory chemicals.	Calcium hydroxide, sodium sulfhydryte, or sodium sulfide.
Tanyards (bating, pickling, tanning, wringing, splitting, shaving).	Trim scraps, hair .....	BOD, COD, TSS.
	Empty chemical containers .....	Trivalent chromium, vegetable tannins, enzymes, pickling acids (sulfuric acid), alum, syntans, chemical deliming agents, glutaraldehyde, heavy oils.
Retan and Wet Finishing (retanning, bleaching & coloring, fatliquoring, buffing).	"Blue" hides, splits, trimmings, shavings .....	Trivalent chromium, leather fiber and dust, suspended solids.
	Empty chemical containers .....	Chromium tanning agents, vegetable extract, dyes, pigments, animal or vegetable based oils, synthetic oils made from modified mineral based oils.
Dry finishing (Application of pigment to leather surface with water-based or solvent based finishes).	Leather dust containing chromium. ....	Leather fiber, trivalent chromium, suspended solids.
	Emissions from spray booths and spent solvents.	Pigments, solvents-acetone, pylene, glycol ether.
Receiving and unloading areas .....	Hides .....	Trivalent chromium, salt.
	Chemical supplies .....	Depilatory chemicals, trivalent chromium, vegetable tannins, enzymes, pickling acids (sulfuric acid), alum, syntans, chemical deliming agents, glutaraldehyde, heavy oils, dyes, pigments, animal or vegetable based oils, synthetic oils, solvents and biocides.
Improper Connections to Storm Sewer .....	Leaking trucks .....	Oil & grease and waste materials.
	Accidental spills .....	Chemicals listed for supplies above.
Outdoor Bulk Chemical Storage .....	Floor drains-process wastewater, cleaning and washdown of process equipment and process areas.	Dependent on operations.
	Above ground tanks .....	Sulfuric acid, ferric chloride, finishing solvents (mineral spirits), hydrated lime, surfactant.
Outdoor Storage of coal .....	Coal piles .....	Oil & grease, TSS, copper, nickel, zinc.
	Hoppers .....	Leather dust, scraps.
Waste Management .....	Dumpsters .....	Empty bags & chemical containers.
	Sludge (wastewater treatment sludge stored in containers to diminish storm water contact, awaiting offsite disposal).	Lime, pieces of leather, hair, protein-like substances, floor sweepings, trivalent chromium, biochemical oxygen demand.

Sources: NPDES Storm Water Group Applications—Part 1. Received by EPA May 22, 1991—February 18, 1992.  
 EPA, Office of Water. November 1982. "Development Document for Effluent Limitations Guidelines and Standards for the Leather Tanning and Finishing Point Source Category." EPA/440/1-82/016.  
 EPA, Office of Water Regulations and Standards and Office of Water Enforcement and Permits. September 1986. "Guidance Manual for Leather Tanning and Finishing Pretreatment Standards."  
 EPA, Office of Solid Waste Management Programs, SCS Engineers, Reston, VA. 1976. "Assessment of Industrial Hazardous Waste Practices. Leather Tanning and Finishing Industry." EPA-68-01-3261.

2. Pollutants Found in Storm Water Discharges From Leather Tanning Operations

The impacts caused by storm water discharges from leather tanning facilities will depend on the geographic location of the facility, the types of industrial activities occurring onsite (e.g., beamhouse, tanyard, retan and wet finishing, dry finishing); the types of significant materials exposed to storm water (e.g., trivalent chromium tanned leather shavings, chemical containers etc.), the size of the operation; and the type, duration, and intensity of precipitation events. Other factors such as air emissions (i.e., settled dust), materials storage, spills, improperly dumped materials, and illicit conditions may also impact receiving waters. (Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers.)

Part 1 group application information indicates that the industrial activities occurring at leather tanning facilities include leather tanning plant yards; unhairing (76.9 percent of samplers); chromium tanning (69.2 percent of samplers); splitting and shaving (76.9 percent) retanning (69.2 percent); wet

hide finishing-buffing (76.9 percent); dry finishing; vegetable tanning (30.8 percent); immediate access roads and rail lines used or traveled by carriers of raw materials (38.5 percent of samplers), manufactured products, waste management (36.8 percent); material handling sites (23.1 percent); refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part 401) sites used for residual treatment, storage or disposal (waste water treatment (30.8 percent)); shipping and receiving areas (69.2 percent of samplers); finished materials; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. (40 CFR 122.26(b)(14)).

Significant materials include raw materials, brine or salt cured hides and skins (7.7 percent), fuels (15.4 percent), materials such as solvents, detergents, finished materials; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), any chemical required to be reported pursuant to Section 313 of

Title III of the Superfund Amendments and Reauthorization Act; fertilizers; pesticides; and waste products such as sludge (7.7 percent) that have the potential to be released with storm water discharge. (40 CFR 122.26(b)(12)). Other significant materials found at leather tanning facilities include leather shavings and dust (46.2 percent), leather scrap (30.8 percent), blue hides and splits (46.2 percent), empty chemical containers, spent solvents, emissions from spray booths, and wastes in dumpsters. Significant materials produced from various industrial activities occurring at leather tanning facilities are summarized in Table Z-1.

