



Texas Commission on Environmental Quality

Compliance Support Division
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Training For Municipal Solid Waste Facility Supervisors of Registered or Permitted

- **Type IV and IVAE Landfills**
- **Processing Facilities**
- **Compost Facilities**
- **Type IX Energy or Material Recovery Facilities**

Curriculum Guidance – Class B MSW License Training Course

This course is 23-28 hours of training for supervisors of Type IV and Type IVAE landfills, processing facilities, permitted compost facilities, and Type IX energy or material recovery facilities. This course must include instruction to ensure supervisors are knowledgeable of rules that regulate municipal solid waste facilities in which they supervise. The course should include sufficient instruction, demonstration, and course materials to develop confidence in the supervisor to enable him/her to supervise the day to day operations of the MSW facility in compliance with the rules. This course is a stand alone course. Time periods for all course topics are approximate. Renewal of a B level license requires 16 hours of approved continuing education.

Course topics should include:

(2 Hours)

INTRODUCTION

- Qualifications for obtaining initial licenses and renewal of licenses. 30 TAC 30, Subchapter F.
- **Brief** history of municipal solid waste from unregulated open dumping to regulated Subtitle D sanitary landfills and recycling today.
- Introduction to statutes and rules pertinent to MSW facilities including how to locate and understand the rules.
- General prohibitions and unauthorized discharge.
- Definitions and language pertaining to municipal solid waste management facilities.
- Waste classification and coding.
- Responsibilities of generators, transporters, and disposal facility regarding unauthorized disposal.
- General discussion – Texas Health Safety Code 361, 341, 343, 363, 371, 382, and Texas Water Code 7, 26, and 28.

CLASSIFICATION OF MUNICIPAL SOLID WASTE FACILITIES

Type I and IAE landfills may incorporate other regulated processes and activities within its permitted boundary. Therefore, it is critical to include regulations and operating standards for those facilities in this training course. *Example: A Type I or IAE permitted landfill may also operate a Type IV disposal area (an area for brush, construction, or demolition waste, and/or rubbish); a Type V – Processing Facility (recycling, materials recovery), etc.*

- Type I Standard Landfill
- Type IAE Arid Exempt Landfill
- Type IV Brush, Construction and Demolition Wastes
- Type IVAE Arid Exempt Landfill
- Type V Solid Waste Processing
- Type IX Landfill Mining for Beneficial Use

MUNICIPAL SOLID WASTE FACILITY AUTHORIZATION – GENERAL KNOWLEDGE

MUNICIPAL SOLID WASTE COLLECTION AND TRANSPORTATION

Transporters delivering waste to the MSW facility are responsible for removal of unacceptable or unauthorized waste. Transporters are also responsible for collecting spillage on route to the MSW facility as well as maintaining collection vehicles in a manner to prevent loss of waste and fluids from the vehicle. Supervisors of municipal solid waste facilities should be knowledgeable of the responsibilities of transporters that enter the MSW facility.

- Transporters responsibilities in relation to:
 - Delivery and removal of unauthorized waste
 - Collection of spillage
- Transporters responsibilities in relation to:
 - Vehicle sanitation standards
 - Operating condition of vehicles

(6 - 8 Hours)

TYPE IV & TYPE IVAE LANDFILL FACILITIES

A Type IV landfill unit may only accept brush, construction, or demolition waste, and/or rubbish. A Type IV landfill unit may not accept putrescible wastes, conditionally exempt small-quantity generator waste, or household wastes. Type IV landfill may also accept some special waste. All conditions specified in the permit must be followed.

OPERATIONAL STANDARDS FOR MSW LANDFILLS

- Pre-Operation Notice and Investigation
- Recordkeeping Requirements
- Operating Record
 - Site Operating Plan 330.127(1)-(6) and 330.65(a) - A site operating plan (SOP) is required for all permitted and registered municipal solid waste (MSW) facilities in accordance with Title 30 Texas Administrative Code (30 TAC) Section 330.65. A site operating plan discusses how an owner or operator plans to conduct daily operations at a facility. It includes information about functions and qualifications of personnel, equipment, and instructions.
 - Key landfill personnel/chain of command
 - Personnel training
 - Types of equipment- sizes, numbers, functions
 - Fire Protection

- Fire protection standards
- Employee training
- Fire fighting equipment
- Reporting requirements
- Access Control
 - Inspections
 - Reporting
- Unloading of Waste
 - Size and number of unloading areas
 - Training for spotters
 - Removal of unauthorized waste
 - Recording of unauthorized waste
- Type IV and IVAE Landfills – Waste Acceptance
 - Acceptable wastes and unacceptable wastes
 - Procedures for excluding unauthorized wastes
 - Waste in enclosed containers
- Facility Operating Hours
- Site Signage
- Control of Windblown Solid Waste and Litter
- Easements and Buffer Zones
- Landfill Markers and Benchmarks
- Materials Along the Route to the Site
- Disposal of Large Items
- Odor Management
 - How to respond to an odor complaint
 - Causes for odor
 - Correction of odor problems
- Disease and Vector Control
- Site Access Roads
- Salvaging and Scavenging
- Endangered Species Protection
- Landfill Gas Control
- Oil, Gas and Water Wells
- Compaction
 - Proper compaction techniques
 - Maintaining proper depth for lifts
 - Maximum compaction
- Landfill Cover
 - Cover requirements for Type IV and IVAE landfills
 - Cover application logs
 - Erosion control
 - Supervisor's certification
- Ponded Water
 - Prevention
 - Correction
- Waste in Enclosed Containers or Enclosed Vehicles Accepted at Type IV Landfills
- Disposal of Special Waste
 - What are special wastes
 - Who may accept special wastes
 - Approval for acceptance of certain special wastes

- Contingency plan for spills
- Liquid waste acceptance/processing
- Soils contaminated with petroleum products, crude oil, chemicals
- Regulated asbestos containing material (RACM) and Non-RACM
- Empty containers
- Municipal hazardous wastes from CESQG's
- Used oil filters (See General Prohibitions)
- Industrial wastes
- Visual Screening of Deposited Waste
- Leachate and Gas Condensate Management

SURFACE WATER DRAINAGE

- Managing run-off and run-on
- Surface water drainage
- Permitted drainage patterns
- Protection from flooding
- Storm water sampling – What is a sampling event?
 - Point source
 - Recordkeeping
 - Reporting

GROUNDWATER PROTECTION/LINERS FOR TYPE IV LANDFILLS – BASIC KNOWLEDGE

Type IV landfills may be required to install groundwater monitoring systems and to monitor on a regular basis the quality of groundwater at the point of compliance.

- In-situ soil liner
- Re-compacted clay liner
- Alternate liner design

TYPE IVAE LANDFILLS – ARID EXEMPTION

- Liner System
- Groundwater Monitoring
- Waste Acceptance Rate
- Practical Alternate
- Annual Average Precipitation

FEEES AND REPORTING – BASIC INFORMATION

AIR PERMITS FOR MSW LANDFILLS – OPERATIONAL REQUIREMENTS 330.991(a)-(d)

CLOSURE AND POST – CLOSURE REQUIREMENTS – BASIC INFORMATION

FINANCIAL ASSURANCE – BASIC INFORMATION

(6 – 8 Hours)

TYPE V PROCESSING FACILITIES

Separate solid waste processing facilities are classified as Type V. These facilities include processing plants that transfer, incinerate, shred, grind, bale, salvage, separate, dewater, reclaim, and/or provide other storage or processing of solid waste.

OPERATING STANDARDS FOR TYPE V MSW STORAGE AND PROCESSING UNITS

Other processes and storage activities may be allowed at permitted landfills; therefore the following instruction should be included in the B level course. Many topics repeat operating standards for MSW landfills; many are specific to storage and processing units.

- Applicability
- Waste Acceptance and Analysis
 - Sources and characteristics of waste
 - Types and amounts
 - Parameter limitations
 - Storage limits and processing time
 - Effluent sampling
 - Analysis for waste received
 - Recordkeeping
- Facility Generated Wastes
 - Characteristics and constituent concentrations of wastes generated
 - Processing and disposal of facility generated wastes
 - Sludge management
- Contaminated Water Management
 - Liquid disposal
 - Contaminated water and leachate management
 - Leachate and gas condensate prohibitions
 - Discharge requirements
 - Effluent limitations
 - Storage prohibitions
- Storage Requirements
- Approved Containers
- Citizen's Collection Stations
- Stationary Compactors
- Pre-Operation Notice and Investigation
- Recordkeeping and Reporting
- Fire Protection
 - Water supply
 - Firefighting equipment
 - Fire protection plan
- Access Control
- Unloading of Wastes
- Spill Prevention and Control
- Operating Hours
- Facility Signage
- Control of Windblown Material and Litter
- Materials Along the Route to the Site
- Facility Access Roads
- Noise Pollution and Visual Screening
- Overload and Breakdown
 - Design capacity

- Alternate processing or disposal plan
- Sanitation
 - Minimum requirements
 - Onsite storage limitations
 - Wash water disposal
- Ventilation and Air Pollution Control
- Health and Safety
 - Personnel training
 - Facility health and safety plan
- Employee Sanitation Facilities
- Surface Water Drainage
- Closure Requirements for Municipal Solid Waste Storage and Processing Units
- Financial Assurance – Basic Information
- Groundwater Monitoring – Basic Information

(3-4 Hours)

TYPE V – PERMITTED & REGISTERED COMPOSTING FACILITIES (30 TAC 332)

The purpose of compost facilities is to divert organic materials from the typical municipal solid waste stream, and promote the beneficial reuse of those materials while maintaining standards for human health and safety and environmental protection.