Based on the similarities of the facilities included in this sector in terms of industrial activities and significant materials, EPA believes it is appropriate to discuss the potential pollutants at leather tanning and finishing facilities as a whole and not subdivide this sector. Therefore, Table Z-2 lists data for selected parameters from facilities in the leather tanning and finishing sector. These data include the eight pollutants that all facilities were required to monitor for under Form 2F.

TABLE Z-2.—STATISTICS FOR SELECTED POLLUTANTS REPORTED BY LEATHER TANNING AND FINISHING FACILITIES SUBMITTING PART II SAMPLING DATA<sup>i</sup> (mg/L)

Pollutant Sample type	No. of facilities		No. of samples		Mean		Minimum		Maximum		Median		95th percentile		99th percentile	
	Grab	Comp <sup>ii</sup>	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp	Grab	Comp
BOD <sub>5</sub> .....	12	12	31	31	33.1	22.3	0.0	0.0	320.0	92.0	11.0	10.0	105.8	78.05	217.9	145.3
COD .....	12	12	31	31	205.5	91.94	0.0	0.0	2100.0	460.0	82.0	50.0	597.0	296.0	1247.4	577.2
Nitrate + Nitrite Nitrogen .....	12	12	31	31	1.86	1.88	0.06	0.30	11.00	9.60	1.20	0.90	6.12	5.01	11.97	9.01
Total Kjeldahl Nitrogen .....	12	12	31	31	7.70	6.22	0.70	0.90	46.00	38.0	4.30	3.50	26.49	19.7	55.80	39.18
Oil & Grease .....	12	N/A	31	N/A	13.9	N/A	0.0	N/A	130.0	N/A	0.0	N/A	56.4	N/A	124.5	N/A
pH .....	12	N/A	31	N/A	N/A	N/A	4.6	N/A	9.0	N/A	7.4	N/A	8.9	N/A	9.8	N/A
Total Phosphorus .....	12	12	31	31	0.36	0.83	0.00	0.03	3.00	18.0	0.16	0.18	1.11	1.51	2.34	3.66
Total Suspended Solids .....	12	12	31	31	310	115	0	0	4000	670	49	86	1302	520	4071	1209

<sup>i</sup> Applications that did not report the units of measurement for the reported values of pollutants were not included in these statistics. Values reported as non-detect or below detection limit were assumed to be 0.

<sup>ii</sup> Composite samples.

Table Z-3 lists the potential pollutant sources for common pollutants found at leather tanning and finishing facilities.

TABLE Z-3.—LIST OF POTENTIAL POLLUTANT SOURCES

Parameter	Pollutant sources
Oil and Grease .....	Degreasing processes, oils used in leather processing (fatliquoring).
COD .....	Complex organic and inorganic process chemicals, dyes, vegetable tannins, extraneous hide substances.
BOD <sub>5</sub> .....	Carbonaceous organic materials such as dissolved or pulped hair and other extraneous hide substances, nitrites, ammonia from residual bating chemicals and from hydrolytic deamination of proteinaceous hair and hide substances.
pH .....	Acidic or alkaline materials.
TSS .....	Leather dust, scraps, hair.
Total phosphorus .....	Detergents.
Nitrate nitrite nitrogen ....	Spent bating liquors and breakdown of organic proteins (dissolved hair and dermal matter).
Total Kjeldahl nitrogen ...	Dissolved or pulped proteinaceous hair.
Chromium .....	Blue hides, leather scraps and dust, waste materials such as empty containers, sludge.

3. Options for Controlling Pollutants

The measures implemented to reduce pollutants in storm water associated with leather tanning operations are generally uncomplicated practices. The

following table identifies Best Management Practices (BMPs) associated with different activities that take place at leather tanning facilities. The most effective BMPs will be

selected on the basis of site-specific considerations (e.g., facility size, industrial processes performed geographic location, significant materials, volume and type of discharge

generated). Because of the industrial processes involved in leather tanning, BMPs that concentrate on source reduction, recycling and containment/diversion will be the most helpful for reducing pollution in storm water runoff.

Source reduction BMPs include good housekeeping, materials management practices, preventive maintenance, spill prevention and response activities and employee training. Activities associated with good housekeeping include:

*Operation and Maintenance*—Keep floors clean and dry, regularly pick up garbage and waste materials, make sure equipment is working properly, routinely inspect for leaks or conditions that could lead to discharges of chemicals or contact of storm water with raw materials, intermediate materials, waste materials etc., reduce chemical spills resulting from carelessness and prepare program to control spills and carry out cleanups.