DEFINITIONS AND LANGUAGE USED REGARDING COMPOSTING FACILITIES

GENERAL REQUIREMENTS

- Compliance with Texas Water Code
- Nuisance conditions
- Discharge to surface water or groundwater
- Compliance with federal laws
- Compliance with state laws
- Facility operations
- Operations on a municipal solid waste landfill unit
- Leachate
- Non-hazardous industrial solid waste
- Industrial and hazardous waste
- Chemicals of concern (TRRP)

VARIANCES

COMPOST AND MULCH OPERATIONS LOCATED AT MUNICIPAL SOLID WASTE FACILITIES IN CONJUNCTION WITH PERMITS

COMPOST OPERATIONS LOCATED AT WASTE WATER TREATMENT FACILITIES

OPERATIONAL REQUIREMENTS

- Protection of surface water
- Protection of groundwater
- Unauthorized and prohibited materials
- Access
- Nuisance conditions
- Aerobic composting

- Site sign
- Access road
- Significant changes
- Prohibited substances
- End product standards
- Certified compost operator
- Source Separated Recycling
- Household Hazardous Waste Collection
- Air Quality Requirements (30 TAC 332.8) – Basic Information
- Permit Required – Consolidated Permits (30 TAC 305) – Basic Information
- Permit Required – Applications Processing (30 TAC 281) – Basic Information
- Groundwater Monitoring [30 TAC 332.47(6)(C)(ii)] – Basic Information

(2 Hours)

TYPE IX – ENERGY OR MATERIAL RECOVERY FACILITIES

Type IX facility is a municipal solid waste facility located within or adjacent to a closed disposal facility, an inactive portion of a disposal facility, or an active disposal facility for the purpose of extracting materials for energy and material recovery for beneficial use.

- Minimum design and operational requirements (30 TAC 330, Subchapter E)
- Closure Requirements for Municipal Solid Waste Storage and Processing Units (30 TAC 330.459)
- Certification of Final Facility Closure (30 TAC 330.461)
- Closure Cost Estimates for Storage and Processing Units (30 TAC 330.505)
- Financial Assurance (30 TAC 37, Subchapter R)

(4 Hours)

GENERAL TOPICS (Include Measurable Verification of Comprehension)

REGULATIONS, REGULATORS, AND PUBLIC RELATIONS

- Brief history of municipal solid waste management—the rule making process.
- Authority and relationships with other governmental entities.
- How to effectively communicate with regulators during routine site and complaint investigations.
 - Preparing for site inspection (scheduling time, records needed, sampling)
 - Responding to notices of violation
 - Corrective action planning
- Good neighbor relations
 - Responding to complaints
 - Investigating a complaint
 - Corrective action

BASIC MATH

Supervisors of MSW facilities should have basic mathematical skills in order to measure and evaluate basic information. Instruction should be given to include:

- Calculating averages
- Conversion processes (pounds to tons, cubic feet to cubic yards, etc.)

OPERATING EQUIPMENT

In order to comply with an MSW facility's permit, proper equipment operation is a critical function.

- Maximizing airspace through proper cell development, compaction, and fill sequence
- Equipment productivity - proper operating procedures
- Maximizing cover material – best management practices

EQUIPMENT MAINTENANCE

In order to comply with an MSW facility's permit, proper equipment maintenance is a critical function.

- Avoiding unnecessary breakdowns/proper equipment maintenance
- Back up equipment/emergency preparedness

SAFE OPERATING PROCEDURES AND WORKPLACE HAZARDS

Identifying workplace hazards and communicating those hazards to employees and the general public is necessary to protect human health and safety and environmental protection.

- Effective safety programs
- Workplace hazards
- Employee and public awareness
- Working face safety, traffic at the facility, effective communications

GUIDANCE DOCUMENTS FOR MUNICIPAL SOLID WASTE (330.17)

The following guidance documents and templates have been prepared to aid in complying with the revised MSW rules (30 TAC Chapter 330) that became effective March 27, 2006. As a simplified explanation of the rules, the guides below are intended to help achieve compliance with environmental regulations. Guides are just one tool to use to reach full compliance, remember that the rules are what you must follow.

- **TCEQ Web site** www.tceq.state.tx.us
http://www.tceq.state.tx.us/permitting/waste_permits/msw_permits/msw.html
http://www.tceq.state.tx.us/permitting/waste_permits/msw_permits/msw_ris_guid.html
http://www.tceq.state.tx.us/permitting/waste_permits/msw_permits/perm_reg_mod.html
<http://www.tceq.state.tx.us/files/rg-022.pdf> 4005640.pdf
- **TCEQ Occupation License Online Registration and Renewal**
<http://www.tceq.state.tx.us/nav/permits/licenses.html>
- **Rules and Rulemaking**
http://www.tceq.state.tx.us/nav/rules/rules_rulemaking.html
- **Small Business and Local Government Assistance**
The TCEQ's Small Business and Local Government Assistance (SBLGA) program provides confidential technical assistance without threat of enforcement.
<http://www.tceq.state.tx.us/assistance/sblga/sblga.html>
<http://www.tceq.state.tx.us/files/qj-002a.pdf> 4121055.pdf