Ensure that spill cleanup procedures are understood by employees. Eliminate unnecessary uses of water such as leaving hoses running.

*Materials Storage and Maintenance*—Store containers away from direct traffic routes to prevent accidental spills, stack containers according to manufacturers instructions to avoid damaging containers, store containers on pallets to prevent corrosion of containers, assign responsibility of hazardous material inventories to a limited number of people who are trained to handle hazardous materials.

*Material Inventory Procedures*—Identify all chemical substances present in the work place, label all containers, clearly mark on the inventory hazardous materials that require special handling, storage or use.

*Preventive Maintenance*—Identify equipment, systems and facility areas that should be inspected, schedule periodic inspections of the equipment and systems, timely adjustments, repair,

or replacement of equipment and systems. Maintain complete records on inspections, equipment, and systems. Install automatic monitoring devices to detect abnormal discharge of gases and hazardous substances.

Containment/diversion BMPs involve segregating areas of concern by covering or berming the activity and controlling dust. Diversion dikes, curbs and berms are temporary or permanent diversion structures that prevent runoff from passing beyond a certain point, and divert runoff away from its intended path. Dikes, curbs and berms are already in use at some leather tanning facilities.

Part 1 group application data indicate that BMPs have not been widely implemented at the representative sampling facilities. The most commonly listed material management practice is roofing and covers. Table Z-4 lists BMPs associated with different activities that take place at leather tanning facilities.

TABLE Z-4.—LIST OF BEST MANAGEMENT PRACTICES

Activity	Best management practices
Temporary Outdoor Storage of fresh or brine cured hides.	Store hides indoors if possible. Cover the hides with a roof or temporary covering (e.g., polyethylene, tarpaulin etc.). Minimize storm water runoff by enclosing the area or building a berm around the area.
Beamhouse Operations .....	Inspect area regularly for proper implementation of good housekeeping and control measures. Store chemical drums & bags and empty lime & depilatory chemical containers indoors if possible, preventive maintenance. Cover chemical drums & bags, empty lime & depilatory chemical containers and leather scraps with roof or temporary covering (e.g., tarpaulins, polyethylene) and store on elevated impermeable surface. Curbing, containment dikes around chemical storage, empty lime & depilatory chemical containers and leather scrap storage area. Inspect area regularly for leaking drums, broken bags, proper implementation of good housekeeping and control measures, (broken cracked dikes), material inventory, material storage and operation & maintenance. Clean up leaks & spills quickly & completely, use drip pans for leaking equipment. Good Housekeeping—all paved areas should be swept regularly, eliminate unnecessary flushing with water and label chemical drums and containers.
Tanyards .....	Employee training on good housekeeping, proper handling of chemicals. BMPs for Tanyards (empty chemical containers and hides, leather dust, shavings) are the same as those listed above for Beamhouse Activities.
Retan and wet finish .....	Dust reduction through frequent inspection of vacuum, collector (bag & cyclone), and filter systems. Dust reduction through enclosure and covering. Preventive maintenance/inspection of dust collection systems. Good Housekeeping-regular sweeping of paved areas, eliminate unnecessary flushing with water and label chemical drums and containers.
Dry Finish .....	Employee training on good housekeeping, proper handling of chemicals. Preventive maintenance, inspection of spray booths.
Receiving and shipping .....	Employee training on proper disposal of spent solvents. Cover shipping & receiving area. Cover trucks. Vehicle positioning—locating trucks while transferring materials to prevent spills onto the ground surface. Grade berm or curb area to prevent storm water runoff contamination, divert rain gutters away from loading area. Clean spills immediately. Inspect trucks for leaks.
Liquid Storage in Above Ground Tanks .....	Employee training in spill prevention. Clearly tag valves to avoid human error. Install overflow protection devices on tank systems to warn operator or to automatically shut down transfer pumps when tanks reach full capacity. Secondary containment around tanks.

TABLE Z-4.—LIST OF BEST MANAGEMENT PRACTICES—Continued

Activity	Best management practices
Improper connections to storm sewers .....	Employee training. Inspection of tank foundations, connections, coatings, valves and piping systems. Comply with existing spill prevention, cleanup and countermeasure plans (SPCC plan) and State and Federal laws. Integrity testing by qualified professional. Plug all floor drains connected to sanitary or storm sewer. Perform smoke or dye testing to determine if interconnections exist between sanitary water system and storm sewer system. Update facility schematics to accurately reflect all plumbing connections. Install a safeguard against washwaters from processing areas entering the storm sewer unless permitted.
Waste Management .....	Train employees on proper disposal practices for all materials. Conduct waste reduction assessment—develop guidelines for the elimination of waste generation emissions. Institute industrial waste source reduction and recycling BMPs. Move waste management activities indoors (after safety concerns are addressed) and cover waste piles, dumpsters, hoppers, place on impermeable elevated surfaces. Prevent storm water runoff by curbing, building berms. Cover trucks & inspect for leaking wastes. Inspection of waste management areas for leaking containers, spills, damaged containers, uncovered waste piles, dumpsters, hoppers. Inspection of roof areas & outside equipment. Develop and maintain proper erosion control or site stabilization measures. Train employees on proper disposal practices for all materials.

Sources: NPDES Storm Water Group Applications—Part 1.  
 EPA, Office of Water. September 1992. "Storm Water Management for Industrial Activities—Developing Pollution Prevention Plans and Best Management Practices." EPA 832-R-92-006.  
 EPA, Office of Research and Development. January 1993. "Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems. A User's Guide." EPA/600/R-92/238.

4. Special Conditions

There are no additional requirements beyond those described in Part VI.B. of this fact sheet.

5. Storm Water Pollution Prevention Plan Requirements

All facilities covered by this section must prepare and implement a storm water pollution prevention plan. The establishment of a pollution prevention plan requirement reflects EPA's decision to allow operators of leather tanning facilities to select BMPs as the Best Available Technology/Best Control Technology (BAT/BCT) level of control for the storm water discharges covered by this section. The requirements included in pollution prevention plans provide a flexible framework for the development and implementation of site specific controls to minimize pollutants in storm water discharges.

EPA believes that pollution prevention is the most effective approach for controlling contaminated storm water discharges from leather tanning facilities. Pollution prevention plans allow the operator of a facility to select BMPs based on site-specific considerations such as facility size, climate, geographic location, the environmental setting of the facility, and volume and type of discharge generated. This flexibility is necessary because each facility will be unique in

that the source, type, and volume of contaminated surface water discharges will differ from site to site.

There are two major objectives to a pollution prevention plan (1) to identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from a facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from a facility. Specific requirements for a pollution prevention plan for leather tanning facilities and facilities which make fertilizer solely from leather scraps and dust are described below.

a. Contents of the Plan. Storm water pollution prevention plans are intended to help leather tanners evaluate all potential pollution sources at a site, and assist in the selection and implementation of appropriate measures designed to prevent, or control the discharge of pollutants in storm water runoff. EPA has developed guidance entitled "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices," EPA, 1992 (EPA 832-R-92-006), to assist permittees in developing and implementing pollution prevention measures.

(1) Description of Potential Pollutant Sources. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute to storm water runoff or, during periods of dry weather result in dry weather flows. This assessment of storm water pollution will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Plans must describe the following elements:

(a) Drainage—The plan must contain a map of the site that shows the pattern of storm water drainage, structural features that control pollutants in storm water runoff and process wastewater discharges, surface water bodies (including wetlands), places where significant materials are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. The map also must show areas where the following activities take place: fueling, vehicle and equipment maintenance and/or cleaning, loading and unloading, material storage (including tanks or other vessels used for liquid or waste

storage), material processing, and waste disposal, haul roads, access roads, and rail spurs. In addition the site map must also identify the location of all outfalls covered under this permit. The facility must prepare an inventory of the types of discharges contained in each outfall. This inventory may be kept as an attachment to the site map.

*(b) Inventory of Exposed Materials*—Facility operators are required to carefully conduct an inspection of the site and related records to identify significant materials that are or may be exposed to storm water. The inventory must address materials that within 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit have been handled, stored, processed, treated, or disposed of in a manner to allow exposure to storm water. Findings of the inventory must be documented in detail in the pollution prevention plan. At a minimum, the plan must describe the method and location of onsite storage or disposal; practices used to minimize contact of materials with rainfall and runoff; existing structural and nonstructural controls that reduce pollutants in storm water runoff; existing structural controls that limit process wastewater discharges; and any treatment the runoff receives before it is discharged to surface waters or a separate storm sewer system. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may effect the exposure of materials to storm water.

*(c) Significant Spills and Leaks*—The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.0 and 40 CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4). Significant spill may also include releases of oil or hazardous substances that are not in excess of reporting requirements and release of materials that are not classified as oil or a hazardous substance. The list shall be updated as appropriate during the term of the permit.

*(d) Sampling Data*—Any existing data on the quality or quantity of storm water discharges from the facility must described in the plan. The description should include a discussion of the methods used to collect and analyze the

data. Sample collection points should be identified in the plan and shown on the site map.

*(e) Risk Identification and Summary of Potential Pollutant Sources*—The description of potential pollution sources culminates in a narrative assessment of the risk potential that sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the operator of the facility must consider the following activities: loading and unloading operations; outdoor storage activities; outdoor processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., total suspended solids, biochemical oxygen demand, etc.) associated with each source.

*(2) Measures and Controls.* Under the description of measures and controls in the storm water pollution prevention plan requirements, this section proposes that all areas that may contribute pollutants to storm water discharges shall be maintained in a clean, orderly manner. This section also proposes that the following areas must be specifically addressed:

*(a) Areas to be Addressed.*

*(i) Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products*—Pallets and/or bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings, etc.) that are stored where there is potential storm water contact, must be stored indoors or protected by polyethylene wrapping, tarpaulins, roofed storage area or other suitable means. Materials should be placed on an impermeable surface, the area should be enclosed or bermed or other equivalent measures should be employed to prevent runoff or runoff of storm water.

*(ii) Material Storage Areas*—Label storage units of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials). Maintain such containers and units in good condition. Describe measures that prevent or minimize contact with storm water. The facility must consider indoor storage and/or installation of berming and diking around the area to prevent runoff or runoff of storm water.

*(iii) Buffing/Shaving Areas*—The plan must describe measures that prevent or minimize contamination of the storm water runoff with leather dust from buffing/shaving areas. The facility may consider dust collection enclosures, preventive inspection/maintenance programs or other appropriate preventive measures.

*(iv) Receiving, Loading, and Storage Areas*—The plan must describe measures that prevent or minimize contamination of the storm water runoff from receiving, unloading, and storage areas. Exposed receiving, unloading and storage areas for hides and chemical supplies should be protected by a suitable cover, diversion of drainage to the process sewer, directing rain gutters away from loading/receiving areas, grade berming or curbing area to prevent runoff of storm water or other appropriate preventive measures.

*(v) Outdoor Storage of Contaminated Equipment*—The plan must describe measures that minimize contact of storm water with contaminated equipment. Equipment should be protected by suitable cover, diversion of drainage to the process sewer, thorough cleaning prior to storage or other appropriate preventive measures.

*(vi) Waste Management*—The plan must describe measures that prevent or minimize contamination of the storm water runoff from waste storage areas. The facility may consider inspection/maintenance programs for leaking containers or spills, covering dumpsters, moving waste management activities indoors, covering waste piles with temporary covering material such as tarpaulin or polyethylene, and minimizing storm water runoff by enclosing the area or building berms around the area.

*(vii) Vehicle Maintenance and Fueling*—Permittees must follow all applicable requirements described in Part XI.P. for controlling storm water discharges from vehicle maintenance and refueling areas.

*(viii) Improper Connections to Storm Sewers*—The plan must describe measures which prevent and prohibit washwaters from processing areas from entering storm sewers. The facility must install safeguards against wash waters entering storm sewers and train employees on proper disposal practices for disposal of all process waste materials.

These areas are sources of pollutants in storm water from leather tanning facilities. EPA believes that the incorporation of BMPs such as those suggested, in conjunction with the pollution prevention plan, will substantially reduce the potential of

storm water contamination from these areas. Based upon the information provided in part 1 of the group application process, some of the suggested management processes are being used at leather tanning facilities. In addition, EPA believes that these requirements continue to provide the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with different facilities. Further, many facilities will find that management measures that they have already incorporated into the facilities operation, such as the use of covers and roofing, containers, and berms and dikes will meet the requirements of this section.

(b) *Preventive Maintenance*—Under the preventive maintenance requirements of the pollution prevention plan, permittees are required to develop a preventive maintenance program that includes regular inspections and maintenance of storm water BMPs. The maintenance program requires periodic removal of debris from discharge diversions. Permittees using ponds to control their effluent limitation frequently use impoundments or sedimentation ponds as their BAT/BCT. Maintenance schedules and maintenance measures for these ponds must be provided in the pollution prevention plan.

The purpose of the inspections is to check on the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan and implementation of the storm water pollution prevention plan. The inspections allow facility personnel to monitor the success or failure of elements of the plan on a regular basis. The use of an inspection checklist is recommended. The checklist will ensure that all required areas are inspected, as well as help to meet the record keeping requirements. Based on the results of each inspection, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the inspection.

(c) *Inspections*—Under the inspection requirements of the storm water pollution prevention plan elements, qualified facility personnel shall be identified to inspect designated areas of the facility, at a minimum of every 3 months. The individual or individuals who will conduct the inspections must be identified in the plan and should be

members of the pollution prevention team. The following areas shall be included in all inspections: storage areas for equipment and vehicles awaiting maintenance, facility yard area where outdoor storage occurs, receiving and unloading areas and waste management areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained and the pollution prevention plan modified where necessary.

In addition, qualified personnel must conduct quarterly visual inspections of all BMPs. The inspections shall include an assessment of the effectiveness and need for maintenance of storm water roofing and covers, dikes and curbs, discharge diversions, sediment control and collection systems and all other BMPs.

Quarterly visual inspections must be made at least once in each of the following designated periods during daylight hours. January–March (storm water runoff or snow melt), April–June (storm water runoff), July–September (storm water runoff), and October–December (snow melt runoff). Records shall be maintained as part of the pollution prevention plan.

(d) *Employee Training*—Under the employee training component of the storm water pollution prevention plan requirements, the permittee is required to identify annual (once per year) dates for training. Employee training must, at a minimum, address the following areas when applicable to a facility: general good housekeeping practices, spill prevention and control, waste management, inspections, preventive maintenance, detection of non-storm water discharges and other areas. EPA requires that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(e) *Recordkeeping and Internal Reporting*—Permittees must describe procedures for developing and retaining records on the status and effectiveness of plan implementation. The plan must address spills, monitoring, and BMP inspection and maintenance activities. Ineffective BMPs must be reported and the date of their corrective action recorded. Employees must report incidents of leaking fluids to facility management and these reports must be incorporated into the plan.

(f) *Storm Water Management*—The permittee must evaluate the

appropriateness of each storm water BMP that diverts, infiltrates, reuses, or otherwise reduces the discharge of contaminated storm water. In addition, the permittee must describe the storm water pollutant source or activity (i.e., loading and unloading operations, raw material storage piles, waste piles, etc.) to be controlled by each storm water management practice.

(3) *Comprehensive Site Compliance Evaluation*. The storm water pollution prevention plan must describe the scope and content of comprehensive site evaluation that qualified personnel will conduct to: 1) confirm the accuracy of the description of potential pollution sources contained in the plan; 2) determine the effectiveness of the plan; and 3) assess compliance with the terms and conditions of this section. Comprehensive site compliance evaluations must be conducted once a year for leather tanning facilities. These evaluations are intended to be more in depth than the quarterly visual inspections. The individual or individuals who will conduct the evaluation must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years after the date of the evaluation. Based on the results of each evaluation, the description of potential pollution sources, and measures and controls, the plan must be revised as appropriate within 2 weeks after each inspection. Changes in the measures and controls must be implemented on the site in a timely manner, and never more than 12 weeks after completion of the evaluation.

## 6. Numeric Effluent Limitations

There are no numeric effluent limitations for storm water discharges from leather tanning facilities beyond those described in Part VI.E. of the fact sheet.

## 7. Monitoring and Reporting Requirements

a. *Analytical Monitoring Requirements*. The regulatory modifications at 40 CFR 122.44 (i)(2) established on April 2, 1992, grant permit writers the flexibility to reduce monitoring requirements in storm water discharge permits. EPA has determined that the potential for storm water discharges to contain pollutants above benchmark levels, because of the industrial activities and materials exposed to precipitation, does not support sampling at leather tanning and finishing facilities. Under the Storm Water Regulations at 40 CFR 122.26(b)(14), EPA defined “storm water

discharge associated with industrial activity". The focus of today's permit is to address the presence of pollutants that are associated with the industrial activities identified in this definition and that might be found in storm water discharges. Under the methodology for determining analytical monitoring requirements, described in section VI.E.1 of this fact sheet, nitrate plus nitrite nitrogen is above the bench mark concentrations for the leather tanning and finishing sector. After a review of the nature of industrial activities and the significant materials exposed to storm water described by facilities in this sector, EPA has determined that the higher concentrations of nitrate plus nitrite nitrogen are not likely to be caused by the industrial activity, but may be primarily due to non-industrial activities on-site. Today's permit does not require leather tanning and finishing facilities to conduct analytical monitoring for this parameter. Based on a consideration of the BMPs typically used at these facilities, and generally low pollutant values from the application data, EPA believes that the pollution prevention plan with visual examinations of storm water discharges will help to ensure storm water contamination is minimized. Because permittees are not required to conduct sampling, they will be able to focus their resources on developing and implementing the pollution prevention plan.

*b. Quarterly Visual Examination of Storm Water Quality.* Quarterly visual examinations of a storm water discharge from each outfall are required for leather tanning and finishing facilities. The examination must be of a grab sample collected from each storm water outfall. The examination of storm water grab samples shall include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on these samples.

The examination must be made at least once in each of the following three-month periods: January through March; April through June; July through September; and October through December during daylight unless there is insufficient rainfall or snow-melt to runoff. EPA expects that, whenever practicable, the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible. Grab samples shall be collected within the first 30 minutes (or as soon thereafter as practical, but

not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained onsite with the pollution prevention plan.

When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

EPA realizes that if a facility is inactive and unstaffed it may be difficult to collect storm water discharge samples when a qualifying event occurs. Today's final permit has been revised so that inactive, unstaffed facilities can exercise a waiver of the requirement to conduct quarterly visual examination.

EPA believes that this quick and simple assessment will allow the permittee to approximate the effectiveness of his/her plan on a regular basis at very little cost. Although the visual examination cannot assess the chemical properties of the storm water discharged from the site, the examination will provide meaningful results upon which the facility may act quickly. The frequency of this visual examination will also allow for timely adjustments to be made to the plan. If BMPs are performing ineffectively, corrective action must be implemented. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the examinations. The visual examination is intended to be performed by members of the pollution prevention team. This hands-on examination will enhance the staff's understanding of the storm water problems on that site and the effects of the management practices that are included in the plan.

## **Sector Z**

# **Leather Tanning and Finishing Facilities Permit Language**

The Permit Language section contains sector-specific requirements for each industrial sector, including:

- Discharges covered under the sector;
- Special Conditions
- Storm Water Pollution Prevention Plan Requirements;
- Numeric Effluent Limitations, if any; and
- Monitoring and Reporting Requirements.

Further guidance and discussion can be found in the Fact Sheet associated with this sector.

*Z. Storm Water Discharges Associated With Industrial Activity From Leather Tanning and Finishing Facilities*

1. Discharges Covered Under This Section.

The requirements listed under this section shall apply to storm water discharges from the following activities: leather tanning, currying and finishing (commonly identified by Standard Industrial Classification (SIC) code 3111). Discharges from facilities that make fertilizer solely from leather scraps and leather dust are also covered under this section. When an industrial facility, described by the above coverage provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

2. Special Conditions

There are no special conditions for this section beyond those in Part III. of this permit.

3. Storm Water Pollution Prevention Plan Requirements

*a. Contents of Plan.* The plan shall include, at a minimum, the following items:

*(1) Pollution Prevention Team.* Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm

water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

*(2) Description of Potential Pollutant Sources.* Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources or, during periods of dry weather, result in dry weather flows. Each plan shall include, at a minimum:

*(a) Drainage.*

*(i)* A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies (including wetlands), locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part XI.Z.3.a.(2)(c) (Spills and Leaks) of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, material storage (including tanks or other vessels used for liquid or waste storage), processing and storage areas for activities associated with beamhouse, tanyard, retan-wet finishing and dry finishing operations, and haul roads, access roads and rail spurs. The site map must also identify the location of all outfalls covered by this permit and include an inventory of the types of discharges contained in each outfall.

*(ii)* For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of a chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history

of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

(b) *Inventory of Exposed Materials*—An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives. The description must be updated whenever there is a significant change in the types or amounts of materials, or material management practices, that may affect the exposure of materials to storm water.

(c) *Spills and Leaks*—A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the date of the submission of a Notice of Intent (NOI) to be covered under this permit. Significant spills include but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of the Clean Water Act (CWA) (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance. Such list shall be updated as appropriate during the term of the permit.

(d) *Sampling Data*—A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(e) *Risk Identification and Summary of Potential Pollutant Sources*—A

narrative description of potential pollutant sources including but not limited to the following activities: loading and unloading operations; outdoor storage activities, including but not limited to: temporary or permanent storage of fresh and brine cured hides, chemical drums, bags, containers and above ground tanks, leather dust, scraps, trimmings and shavings, spent solvents, extraneous hide substances and hair, and empty chemical containers and bags; floor sweepings and washings; refuse and waste piles and sludge; outdoor manufacturing or processing activities; significant dust or particulate generating processes including buffing; vehicle maintenance, washing and fueling and onsite waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g., biochemical oxygen demand, total suspended solids, chromium, etc.) of concern shall be identified.

(3) *Measures and Controls*. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(a) *Good Housekeeping*—Good housekeeping requires the maintenance of areas which may contribute pollutants to storm water discharges in a clean, orderly manner. The following areas must be specifically addressed:

(i) *Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products*—Pallets and/or bales of raw, semiprocessed or finished tannery by-products (e.g., splits, trimmings, shavings, etc.) should be stored indoors or protected by polyethylene wrapping, tarpaulins, roofed storage area or other suitable means. Materials should be placed on an impermeable surface, the area should be enclosed or bermed or other equivalent measures should be employed to prevent runoff and runoff of storm water.

(ii) *Material Storage Areas*—Label storage units of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials). Maintain such containers and units in good condition. Describe measures that prevent or minimize contact with storm water. The facility must consider indoor

storage, installation of berming and diking around the area, and/or other equivalent measures to prevent runoff and runoff of storm water.

(iii) *Buffing/Shaving Areas*—The plan must describe measures that prevent or minimize contamination of the storm water runoff with leather dust from buffing/shaving areas. The facility may consider dust collection enclosures, preventive inspection/maintenance programs or other appropriate preventive measures.

(iv) *Receiving, Unloading, and Storage Areas*—The plan must describe measures that prevent or minimize contamination of the storm water runoff from receiving, unloading, and storage areas. Exposed receiving, unloading and storage areas for hides and chemical supplies should be protected by a suitable cover, diversion of drainage to the process sewer, grade berming or curbing area to prevent runoff of storm water or other appropriate preventive measures. Materials must be plainly labelled and maintained in good condition.

(v) *Outdoor Storage of Contaminated Equipment*—The plan must describe measures that minimize contact of storm water with contaminated equipment. Equipment should be protected by suitable cover, diversion of drainage to the process sewer, thorough cleaning prior to storage or other appropriate preventive measures.

(vi) *Waste Management*—The plan must describe measures that prevent contamination of the storm water runoff from waste storage areas. The facility may consider inspection/maintenance programs or other equivalent measures for leaking containers or spills, covering dumpsters, moving waste management activities indoors, covering waste piles with temporary covering material such as tarpaulins or polyethylene, and minimizing storm water runoff by enclosing the area or building berms around the area.

(b) *Preventive Maintenance*—A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(c) *Spill Prevention and Response Procedures*—Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points

shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

*(d) Inspections*—Qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at least on a quarterly basis. The following areas shall be included in all inspections: leather processing areas, storage areas for chemicals, including but not limited to above ground tanks, fueling areas, vehicle and equipment maintenance areas, material storage areas, loading and unloading areas, waste management areas and other potential sources of pollution for evidence of actual or potential discharges of contaminated storm water. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections and that the pollution prevention plan is appropriately modified. Records of inspections shall be maintained as part of the pollution prevention plan.

Qualified personnel are required to conduct quarterly inspections of all Best Management Practices (BMPs). The inspections shall include an assessment of the effectiveness and need for maintenance of storm water roofing and covers, dikes and curbs, discharge diversions, sediment control and collection systems and all other BMPs.

Quarterly inspections must be made at least once in each of the following designated periods during daylight hours: January through March (storm water runoff or snow melt), April through June (storm water runoff), July through September (storm water runoff), and October through December (snow melt runoff). Records shall be maintained as part of the pollution prevention plan.

*(e) Employee Training*—Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The pollution prevention plan shall identify how often training will take place, but in all cases, training must be held at least annually. Employee training must, at a minimum, address the following

areas when applicable to a facility: general good housekeeping practices, spill prevention and control, waste management, inspections, preventive maintenance, detection of non-storm water discharges and other areas.

*(f) Recordkeeping and Internal Reporting Procedures*—A description of incidents (such as leaks, spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan. The plan must address spills, monitoring, and BMP inspection and maintenance activities. BMPs which were ineffective must be reported and the date of their corrective action recorded. Employees must report incidents of leaking fluids to facility management and these reports must be incorporated into the plan.

*(g) Non-storm Water Discharges.*  
*(i)* The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with Part VII.G. of this permit. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution prevention plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify the Director in accordance with paragraph XI.Z.3.a.(3)(g)(iii) (below).

*(ii)* Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution

prevention measures for the non-storm water component(s) of the discharge.

*(iii) Failure to Certify*—Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the Director by [Insert date 270 days after permit issuance] or, for facilities which begin to discharge storm water associated with industrial activity after [Insert date 270 days after permit issuance], 180 days after submitting an NOI to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

*(h) Sediment and Erosion Control*—The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

*(i) Management of Runoff*—The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity [see paragraph XI.Z.3.a.(2) of this section (Description of Potential Pollutant Sources)] shall be considered when determining reasonable and appropriate measures. Appropriate measures or equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices. In addition, the permittee must describe the storm water pollutant source area or activity (e.g., storage areas, loading and unloading areas,

above ground storage of chemicals) to be controlled by each storm water management practice.

The plan must consider management practices, such as berms for uncovered storage areas, uncovered loading and unloading areas, above ground liquid storage and waste management areas. The installation of detention ponds must also be considered.

(4) *Comprehensive Site Compliance Evaluation.* Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with paragraph XI.Z.3.a.(2) of this section (Description of Potential Pollutant Sources) and pollution prevention measures and controls identified in the plan in accordance with paragraph XI.Z.3.a.(3) of this section (Measures and Controls) shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph XI.Z.3.a.(4)(b) (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least 3 years from the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in

compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part VII.G. (Signatory Requirements) of this permit.

(d) The storm water pollution prevention plan must describe the scope and content of comprehensive site inspections that qualified personnel will conduct to (1) Confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. Comprehensive site compliance evaluations must be conducted at least once a year. The individual or individuals who will conduct the inspections must be identified in the plan and should be members of the pollution prevention team. Evaluation reports must be retained for at least 3 years from the date of the evaluation.

(e) Where compliance evaluation schedules overlap with inspections required under XI.Z.3.a.(3)(d), the compliance evaluation may be conducted in place of one such inspection.

4. Numeric Effluent Limitations. There are no additional numeric effluent limitations beyond those described in Part V.B of this permit.

5. Monitoring and Reporting Requirements.

(a) *Quarterly Visual Examination of Storm Water Quality.* Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each designated period [described in (1) below] during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event.

(1) Examinations shall be conducted in each of the following periods for the purposes of visually inspecting storm water quality associated with storm water runoff or snow melt: January through March; April through June; July through September; and October through December.

(2) Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be

performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

(3) Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(4) When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

(5) When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the records of the visual examination. Adverse weather conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

(6) When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.